Skagit County
Clean Energy
Siting and Permitting

DRAFT Environmental Impact Statement

Fall 2026

FUNDED BY WASHINGTON'S CLIMATE COMMITMENT ACT

SKAGIT COUNTY WASHINGTON Serving With Pride

Cover Letter

November 19, 2026

Subject: Draft Environmental Impact Statement (Draft EIS) for the Skagit County Clean Energy Siting and Permitting Project

Dear Reader,

Skagit County is pleased to share the Draft Environmental Impact Statement (Draft EIS or DEIS) prepared in support of the Clean Energy Siting and Permitting (CESP) Project. The purpose of the CESP Project is to adopt clean energy regulations in unincorporated Skagit County.

The Skagit County CESP goals are to:

- Retain local control over clean energy permitting where possible;
- Establish clear and consistent standards for project proponents and the public, and;
- Ensure that future clean energy development considers community values, environmental impacts, and mitigation strategies informed by public and Tribal input.

The following Draft EIS is part of the environmental review process under the State Environmental Policy Act (SEPA) in WAC 197-11. The purpose is to provide detailed comparisons of planning alternatives, assess cumulative effects, and develop broad mitigation strategies in a clear and concise Environmental Impact Statement (EIS).

The Draft EIS examines two alternatives to understand what energy types are most suitable for permitting in Skagit County. The alternatives are analyzed at a broad, planning-level, rather than site-specific projects to assess different energy uses. The alternatives include a No Action Alternative and one action alternative with different energy uses. The alternatives studied in the Draft EIS include:

- **Alternative 1, the No Action Alternative.** Evaluates how energy development for solar energy facilities, battery energy storage systems (BESS), fusion small modular reactors (SMRs), and renewable fuel facilities would be permitted within Skagit County based on the current development regulations with no changes. The development code standards and permitting processes currently established in Skagit County would be carried forward.
- **Alternative 2, the Action Alternative.** Evaluates potentially significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, County permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

The main difference between the alternatives is the energy facilities being considered. The County anticipates selecting a preferred path forward based on the range of energy uses presented in the Draft EIS. This can include selecting portions of the Action Alternative, all of Alternative 2, or the No Action Alternative. The preferred path would impact the Skagit County local permitting process for energy facilities. This could include potential changes

to development regulations, including permitted uses, permit review procedures, application requirements, technical study requirements, approval criteria, permit conditions, and mitigation measures.

To learn more about the differences between the alternatives, see the **Summary of Alternatives** section.

Key environmental issues across elements of the environment as part of the Draft EIS include:

- Where energy uses may be located
- What impacts energy uses may have on the environment
- What information is needed to understand project-level impacts
- How potential impacts may be mitigated

Following completion of the environmental review process and consideration of public input, the County intends to adopt development regulations that reflect the preferred approach for clean energy siting and permitting in Skagit County. For more information about the CESP outside of the Draft EIS, please visit the project website at https://skagitcountywa-002-us.govstack.com/services/planning-and-building/community-planning/cesp/

To review a summary of the impact findings within this document, please see the **Summary of Impacts** section of the Draft EIS.

Thank you for your interest in the CESP Draft EIS. If you have any questions, please contact:

Robby Eckroth, AICP, Planning Manager

Skagit County Planning and Development Services Department

reckroth@skagitcountywa.gov, (360) 416-1320

Sincerely,

Jack Moore, Director

Skagit County Planning and Development Services

1800 Continental Place

Mount Vernon, WA 98273

The Clean Energy Siting and Permitting Grant is supported with funding from Washington's Climate Commitment Act. The CCA supports Washington's climate action efforts by putting cap-and-invest dollars to work reducing climate pollution, creating jobs, and improving public health. Information about the CCA is available at www.climate.wa.gov.

Fact Sheet

Project Title

Draft Environmental Impact Statement (DEIS or Draft EIS) for the Skagit County Clean Energy Siting and Permitting (CESP) Project.

Proposed Action Description and Alternatives

The purpose of the Skagit County CESP project is to adopt clean energy regulations in unincorporated Skagit County by May 2027. Due to the unprecedented growth in energy demand across Washington State, along with new state mandates requiring that future energy projects be clean energy based, Skagit County is receiving a rising number of inquiries and applications for new energy developments.

The Washington State Department of Commerce (WSDOC) has developed grant opportunities to support the planning of clean energy projects across the state. Skagit County received a CESP grant to develop local clean energy development regulations and prepare a Programmatic Environmental Impact Statement (Programmatic EIS or PEIS). This Programmatic EIS will evaluate where different types of clean energy projects can be appropriately sited, as well as assess their potential impacts and identify appropriate mitigation measures.

The energy uses being studied include solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities. This project includes evaluating suitable zones or areas within different zones, identifying environmental impacts, and appropriate mitigation at a programmatic level for different energy uses. Skagit County currently regulates energy facilities as Utility Developments in Skagit County Code (SCC) 14.18.870. This project may result in updating Skagit County Code and/or the Skagit County Comprehensive Plan, to identify locations in which these facilities may be permitted, along with permit application requirements, permit process, criteria for application approval, required studies, and mitigation or performance standards for energy types.

A comparative evaluation of alternative courses of action is included in the Draft EIS. Skagit County studied two alternatives as part of the Draft EIS. Alternatives include the No Action Alternative and an action alternative that considers siting criteria, energy uses, and mitigation and minimization measures. The following alternatives have been identified.

- **Alternative 1, the No Action Alternative.** Evaluates how energy development for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities would occur within Skagit County based on the current development regulations with no changes. The development code standards and permitting processes currently established in Skagit County would be carried forward.
- **Alternative 2, the Action Alternative.** Evaluates potentially significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

It is anticipated that after the Draft EIS is issued, a Preferred Alternative will be selected from the range provided in the alternatives for the Final EIS. Based upon the Preferred Alternative, the Skagit County Comprehensive Plan and/or Skagit County Code may be amended to reflect the Preferred Alternative. The tentative date for implementation is June 2027.

Location

The geographic scope of the CESP EIS is Skagit County, including all unincorporated urban and rural areas and natural resource lands.

Project Contacts

Lead Agency

Skagit County

SEPA Responsible Official

Jack Moore, Director
Skagit County Planning and Development Services
1800 Continental Place
Mount Vernon, WA 98273

Contributors

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Suite 200,
Everett, WA 98201
Primary contributor for the Draft EIS.

For Questions, Contact:

Robby Eckroth, AICP, Planning Manager,

Skagit County Planning and Development Services Department

reckroth@skagitcountywa.gov, (360) 416-1320

Required Permits, Licenses, and Approvals

There are numerous regulations, plans, and laws that guide influence and relate to the contents of this EIS. As a Programmatic EIS, the following does not relate to project-level action, meaning a specific energy facility or development project. As such, the specifics of projects that would be proposed are not yet known. It is not possible for the County to present a complete list of federal, state, and local permits, licenses, and approvals that could be required for future facilities. The implementation of the energy facilities studied in the CESP EIS would

require applicable regulations, rules, and plans at federal, state, and local levels at the time of the project. A list of regulations that could be applicable to the studied energy facilities can be found in **Appendix A**.

Date of Draft EIS Issuance

November 19th, 2026.

DEIS Comment Due Date

Skagit County is requesting comments from the public, cities, agencies, Tribes, and all interested parties on the Draft EIS for 33 days from November 19, 2026, to December 21, 2026. Comments are due by 4:30PM, Monday, December 21, 2026.

Online Comments may be submitted via email to pdscomments@skagitcountywa.gov with the subject line: "Energy Siting and Permitting DEIS Comment"

Written Comments may be submitted via mail to the following address**:**

Reference:	Energy Siting and Permitting DEIS Comment
To:	Skagit County Planning and Development Services
Address:	1800 Continental Place Mount Vernon WA 98273

Skagit County will be holding three open houses in December for the issuance of the DEIS. Two will be held on December 8, 2026, and one on December 10, 2026. The details of these events are found below:

December 8th, 2026

1:00PM to 3:00PM

Anacortes Depot Arts & Community Center, 611 R Avenue, Anacortes, WA 98221

5:30PM – 7:30PM

Mount Vernon Skagit Couty Administration Building, 1800 Continental Place, Mount Vernon, WA 98273

December 10th, 2026

5:00PM – 7:00pm

Concrete Community Center, 45821 Railroad Avenue, Concrete, WA 98237

Tentative Date of Final Action

May 2027

Phased Environmental Review

The Washington State Legislature previously directed the Washington State Department of Ecology (Ecology) to prepare Programmatic EIS for utility-scale solar energy facilities, utility-scale onshore wind energy facilities, and green electrolytic and renewable hydrogen facilities, respectively, by June 2025.

RCW 43.21C.538 requires SEPA lead agencies, such as Skagit County, to consider Ecology's Programmatic EISs. Agencies must use the information in the Programmatic EIS, along with other publicly available information and site-specific details, to support their evaluation of proposed actions, alternatives, environmental impacts, and mitigation for a proposed project. Potential impacts not addressed in the Programmatic EISs will need to be evaluated by the SEPA lead agency in the project-level environmental review. As such, Skagit County has reviewed the Programmatic EISs for solar energy facilities, BESS, and green electrolytic and renewable hydrogen facilities as part of the environmental review for energy siting and permitting in Skagit County. Information shared in the Programmatic EISs was used in the following EIS. Future project-level or non-project actions proposed in the County will still require additional environmental review under SEPA.

Related Documents

You may review the project website for relevant information associated with the CESP at https://skagitcountywa-002-us.govstack.com/services/planning-and-building/community-planning/cesp/. Please see the contact persons above if you request any clarification or have additional questions.

To Receive a Copy of the EIS

This Draft EIS is available for review at the Skagit County Planning and Development Services at 1800 Continental Place, Mount Vernon, WA 98273.

The Draft EIS is also posted on the County's website at

https://skagitcountywa-002-us.govstack.com/services/planning-and-building/community-planning/cesp/

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AEO	Airport Environs Overlay
Ag-NRL	Agricultural - Natural Resource Lands
AQI	Air Quality Index
BESS	Battery Energy Storage Systems
BGEPA	Bald and Golden Eagle Protection Act
BNSF	Burlington Northern Santa Fe Railway
CAA	Clean Air Act
CAO	Critical Areas Ordinance
CARA	Critical Aquifer Recharge Area
CCA	Climate Commitment Act
CEMP	Comprehensive Emergency Management Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	Compatible Energy Siting Assessment
CFR	Code of Federal Regulations
CMA	Channel Migration Area
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CSWMP	Comprehensive Solid Waste Management Plan
CWA	Clean Water Act
CWCS	Wildlife Conservation Strategy
CWSP	Coordinated Water System Plan
dBA	A-weighted decibels
DEM	Department of Emergency Management
DOD	Department of Defense
ECY	Washington State Department of Ecology
EDNA	Environmental Designation for Noise Abatement
EFSEC	Energy Facility Site Evaluation Council
EHD	Environmental Health Disparities
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FFA	Frequently Flooded Areas
FGTS	Freight and Goods Transportation System
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FPD	Fire Protection District
FWCA	Fish and Wildlife Coordination Act
FWHCA	Fish and Wildlife Habitat Conservation Area

Acronym/Abbreviation	Definition
GHG	Greenhouse Gas
GHGRP	Greenhouse Gas Reporting Program
GMA	Growth Management Act
GMA	Growth Management Act
HAP	Hazardous Air Pollutants
HEAL	Healthy Environment for All Act
HFC	Hydrofluorocarbons
HM	Heavy Manufacturing
HVAC	Heating, Ventilation, and Air Conditioning
HWTR	Hazardous Waste and Toxics Reduction
IF-NRL	Industrial Forest – Natural Resource Lands
IIJA	Infrastructure Investment and Jobs Act
IPaC	Information for Planning and Consultation
kWh	Kilowatt-hour
LCA	Life-Cycle Assessment
LUST	Leaking Underground Storage Tank
MBTA	Migratory Bird Treaty Act
MPR	Master Planned Resort
MRO	Mineral Resource Overlay
MTCA	Model Toxics Control Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NO_2	Nitrogen Dioxide
NOC	Noise of Construction
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRI	Natural Resource Industrial
NRL	Natural Resource Land
NWCAA	Northwest Clean Air Agency
O_3	Ozone
ODS	Ozone depleting substances
OFM	Office of Financial Management
OFM	Office of Financial Management
OSRSI	Public Open Space of Regional/Statewide Importance
Pb	Lead
PEIS	Programmatic Environmental Impact Statement
PFC	Perfluorocarbons
PHS	Priority Habitat and Species
PM_{10}	Particulate Matter less than 10 microns
$PM_{2.5}$	Particulate Matter less than 2.5 microns
PSAT	Proposed Similarity of Appearance to a Threatened
PSD	Prevention of Significant Deterioration

Acronym/Abbreviation	Definition
PSE	Puget Sound Energy
PUD	Public Utility District
RCRA	Resource Conservation and Recovery Act
RB	Rural Business
RC	Rural Center
RCW	Revised Code of Washington
RFS	Rural Freeway Service
RHZ	Riparian Habitat Zone
RI	Rural Intermediate
RMI	Rural Marine Industrial
RNG	Renewable Natural Gas
RRc-NRL	Rural Resource – Natural Resource Lands
RRv	Rural Reserve
RVC	Rural Village Commercial
RVR	Rural Village Residential
SARA	Superfund Amendments and Reauthorization Act
SCC	Skagit County Code
SCOG	Skagit Council of Governments
SCRFA	Skagit County Regional Fire Authority
SEPA	State Environmental Policy Act
SFHA	Special Flood Hazard Area
SF-NRL	Secondary Forest – Natural Resource Lands
SGCN	Species of Greatest Conservation Need
SGIN	Species of Greatest Information Need
SIP	Washington State Implementation Plan
SMA	Shoreline Management Act
SMART	Skagit and Island County Multiple Agency Response Team
SMP	Shoreline Master Program
SMR	Small Modular Reactor
SO_2	Sulfur Dioxide
SRT	Small Scale Recreation and Tourism
SSA	Sole-Source Aquifer
SSB	Small Scale Business
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TSCA	Toxic Substances Control Act
UGA	Urban Growth Area
USC	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank

Acronym/Abbreviation	Definition
VOC	Volatile Organic Compound(s)
WA DOH	Washington Department of Health
WAC	Washington State Code
WDFW	Washington Department of Fish and Wildlife
WHCWG	Washington Wildlife Habitat Connectivity Working Group
WRIA	Water Resource Inventory Areas
WSDOT	Washington State Department of Transportation
WUI	Wildland-Urban Interface
WUTC	Washington Utilities and Transportation Commission

FUNDED BY WASHINGTON'S CLIMATE COMMITMENT ACT
SKAGIT COUNTY WASHINGTON
Skagit County Clean Energy Siting and Permitting

1. Executive Summary

This section provides a summary of the Skagit County proposal, including the purpose of study and scope of the environmental evaluation.

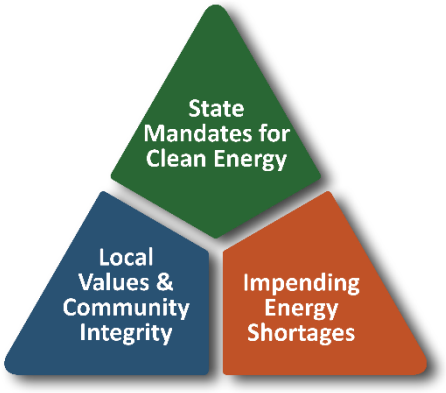
1.1. Introduction

As Washington State experiences unprecedented growth in energy demand and implements mandates to transition to renewable resources, Skagit County is receiving a rising number of inquiries about clean energy development. Recent energy projects proposed in Skagit County have been processed through the Washington State Energy Facility Site Evaluation Council (EFSEC) pathway, contributing to discussions regarding the role of local jurisdictions and community input in energy project siting and permitting.

In 2025, the Washington State Legislature funded the Clean Energy Siting and Permitting (CESP) grant program, through the Washington State Department of Commerce (WSDOC), to support faster, more efficient, and equitable sitting and permitting processes for clean energy projects. The program is intended to advance state energy goals while ensuring environmental protection, community engagement, Tribal rights and resources, and standards that protect local communities.

1.1.1. Proposal and Proposal Objectives

Skagit County received a CESP grant to develop local clean energy development regulations and prepare a Programmatic Environmental Impact Statement (Programmatic EIS or PEIS). The intent of the CESP proposal is to support state climate and clean energy production goals while protecting local environmental and agricultural resources and mitigating impacts on residential areas.



The following goals were identified for the project:

- Retain local control over clean energy permitting where possible;
- Establish clear and consistent development and zoning standards, and;
- Ensure that future clean energy development considers community values, environmental impacts, and mitigation strategies informed by public and Tribal input.

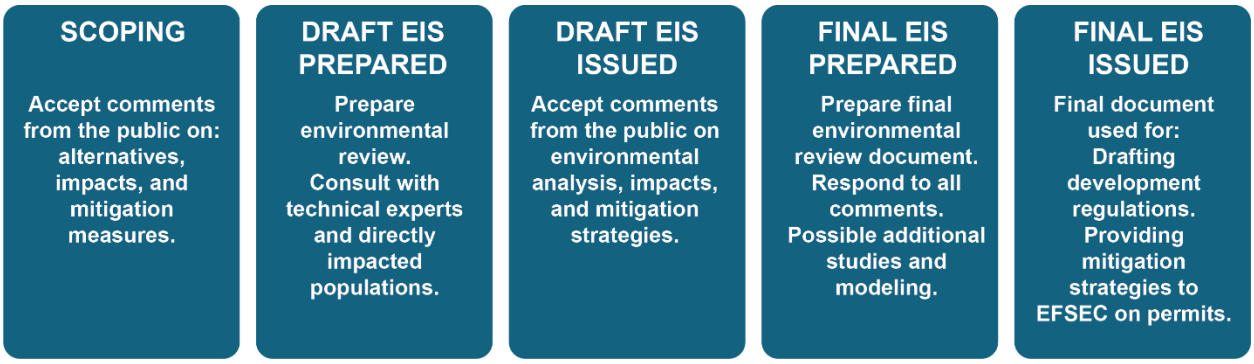
The Skagit County CESP EIS aids Skagit County's CESP work by evaluating where solar energy facilities, battery energy storage facilities (BESS), fusion small nuclear reactors (fusion SMRs), and renewable fuel facilities may be appropriately sited. This project will also assess possible impacts of clean energy projects at the programmatic level. The result of this project will include the development of new and modified codes. These codes will more thoroughly outline where uses may be sited if code requirements are met, the standards, studies, and other information which must be provided as part of an application, and the types of mitigation which should be evaluated within an application. Each application submitted under new codes will then be individually evaluated for compliance with Skagit County Code and under the State Environmental Policy Act (SEPA). Future applications will also include opportunities for public noticing, commenting, and appeals.

As part of this project, Skagit County has developed a project website. More information about the project, including Frequently Asked Questions, may be located on the project page.

1.1.2. Environmental Review Process

The Washington SEPA requires lead agencies, including Skagit County, to review proposed actions to determine whether they could significantly affect the natural, built, and/or social environments. An Environmental Impact Statement (EIS) is prepared by the lead agency when an action or series of actions may result in significant adverse environmental impacts, involving long-term implementation, large geographic areas, or decisions such as updates to county-wide energy siting and permitting processes. The purpose of an EIS is to provide the public, agencies, Tribes, and decision makers with detailed information about potential environmental effects before decisions are made, supporting a more informed decision-making process.

Figure 1: EIS Process

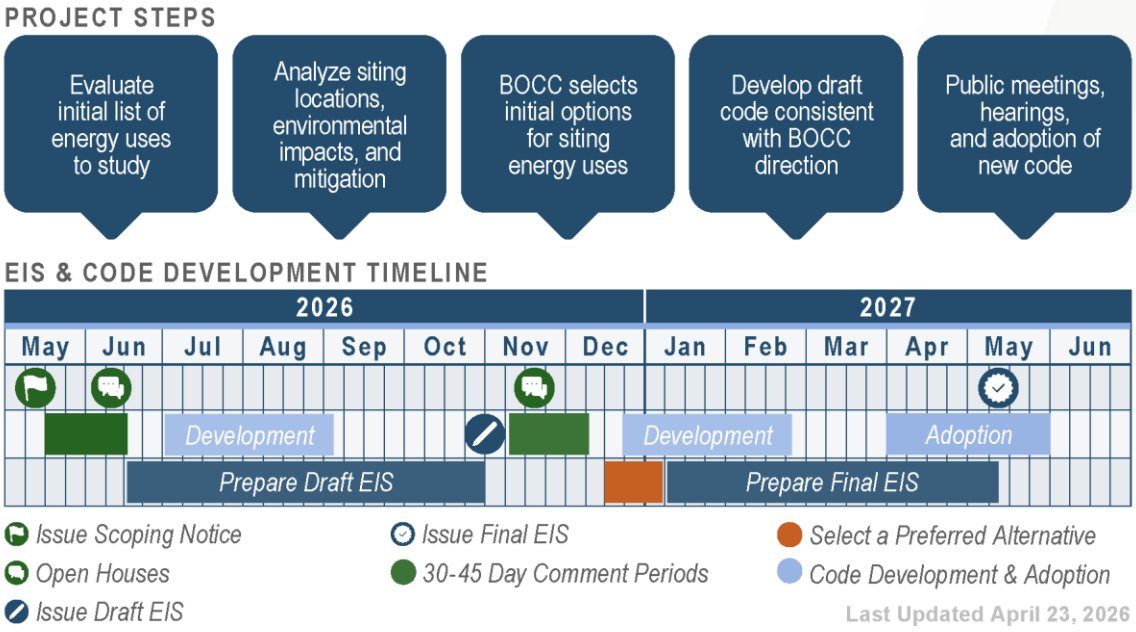


The general EIS process is shown in **Figure 1** above. The first step begins with the lead agency determining whether an action could result in significant environmental impacts. If significant impacts are anticipated, the lead agency issues a Determination of Significance (DS) and begins the scoping process to help inform the scope of the EIS. During scoping, the public, agencies, Tribes, and decision makers were invited by the County to provide input to help identify key issues and alternatives.

The County lead agency then prepares a Draft Environmental Impact Statement (Draft EIS or DEIS), which analyzes potential impacts, evaluates alternatives, and identifies possible mitigation measures. The Draft EIS is released for public review and comments. After reviewing comments, the lead agency (Skagit County) will prepare a Final Environmental Impact Statement (Final EIS or FEIS), which will respond to comments and include a refined analysis. The Final EIS provides information which will assist Skagit County develop regulations which identifies appropriate locations to allow applications to be applied for studies and mitigation to require applicants to provide during project submittal. The code adoption process will also include opportunities for public comment (both orally and in person) as part of public meetings and hearings.

As part of the CESP Project, the County determined that the energy uses under consideration for siting and permitting have the potential for significant environmental impacts within Skagit County and issued a DS and Scoping Notice on May 14, 2026, as shown in the schedule below.

Figure 2: CESP Schedule



During the scoping period, Skagit County requested feedback on the scope of the EIS, and the energy uses identified for study. The County announced the comment period and related scoping events through the local newspaper, project website, SEPA Register, and social media channels. The comment period ran from May 14, 2026, to June 16, 2026, and included three open houses in Anacortes, Mount Vernon, and Concrete. There were roughly 40 attendees at the open houses, and the County received a total of 38 comments during the comment period. Skagit County reviewed and considered the comments received during the scoping period when preparing the Draft EIS. The scoping comments received during this time are located in **Appendix B: Scoping Comment Summary**.

The Draft EIS was issued on November 19th, 2026. Comments on the Draft EIS were accepted from November 19th, 2026, to December 21st, 2026. Three open houses for the Draft EIS are scheduled in Anacortes, Mount Vernon, and Concrete. Comments during the Draft EIS comment period will be reviewed and revisions to the Draft EIS for the Final EIS will be made based on the comments received.

1.1.3. EIS Overview

Skagit County prepared an EIS referred to as the "CESP EIS", to evaluate energy siting and permitting at a non-project level. This is often referred to as a programmatic EIS. A Programmatic EIS allows the County to assess a range of alternatives, including plans, policy changes, and other potential courses of action, rather than analyzing individual projects or detailed, site-specific impacts. Individual projects will be separately evaluated as part of any future project application submittal.

The CESP EIS analyzes identified energy uses and their related siting considerations to identify probable significant adverse environmental impacts proactively before individual projects are proposed in the county. Where significant impacts are identified, the EIS describes measures to reduce, minimize, or mitigate those impacts and

identifies any impacts that may remain significant after mitigation. Because the CESP EIS does not authorize or preclude future facilities, proposed energy projects in Skagit County will still require project-level environmental review under SEPA, where required, and must meet applicable lead agency requirements. In addition, future projects will be required to meet all applicable County, State, and federal permitting requirements.

1.1.4. Scope of Analysis

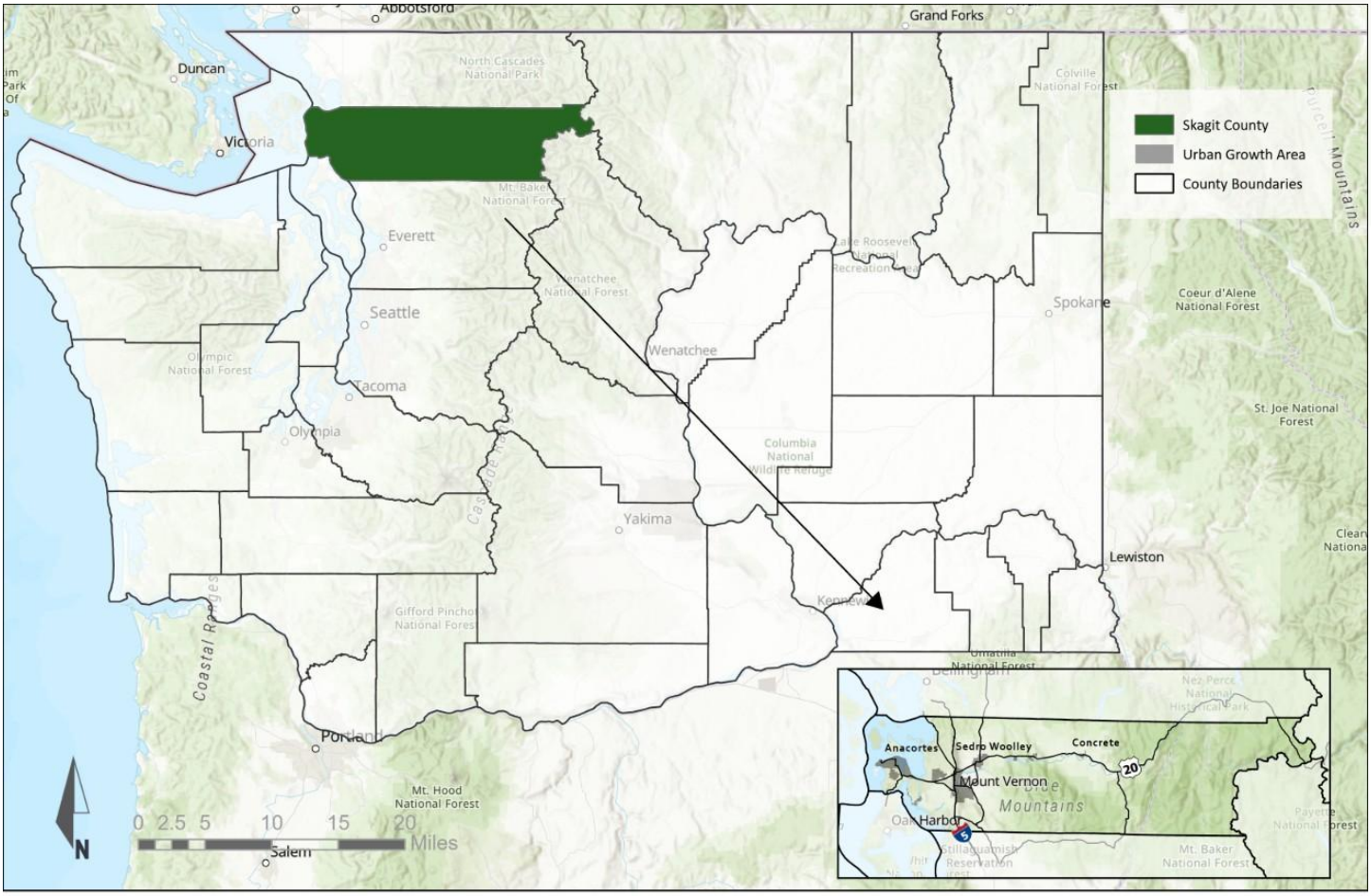
As part of the CESP EIS, Skagit County is evaluating two approaches for siting and permitting energy in the county.

- Alternative 1, the No Action Alternative.
- Alternative 2, the Action Alternative. Assess Potential Solar, BESS, Fusion SMRs, and Renewable Fuel Facilities Siting and Permitting.

More information on the selected alternatives is available in the **Summary of Alternatives**, while further background on the current local, state, and federal permitting processes for energy uses can be found in **Energy Permitting** section.

The geographic scope for the CESP EIS includes Skagit County, including all unincorporated urban and rural areas and natural resource lands.

Figure 3: Skagit County Vicinity Map



Skagit County Clean Energy Siting and Permitting (CESP) Project

Vicinity Map

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

Source: Kimley-Horn using Department of Natural Resources WA County Boundaries, 2025, https://data-wadnr.opendata.arcgis.com/datasets/wa-county-boundaries/explore?location=47.265200%2C-120.817600%2C7

The location analysis found in **Siting Analysis** section reviews the research of environmental impacts and least conflict siting conditions with input heard during community, Tribal, and stakeholder engagement. This assessment provides the County with preliminary information for consideration in terms of permitting the selected energy facilities.

Additional information on the selected energy facilities and general infrastructure components can be found in **Energy Facilit**. Facilities that did not meet the definitions of the energy uses in the energy facility overview were not analyzed as part of the CESP EIS.

1.1.5. CESP EIS Considerations

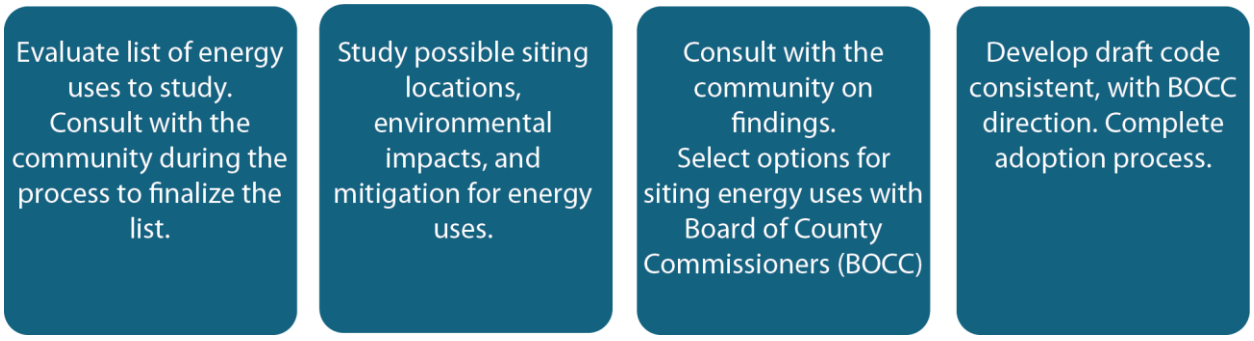
In 2025, Washington State Department of Ecology (Ecology) prepared three Programmatic EISs. They reviewed utility-scale solar, utility-scale onshore wind, and green electrolytic and renewable hydrogen as directed by the state legislature. Revised Code of Washington (RCW) 43.21C.538 requires local jurisdictions, such as Skagit County, consider and incorporate, when appropriate, these studies for applicable facilities. Skagit County must use the information in these Programmatic EISs, along with other publicly available information and local specific details to support their evaluation of proposed actions, alternatives, environmental impacts, and mitigation for proposed project.

In preparing the CESP EIS, Skagit County considered the Ecology Programmatic EISs for utility-scale solar, utility-scale onshore wind, and green electrolytic and renewable hydrogen facilities. Skagit County was outside the geographic scope of the utility-scale solar Programmatic EIS, but portions of the county were included in the utility-scale wind and green hydrogen production and storage Programmatic EISs. Although onshore utility-scale wind facilities are not analyzed as an energy use in the Skagit County CESP EIS, Ecology's findings related to co-location with BESS were reviewed and referenced, where applicable.

1.1.6. Relationship of CESP EIS to County Planning

Skagit County prepared the CESP EIS as part of the SEPA process. SEPA helps identify and evaluate the potential environmental effects of actions, as well as measures to avoid or reduce those effects, before decisions are made. The alternatives identified in the CESP EIS are potential County actions evaluated for their environmental impacts. Together, they define a range of actions the County may consider during the planning process. **Figure 4** below shows the CESP milestones. The CESP EIS process includes the first two project milestones including the evaluation of energy uses and studying the locations, environmental impacts, and mitigation measures for energy uses.

Figure 4: CESP Milestones



The findings from the CESP EIS are intended to inform and aide decision makers, agencies, Tribes, and the public understand how proposed actions may affect the natural, built, and social environments in Skagit County and inform the development of new development regulations which will provide Skagit County a well thought out permitting pathway for future projects.

1.2. Summary

1.2.1. Summary of Alternatives

The Skagit County CESP EIS provides a comparative evaluation of alternative courses of action in siting and permitting clean energy alternatives in the county. The types of energy facilities being studied include:

- Solar energy facilities,
- BESS
- Fusion SMRs and
- Renewable fuel facilities.

Two alternatives were selected for study to evaluate suitable areas within the county for energy siting, identifying environmental impacts of energy uses, and evaluating appropriate mitigation and minimization measures at a programmatic level.

Two alternatives selected for study include:

- **Alternative 1, the No Action Alternative.** Evaluates how energy development for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities would occur within Skagit County based on the current development regulations with no changes. The development code standards and permitting processes currently established in Skagit County would be carried forward.
- **Alternative 2, the Action Alternative.** Evaluates potentially significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, County permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

It is intended that after studying the selected alternatives in the Draft EIS, a Preferred Alternative will be selected which will inform the Final EIS and direction for the preparation of new development regulations. The Preferred Alternative may be one of the alternatives as written or a combination of the No Action and Action Alternative analyzed in the Draft EIS. Based upon the Preferred Alternative, the Skagit County Comprehensive Plan and/or Skagit County Code may be amended to reflect the Preferred Alternative.

The following provides a detailed description of each of the selected alternatives.

Alternative 1: No Action Alternative

Alternative 1, No Action Alternative, as required under SEPA, assumes that energy development for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities would occur within Skagit County based on the current development regulations with no changes. The current Skagit County Code (SCC) section for energy development is SCC 14.18 Part VIII. Utility Uses. The processes and development code standards currently established in Skagit County would be carried forward and any uses not permitted by the County could be done through the permitting

process established by the Washington State EFSEC. The No Action Alternative takes into consideration the energy use permitted to date, impacts observed so far, and how these processes would be carried forward.

Current Skagit County Permitting Procedures

Definitions

Utility development is defined in SCC 14.18.870 as including, but not limited to, facilities and services that generate, transport, process, or store water, sewage, solid waste, electrical energy, communications and pipelines for fuel, oil, natural gas, and petroleum products. Utility developments are then separated into the following types:

- **Minor**: an unmanned utility development designed to serve a small local community that would be considered a normal utility service for the area.
- **Major**: a utility development that is not a minor utility development or a major regional utility development.
- **Major Regional**: a utility development that is designed to serve a region.

For uses not specifically identified, under SCC 14.10.090(2), the Director may authorize the use if the Director makes all the following findings:

- The proposed use is similar to other uses listed in the zone in which the use is proposed to be located;
- The proposed use substantially meets the intent of and is consistent with the goals, objectives and policies of the Comprehensive Plan;
- The proposed use meets the stated purpose and general intent of the zone in which the use is proposed to be located;
- The proposed use would not adversely impact the public health, safety and general welfare of the residents of the county; and
- The proposed use shares characteristics common with and not of greater intensity, density or more environmental impact than those uses listed in the zone in which it is located.

If an applicant for a solar energy facility, BESS, fusion SMR, or renewable fuel facility pursues the local government permitting route in Skagit County, under the No Action Alternative, the Skagit County permitting process would depend on whether a specific project falls under minor, major, or major regional utility.

Siting Locations

Major regional utility developments are prohibited in all zones. Minor and major utility developments are allowed in all zones, although limitations apply in some zones. These include the Agricultural – Natural Resource Lands (Ag-NRL), Hamilton Urban Reserve (H-URv), Industrial Forest – Natural Resource Lands (IF-NRL), Secondary Forest – Natural Resource Lands (SF-NRL), and Rural Resource - Natural Resource Lands (RRc-NRL) Zones. The general purposes of these zones are found below.

Agricultural – Natural Resource Lands (Ag-NRL) – Provide land for continued farming activities, conserve agricultural land, and reaffirm agricultural use, activities and operations as the primary use of the district. Non-agricultural uses are allowed only as accessory uses to the primary use of the land for agricultural purposes. The

district is composed mainly of low flat land with highly productive soil and is the very essence of the county's farming heritage and character.[1]

Hamilton Urban Reserve (H-URv) – Protect land presently utilized for resource-related purposes on the outer edge of the Hamilton Urban Growth Area (UGA) from premature land division and development that would preclude efficient transition to urban development.[2]

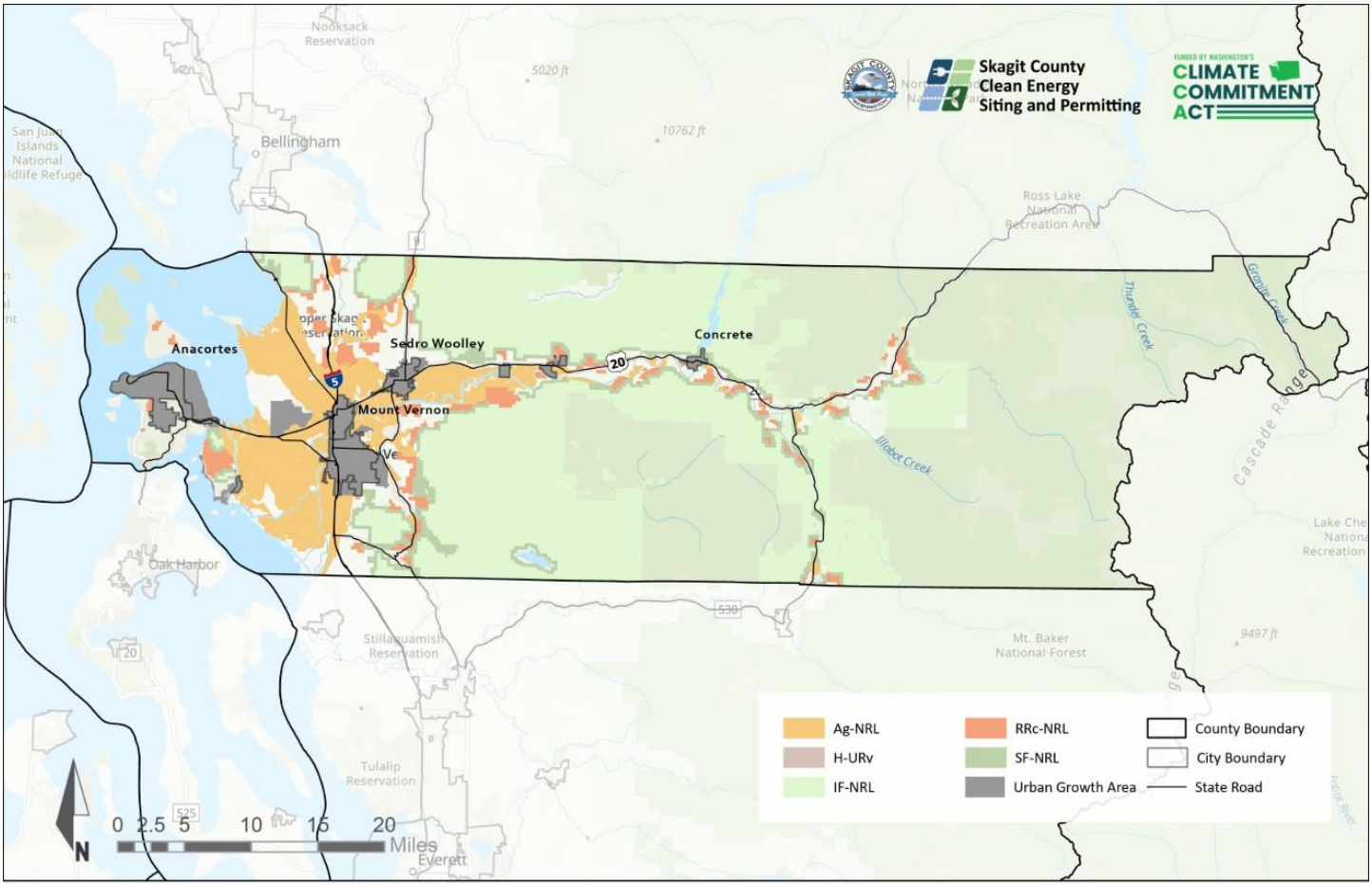
Industrial Forest – Natural Resource Lands (IF-NRL) – Ensure that forest lands of long-term commercial significance are conserved and managed to provide sustainable forest yields, job stability, ecological values, and the continuation of a viable commercial forest industry in Skagit County. Conservation of forest resources must be ensured through measures designed to prevent incompatible development on or adjacent to resource lands.[3]

Secondary Forest – Natural Resource Lands (SF-NRL) – Provide a transitional area between the IF-NRL zone and Rural zoned lands designated primarily for residential use and other non-forestry uses. The SF-NRL zone also provides a zone where smaller scale timber and other resource management activities can occur while providing protection from encroachment of residential activity that may encumber standard forest practices.[4]

Rural Resource - Natural Resource Lands (RRc-NRL) - Recognize and encourage the conservation of those lands which have the characteristics of both long-term commercially significant agriculture and forestry either on site or on adjacent sites. These are lands generally not managed as industrial resource lands, because of less productive soils, parcel size and/or geographic location, but are managed on a smaller scale and provide support for the industrial natural resource land base. It is the intent of this district to restrict incompatible non-resource-related uses and to retain a long-term, commercially significant natural resource land base.[5]

[1] Skagit County, County Code, "Agricultural – Natural Resource Lands (Ag-NRL)," updated August 31, 2025,https://www.codepublishing.com/WA/SkagitCounty/#!/SkagitCounty14/SkagitCounty1413.html#14.13.100
[2] Skagit County, County Code, "Hamilton Urban Reserve (H-URv)," updated August 31, 2025, https://www.codepublishing.com/WA/SkagitCounty/#!/SkagitCounty14/SkagitCounty1416.html#14.16.400
[3] Skagit County, County Code, "Industrial Forest – Natural Resource Lands (IF-NRL)," updated August 31, 2025, https://www.codepublishing.com/WA/SkagitCounty/#!/SkagitCounty14/SkagitCounty1413.html#14.13.200
[4] Skagit County, County Code, "Secondary Forest – Natural Resource Lands (SF-NRL)," updated August 31, 2025, https://www.codepublishing.com/WA/SkagitCounty/#!/SkagitCounty14/SkagitCounty1413.html#14.13.300
[5] Skagit County, County Code, "Rural Resource – Natural Resource Lands (RRc-NRL)," updated August 31, 2025, https://www.codepublishing.com/WA/SkagitCounty/#!/SkagitCounty14/SkagitCounty1413.html#14.13.400

Figure 5: Skagit County Utility Avoidance Areas Map



Source: Kimley-Horn using Skagit County Comprehensive Plan Map, n.d., https://classic.skagitcountywa.gov/Maps/iMap/?mapid=a6cf480ed7fa449bac7dc6086ecfdf49

In these zones, a utility development must be designed to minimize the amount of resource lands utilized and comply with the following:

- The use is located within the existing building envelope which may include the required landscaping of the existing use, or it will be sited on existing impervious surface or within existing right-of-way; and
- The applicant has proven that there is no other viable alternative to providing the expansion in the zone or on nonnatural resource lands.

A major utility development may be sited in these zones when there is no other viable parcel in the zone or non-resource designated land to serve the affected area. The applicant must demonstrate the need to locate the use in zone and must provide analysis of alternatives to the development of the use within the zone.1

Specifically for the Ag-NRL Zone, a major utility development involving the generation and/or storage of electricity is prohibited, meaning under No Action, solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities meeting the major utility definition would all be prohibited in the Ag-NRL Zone. A minor utility development may be sited only when there is no other viable parcel of non-agricultural land to locate the project. Analysis of alternatives to the development of such utility in the natural resource land must be provided.

Permitting Process

Under the No Action Alternative, the review process differs between minor and major utility development.

- A minor utility development may be permitted through a special use permit allowed through the administrative process.
- A major utility development may be permitted through a special use permit allowed by a Hearing Examiner.

Alternative 2: Action Alternative

Alternative 2 evaluates potentially significant environmental impacts for solar energy facilities, BESS, small nuclear reactors, and renewable fuel facilities. The impacts associated with these uses are assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, County permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

1.2.2. Summary of Impacts

Table 1: Summary of Impacts Table

Biological Resources				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	**Habitat loss and fragmentation:** Site clearing, grading, roads, utilities, fencing, access roads, gen-tie corridors, and permanent facility footprints could remove, degrade, convert, or fragment habitat. **Wildlife movement and disturbance:** Construction, operation, lighting, noise, traffic, fencing, and human activity could displace wildlife or disturb breeding, foraging, and movement, though would be facility specific. **Species injury and mortality:** Vegetation clearing, excavation, vehicles, equipment, structures, and facility hazards could injure or kill nests, eggs, young, low mobility wildlife, and special status species. **Aquatic habitat effects:** Ground disturbance, runoff, spills, water withdrawals, and work near wetlands or streams could affect aquatic habitat and species. **Vegetation change and invasive species:** Soil disturbance and long-term vegetation management could alter plant communities and introduce or spread invasive species.			
Facility Specific Impacts	Arrays could create broad, dispersed habitat conversion and movement barriers depending on scale and placement (ground vs rooftop) Panels may create bird or bat collision risks. Vegetation management could affect pollinators and plant communities.	Impacts would generally be localized to the facility footprint depending on scale of the facility. Potential fire or electrolyte release could increase risks to habitat and wildlife. Lighting, HVAC noise, and co-location with generation facilities could affect the behavior and movement of species, especially those which are noise sensitive.	Large footprints, cooling systems, security zones, transmission corridors, worker presence could affect terrestrial and aquatic habitat and species over a wider area. Movement could be reduced and habitat could be fragmented depending on project siting. Use of radioactive materials presents potential contamination impacts. Potential impacts depend on the proper handling, storage, and transportation of materials and waste generated.	Noise, lighting, traffic, equipment, maintenance, and increased human activity could disturb and displace wildlife. Feedstocks, digesters, and storage areas could affect wildlife movement, both by impeding it, as well as attracting it, causing an increase in interactions with industrial activities. Wildlife attracted to feedstocks or organic materials could face increased exposure to facility hazards. Runoff from operational activities could impact aquatic habitats.

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Water Resources				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	**Erosion, sedimentation, and stormwater runoff:** Clearing, grading, excavation, roads, foundations, and compacted surfaces could increase erosion, sediment transport, runoff, and pollutant loading to water resources. **Drainage, infiltration, and groundwater recharge:** Impervious surfaces and altered topography could change drainage patterns, reduce infiltration, and affect groundwater recharge. **Water quality:** Fuel, chemicals, oils, coolants, waste, sediment, and firefighting runoff could reach surface water or groundwater if not contained. **Water rights:** Construction and operation may require water supplies and could affect existing water availability depending on source, demand, and location. **Wetlands, streams, floodplains, and critical aquifer recharge areas (CARAs):** Facility siting and associated infrastructure could encroach on or indirectly affect wetlands, streams, floodplains, and CARAs.			
Facility Specific Impacts	Large, graded areas and panel runoff concentration could alter localized drainage, erosion, and infiltration Water use would generally be limited to construction, panel washing, and vegetation management. Herbicide use runoff could impact water quality if not contained.	Concrete pads, access roads, battery enclosures, and access roads could locally increase impervious areas and reduce infiltration and recharge. Larger facilities would likely have greater impacts. Water demand is typically limited, but battery or transformer releases and firefighting could affect water quality if containment fails. Risks are greatest in flood prone areas, CARAs, or near streams, wetlands, drainage	Large scale clearing, grading, and excavation, foundations, and infrastructure could create comparatively greater erosion, sedimentation, and runoff effects. Cooling systems, operational water demand, wastewater discharge, dewatering, and potential releases could create substantial site-specific water quantity and quality effects.	Operational water demand, feedstock handling, wastewater, storage tanks, processing areas, and nutrient- or chemical-rich spills could affect water supply, drainage, and water quality. Fuel production, cooling, processing, cleaning, steam generation, treatment, and production could have high water demand and affect water availability depending on design and specific fuel.

		facilities, aquifers, and other sensitive aquatic resources.		

Air Quality and Greenhouse Gas (GHG) Emissions				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	**Fugitive dust:** Clearing, grading, excavation, material handling, unpaved travel, and decommissioning could generate temporary dust. **Criteria pollutants and exhaust emissions:** Construction equipment, vehicles, generators, and operational combustion sources could emit nitrogen oxides, particulate matter, carbon monoxide, volatile organic compounds, and other pollutants. **GHG emissions:** Construction, worker travel, material transport, equipment use, operations, maintenance, and decommissioning could generate GHG emissions, while energy displacement benefits would depend on facility operation and the energy system served.			
Facility Specific Impacts	Emissions would generally be limited, although backup generators, maintenance vehicles, panel cleaning, bare soil and vegetation management could generate emissions.	Emissions would generally be limited. Thermal runaway or fire could release smoke, gases, and particulates, and emissions would depend on the facility source.	Long construction periods, large material demands, backup generation, cooling systems, worker travel, and potential process or incident releases could generate air emissions.	Combustion, processing, fermentation, digestion, feedstock handling, storage, odors, leaks, and vehicle activity could create ongoing criteria pollutants, hazardous air pollutants, odors, and GHG emissions.

Energy and Natural Resources				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	**Energy resources:** Facilities could consume electricity or fuels during construction and operation and could require transmission and interconnection capacity. **Transportation and equipment fuel use:** Construction, deliveries, maintenance, and decommissioning could increase diesel, gasoline, electricity, or alternative-fuel demand. **Aggregate and construction material demand:** Foundations, roads, pads, buildings, utility corridors, and site restoration could require substantial aggregate, concrete, steel, and other materials depending on the facility and project size. **Resource lands:** Facility development has the potential to impact resource lands and affect continued resource use depending on specific locations, use, and size.			
Facility Specific Impacts	Operational demand for communications, lighting, security, monitoring or maintenance would be limited and could largely be met by on site generation. Agricultural lands may be particularly affected due to the level terrain and transmission access that can make such lands more suitable for solar development.	Operation would consume electricity for charging, monitoring, cooling, ventilation, and auxiliary systems. Aggregate needs may be relatively high per acre because engineered pads can support substantial loads.	Construction energy demand may be notable because of longer duration, larger workforces, excavation, and complex infrastructure. Substantial aggregate, concrete, steel, specialty metals, electrical equipment, and imported components may be needed, as well as involve substantial fuel consumption for heavy equipment, specialized components, materials, and worker travel. Facilities could permanently convert resource lands to industrial use. Large footprints and infrastructure could create long-term land commitments.	Operation would consume electricity and process fuels for pumps, compressors, handling systems, processing equipment, storage, and administration, generally within existing utility capacity. Recurring transport of feedstock materials and finished products could create continuing fuel demand throughout facility operation. Facility development could occupy natural resource lands, while feedstock demand could influence agricultural or forestry production patterns and encourage additional resource land conversion depending on scale and sourcing. Depending on the type of feedstock and processing procedures required for a facility, operation may be an accessory use to working agricultural, forest, or mining operations.

Environmental Health and Safety				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	**Noise and vibration:** Construction, traffic, equipment, ventilation, mechanical systems, and decommissioning activities could expose workers and nearby receptors to noise or vibration. **Fire, explosion, and ignition:** Electrical systems, fuels, chemicals, equipment failure, and proximity to combustible vegetation could create fire or explosion hazards. **Spills and releases:** Fuel, oils, coolants, chemicals, electrolytes, process materials, or wastes could be released during storage, handling, operation, emergencies, or decommissioning. **Contaminated site disturbance:** Excavation or grading could encounter contaminated soil, groundwater, buried waste, or unknown hazardous materials. **Worker and emergency responder safety:** Heavy construction, energized equipment, confined spaces, hazardous materials, traffic, and incident response could create occupational and responder risks.			
Facility Specific Impacts	Potential noise impacts would be temporary during construction and decommissioning and limited in operation to accessory equipment such as inverters, trackers, and general maintenance activities. Electrical faults, energized equipment, heat, glare, and difficult access within large arrays could affect worker and responder safety.	Cooling and ventilation systems, inverters, transformers, and other auxiliary equipment could create continuous, intermittent, or tonal operational noise. Battery failure could cause thermal runaway. Incidents could release toxic, corrosive, or flammable gases and contaminated runoff. Damaged, overheated, degraded, or partially energized batteries could increase risks during operation, replacement,	Excavation and heavy machinery could generate substantial short-term noise and vibration during construction. Cooling systems, pumps, transformers, compressors, and ventilation could create continuous operational noise. Operational hazards could technology specific systems with potential for ignition. Limited radioactive waste is anticipated to be generated with fusion processes. Though it can come from tritium, which can enter the body through inhalation, ingestion, or	Pumps, compressors, cooling systems, material handling, and truck loading could create continuous or intermittent operational noise. Combustible or flammable feedstocks, finished fuels, compressed gases, and process chemicals could create fire, explosion, and other ignition hazards. Residual materials may remain hazardous even after closure. Feedstocks, fuels, catalysts, treatment chemicals, wastes, compressed gases could spill, leak, or release vapors during processing,

Environmental Health and Safety				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
		transport, and decommissioning.	absorption and can increase the risk of health impacts if consumed in extremely large quantities. Workers and responders could face risks associated with high voltage systems, magnetic or vacuum systems, pressurized or cryogenic equipment and exposure to hazardous materials.	storage, loading, transportation, or closure. Workers and responders could encounter heavy equipment accidents, falls, electrical hazards, and toxic exposures for the materials used in renewable fuel.

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Impacts on Overburdened Communities				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	**Noise, dust, emissions, and visual disturbance:** Construction and operation could add localized noise, dust, air emissions, lighting, and visual changes during construction and operation, with greater effects where communities already experience cumulative environmental burdens. Nearby agricultural uses may be more impacted depending on proximity. **Traffic, access, and transportation burdens:** Truck traffic, road closures, congestion, safety conflicts, and emergency access constraints could disproportionately affect communities with limited transportation options or existing traffic burdens. **Land use and community character:** Industrial development could alter rural, agricultural, or residential character and compound existing land-use, health, or environmental inequities. **Housing and displacement risk:** Temporary workforce demand, land conversion, or infrastructure investment could affect housing availability and displacement pressures, depending on project scale and location.			
Facility Specific Impacts	Large land areas conversion and visible arrays could change rural or agricultural character. Dust could settle on nearby agricultural crops during both construction and operation.	Facilities near homes or community facilities could raise concerns about fire, smoke, toxic releases, evacuation, noise, and risk communication. Community character could be perceived as a more industrial use.	Large workforces and industrial footprints could increase housing and infrastructure pressure.	Frequent truck trips, odors, air emissions, feedstock storage, and industrial operations could concentrate burdens near transportation corridors, agricultural communities, or existing industrial areas.

Earth Resources				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	**Soil disturbance:** Clearing, grading, excavation, foundations, roads, trenching, and compaction could remove topsoil, reduce soil productivity, and disturb geologic conditions. **Erosion:** Exposed soils could increase with wind and water erosion during construction, operation, and decommissioning. **Alteration to site hydrology:** Grading, impervious surfaces, drainage systems, dewatering, and concentrated runoff could change infiltration, slope stability, and erosion patterns. **Soil contamination:** Spills, leaks, fires, waste handling, and firefighting materials could contaminate soil.			
Facility Specific Impacts	Broad grading and repeated panel-row runoff could create distributed erosion and soil compaction. Soil exposed and left unvegetated during operation could result in susceptibility to wind and water erosion. Large ground-mounted solar arrays may change the distribution of precipitation beneath panel rows and concentrate runoff in some areas while reducing erosion in others.	Pads and foundations create localized disturbance. Battery, coolant, oil, or firefighting releases could require soil removal or remediation.	Deep excavation, extensive foundations, cooling-water infrastructure, large cut-and-fill quantities, seismic design, and hazardous-material areas could create substantial geotechnical and soil effects. Large foundations, buildings, cooling infrastructure, and stormwater systems could permanently alter topography, natural drainage patterns, runoff characteristics, groundwater levels, and flow patterns. Accidental releases from processing systems, cooling systems, chemical storage areas, or waste management facilities could result in localized soil contamination.	Tanks, pipelines, lagoons, process areas, feedstock storage, and heavy truck use could increase compaction, erosion, and contamination risk.

Transportation				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	**Traffic:** Construction, deliveries, worker trips, operations, maintenance, and decommissioning activities could increase traffic, congestion, travel delay, and conflicts with other roadway users. **Transportation infrastructure:** Heavy or oversized loads and repeated truck trips could affect pavement, bridges, intersections, shoulders, rail crossings, and local access; temporary closures or improvements may be needed.			
Facility Specific Impacts	Construction would generate concentrated delivery of panels, racking systems, aggregate, and electrical equipment, followed by relatively low operational traffic.	Battery containers, transformers, and other heavy equipment may require oversized or overweight hauling; operational traffic would generally be limited.	Long construction schedules, large workforces, heavy and oversized components, and emergency planning could create substantial roadway and access demands. Operations may also result in higher ongoing traffic volumes due to staffing, maintenance, and emergency response requirements.	Ongoing feedstock deliveries and product or waste shipments could generate sustained heavy-truck traffic and roadway wear.

Land Use				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	**Disturbance to adjacent land use:** Noise, lighting, dust, traffic, fencing, and construction activity could disrupt nearby residences, farms, businesses, recreation, or other land uses. **Land conversion:** Facility footprints and associated infrastructure could convert agricultural, forest, mineral, rural, industrial, or open-space lands to energy or industrial use depending on the facility scale. Facilities could require land acquisition or conversion of adjacent land. **Compatibility with sensitive land uses:** Facilities could conflict with residences, schools, parks, airports, or other sensitive or incompatible uses depending on project specific location and design. **Visual character effects:** Buildings, equipment, fencing, roads, transmission, lighting, and vegetation removal could alter community character and surrounding views.			
Facility Specific Impacts	Large ground mounted solar facilities could convert broad areas of rural, open space, or natural resource lands changing surrounding character Panels and infrastructure could change visual character or block existing views. Panel glare, lighting, height, fencing, and visibility could impact sensitive areas including scenic corridors, airports, or military operations.	Compact industrial facilities may be compatible with industrial settings but could conflict with nearby residential or sensitive uses because of noise, lighting, and emergency risks.	Large industrial campuses, security areas, cooling and transmission infrastructure, and long-term operations could create substantial compatibility and/or land-conversion impacts depending on facility scale and location. Land use conflicts are likely with residential, rural, or other sensitive uses.	Construction of processing buildings, storage areas, and accessory infrastructure could temporarily create compatibility concerns where development is adjacent to sensitive land uses. Facility operations including feedstock delivery, storage, handling, processing, could disrupt adjacent land use due to noise, odors, and activity that could cause disturbance to adjacent properties. Conflicts could present in close proximity to residential neighborhoods, rural and natural resource lands, and other sensitive land uses depending on the specific renewable fuel use.

Public Services and Utilities				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	**Emergency response and fire protection:** Projects could require specialized training, equipment, water supply, access, and incident planning, potentially affecting service capacity and response times. **Water supply demand:** Construction and operation could increase demand on municipal, community, private, or permitted water supplies. **Electrical infrastructure:** Interconnection, transmission, distribution upgrades, substations, backup power, and facility loads could affect electrical infrastructure and require continued coordination during operation. **Solid and hazardous waste management:** Construction debris, maintenance waste, damaged equipment, hazardous materials, and decommissioning waste would require collection, transport, recycling, treatment, or disposal. **Security and telecommunications:** Facilities may require communications, cybersecurity, monitoring, fencing, and security services and could affect local telecommunications capacity or coordination needs.			
Facility Specific Impacts	Water demand would relate to dust suppression activities during construction, operation, and decommissioning. Emergency response impacts would include emergency access across large arrays and electrical fire response. Damaged or retired panels, racks, and equipment could increase waste streams. Broken or removed panels may	Fire departments may need battery-specific detection, suppression, monitoring, protective equipment, standoff distances, and incident-management protocols and training for operation. Operation requires coordination for charging, storage integration, grid reliability, and maintenance of interconnection infrastructure. Damaged batteries require specialized handling and waste disposal.	Construction, operation, and decommissioning could require coordination with fire, emergency medical services (EMS), law enforcement, and emergency management. Depending on the specific technology proposed, specialized training and response capabilities may be needed. Construction and operations could require significant water supplies, particularly for facility cooling. The facility itself would also place operational demands on electrical systems and grid connections. Security infrastructure and reliable communications would support	Facilities may require high water and utility demand, industrial fire protection, wastewater treatment, hazardous-material response, and management of processed residuals and feedstock waste during operation.

Public Services and Utilities				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
	qualify as hazardous waste depending on material content, increasing demands on recycling and disposal facilities.		incident notification, monitoring, and coordination with law enforcement and emergency agencies. Decommissioning could generate conventional debris and radioactive, or mixed hazardous wastes requiring packaging, transport, and licensed treatment, storage or disposal.	

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Tribal Rights, Interests, and Resources				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	*The CESP EIS considers potential impacts to Tribal rights, interests, and resources from a non-Tribal perspective at a high level.* **Natural environment:** Development could affect plants, wildlife, fish, water, habitats, and other natural resources associated with Tribal rights, interests, traditional practices, and first foods. **Access and use:** Ground disturbance, infrastructure, fencing, security restrictions, traffic, noise, lighting, and changes in land use could affect access to or use of areas important for fishing, hunting, gathering, cultural, spiritual, or other traditional practices. **Archaeological sensitivity:** Ground-disturbing activities could affect known or unidentified archaeological and cultural resources. The absence of recorded resources does not establish that culturally important resources are absent, and available information may not reflect Tribal knowledge or confidential information.			
Facility Specific Impacts	Larger ground-mounted facilities may impact culturally significant areas through land conversion, fencing and access restrictions, vegetation and habitat change, and changes to culturally important landscapes. Rooftop or previously developed-site installations would be anticipated to have fewer potential impacts.	Ground disturbance, security restrictions, noise, and potential fire or hazardous-material releases could affect cultural resources, natural resources, or access to culturally important areas. Potential impacts would depend strongly on location and facility scale.	Larger facility footprints, security areas, water demands, cooling and transmission infrastructure, and management of radioactive materials and wastes could affect natural resources, access, and culturally important landscapes.	Impacts may vary by feedstock, facility type, scale, water demand, and whether development involves a new facility or use of an existing facility. New land disturbances would generally have greater potential for impacts, access changes, water and habitat alterations, and changes to culturally important landscapes than siting in previously disturbed areas.

Parks and Recreation				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	**Noise, dust, lighting, and visitor comfort:** Construction and operations could reduce quiet, dark-sky conditions, air quality, or visitor comfort at nearby recreation areas. Construction level impacts would vary based on facility scale, proximity to recreation uses, and construction timeframe. **Access and traffic:** Construction traffic, road work, closures, security areas, and facility access could delay or restrict public access to parks, trails, waterways, or recreation sites depending on facility location and scale. **Scenic views and visual quality:** Structures, equipment, lighting, transmission, vegetation removal, and dust could alter scenic views from recreation areas depending on site location and visible infrastructure. **Conversion or fragmentation of parks and trails:** Facility siting or linear infrastructure could directly convert, cross, or fragment parks, trails, open space, or recreation routes. **Wildlife-oriented recreation:** Habitat change, wildlife displacement, noise, and access limits could affect hunting, fishing, birding, wildlife viewing, and related recreation.			
Facility Specific Impacts	Large ground mounted arrays and fencing could alter open views, cross recreation lands or routes, and change wildlife-oriented recreation opportunities.	Battery containers, substations, fencing, lighting, and equipment could be visible from parks, roads, scenic corridors, or viewpoints and alter the visual environment. Equipment noise could audibly distract from recreational user experience or impact wildlife patterns.	Equipment, cooling systems, power supplies, and security lighting could create long-term industrial noise and light pollution during operation. Industrial facility characteristics could affect scenic quality, rural character, and tourism appeal. Large facility footprints, lighting, traffic, and work activity could impact recreational user experience or wildlife patterns.	Operations could produce significant noise, lighting, and odors that could impact rural recreation areas. Feedstock and product truck traffic could increase travel times and affect access to parks. Processing and storage could convert formal or informal recreation land and fragment landscapes near/within parks and open space. Industrial activity, lighting, traffic, odors, and changes in habitat use or wildlife behavior could diminish from recreational user experience.

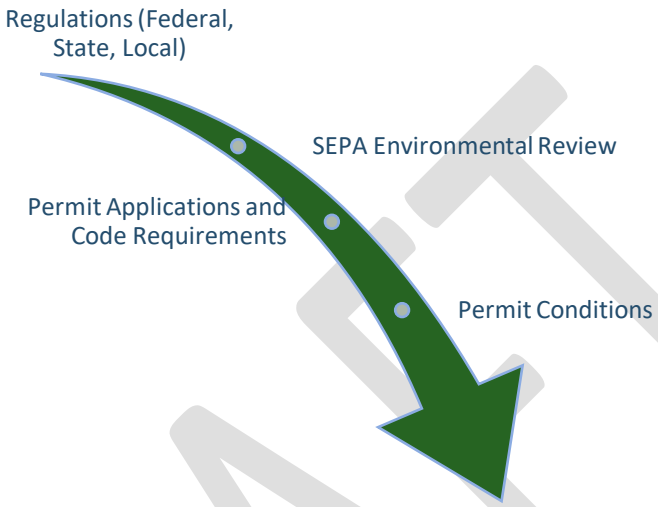
Historic and Cultural Resources				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
Impacts Applicable to All Energy Facilities	**Archaeological resources and human remains:** Ground disturbance could damage or expose known or unidentified archaeological materials, traditional cultural properties, or human remains. **Historic properties and landscapes:** Demolition, alteration, vibration, land conversion, or incompatible new development could impact nearby historic buildings, districts, structures, and cultural landscapes. **Viewsheds and visual integrity:** New facilities, transmission, lighting, or vegetation removal could alter a historic property's setting, feeling, association, or important views, particularly in rural or agricultural areas and along the Agricultural Scenic Corridor. **Noise, vibration, dust, and traffic:** Construction and operation could physically affect fragile resources, known or unidentified, or reduce the integrity and visitor experience of historic properties, cultural landscapes, traditional cultural properties (TCPs), and sacred sites depending on proximity.			
Facility Specific Impacts	Panels, fencing, substations, roads, and electrical equipment could alter significant sites and/or viewsheds. Ground mounted systems are more likely to affect the character or views of historic buildings or cultural sites. Operational equipment and maintenance traffic could introduce ongoing noise and vibration near historic and cultural resources.	Containers, fencing, lighting, and recurring maintenance could alter significant sites and/or viewsheds. Cooling systems, inverters, and maintenance traffic could create ongoing noise near these resources.	Extensive clearing, excavation, buildings, roads, and grading could disturb or destroy historic properties, archaeological resources, cultural materials, cemeteries, sacred sites, or human remains. Construction and decommissioning noise, vibration, dust, traffic, staging, and demolition could affect nearby historic and properties and cultural landscapes. Facility operations and associated equipment could generate ongoing noise, vibration, and traffic near historic and cultural resources.	Large facility footprints, construction, facility expansion, pipelines, tanks, and decommissioning could damage or expose archaeological deposits, artifacts, cemeteries, sacred sites, or human remains. Processing buildings, tanks, pipelines, traffic, fencing, lighting, and ongoing industrial activity could alter historic settings, viewsheds, cultural landscapes, and places associated with historic and cultural resources. Construction could create substantial noise, vibration, dust, and traffic that temporarily affect adjacent historic properties and cultural landscapes.

Historic and Cultural Resources				
Impacts	**Solar**	**BESS**	**Fusion SMRs**	**Renewable Fuel**
			Large buildings, cooling systems, transmission, and industrial infrastructure could substantially alter the character, setting, visuals, feeling, and association of nearby historic properties and culturally important landscapes.	Processing equipment and regular truck traffic could generate ongoing noise and vibration.

Visual Quality				
Impacts	Solar	BESS	Fusion SMRs	Renewable Fuel
Impacts Applicable to All Energy Facilities	**Construction visual disturbance:** Clearing, grading, cranes, equipment, staging, temporary lighting, and exposed soils could create short- or long-term visual disturbance. **Dust and visibility:** Construction and decommissioning dust could reduce visibility and scenic quality from nearby properties, roads, recreation areas, and viewpoints. **Industrial character:** Buildings, equipment, fencing, substations, roads, transmission, lighting, and security features could introduce industrial forms into rural, agricultural, residential, or natural settings. **Glare and reflectivity:** Reflective surfaces, lighting, and equipment could create glare or visual contrast depending on orientation, distance, topography, and viewpoint. **Landscape pattern change:** Grading, vegetation removal, utility corridors, roads, and larger facility footprints could alter landform, color, texture, screening, and established landscape patterns.			
Facility Specific Impacts	Repeated panel forms, glare, fencing, access roads, and broad vegetation conversion could create visible geometric patterns across large areas. Panel glare may occasionally be visible depending on orientation, topography, lighting, and viewpoint. Fading finishes or exposed soil could increase visual contrast.	Containers, transformers, switchgear, HVAC equipment, fencing, cameras, and lighting could create a compact industrial contrast.	Excavation, major buildings, cranes, stockpiles, staging, vehicles, and extensive clearing could remain visually prominent for a lengthy construction period. Large facilities and support buildings, cooling systems, transmission, security infrastructure, and lighting could create a prominent long-term industrial presence.	Processing buildings, storage tanks, silos, piping, cooling equipment, towers, stacks, and substations could create substantial mass and vertical industrial forms.

1.2.3. Summary of Mitigation Measures

Many impacts associated with the energy uses studied in the CESP EIS would be mitigated through the application of federal, state, and County code requirements. As an example, future development applications will be required to be consistent with county regulations, such as critical areas, shorelines, noise control, flood damage prevention, adopted building and fire codes, and setback requirements; state regulations, including resource land



conservation and compatibility requirements; and federal regulations when applicable.

Project impacts not addressed through existing federal, state, and County code requirements can be addressed through the application of SEPA substantive authority. SEPA substantive authority is granted to counties for the purpose of conditioning or denying public or private proposals as a way to mitigate significant adverse environmental impacts.

However, where the CESP EIS has identified common energy use impacts, which are not addressed through existing regulations, a proactive way to address such impacts and mitigation is by using special development standards and requirements. Special development standards can address project impacts through requirements to complete studies, identify mitigation measures, and specify how mitigation would occur through project siting and design, construction, operation, and decommissioning. By utilizing special development standards proactively, the County:

- Identifies common impacts which should be addressed as part of an application submittal;
- Streamlines the permit process for applicants by identifying application requirements upfront; and
- Preliminarily addresses common impacts rather than having to request additional studies after County, agency, or public review of an application.

Where project impacts are identified and not addressed through federal, state, and County code requirements or special development standards, SEPA and the permitting process, such as the conditional use permit process, may be utilized to require additional studies and measures.

Mitigation measures identified throughout the following EIS are intended to assist the county to avoid, minimize, reduce, or otherwise address potential environmental impacts associated with the studied energy uses. The CESP Draft EIS organizes mitigation measures into the following categories:

- Required Mitigation Measures
- Recommendations for Siting and Design
- Recommendations for Construction and Decommissioning
- Recommendations for Operation

Required measures are currently in place as of the drafting of the CESP EIS, while recommended measures are additional factors that the County may consider as part of future actions or part of best management practices.

Required Mitigation

Future energy facilities would be subject to applicable federal, state, and local laws, regulations, permits, approvals as determined based on the energy facility, jurisdictional authority, and project-specific factors as identified in the Energy Permitting Overview.

- At the **federal level**, requirements may include agency licensing and approvals, species protections, and requirements applicable to particular technologies, such as Nuclear Regulatory Commission licensing for SMRs.
- At the **state level**, requirements may include coordination and permitting with the Washington State Department of Ecology, Department of Transportation, and/or Department of Health as it relates to resource-specific regulations, permits, approvals, and coordination where applicable.
- At the **local level**, energy facilities may be subject to County requirements in addition to the utility-specific provisions of SCC 14.18.870, including applicable land use and zoning standards, critical areas regulations, transportation and access requirements, building and fire codes, noise control not exempt, and other development and infrastructure standards within County authority that serve as required mitigation measures for projects within the county.

Appendix A, List of Regulations, provides a list of potentially applicable federal, state, and local regulatory requirements applicable to energy facilities evaluated in the Draft EIS.

Recommendations for Siting and Design

Measures recommended for siting and design focus on ways to avoid or reduce impacts before development occurs through project location, site layout, and design of future facilities and associated infrastructure. Major themes include:

- Locating development in previously disturbed or otherwise suitable areas where feasible;
- Avoiding or minimizing conflicts with sensitive environmental resources and incompatible uses;
- Minimizing facility, road, utility, and infrastructure footprints;
- Maintaining access and connectivity; and
- Incorporating appropriate setbacks, buffers, drainage, safety, and other design features.

The **Siting Analysis** provides additional background information on siting favorability and unfavorable conditions for the selected energy uses as it has been identified through outside studies and resources.

Recommendations for Construction, Operation, and Decommissioning

Measures recommended for construction, operation, and decommissioning address the lifecycle of the selected energy facilities. Major themes include:

- Erosion and stormwater control;
- Traffic and access management;
- Noise and lighting reduction;
- Monitoring and adaptive management;
- Spill and hazardous material management;
- Emergency coordination;
- Waste management;
- Removal of temporary infrastructure; and
- Stabilization, restoration, and revegetation following disturbance.

Other Mitigation for Potentially Significant Impacts

Where required and recommended measures to avoid, reduce, or minimize impacts may not be sufficient to reduce the significance of an impact, the CESP EIS identifies additional measures that could be considered to address the remaining impacts. These measures can include compensatory restoration or replacement, off-site conservation, infrastructure or facility modifications, changes to access or configuration, operating limitations, enhanced monitoring, adaptive management tied to performance standards, financial assurance, or avoidance of locations where impacts cannot be adequately reduced.

1.2.4. Summary of Engagement Efforts

Before the issuance of the Draft EIS, Skagit County issued a State Environmental Policy Act (SEPA) Determination of Significance (DS) and requested comments on the scope of EIS. The scoping comment period occurred from May 14th, 2026, to June 16th, 2026. As part of the scoping comment period, the County held three open houses to provide opportunities to discuss the project, be available for questions, and share ways to provide comments on the scope of the EIS. The open houses were held as follows:

- Anacortes: June 9th, 2026, from 1:00 to 3:00 PM at the Depot Arts and Community Center
- Mount Vernon: June 9th, 2026, from 5:30 to 7:30 PM at the Skagit County Administration Building.
- Concrete: June 10th, 2026, from 5:30 to 7:30 PM at the Concrete Community Center.

The open-house events had a total of 45 attendees. At the close of the comment period, 38 comments were received.

Figure 6: Anacortes Open House





Left: Scoped affected environment and comments from the public. Right: Participants during the engagement event.

To continue to engage the community, the County has formed a Clean Energy Advisory Group (CEAG) as part of the Clean Energy Siting and Permitting Project to provide policy guidance in drafting clean energy code. The group consists of 12 members that represent Skagit County, non-profit and economic sectors, and environmental groups. There will be 7 meetings with each session covering a different energy topic, including solar, battery energy storage systems, renewable fuels, and fusion small modular reactors. The CEAG is an ad hoc advisory group that will be disbanded once the group has provided a recommendation on code concepts.

In addition to the CEAG meetings, small group interviews were held with two different groups. The purpose of the CEAG and the Small Group Interviews is to provide input to County staff regarding a recommended Clean Energy Code.

The purpose of the Draft EIS issuance is to provide an opportunity for the community to comment on the potential impacts of the proposal and reasonable alternatives. The comment period for the Draft EIS lasts for 33 days from November 19th, 2026, to December 21st, 2026. Comments can be submitted via email or mailed to Skagit County Planning and Development Services by 5:00PM on December 21st, 2026. There will be three open houses held for the DEIS on December 8h and 10th.

- December 8th, 2026,
  - 1:00PM to 3:00PM at Anacortes Depot Arts & Community Center, 611 R Avenue, Anacortes, WA 98221
  - 5:30PM – 7:30PM at Mount Vernon Skagit Couty Administration Building, 1800 Continental Place, Mount Vernon, WA 98273
- December 10th, 2026,
  - 5:00PM – 7:00pm, at Concrete Community Center, 45821 Railroad Avenue, Concrete, WA 98237

After the issuance of the Draft EIS, the County will respond to public comments, and a preferred alternative will be selected. The Final EIS (FEIS) will then be issued, which includes comment responses and may include amendments and further refinement. Future public hearings on clean energy code will be held, and a project level

SEPA checklist will still be needed for future clean energy projects. Additional public comments will be available for proposed code amendments.

1.2.5. Major Conclusions

The CESP EIS provides planning and environmental considerations for how the County may approach the siting and permitting of solar, battery energy storage systems (BESS), renewable fuels, and fusion small modular reactors (SMRs). The affected environment analysis discusses the potential environmental impacts of the different energy types and the extent to which the County may choose to locate and apply standards to energy uses. The major conclusions of this analysis are summarized below.

- **Differences between energy facilities warrant tailored approaches.** The energy uses assessed in the CESP EIS vary in their land and infrastructure needs, physical characteristics, operational requirements, hazards, resource inputs, and waste streams, all of which result in different environmental considerations, potential impacts, and may call for different project-specific study materials to have ahead of time for future proposed developments.
- **Recurring themes include the potential scale and location of energy uses.** Each of the energy uses studied has the potential to vary in scale at the project level. The scale of development may influence the magnitude of environmental impacts. However, the significance of those impacts would also depend on site-specific conditions. A larger facility located in an area with limited potential for conflicts with sensitive resources may have impacts that can be effectively mitigated below a significant threshold. On the other hand, smaller or distributed facilities may reduce some impacts associated with the overall development footprint but could still result in significant project-level impacts if located in or near sensitive resources or other areas with greater environmental constraints.

The differences identified among use types, scales, and locations provide a framework and resource for future reviews in the county. During future project-level permitting and environmental review, the CESP EIS may help identify relevant environmental considerations and information needs, while evaluating the specific facility design, supporting infrastructure, site conditions, and affected resources to determine potential impacts, applicable requirements, and mitigation measures.

Significant Areas of Uncertainty

The CESP EIS identifies several areas where uncertainty would remain following programmatic environmental review. Potential impacts and the effectiveness of mitigation measures would depend on the characteristics of a future facility, and the environmental conditions present at future sites. The following key themes were identified as remaining areas of controversy or uncertainty.

Technological Advancements and Emerging Technologies

Uncertainty is greater for emerging or less established technologies, particularly regarding treatment of the local permitting pathway for such uses. The fusion SMR analysis in the CESP EIS reflects the current stage of fusion technology development, with some systems moving toward early commercial deployment while others are still in research and development. Applicable federal and state regulatory frameworks are also evolving. As such, future proposals would require project-specific information to determine the appropriate measures and evaluation of potential environmental impacts.

Unknown or Unidentified Resources

Uncertainty remains regarding the presence and location of environmental and cultural resources that may not be known at the programmatic level or at the time of a future project application. This may include wetlands and other site-specific environmental features, as well as historic and cultural resources that may be undocumented or not publicly available because of preservation concerns. Certain information may also be confidential or retained by Tribes consistent with data sovereignty and established protocols.

Potential Impacts on Tribal Rights, Interests, and Resources

As part of the CESP EIS, the significance of potential impacts to Tribal rights, interests, resources, and culturally sensitive areas was identified as an area that cannot be fully understood from a non-Tribal perspective. It calls for the perspectives and knowledge of potentially affected Tribes, consistent with respect for sovereignty and principle of self-determination. Assessing adverse impacts and significance would require input from each Tribe, of which data may be limited or unknown at time of project application and call for time to understand potential impacts.

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2. Background

2.1. Energy Permitting

2.1.1. Washington State Energy Permitting

In Washington State, there are two different siting and permitting pathways for most energy projects:

1. Local government, such as Skagit County, or
2. Washington State Energy Facility Site Evaluation Council (EFSEC).

For most energy uses, applicants have the option to choose the specific permitting process for their energy project. Whether an applicant chooses the local government or EFSEC pathway comes with a set of considerations. The following information provides descriptions of the current local, state, and federal permitting processes related to the energy facilities studied within the CESP EIS.

Skagit County Procedures

If an applicant for an energy project pursues the local government permitting route in Skagit County, the permit review process largely depends on whether a specific project falls under minor, major, or major regional utility as described in the No Action Alternative in the **Summary of Alternatives** section.

Skagit County code allows energy uses under the definitions of major and minor utility developments, as established in Skagit County Code 14.18.870. Major regional utility developments are prohibited in all zones in Skagit County while minor and major utility developments are allowed in all zones with limitations for these uses in natural resource zones and the Hamilton Urban Reserve. Major utility development specific to generation and/or storage of electricity is prohibited in the Agricultural – Natural Resource Lands Zone.

Other than the differentiating factor between minor and major utility development, the current Skagit County Code does not differentiate between electrical energy generation and storage types. It also does not enforce any unique performance standards or use standards that may help the County mitigate any impacts on air quality, water, wildlife, soil, or other impacts based on the energy facility proposed. If an energy project proposed meets the criteria for minor or major utility development, **Table 2** below depicts the difference in these permitting processes.

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Table 2: Skagit County Utility Permitting

Permit Process	Minor Utility Development	Major Utility Development
Type of Review	Type 2: Director Decision with Notice	Type 3: Hearing Examiner Decision
Applications Subject to Type of Review	Administrative special use permit (SCC Chapter 14.51)	Hearing Examiner special use permits (SCC Chapter 14.51)
Pre-Application Conference	Yes, but can be waived	Yes, but can be waived
Notice of Application	Yes	Yes
Comment Period	15 days	15 days
Recommendation By	None	Director
Pre-Decision Open-Record Public Hearing	No	Yes, held by Hearing Examiner
Decision Maker	Director	Hearing Examiner
Notice of Decision	Yes	Yes
Review Time Period	100 days	170 days
Local Appeal Available To	Hearing Examiner, then BOCC	Board of County Commissioners
Appeal Hearing	Open-record before Hearing Examiner; closed-record before BOCC	Closed-record

Source: Adapted from SCC Table 14.06.150-1

Through the County permitting process, applicants would be subject to the County Critical Areas Ordinance and project-level SEPA review. As SEPA lead agency, the County would review proposed actions to determine whether they could result in significant impacts to the natural, built, or social environment.

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EFSEC Procedures

For the permitting and development of some energy facilities, EFSEC certification is required; however, for others, certification is an optional path. Whether a facility must obtain EFSEC certification affects the speed, efficiency, and equity considerations of clean energy projects in Washington State**. Table 3** below identifies which facility types and criteria require EFSEC certification, and which facilities may elect the EFSEC process.

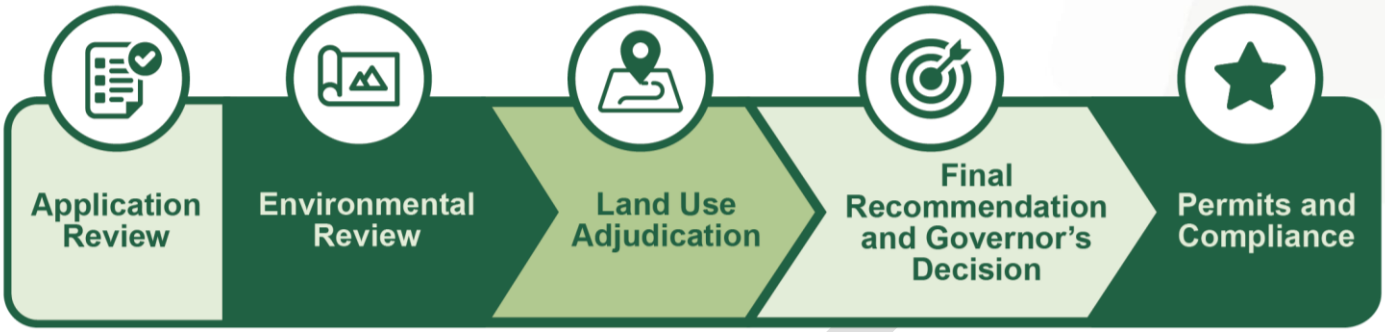
Table 3: EFSEC Certification Facilities

Energy Category	Specifics	EFSEC Certification
Alternative electrical generation	Includes: wind, solar, geothermal, renewable natural gas, wave or tidal action, biomass, renewable or green electrolytic hydrogen, and fusion	Optional
Electrical Transmission	Facilities located in "national interest electric transmission corridors" (NIETC), areas the US Department of Energy has identified as having limited transmission for customers.	Required
	Facilities with a voltage of at least 115 kilovolts Facilities located in multiple areas with separate land use plans and zoning ordinances	Optional
Nuclear power facilities	Facilities using nuclear fission	Required
	Facilities using nuclear fusion	Optional
Storage Facilities, including BESS	New facilities that can refine more than 25,000 barrels of petroleum or biofuel per day, except when processing biofuel at existing facilities Facilities that increase petroleum refining by more than 25,000 barrels per day Crude, refined, or liquefied petroleum facilities that can receive more than an average of 50,000 barrels per day from over the ocean	Optional
Thermal electrical generation	Stationary thermal power plants that can generate 350,000 kilowatts or more Floating thermal power plants that can generate 100,000 kilowatts or more	Required
Additional Facilities	Petroleum storage Petroleum refineries, and Pipelines	Required
	Facilities producing refined biofuel of no more than 25,000 barrels a day Clean energy product manufacturing facilities	Optional

Source: EFSEC, Who we regulate \| EFSEC, June 2026

If an energy facility is required or voluntarily pursues certification with EFSEC, the process for which energy facilities are approved can be broken down into five major phases.

Figure 7: EFSEC Process



Application Review: Applicants may request an optional pre-application review by EFSEC to share information ahead of application submittal. Application submittal officially starts the process with a determination of completeness and an application fee of $50,000. The information provided as part of the application informs the environmental review in the next phase.[6]

Environmental Review: SEPA is incorporated into the EFSEC Process. EFSEC makes a determination about whether an environmental impact statement is needed or whether it's possible to mitigate identified significant negative impacts using methods EFSEC recommends.[7] If an EIS is needed, a scoping notice and issuance of a project-level DEIS and FEIS for the project will be required.

Land Use Adjudication: After the environmental review, EFSEC holds land use hearings to determine whether a proposed facility complies with local land use plans and zoning ordinances. This starts with pre-hearing conferences which may be held by an administrative law judge to decide:

1. On requests from people or groups who want to intervene as parties to the proceeding,
2. Which topics are allowed to be presented and the order in which they will be considered, and
3. The hearing schedule.

At the hearings and deliberations, interested and impacted parties present evidence and testimony for and against a proposed facility and potential conditions to be imposed for its construction and operation. The information at these hearings becomes official record to be used in the later recommendations to the Governor.[8]

The land use consistency hearing itself is meant to determine whether a proposed facility complies with local land use plans and zoning ordinances. It comprises an informational public meeting, held within 60 days of a completed application, and a compliance hearing. Despite the inclusion of this land use consistency hearing,

[6] Washington State Energy Facility Site Evaluation Council, "Application submittal and review," n.d., https://efsec.wa.gov/siting-process/application-review/application-submittal-and-review

[7] Washington State Energy Facility Site Evaluation Council, "Threshold determination," n.d., https://efsec.wa.gov/siting-process/environmental-review/threshold-determination

[8] Washington State Energy Facility Site Evaluation Council, "Adjudicative hearings and deliberations," n.d., https://efsec.wa.gov/siting-process/land-use-and-adjudication/adjudicative-hearings-and-deliberations

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EFSEC has the power to preempt local land use plans, zoning ordinances, or other development regulations for certification of a project as described in Chapter 463-28 WAC.

If EFSEC pursues preemption, the Council must include conditions in the draft Site Certification Agreement to protect affected state, local government, community, and overburdened community interests. These conditions must also recognize the purpose of any laws, ordinances, rules, or regulations preempted under RCW 80.50.110.[9]

Recommendation for Approval: A draft Site Certification Agreement (SCA) describes the conditions a facility must meet during construction, operation, and decommissioning. This agreement is presented to the EFSEC council for approval and if approved, is sent to the governor as part of a recommendation for approval. If the governor signs and approves the draft SCA, it becomes the final SCA, the official approval for building and operating an energy facility. The final SCA takes effect once the governor has signed it. The final version may include changes to the conditions in the draft SCA.

Permitting and Compliance: If the governor approves the energy facility, there are additional steps after the final SCA. This includes related environmental permits for certain facilities, potentially including permits related to:

- Air Quality
- Water Discharge
- Water Rights
- Road Revisions
- Noise
- Hazardous Waste

Ongoing compliance, decommissioning, and site restoration are described in a final SCA. EFSEC oversight will last until the certificate holder decommissions the facility and completes such site restoration.

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[9] Washington State, Washington Administrative Code, "Certification – Conditions – State/local interests," n.d., https://app.leg.wa.gov/WAC/default.aspx?cite=463-28-070

Comparison of Permitting Processes

The following **Table 4** compares the current Skagit County and EFSEC permitting pathways, including key differences in review timing, responsibilities, and decision-making.

Table 4: Energy Permitting Pathway Comparison

Actions and Roles	Current Skagit County Permitting Process	Energy Facility Site Evaluation (EFSEC) Council Process
SEPA Lead Agency	Skagit County	EFSEC Director is the responsible official
Permitting Timelines	Timing varies by permit and reviewing agency. Multiple local and state approvals may proceed separately or concurrently, depending on application completeness, SEPA review, public hearings, and appeals.	Review occurs through a centralized certification process. Timing depends on application completeness, environmental review, hearings, Council recommendation, and Governor approval.
Decision-Maker/s	For each permit, the agency responsible makes the decision. All permits needed for a project must be approved.	The EFSEC Council makes a recommendation to the governor, who makes the decision on a project.
Responsibility for Tribal engagement and consultation	State agencies would offer Tribal consultation for environmental reviews as the SEPA lead agency and/or for their related permits. Skagit County can offer to engage with local Tribes.	EFSEC is responsible, in coordination with Department of Archaeological and Historic Preservation (DAHP)
Fees	Fees are dependent on the level of review required and are specified in the Fee Schedule which is updated annually.	Yes, $50,000 application fee
Complete application required	Yes. The requirements for a complete application depend on the permit requirements	Yes. If pre-application is done, the SEPA review can begin before the final application is submitted.
Local Ordinances	Skagit County ordinances apply	EFSEC can preempt county and local ordinances
Appeals	Each permit has their own requirements for appeals.	Appeals are limited to the final decision and are not done for individual permits.

Source: Kimley-Horn, 2026 using Washington State Department of Ecology, Focus on: Pathway options for environmental review and permitting clean energy projects, 2024, https://apps.ecology.wa.gov/publications/documents/2406001.pdf

Additional Washington State Resources

As of 2023, the Washington State Department of Ecology provides a pathway to aid in the permit coordination of clean energy projects. This pathway does not issue permits directly from the Department of Ecology but instead assists in navigating the local, state, and federal permits, Tribal coordination, and community engagement on behalf of clean energy developers. Cost reimbursement is required as part of Ecology's coordinated process, and a complete application is required to develop the workplan and begin SEPA review.

Projects considered by the Department of Ecology as "clean energy projects" and could use this clean energy coordination assistance include:

- Battery energy storage
- Biofuel and biomass energy generation
- Clean energy product manufacturing
- Electrical transmission
- Energy-Intensive Trade-Exposed projects that reduce greenhouse gases
- Geothermal energy
- Green electrolytic or renewable hydrogen
- Nuclear fusion and nuclear fission
- Pumped hydro storage
- Solar energy
- Sustainable aviation fuel or alternative jet fuel
- Tidal energy
- Wind energy

As of June 2026, no projects have utilized the Clean Energy Coordinated Permit Process (CPP) provided by the Washington State Department of Ecology.

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2.1.2. Federal Energy Permitting

If an energy project has a federal nexus (i.e. federal funding or loan, is located on federal lands, is interconnecting with a federal power authority, or triggers a major federal permit), the project would be subject to review under the National Environmental Policy Act (NEPA). The NEPA process and federal permitting may occur concurrently with local government review, review through EFSEC, or with the Washington Department of Ecology's coordinated clean energy permitting process.

Federal departments and agencies which may permit energy projects include:

- **United States Department of Energy (DOE)**: The DOE may serve as a lead or cooperating agency where federal funding, transmission related actions, or DOE decision-making provide the federal nexus for review.
- **Federal Energy Regulatory Commission (FERC)**: FERC is generally not a primary permitting agency for solar or BESS but may be applicable for certain transmission interconnections or other actions within its jurisdiction.
- **Environmental Protection Agency (EPA)**: The EPA may have a reviewing or commenting role under NEPA and may be relevant for Clean Air Act (CAA), Clean Water Act (CWA), or other environmental permitting and compliance responsibilities.
- **United States Department of Agriculture**: U.S. Department of Agriculture agencies such as the Forest Service (USFS) may be applicable where facilities cross National Forest System lands or require federal land use authorization.
- **Nuclear Regulatory Commission (NRC):** NRC is a principal federal agency for licensing and environmental review of nuclear facilities.
- **Department of Defense (DOD):** DOD may coordinate review of energy projects that could affect military compatibility, airspace, radar, communications, installations, or mission readiness. The United States Army Corps of Engineers (USACE), an agency within DOD, may also have permitting or coordination responsibilities depending on project-specific federal authorizations or funding.
- **Department of Transportation (DOT): Federal** Aviation Administration (FAA) review may apply where solar glare, energy generation or transmission structures, or other project features could affect navigable airspace or aviation safety.
- **Department of Interior (DOI):** U.S. Department of the Interior agencies such as BLM, BIA, NPS, and USFWS may serve as lead, cooperating, reviewing, or resource agencies, or may have land management, trust, or resource consultation responsibilities.
    - Bureau of Land Management (BLM)
    - National Park Service (NPS)
    - United States Fish and Wildlife Service (USFWS)
    - Bureau of Indian Affairs (BIA)

Other consulting or reviewing agencies: Depending on the resources affected, additional agencies may include the Advisory Council on Historic Preservation (ACHP) for Section 106 consultation, and other federal entities with jurisdiction by law or special expertise.

The specific permitting triggers for various federal agencies are included in **Table 5**

Table 5: Federal Agency Authority

Agency (Department)	Action	Legal Authority
(DOE)	DOE funding, loan guarantees, transmission-related decisions, interconnections to federal power marketing administrations.	DOE Organization Act; Energy Policy Act of 2005; Transmission Infrastructure Program
FERC (Independent)	Project specific jurisdiction for interstate natural gas facilities; Hydropower licensing; Certain transmission/interconnection matters.	Federal Power Act; Natural Gas Act; Energy Policy Act of 2005; NEPA
EPA (Independent)	NEPA review; National Pollutant Discharge Elimination System (NPDES); CWA permitting; CAA standards; Waste and hazardous substance management	NEPA; CWA; CAA; Resource Conservation and Recovery Act (RCRA); Comprehensive Environmental Response, Compensation, and Liability Act; Toxic Substances Control Act
Forest Service (USDA)	Special use authorizations, rights-of-way, and land management review for facilities crossing or occupying National Forest System lands.	National Forest Management Act; Federal Land Policy and Management Act (FLPMA), as applicable; NEPA
Rural Development (USDA)	Loans, loan guarantees, grants	Rural Electrification Act
NRC (Independent)	Licensing, safety review, and environmental review for SMRs and other commercial nuclear facilities, including site, construction, and operating approvals as applicable.	Atomic Energy Act; Energy Reorganization Act; NEPA; NRC licensing regulations
USACE (DOD)	Section 404 authorization for discharges of dredged or fill material into waters of the United States; Section 10 authorization for work in navigable waters; Associated NEPA review and consultations.	CWA Section 404; Rivers and Harbors Act Section 10; NEPA
DOD and Military Departments	Military compatibility review and coordination for projects that may affect military training routes, special use airspace, radar, communications, installations, or mission readiness.	NEPA; DOD siting and military compatibility
FAA (DOT)	Notice of proposed construction or alteration; Obstruction evaluation; Airspace review; Coordination for transmission structures, tall facilities, and potential solar glare near airports.	Federal Aviation Act; 14 CFR Part 77; NEPA, as applicable
BLM (DOI)	Rights-of-way, land use authorizations, and NEPA review for energy facilities, gen-tie lines, access roads, or other facilities on BLM-administered lands.	FLPMA; NEPA

Agency (Department)	Action	Legal Authority
USFWS (DOI)	Endangered Species Act (ESA) consultation; Bald and Golden Eagle Protection Act; Migratory Bird Treaty Act (MBTA).	ESA; Bald and Golden Eagle Protection Act; MBTA; Fish and Wildlife Coordination Act
ACHP, THPO, NPS (DOI)	Section 106 consultation and review of effects to historic properties, archaeological resources, cultural resources, Tribal cultural resources, and National Register-listed or eligible resources.	National Historic Preservation Act (NHPA) Section 106; Native American Graves Protection and Repatriation Act; Archaeological Resources Protection Act
BIA (DOI)	Trust land review, rights-of-way, land access approvals, and coordination where projects affect Indian trust or restricted lands, Tribal interests, or BIA-administered resources.	Indian Right-of-Way Act; NEPA; NHPA
NOAA/NMFS (DOC)	Consultation and review where projects may affect listed marine or anadromous species, essential fish habitat, marine mammals, coastal resources, or NOAA trust resources.	ESA; Magnuson-Stevens Fishery Conservation and Management Act; Marine Mammal Protection Act; Coastal Zone Management Act

Source: Kimley-Horn, 2026

The federal permitting process is closely related to the role of the Washington State Department of Ecology when a proposed action requires both federal approvals and state environmental or water quality authorizations. Although federal agencies retain responsibility for NEPA review and issuance of federal permits, licenses, or approvals, the Washington State Department of Ecology may participate through SEPA review, coordinated state permitting, and water quality authorities under state and federal law.

In particular, the Washington State Department of Ecology serves as the certifying authority for Clean Water Act Section 401 water quality certifications in Washington for many federally permitted activities, and federal agencies generally may not issue the underlying permit or license until the Department of Ecology has approved, conditioned, denied, or waived certification. The Department of Ecology also administers state water quality and stormwater permitting programs and may coordinate early planning, environmental review, and permitting for eligible clean energy projects in a manner intended to align state, local, Tribal, and, where applicable, federal review processes.

2.1.3. History of Energy Facilities in Skagit County

The energy facilities discussed below capture Skagit County's experience or related experience to the energy facilities captured as part of the CESP EIS. It is not meant to capture the complete energy portfolio of Skagit County; this discussion may be found in the **Energy and Natural Resources**.

Solar Energy Facilities

Skagit County allows solar energy facilities that are not attached to the regional electrical grid as accessory to a residential use in all zones.[10] "Net metering" solar facilities that are attached to the grid are allowed in the County without special land use approval, such as going through a minor or major utility process, in all zones when the solar facility:

1. Has an electrical generating capacity of not more than 0.1 MW;
2. Is located on the customer-generator's premises;
3. Operates in parallel with the electric utility's transmission and distribution facilities; and
4. Is intended primarily to offset part or all of the customer generator's requirements for electricity.

The County has required building permits for solar facilities that meet any of the following conditions:

- The solar system is for commercial or industrial application.
- The solar system is not on a rooftop and requires standalone support structures.
- The solar system is part of building alterations or additions, valued over $2,500 (not including the value of the solar equipment).
- A residential rooftop photovoltaic system does not meet all of the conditions below

Solar energy systems are exempt from building permits when the following conditions are true:

- The system is designed and proposed for the rooftop of a single-family residence.
- The system is designed for the wind speed of the local area and installed per the manufacturer's specifications.
- The system does not serve as the roof covering.
- The panels are mounted no higher than 18" above the surface of the roofing to which they will be attached.

The exact number of distributed scale solar facilities withing Skagit County is currently unknown. Standalone solar installations may require special use permits depending on whether they fall under major or minor utility developments.

Battery Energy Storage Facilities

Permitted Facilities

In 2023, Puget Sound Energy installed a 0.05 MW battery on Samish Island connected to a ground-mounted solar array at a Skagit County Fire District 5 fire station. The facility is located near residential uses and is intended to

[10] Skagit County, Planning and Development Services, "Renewable Energy Systems (Solar and Wind)," updated January 13, 2017, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/forms/Energy/Renewable%20Energy_Solar%20and%20Wind.pdf

provide backup power to the local community during outages.[11] With its limited size, the facility was permitted as a commercial accessory structure through a building permit.[12] Nearby residents have raised concerns about noise impacts post-installation as well as the facility's proximity to residential uses. CESP EIS scoping comments identified potential impacts and siting concerns in relation to this facility.

Proposed Facilities

In September 2023, Skagit County received a Hearing Examiner Special Use Permit application for a 200-megawatt battery energy storage facility from NextEra on Fredonia Road, south of Ovenell Road and the Skagit County Regional Airport. The Skagit County Hearing Examiner approved the Hearing Examiner Special Use Permit on January 2, 2025. Following the Hearing Examiner's decision, the project was appealed and going through the Land Use Petition Act (LUPA) appeal process.

In June 2024, EFSEC received an application for a standalone 200-megawatt (MW)/800-megawatt hour (MWh) battery energy storage system facility, named "Goldeneye Battery Storage". The proposed site for the facility is east of Sedro-Woolley along Minkley Road in proximity to a Puget Sound Energy substation.[13]

As of June 2026, the Goldeneye Battery Storage is in EFSEC's Application Review stage, while additional reviews and decisions are pending. An informational public meeting and land use consistency hearing were held virtually and at the Sedro-Woolley Community Center on August 13, 2024. Public, Tribal, and state agency comments have been provided on this project and are available on EFSEC's project website. On February 19, 2025, the EFSEC Council issued Order 898 issuing a determination that the Goldeneye Solar Storage Project is consistent and in compliance with local land use provisions.[14] The environmental review process has not issued a threshold determination as of June 2026.[15]

Fusion Small Modular Reactors

As of June 2026, there are no proposed or permitted fusion small modular reactors in Skagit County.

The first nuclear fusion plant in the world, a project named "Orion", is in progress in Chelan County, Washington after receiving Hearing Examiner approval in 2025.[16] In summer of 2026, Orion received its Radioactive Materials

[11] Puget Sound Energy, "Battery Storage Projects," n.d., https://www.pse.com/en/pages/grid-modernization/battery-storage/battery-storage-projects
[12] Permit Number: BP22-0975
[13] Washington State Energy Facility Site Evaluation Council, "Goldeneye Battery Storage," received June 2024, https://efsec.wa.gov/facilities/goldeneye-battery-storage
[14] Washington State Energy Facility Site Evaluation Council, "Goldeneye Battery Storage – land use and adjudication," received June 2024, https://efsec.wa.gov/facilities/goldeneye-battery-storage/land-use-and-adjudication?fid=115&tid=162
[15] Washington State Energy Facility Site Evaluation Council, "Goldeneye Battery Storage – land use and adjudication," received June 2024, https://efsec.wa.gov/facilities/goldeneye-battery-storage/land-use-and-adjudication?fid=115&tid=162
[16] Wenatchee World, "Chelan County Hearing Examiner approves Helion fusion power plant permit," updated October 15, 2025, https://web.archive.org/web/20251018090701/https:/www.wenatcheeworld.com/news/local/chelan-county-hearing-examiner-approves-helion-fusion-power-plant-permit/article_0841b295-b9a2-438a-9756-6bbf86173d18.html/?utm_medium=referral&utm_source=shareArticleButton&utm_campaign=shareArticleButton

License (RML) and a Radioactive Air Emissions License (RAEL) from the Washington Department of Health (DOH). The project is intended to supply 50MW of electricity to Microsoft by 2028.[17]

Renewable Fuel Facilities

The term "renewable fuel facility" does not necessarily mean that a facility operates exclusively on fuels derived from renewable resources. The County cannot ensure that such facilities only use renewable fuels through siting and permitting requirements. The fuel source mandates along with related reporting, monitoring, and compliance requirements under the Washington Clean Energy Transformation Act (CETA) are largely addressed between utilities and state agencies. Depending on facility design and fuel supply, a facility may use a mix of renewable resources and fossil fuels while transitioning towards lower carbon fuel sources. For example, an existing facility may have historically used conventional natural gas and later increased its share of renewable natural gas to support CETA compliance. As such, this section focuses on describing existing natural gas facilities and known biomass facilities in Skagit County.

Natural Gas Facilities

Natural gas facilities in Skagit County include the Fredonia Generating Station and the Anacortes Refinery.

Fredonia Generating Station, first installed in the 1980s and operated by Puget Sound Energy, is located outside the City of Mount Vernon. The facility can produce up to 316 MW of electricity at maximum capacity. The Fredonia facility is primarily used to provide backup energy during daily or seasonal energy spikes.[18]

Within the City of Anacortes urban growth area are two refineries located on March's Point owned by HF Sinclair and Marathon. The area is comprised of crude oil refineries processing domestic and international crude oil to manufacture gasoline, distillates, heavy fuel oil, propane and natural gas liquids and petrochemicals.[19] Since the area is zoned Anacortes – Urban Development District, Development in the Anacortes – Urban Development District is required to be consistent with the use, lot size and other development standards for the zone that has been identified by the city.

Biomass Facilities

As of June 2026, there is one known biomass facility in Skagit County at Sierra Pacific Industries (SPI) Burlington. The facility produces roughly 28MW of electricity from wood products, selling 17 MW back to the grid to Puget Sound Energy.[20]

[17] MSN, "World's first nuclear fusion power plan receives go-ahead in Washington state," updated August 2026, https://www.msn.com/en-us/money/markets/world-s-first-nuclear-fusion-power-plant-receives-go-ahead-in-washington-state/arAA26u52t?ocid=hpmsn&cvid=6a3d0fb15df04084a028d70db2fc37b8&ei=16

[18] Puget Sound Energy, "Fredonia Generating Station," n.d., 4153_047_wb_Fredonia_dcg.pdf

[19] Marathon Petroleum Refineries, "Anacortes Refinery," n.d., https://www.marathonpetroleum.com/Operations/Refining/Anacortes-Refinery/

[20] Washington Forest Protection Association, "Local Forest Products Company Creates Clean Electricity," updated May 1, 2020, https://www.wfpa.org/news-resources/blog/local-forest-products-company-creates-clean-electricity/

2.2. Energy Facilities

2.2.1. Overview

The following section provides a general overview of the energy facility types evaluated for siting in Skagit County, including solar, battery energy storage facilities (BESS), fusion-based small modular reactors (fusion SMRs), and renewable fuel facilities. This section describes common features and siting considerations associated with each facility type, including:

- General facility descriptions,
- Typical infrastructure components,
- Access needs and haul route considerations, and
- Siting considerations unique to certain facilities.

The descriptions are presented at a high level rather than project-specific design requirements. The descriptions are intended to remain flexible and broadly applicable given the continued evolution of energy technologies, facility configurations, and project-specific designs.

Although each technology has distinct operating characteristics, energy facilities generally require a combination of generation and/or storage equipment, electrical collection systems, interconnection facilities, access roads, operations and maintenance areas, emergency access, and temporary construction laydown or staging areas. The type and scale of infrastructure and access needs vary by facility type and site-specific conditions, including terrain, proximity to existing transmission infrastructure, construction logistics, public road conditions, and environmental constraints.

The information presented in this section provides a foundation for understanding the characteristics and facility siting considerations associated with the respective energy facilities. It begins with solar energy and concludes with additional information regarding:

- Common electrical system features
- Transmission and interconnection jurisdictional authority
- Operating and construction requirements

2.2.2. Solar Energy

Description

Solar facilities designs can be tailored to site conditions, equipment types, and energy output needs. Panel technology may vary based on applicant preferences, market conditions, costs, and regulatory requirements.

Utility-scale solar facilities are large, ground-mounted installations designed to generate electricity for the broader power grid, often requiring substantial land area, supporting infrastructure, and transmission connections.

Small-scale solar facilities, such as rooftop systems, community solar projects, or solar installations serving a specific property, are intended to offset local electricity demand and are typically connected to the local

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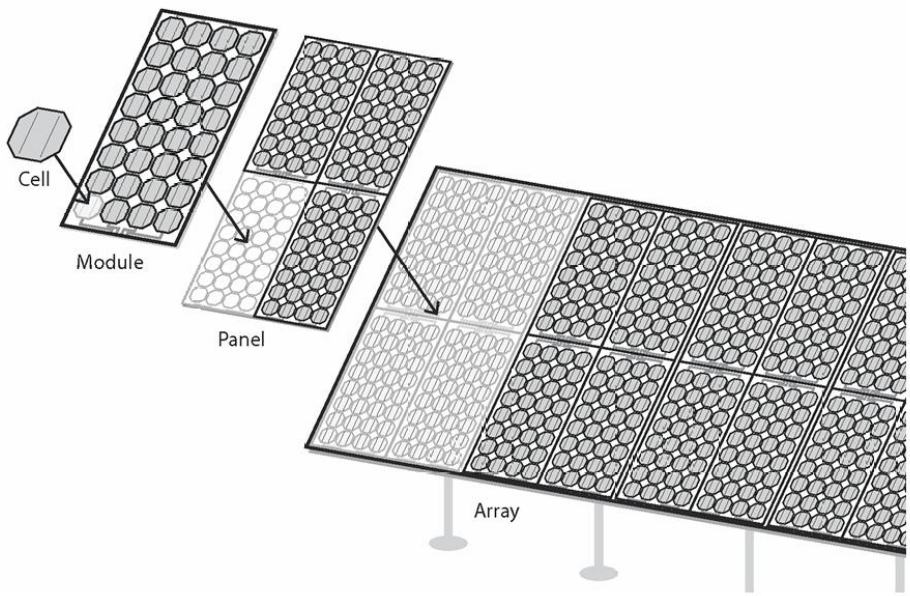
distribution system. These facilities typically have a relatively small physical footprint and are more easily integrated into existing developed areas.

Typical Components

Solar facilities are largely comprised of solar arrays, associated power and electrical equipment, racking or mounting systems, solar piles, access roads, fencing, security systems, stormwater management controls, and operations and maintenance areas. The primary component of solar facilities are **solar arrays**. A solar array can include multiple solar panels, which contain modules made up of photovoltaic (PV) cells. PV cells are the most common type of solar technology installed, and they use semiconductors to directly convert sunlight into electricity. The amount of electricity generated per panel varies depending on the size, technology, and number of PV cells used. **Figure 8** depicts the breakdown of a solar array into its related parts.

Figure 8: Solar Cell, Module, Panel, and Array



Source: Washington Department of Ecology, State Environmental Policy Act Final Programmatic Environmental Impact Statement for Utility-Scale Solar Energy Facilities in Washington State, 2025, https://apps.ecology.wa.gov/publications/SummaryPages/2506002.html

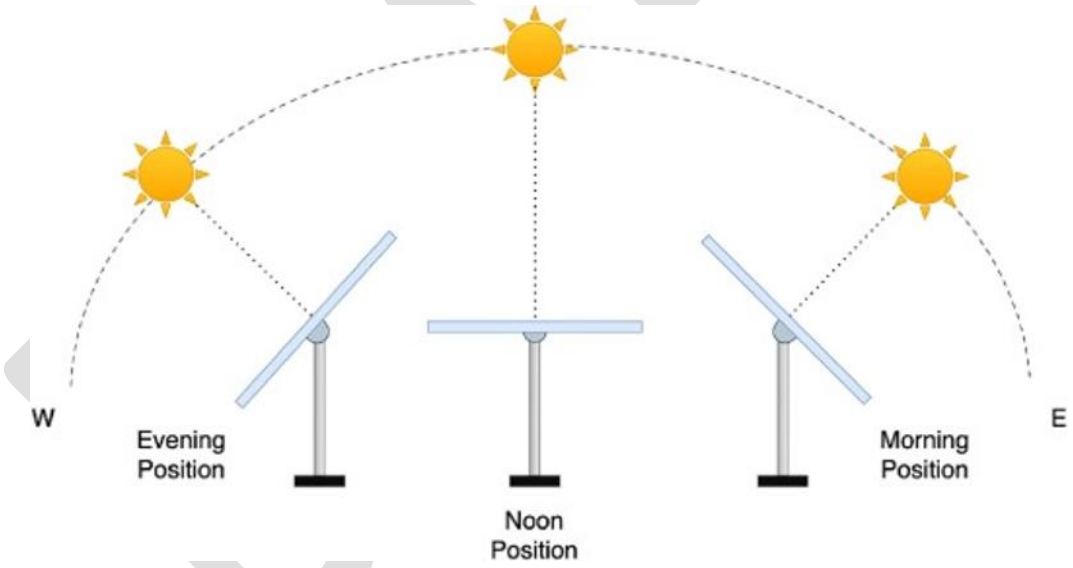
Solar arrays are comprised of numerous panels, which are in turn comprised of numerous panels, modules, and finally, cells. The design and configuration of solar facilities is very flexible on a project level and can accommodate varying energy output needs, equipment types, and site conditions.

Solar panel technology can also vary depending on applicant preferences, market conditions, costs, and regulatory requirements for projects. Most solar panels only have PV cells on one side but technology allowing for PV cells on both sides is becoming more common. As technology advances, solar panels are getting more efficient (are absorbing and converting more of the sun's radiation), and as a result, reflection from panels continues to decrease.

Solar arrays may be mounted on structures or on the ground. They must face south as much as possible to be as efficient as possible. The mounting location affects potential project scale, siting considerations, and the amount of land disturbed. Ground mounted solar arrays are often used for larger solar facilities, with their scale typically determined by site conditions and the number and size of panels. Solar arrays mounted on structures and rooftops are constrained by available surface area, orientation, slope, whether a surface is flat or angled in a certain direction, shading. Solar arrays can be located on diverse building types including individual homes to multifamily housing, commercial office buildings, community facilities, and large warehouses. Solar arrays may be mounted at a fixed tilt angle or designed with tracker systems that adjust panel orientation based on the time of day or season. For fixed-tilt systems, the ideal tilt angle in Washington State is between 45 to 48 degrees given the state's latitude and accounting for potential snow loads.

Tracker systems optimize electricity generation by adjusting panel orientation to follow the sun throughout the day or account for seasonal changes in sun exposure. Depending on the design, trackers may rotate along an east-west axis or along both east-west and north-south axes. Although tracker systems are more commonly associated with ground mounted solar arrays, they may also be used with rooftop installations on large buildings with flat roofs.

Figure 9: Solar Tracking System



Source: Phiri et al., 2023, DOI: 10.1016/j.solener.2023.111803.

Currently, typical heights for ground mounted fixed solar arrays are around 10 feet. Height measurements for solar arrays often include the tilt of the array as part of the measurement. For arrays with tracking systems, height measurements may account for the maximum tilt. Ground mounted solar facilities with tracker systems may have a height around 15 feet when taking into consideration the varied tilt.[21]

[21] Washington State Department of Ecology, "Programmatic Environmental Impact Statement for Utility-Scale Solar Energy Facilities in Washington State", 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf

Ground mounted solar facilities use piles to anchor solar arrays to the ground and provide stability under wind, snow, and seismic conditions. The depth of a pile varies based on soil conditions, but are typically four to ten feet deep, and they may extend up to 12 feet above grade. Piles located at the end of a row are typically installed deeper to provide additional structural support against wind.[22]

Common electrical components of large-scale solar facilities include inverters, transformers, collection lines, and substation or other interconnection facilities, as shown in **Figure 10** below. These components are discussed in further detail in **Common Electrical System Features**.

Figure 10: Typical Components of Utility-Scale Solar Energy Facilities

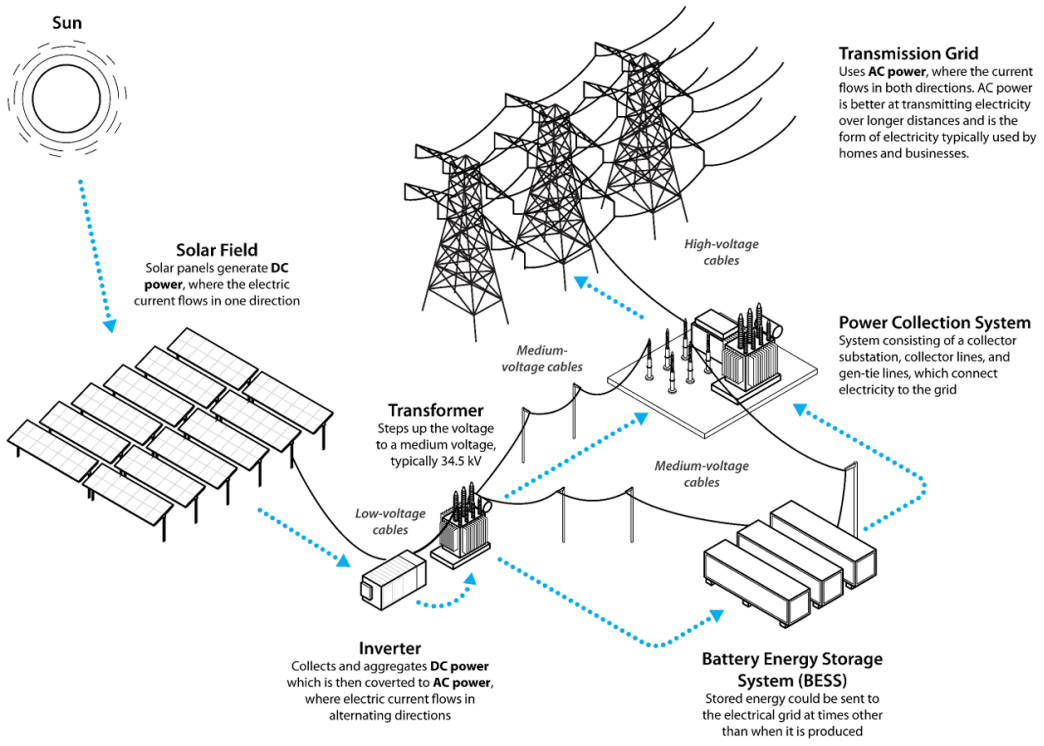


Figure 2-3. Typical components of utility-scale solar energy facilities

PEIS on Utility-Scale Solar Utility-Scale Solar Energy Facilities

Source: Washington Department of Ecology, PEIS for Utility-Scale Solar Energy Facilities in Washington State, 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf

Access Needs

Access needs for utility-scale solar projects commonly include one or more improved driveway entrance, internal gravel access roads, and emergency access routes. Because solar components are generally modular, meaning components may be factory assembled and transported for installation, haul route impacts are often associated

[22] Ibid.

with construction traffic volume rather than oversized loads, although transformers and substation equipment may require specialized transport for heavy equipment.

Siting Considerations

The amount of sunlight an area receives is the largest consideration for siting solar facilities. This factor is influenced by the direction a solar panel is facing, the slope of a given terrain, and the global horizontal irradiance (GHI), a measurement of the amount of sunlight hitting a flat surface on the ground.

South-facing solar panels are the most effective. With the sun rising in the east and setting in the west, the south facing area of a site typically receives the most consistent sunlight throughout a given day. If south-facing solar panels are not feasible on a given site, panels may face east and/or west and compensate by increasing the number of panels used or by using tracker systems to tilt the panels throughout the day.

Flat terrain is generally most suitable for solar facilities. However, Ecology's Programmatic EIS[23] stakeholders included that slopes steeper than 15 percent may be feasible for solar facilities, but they could require additional grading and geologic studies to evaluate potential impacts.

Another siting consideration for solar can be GHI. GHI helps predict energy output and calculate a site's solar potential. As part of the Ecology Programmatic EIS for utility-scale solar, GHI was reviewed for the geographic scope. The study area included locations with areas with a GHI of 3.5 kilowatt-hours per square mile per day ($kWh/m^2/day$) or greater given their solar energy potential.[24] Skagit County is not included within the geographic scope as it largely does not have a GHI of 3.5 kWh/m2/day or greater. While GHI can be a helpful metric for understanding potential energy output, advancements in panel technology and efficiencies reduce the relevancy of this metric for siting.

Solar facilities can operate alongside other land uses such as parking lots (solar carports or canopies), water bodies (floating PVs), and agriculture (agrivoltaics). Depending on the associated land use, the design, layout, supporting infrastructure, operational requirements, and potential impacts may vary to account for both energy generation and the continued use of the land for its primary function.

[23] Washington State Department of Ecology, "Programmatic Environmental Impact Statement for Utility-Scale Solar Energy Facilities in Washington State", 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf
[24] Ibid.

Figure 11: Example of Solar over Parking Lot



Source: Cincinnati Zoo, 2024, New Solar Array Over Second Parking Lot at Cincinnati Zoo Pumps Out Power and Provides Shade for Cars - Cincinnati Zoo & Botanical Garden, https://cincinnatizoo.org/new-solar-array-over-second-parking-lot-at-cincinnati-zoo-pumps-out-power-and-provides-shade-for-cars/

In Washington, an "agrivoltaics facility" is defined as "a ground-mounted photovoltaic solar energy system that is designed to be operated coincident with continued productive use of the land".[25] Eligible agricultural uses include crop production, grazing, animal husbandry, and apiaries, meaning dedicated beekeeping areas, with pollinator habitat. Agrivoltaics facilities must not degrade the agricultural or ecological productivity of the land. Small-scale energy facilities located on agricultural land are considered a non-agricultural accessory use, if they are compatible with the size, scale, and intensity of existing agricultural operations and do not convert more than one acre of farmland.[26] Energy facilities that are accessory uses to agricultural activities are not part of the scope of this CESP EIS. Ecology's utility-scale solar Programmatic EIS also evaluated a utility-scale solar alternative that would allow agricultural uses to continue during facility operations, including through raised or modified solar panels that accommodate agricultural land use.

2.2.3. Battery Energy Storage Facilities

Description

BESS are facilities that store electricity for later use, including energy generated by renewable resources or electricity drawn from the grid. In Washington State, "battery electric storage systems" are defined as "commercially available technology that is capable of retaining electricity, storing the energy for a period of time, and delivering the electricity after storage by chemical, thermal, mechanical, or other means that has at least 10

[25] Washington State, Revised Code of Washington, "Clean Energy Facilities – Distributed energy priorities," n.d., https://apps.leg.wa.gov/rcw/default.aspx?cite=43.21F.100
[26] Washington State Department of Commerce, "Practical Pathways for Siting Clean Energy across Washington State", Virtual Webinar, April 2026, https://planningassociationofwa.org/wp-content/uploads/2026/04/SMITH-Valerie-DRAFT_PAW-2026-presentation.pdf

megawatts of storage."[27] Energy storage technologies typically come in mechanical, chemical, and thermal storage mechanisms.

At the time of the CESP EIS, utility-scale BESS most commonly use lithium-ion batteries. Ecology's utility-scale solar Programmatic EIS evaluated co-located BESS using lithium-ion, flow, and zinc-hybrid batteries; the CESP EIS reviewed the findings from that alternative. Although BESS may operate as stand-alone facilities or be co-located with intermittent generation facilities such as solar facilities, the CESP EIS evaluates BESS as a stand-alone facility to distinguish the environmental impacts associated with this facility type. Both utility-scale BESS facilities and small-scale facilities serving as distributed energy resources (DERs) for individual homes and electrical vehicle charging are considered as part of the CESP EIS.

Figure 12: Examples of BESS Facilities.



Left: Constable, a Portland General Electric (PGE)-owned facility located in Hillsboro, Oregon. Right: Samish Island Fire Station BESS

Sources: Portland General Electric, "PGE Energizes 475 MW of Battery Energy Storage to Boost Grid Reliability and Keep Costs Low for Oregonians", 2025, https://www.prnewswire.com/news-releases/pge-energizes-475-mw-of-battery-energy-storage-to-boost-grid-reliability-and-keep-costs-low-for-oregonians-302524303.html; Puget Sound Energy, "Battery Energy Storage Projects", n.d., https://www.pse.com/en/pages/grid-modernization/battery-storage/battery-storage-projects

Typical Components

BESS typically house batteries in enclosures or containers. The batteries used may be comprised of different battery technologies. Lithium-ion batteries are the most common utility-scale storage technology, but damage or battery management system failures can cause overheating and create a thermal runaway risk. Flow and zinc-

[27] New definition added to Chapter 82.96 RCW in 2026 through E3SHB 1960

hybrid batteries are less common on utility scale but generally have lower fire risk and longer lifespans, typically lasting 10 to 20 years compared with approximately 5 to 15 years for lithium-ion batteries.[28]

The self-contained enclosures may be located on a concrete pad or concrete pile over gravel or the facility may be within a warehouse-type enclosure. Containers for BESS may be around 40 feet by 8 feet by 8.5 feet; however exact dimensions can vary by manufacturer and project specifics.[29]

Ecology Programmatic EIS provides an example of the exterior and interior of BESS facilities as shown **Figure 13** below.

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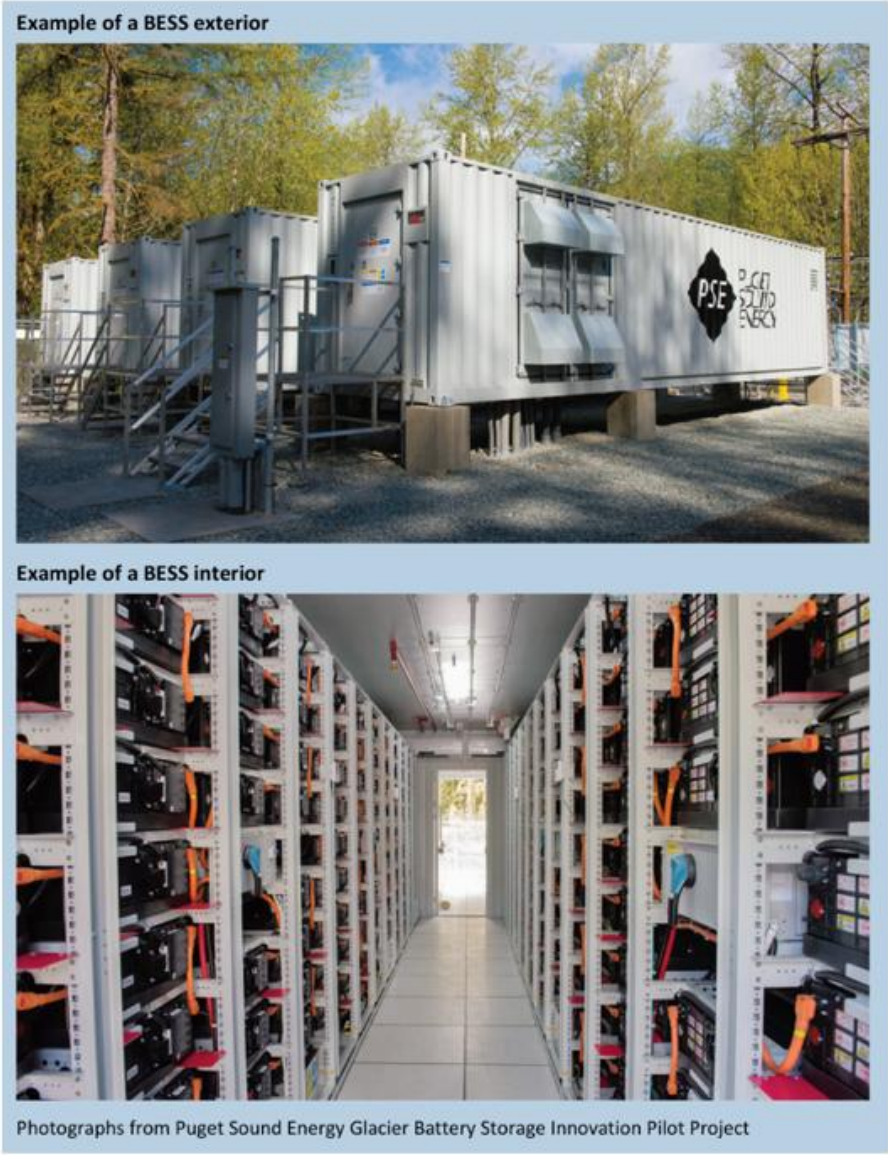
[28] Washington State Department of Ecology, "Programmatic Environmental Impact Statement for Utility-Scale Solar Energy Facilities in Washington State", 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf
[29] Ibid.

Figure 13: BESS Facility Example



Photographs from Puget Sound Energy Glacier Battery Storage Innovation Pilot Project

Additional components of BESS infrastructure commonly observed include power conversion equipment, transformers, inverters, switchgear, thermal management systems (such as HVAC systems), fire detection and suppression systems, control systems, fencing, access roads, stormwater controls, and supporting electrical interconnection facilities. For more information regarding these components, see the **Common Electrical System Features** section.

BESS often consists of prefabricated units. These units are assembled in a controlled manufacturing setting with their batteries, electrical systems, and safety equipment, such as fire suppression, integrated before delivery to the project site. Prefabricated systems have the potential to support improved quality control, shorter installation periods, reduced construction costs, and scalable storage capacity; however, specific facility design, equipment selection, and construction methods would be evaluated on a project-specific basis. Decommissioning of BESS

facilities typically includes removing battery enclosures, steel foundation posts, inverters, transformers, equipment pads and foundations, and supporting transmission and electrical equipment.

Access Needs

Access needs for BESS generally require reliable all-weather access for construction, operations and maintenance, and emergency response. Site design should provide adequate internal navigation, fire apparatus access, emergency response clearances, and appropriate separation from sensitive receptors. Construction phase haul routes may be needed for delivery of battery containers, transformers, and other heavy electrical equipment. Depending on equipment dimensions, weight, and delivery routes, the project may require oversized/overweight load permits, access permits, and road use agreements.

Siting Considerations

The modular, scalable, and ability of prefabrication for BESS allows relatively flexible siting considerations. Favorable locations are generally near end users, substations, transmission lines, and distribution infrastructure, depending on the project scale and intended function. Interconnection capacity, system reliability benefits, and the ability to charge and discharge energy to either an end-user of the energy or the grid are central siting considerations.

Safety and environmental conditions also influence siting. Considerations include areas within the County adequately served by fire and emergency response services, avoidance of areas prone to flooding, and sufficient space to establish and maintain defensible space around BESS facilities. Agricultural land preservation is also a consideration as the county cannot permit non-agricultural uses on designated agricultural resource lands that would convert more than one acre of agricultural land. For more information on siting considerations related to BESS, see the **Siting Analysis** section.

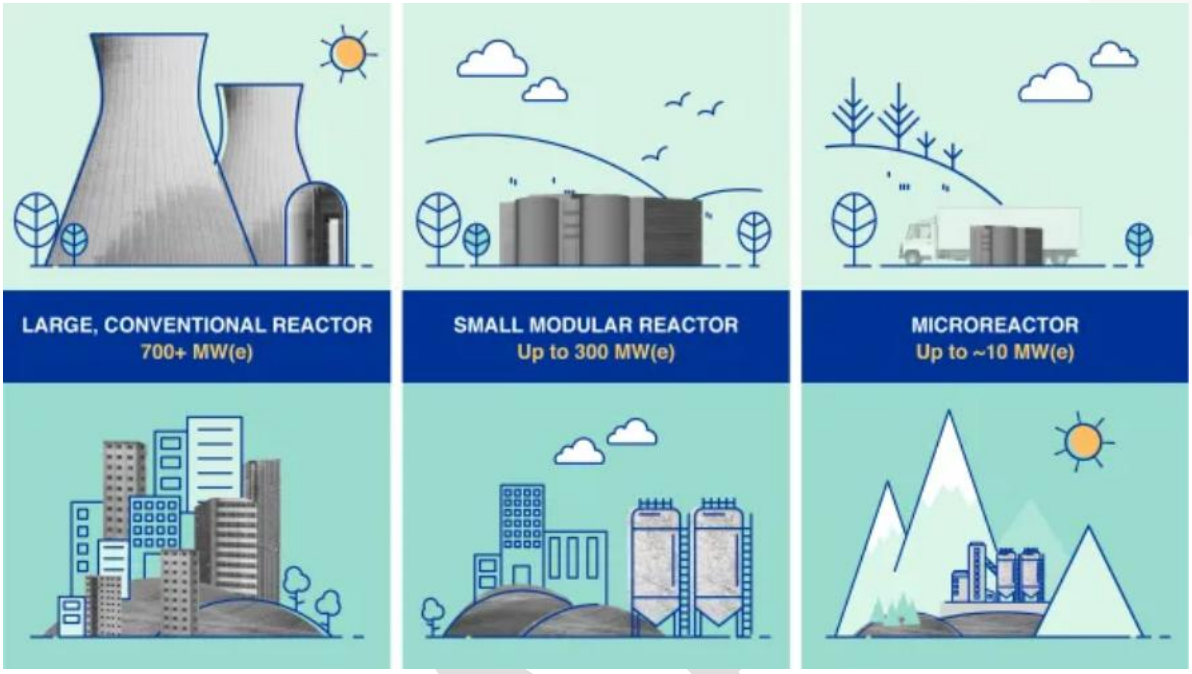
2.2.4. Fusion Small Modular Reactors

Description

For purposes of the CESP EIS, fusion SMRs refer to advanced nuclear reactors that are smaller than conventional nuclear power facilities, modular in design, meaning components may be factory assembled and transported for installation, and utilize nuclear fusion reactions for fuel generation.[30]

[30] International Atomic Energy Agency, "What are Small Modular Reactors (SMRs)," September 13, 2023, https://www.iaea.org/newscenter/news/what-are-small-modular-reactors-smrs

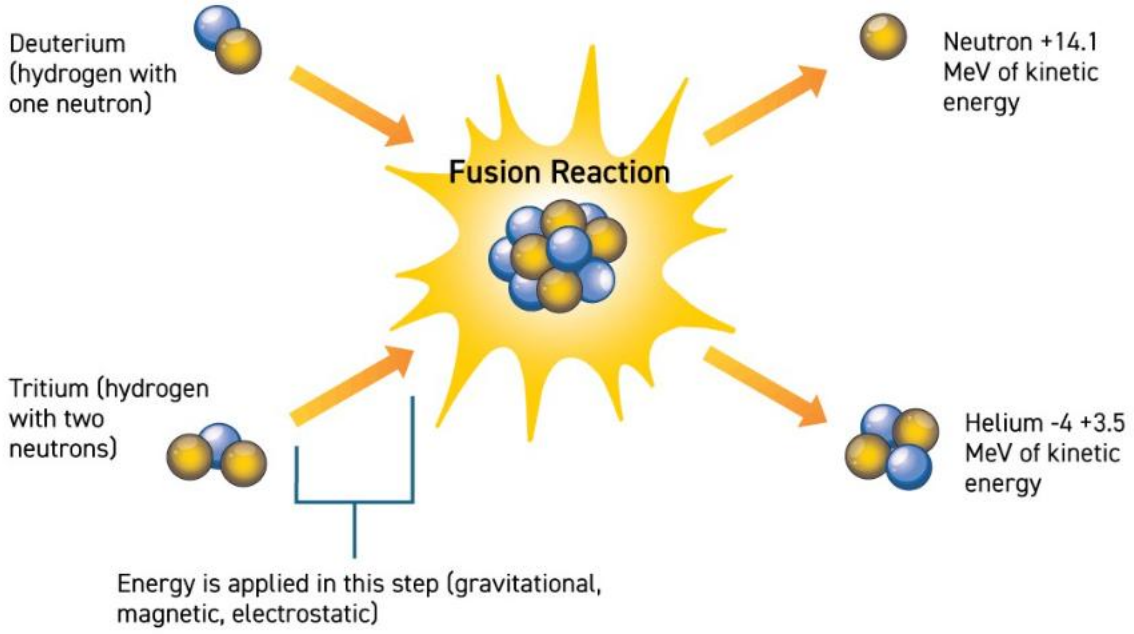
Figure 14: Types of Reactors



Source: International Atomic Energy Agency, "What are Small Modular Reactors?", 2023, https://www.iaea.org/newscenter/news/what-are-small-modular-reactors-smrs

In Washington State, nuclear reactor facilities are categorized as either nuclear fission or nuclear fusion. Although SMRs are most commonly associated with advanced nuclear fission, nuclear fusion is an emerging technology under development in Washington and is included in the discussion of SMR facilities. As discussed in the **Energy Permitting** all nuclear fission facilities must use the EFSEC siting and permitting process, while nuclear fusion facilities may choose either the EFSEC process or the local government permitting pathway. As such, the siting and permitting authority for an SMR depends on the type of nuclear reaction it uses. Given the local government option is limited to nuclear fusion, fission SMRs are not included in the scope of this EIS.

Figure 15: Fusion Reactions



Source: Washington State Department of Health, "Fusion in Washington", 2025, https://doh.wa.gov/community-and-environment/radiation/radiation-topics/fusion

Nuclear fusion is distinct from nuclear fission because it combines two lighter elements, such as hydrogen, to form a new nucleus as shown above in **Figure 15**. Extreme heat and pressure are required to combine the lighter elements into heavier elements. The most common example of nuclear fusion is the process that powers the sun and other stars. The waste produced through nuclear fusion is also different than nuclear fission. Nuclear fusion can produce tritium, a radioactive byproduct with a half-life of roughly 12.5 years.[31] Nuclear fusion requires difficult conditions to continue the fusion process. Fusion reactions naturally stop if the conditions needed to sustain them are disrupted. Unlike fission reactors, fusion facilities cannot experience a meltdown.[32]

Typical Components

Nuclear fusion facility designs are likely to vary due to their early stage of development and continued evolution. Based on the known processes at the time of the CESP EIS, typical components of these facilities may include the following:

- A device or chamber that creates and confines dynamic high-temperature fusion plasma;
- Equipment used to heat, compress, accelerate, and control the plasma; and

[31] Washington Station Legislature, "Initial Report to the Washington State Legislature," created December 2024, 20241114_LegislativeReport_FusionTechnology.pdf
[32] Avalanche, "Orbitron Compact Fusion Machine," n.d., https://www.avalanchefusion.com/fusion

- Shielding and structural materials that are designed to withstand extreme heat, pressure, and high-energy particle exposure.[33,34]
- Infrastructure to connect electricity generated to grid or end user.

Supporting systems may include equipment for fuel storage, tritium handling where tritium is used or produced, compression and temperature control systems, radiation monitoring, automatic shutdown mechanisms, and power conversion equipment. Sitewide components may include control and operations buildings, electrical switchyards and interconnection equipment, water supply and discharge systems, fire protection, perimeter security, and maintenance and monitoring areas.

Early fusion facilities provide an initial case study of the types and scale of electrical demand that may be associated with this emerging technology. For example, the Helion Orion facility is anticipated to require up to four megawatts of peak power to operate the fusion machine, with total site-wide electrical demand of approximately five megawatts when building operations are included. Much of this demand is stated to support water and air-handling systems during power operations. The facility is estimated to produce approximately 50 megawatts of electricity once operational.[35]Because fusion technologies remain under development, the specific components, facility arrangement, and infrastructure needs would depend on the selected confinement method, heat-transfer system, power-conversion design, project scale and other project-specific design components. If fusion SMRs are intended to operate 24/7, it would be assumed that they would be staffed 24/7 whether remotely or onsite for monitoring and safety purposes.

Access Needs

With their modular nature, fusion SMRs are meant to be manufactured elsewhere in a controlled environment and then transported to a given facility site via truck or rail transportation. Fusion SMR facilities must have safe and secure access points including, but not limited to, controlled site entrances, emergency access, and security checkpoints. Sites also need safe access highway and rail networks to plan for transportation of construction and equipment materials, which may be oversized and/or heavy hauls, and both nuclear fuel and potential nuclear waste transportation.[36] Highway access also ensures adequate response in case of emergency situations and support for operation and maintenance needs.

Radioactive Materials and Waste Management

Radioactive material use and nuclear waste management warrants consideration for nuclear facilities because of the historic, current, and potential future impacts on ecological systems, public health and safety, and overburdened communities.

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[33] Avalanche, “Orbitron Compact Fusion Machine,” n.d., https://www.avalanchefusion.com/fusion
[34] Helion, “Technology,” n.d., https://www.helionenergy.com/technology
[35] Washington State Department of Ecology, “Helion Signed SEPA Environmental Checklist,” n.d., https://www.google.com/goto?url=CAESnAEB6zswFQlBz5ekLEryamINklTlBM0h36a_XWuiGxxOlzrI-hf3LZ_3oQEIR2FVXhiwI9yQfw8F8JeST0XbibZCGEywFAhF9s--Qmw4F_Uoa7OREN-zXD93fxPLWbJd_BsjmkF-ljQoeyWhbB5tiTBo3y8zttyUJl-Wts3h6oVjPf7HnWKn53m9RjcsQe_MBtJP_PMiw2fGBznfs70
[36] Golder Associates, “Small Modular Reactors: An Analysis of Factors Related to Siting and Licensing in Washington State”, 2016, Prepared for Washington State Energy Facility Site Evaluation Council, 20160108SMRFinalReport.pdf

With nuclear fusion, little radioactive waste is generated and is associated with a lower risk of public health, safety, and environmental hazards when compared to nuclear fission.[37] Fusion-related radioactive materials are anticipated to be regulated under the NRC's byproduct material framework, with the WSDOH serving as the state-level licensing authority for fusion facilities. Under this framework, fusion facilities are regulated similarly to particle accelerators and medical facilities rather than nuclear fission reactors. This approach established a regulatory precedent in 2026 when Helion, a fusion energy company, obtained a RML and a RAEL from the WSDOH for its Orion fusion facility in Malaga, Washington as part of their permitting process.

Radioactive Materials

Radioactive materials, including tritium, are used and produced as part of nuclear fusion. Tritium is a rare, isotope of hydrogen that is often used as a fuel source in fusion facilities.

- Characteristics: Usually in a gaseous state and is colorless, odorless, tasteless, and radioactive.[38]
- Radiation risk: Its weak beta radiation cannot travel far in the air or penetrate human skin, meaning external exposure is generally harmless. However, it poses health risks if swallowed, inhaled, or absorbed as tritiated water.[39]
- Short Range: The beta particles have very low energy and cannot travel more than a few millimeters in the air.
- Limited Availability: Naturally occurring tritium is rare, making recapture systems a design interest. As of the 2024 Fusion Legislative Report by EFSEC, additional research is underway for fusion recapture systems.
- Uses: Tritium can be used in self-illuminating products, including watches, firearm sights, instruments, exit signs, emergency lighting, and runway lights. It can also be used as a radioactive tracer in biomedical research.

Waste Management

Waste management, including the handling, storage, transport, and disposal of radioactive waste, would require coordination with the WSDOH, Ecology, as well as WSDOT for applicable requirements.

Siting Considerations

General site requirements for fusion SMRs include land for the facility infrastructure, site access, safety buffers, and adequate utility connections, including water supply, wastewater treatment, interconnection for electricity, and disposal infrastructure.[40]

Siting considerations may include seismic conditions, emergency planning zones and emergency response plans, security setbacks, environmental constraints, and compatibility with surrounding land uses. Additionally, considerations for the transportation, storage and waste management of radioactive materials can influence

[37] Washington State Energy Facility Site Evaluation Council, Washington State Fusion Energy Workgroup, "Fusion Technology Legislative Report", 2024, https://efsec.wa.gov/sites/default/files/2025-04/20241114_LegislativeReport_FusionTechnology.pdf
[38] U.S. Department of Energy, "Tritium Handling and Safe Storage", 2015, https://www.nrc.gov/docs/ML2114/ML21140A435.pdf
[39] Canadian Nuclear Safety Commission, "Facts about tritium", 2021, https://www.cnsc-ccsn.gc.ca/eng/resources/fact-sheets/tritium/
[40] Golder Associates, "Small Modular Reactors: An Analysis of Factors Related to Siting and Licensing in Washington State",2016, Prepared for Washington State Energy Facility Site Evaluation Council, 20160108SMRFinalReport.pdf

siting. Fusion SMRs can be grid-connected or co-located with an end-user, meaning that transmission availability may be a higher consideration for fusion SMRs seeking a grid connection.

For more information regarding suitable site criteria, see the **Siting Analysis** section.

2.2.5. Renewable Fuel Facilities

Description

Under the federal CAA, the Renewable Fuel Standard (RFS) categorizes renewable fuels into the following four main categories. These categories are associated with the fuel source as well as the related reduction in GHG emissions as compared to a 2005 petroleum baseline.

The four RFS categories are as follows:

- **Biomass-based diesel**: must be produced from qualifying renewable biomass and must meet a 50 percent lifecycle GHG reduction.
- **Cellulosic biofuel**: must be produced from plant fibers and must meet a 60 percent lifecycle GHG reduction.[41]
- **Advanced biofuel**: must be produced from qualifying renewable biomass (except corn starch) and must meet a 50 percent lifecycle GHG reduction.
- **Total renewable fuel**: typically refers to ethanol derived from corn starch and must meet a 20 percent lifecycle GHG reduction.

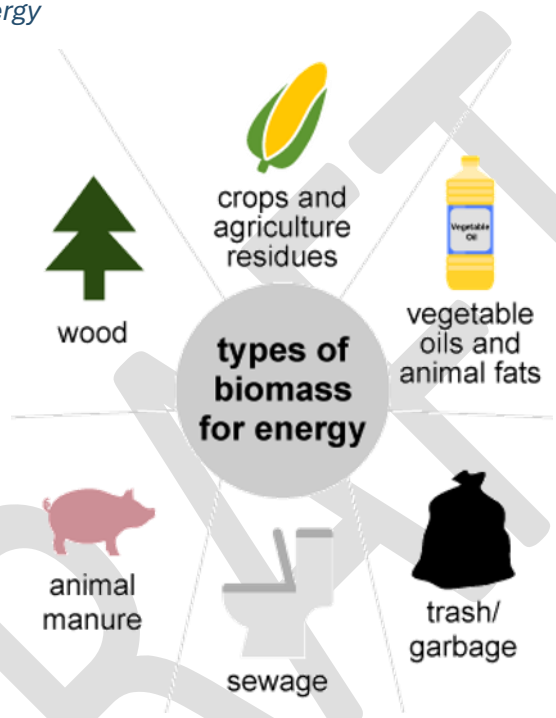
Qualifying renewable biomass for the above renewable fuel categories includes planted crops/trees and crop/tree residue, animal waste material and animal byproducts, slash and pre-commercial thinning, biomass near populated built infrastructure at risk from wildfire, algae, yard and food waste including recycled cooking and trap grease.[42]

In Washington State, renewable fuel is defined as fuel produced using renewable resources such as renewable natural gas, renewable hydrogen, biodiesel fuel that is not derived from crops raised on land cleared from old growth or first growth forests, or biomass energy.[43,44] Unlike the qualifying renewable biomass under federal definitions, Washington State includes specific exclusions for biomass. Biomass in Washington State does not include wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic; wood from old growth forests; and municipal solid waste.[45] Given the categories that renewable fuels can include, the CESP EIS scope for renewable fuel facilities includes facilities using the following renewable resources:

[41] Specifically, cellulose, hemicellulose, or lignin: United States Environmental Protection Agency, "Overview of the Renewable Fuel Standard Program," updated April 16, 2026, https://www.epa.gov/renewable-fuel-standard/overview-renewable-fuel-standard-program
[42] Cornell Law School, United States Code, "Regulation of fuels," n.d., https://www.law.cornell.edu/uscode/text/42/7545#o_1_I
[43] Washington State, Revised Code of Washington, "Office of renewable fuels - definitions," n.d., https://app.leg.wa.gov/RCW/default.aspx?cite=43.330.560
[44] Washington State, Revised Code of Washington, "Definitions," n.d., https://app.leg.wa.gov/RCW/default.aspx?cite=19.405.020
[45] Washington State, Revised Code of Washington, "Definitions," n.d., https://app.leg.wa.gov/RCW/default.aspx?cite=19.405.020

- **Biomass and organic waste**: Animal waste, solid organic fuels from wood, forest or field residues, and dedicated energy crops (excluding wood treated with chemical preservatives).
- **Manufacturing by-products**: Bark, wood chips, sawdust, and lignin derived from pulping or wood manufacturing processes.
- **Gas recovery**: Landfill gas and gas captured from sewage treatment facilities.
- **Hydrogen**: Renewable and green electrolytic hydrogen produced using renewable resources.
- **Biofuels**: Biodiesel and ethanol not raised on recently cleared old-growth or first-growth forest lands.[46]

Figure 16: Types of Biomass for Energy



Source: US Energy Information Administration, "Biomass Explained", 2026, https://www.eia.gov/energyexplained/biomass/

Typical Form and Processes

Renewable fuels may be produced, stored, transported, and used in gaseous or liquid form. These fuels may be blended with conventional fuels, converted to electricity through fuel cells, combusted directly to generate heat or power, or used with turbines and other energy-generation equipment. The processes and supporting infrastructure required would vary based on the feedstock, conversion technology, fuel form, facility scale, and intended end use.[47]

Facility components can include pipelines for transportation; however, planning for potential pipelines is not included within the scope of the CESP EIS. Pipelines and their related jurisdiction authority will proceed through

[46] Washington State, Washington Administrative Code, "Definitions to Part 2 and Part 3," n.d., https://app.leg.wa.gov/wac/default.aspx?cite=173-407-110
[47] U.S. Energy Information Administration, *"Biomass Explained", 2026,* https://www.eia.gov/energyexplained/biomass/

environmental review on a project level. Skagit County already has code in place for pipelines for fuel, oil, natural gas, and petroleum products as a Utility Development under SCC 14.18.870.

Renewable fuels can be converted to energy through various processes, including direct combustion, thermochemical conversion, chemical conversion, and biological conversion.

- **Direct combustion** (burning) to produce heat. At the time of the CESP EIS, direct combustion is the most common method for converting biomass energy. Organic materials including wood, agricultural residues, and waste are burned. The heat can then be used for heating buildings and water or generate electricity in steam turbines.[48]
- **Thermochemical conversion** includes decomposition processes where biomass feedstock materials are heated in closed, pressurized vessels at high temperatures. Thermochemical conversions are often seen used at landfills.[49]
- **Chemical conversion** takes vegetable oils, animal fats, and greases and converts them into fatty acid methyl ester, a main component for biofuels.
- **Biological conversion** includes fermentation to make ethanol and anaerobic digestion to produce biogas, also referred to as renewable natural gas or biomethane. The anaerobic digesters can be found at sewage treatment plants, paper mills, food processors, and livestock operations.

2.2.6. Common Electrical System Features

Renewable energy generating sources require additional infrastructure to move and distribute power to the grid. The electric grid can be broken down into three main systems: generation, transmission, and distribution.

Figure 17 below provides an overview of the process from energy generation to end use.

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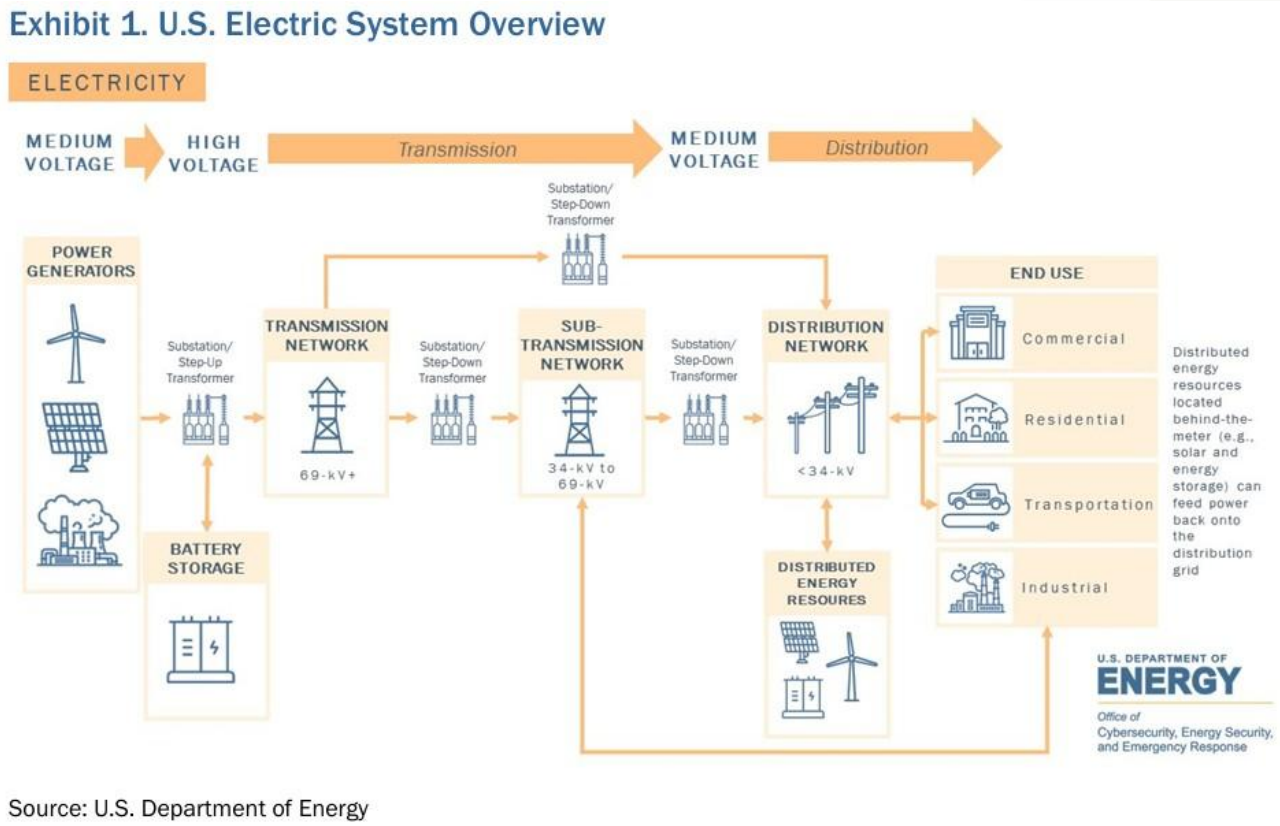
[48] U.S. Energy Information Administration, "Biomass Explained", 2026 https://www.eia.gov/energyexplained/biomass/

[49] U.S. Energy Information Administration, "Biomass Explained", 2026 https://www.eia.gov/energyexplained/biomass/landfill-gas-and-biogas.php

Figure 17: U.S. Electric System Overview



Source: U.S. Department of Energy, Learning Series: Energy Security & Resilience, 2023, https://www.energy.gov/sites/default/files/2023-11/FINAL_CESER%20Electricity%20Grid%20Backgrounder_508.pdf

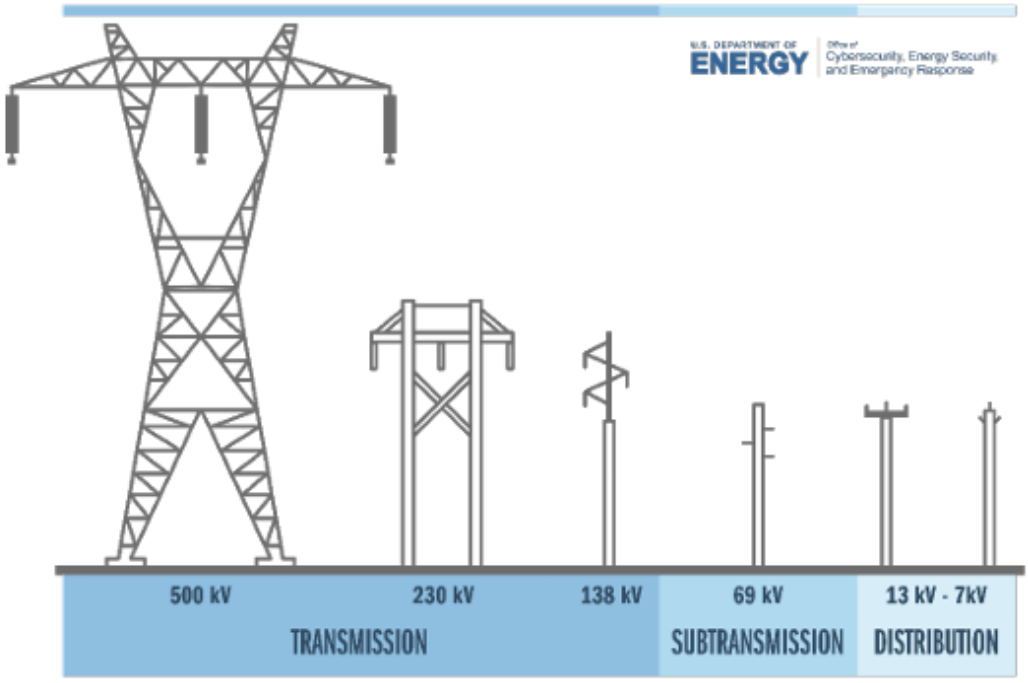
The CESP EIS focuses on the energy facilities involved in power generation and power storage. However, transmission and distribution systems are part of the broader energy supply system. The distance between power generation and the end user can vary depending on a specific project. All energy facilities can be located near an end-user (behind the meter) or can interconnect with the distribution or transmission grid (front of the meter).

Transmission is the process which moves power from generation sources over long distances through high-voltage power lines, referred to as transmission lines.

Distribution is the process which moves power over shorter distances to end users using lower-voltage lines, referred to as distribution lines. Distribution lines deliver electricity to homes, businesses, and other end users.

Figure 18 below shows the difference between transmission and distribution lines.

Figure 18: Transmission, Subtransmission, and Distribution Lines



Source: U.S. Department of Energy. A non-exhaustive representation of the types of equipment involved in electricity transmission and distribution.

Source: U.S. Department of Energy, Learning Series: Energy Security & Resilience, 2023, https://www.energy.gov/sites/default/files/2023-11/FINAL_CESER%20Electricity%20Grid%20Backgrounder_508.pdf

Delivering electricity from generation facilities to transmission, distribution, and end use requires interconnection components such as inverters, substations, transformers, switchyards, and gen-tie lines.

- **Inverters**: convert direct current (DC) within generated energy into alternating current (AC) of most grid and end user systems.
- **Substations**: contain transformers, breakers, switches, and protection and control equipment used to transform voltage levels and safely connect, control, and protect portions of the electric power system.
- **Transformers**: can convert between high and low voltages as needed for connection across systems.
- **Switchyards**: function as a routing center to direct flow of power for operation flexibility and system reliability.
- **Generation tie-in lines (gen-tie lines)**: provide generation interconnection. They enable a generation facility to interconnect to the power grid.

The proximity to existing grid infrastructure can inform early site planning, project design, and environmental review. More favorable locations for generation facilities are often near existing grid infrastructure. More information surrounding existing power grid infrastructure can be found in the **Siting Analysis** and **Public Services and Utilities** sections.

Transmission and Interconnection Jurisdiction

The jurisdiction for transmission and interconnection depends on several factors, including the type of energy facility, whether the transmission component is part of an EFSEC jurisdiction facility, the line voltage or capacity, the ownership and purpose of the infrastructure, and whether federal, state, or local approvals are triggered.

As described in the **Energy Permitting** section, EFSEC provides centralized siting and environmental review for certain major energy facilities and associated facilities, including high voltage transmission facilities. In 2023, the State of Washington directed EFSEC to evaluate probable significant adverse environmental impacts from electrical transmission facilities with a voltage of 230 kV or greater at a programmatic level. The draft Transmission EIS was released by EFSEC October 2025.[50]

These efforts are part of a broader statewide focus on transmission planning, siting, and permitting coordination. In 2026, the Washington State Legislature created the Washington Electric Transmission Authority (WETA). This new authority will serve as a centralized body for providing development transmission services, coordinating siting and permitting, and engaging with utilities, transmission developers, local jurisdictions, state agencies, regional entities, the federal government, federally recognized Indian tribes, and affected communities.[51]

As of June 2026, the specific role WETA holds in the transmission and interconnection siting and permitting coordination process in comparison to EFSEC and local jurisdiction authority is undefined. Lower voltage distribution lines, local interconnection upgrades, access roads, and other ancillary improvements may remain subject to state, utility, County, or local review unless incorporated into an EFSEC site certification or otherwise preempted by applicable law.

For the CESP EIS purposes, transmission-related analysis will remain general and focus on whether an energy facility would require new gen-tie lines, substation construction or expansion, distribution upgrades, right-of-way acquisition, utility coordination, or improvements that could potentially create additional disturbance or jurisdictional review. Certain transmission lines, such as gen-tie lines that have a specific purpose of connecting an energy storage or generation source to the grid, are included in this study as part of associated infrastructure.

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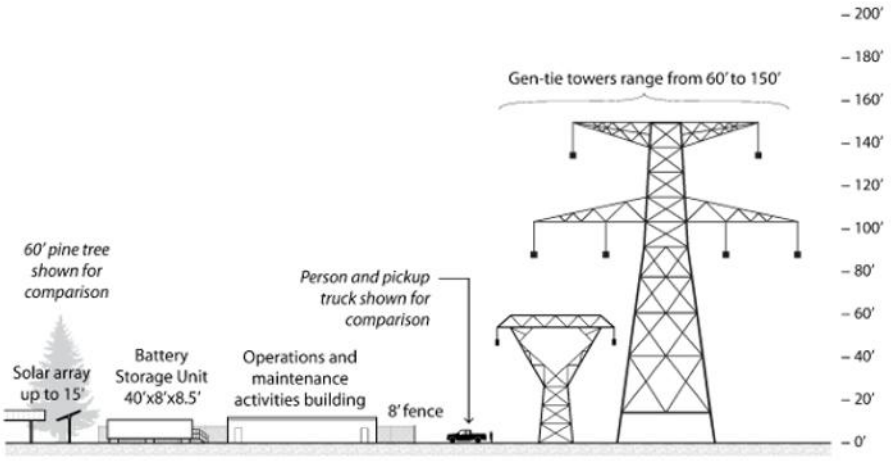
[50] Washington State Energy Facility Site Evaluation Council, "Final Transmission Programmatic Environmental Impact Statement", 2025, https://efsec.wa.gov/transmission-programmatic-environmental-impact-statement-eis
[51] Washington State Legislature, "Electric Transmission System – Washington Electric Transmission Authority," passed March 12, 2026, https://lawfilesext.leg.wa.gov/biennium/2025-26/Pdf/Bills/Session%20Laws/Senate/6355-S.SL.pdf?q=20260528195750

Figure 19: Size Comparison of solar, BESS, and gen-tie towers



Source: Washington State Department of Ecology, Utility Scale Solar PEIS, 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf

Electronic transmission lines that are designed to move power between load centers and are part of the regional (multi-county and multi-utility) grid network are not part of this study. Regional planning of these bulk transmission lines occurs through state-level processes. Transmission lines may be permitted as a Utility Development within Skagit County under SCC 14.18.870. The appropriate permitting pathway should be confirmed and additional environmental review conducted on a project-specific basis once the specific voltage, length, capacity, location, ownership, and point of interconnection are known.

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3. Siting Analysis

3.1. Overview

The Siting Analysis section describes factors that may influence facility siting and identify where site conditions may present constraints for energy development. Siting refers to the site selection process of identifying and evaluating locations for a future facility based on physical, environmental, infrastructure, land use, and operational conditions.

Prior to project applications, applicants review local conditions and conduct early project feasibilities to narrow down potential locations. Early siting and feasibility reviews potential site constraints such as access to transmission or other necessary infrastructure, land area and physical conditions, surrounding land uses and environmental resources, and local code and mitigation measures. Local jurisdictions proactively address siting through local development code and critical areas regulations, including zoning, setbacks, and critical areas buffers and mitigation measures. Once a specific project is proposed, siting considerations may be further addressed through project-level review and conditions of approval.

The purpose of this section is to review and summarize statewide studies relevant to siting the clean energy facilities evaluated in the CESP EIS and identify considerations that may influence the location of future energy development to Skagit County.

3.2. Methodology for Analysis

Each clean energy type has a specific approach to determining criteria that should be evaluated when analyzing existing land suitable for the siting of the respective clean energy type. The type and scale of infrastructure, location, and access needs vary by facility type. Unfavorable siting criteria overlap across facility types to include critical areas and high-risk ecosystems. Favorable siting criteria overlap across facility types to include areas near transmission lines or other power delivery infrastructure and areas with stable soils.

The approach for this analysis was a literature review of existing methodologies and criteria for state-wide studies prepared by agencies such as Ecology , Washington State Department of Fish & Wildlife (WDFW), and the Washington State EFSEC. The following documents were reviewed for their site suitability analyses and as reference material:

- Solar PEIS (2025), Ecology
- Solar and Wind WDFW Guidance (2025), WDFW
- SMR Report (2016), EFSEC
- Green Hydrogen Production and Storage PEIS (2025), Ecology

To consistently discuss the findings and takeaways from these resources, each of the energy subsections below summarize factors relevant to siting from less constrained to more constrained.

3.2.1. Solar Energy Facilities

Solar facilities are typically comprised of solar arrays, associated power and electrical equipment, racking or mounting systems, solar piles, access roads, fencing, security systems, stormwater management controls, and operations and maintenance areas.

Standalone solar facilities have siting consideration as described in **Table 6** below.

Table 6: Solar Siting Analysis

Solar	Less Constrained	Constrained	More Constrained	Resources
Terrain	• Flat, below 15% existing grade • Stable soil types, low susceptibility to erosion and liquefaction	• Sites which require mass grading (variable slopes across the entire site) • Slopes over 20% (slope instability risks) on or near site • Soils with moderate to high liquefaction potential on site	• Landslide hazard area on or near site • Soils with high liquefaction potential on site • Majority of site is steep slope areas (typically over 30% grades)[52]	• Department of Natural Resources (DNR) Geologic Provinces • Washington Geologic Information Portal • Environmental Information Management (EIM) Groundwater Search Map • Web Soil Survey (for specific soil susceptibilities) • WA Light Detection and Ranging (LiDAR) Portal (for site specific contours and slopes)
Habitat	• No indicators of priority habitats or species, habitats or species of local importance, or habitat connectivity concerns	• Nearby priority habitat species or habitat connectivity area (off site, but buffers/protection areas extend onsite)	• Federally or state listed endangered, threatened, or candidate for endangered/threate ned listed species	• Priority Habitat Species • Habitat Connectivity • Critical Habitat for Threatened & Endangered Species
Water	• No surface water present or near site	• Surface water nearby site (buffers	• Surface waters and their buffers • Floodplains	• Local/site-specific sources when available

[52] SCC 14.24.400(1)(a)

Solar	Less Constrained	Constrained	More Constrained	Resources
	• Existing water utility infrastructure adjacent to or near site • Outside floodplain	may extend onto the site) • Water utility infrastructure nearby or drilling a well is feasible on site • Near floodplain or partially in a floodplain • Within critical aquifer recharge areas	• Groundwater contaminated area • No water rights or available water connection source	• Water Availability Focus Sheets by Water Resource Inventory Area (WRIA) • Water Availability • Ecology 2016 Modeled Wetland Inventory • USFWS National Wetlands Inventory • Ecology Geographic Information System (GIS) Data • Principal Aquifers of the United States • National Hydrography Dataset • Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM)

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Solar	Less Constrained	Constrained	More Constrained	Resources
Infrastructure	• Existing right-of-way access to the site • Existing utility easements adjacent to site • Multiple access points • Near emergency services (within a fire station service area) • Areas within 25 miles of existing transmission lines that can handle the energy generation of large-scale facilities	• Single access point/limited property access to right-of-way • Utility easements directly over site • Existing underground utilities under the site	None	• County or state easements, right-of-way, and roads GIS data • Fire Services Resource Mobilization Plan • WA Fire Services
Land Use	• Comprehensive plan future land use designations, zoning, and Shoreline Master Program (SMP) designations (if applicable) allow for this use • Allowed use under the applicable state/federal agency management plan and guiding regulations if proposed on state or federal lands	• Conditional, special, or partially restricted use under authorizing code • Partially within or near DOD facilities or training areas • In or near FAA restricted areas	• Areas in a zone where use is not allowed under authorizing codes • Military installation property • Areas inside unincorporated UGAs • State and National parks	• Local authorizing codes in effect at the time of siting application • County UGA maps • DNR State Trust Lands • DNR Clean Energy Parcel Screening Tool • Compatible Energy Siting Assessment • WSDOT Airports

3.2.2. Battery Energy Storage Systems

BESS are facilities that store electricity for later use, including energy generated by renewable resources or electricity drawn from the grid. BESS facilities are sometimes developed as stand-alone facilities or co-located with intermittent generation facilities such as solar or wind facilities. BESS typically house batteries in enclosures or containers. The batteries used may be comprised of lithium-ion, flow, or zinc-hybrid battery technologies. Lithium-ion batteries are the most common large scale storage technology. The self-contained enclosures may be

located on a concrete pad or concrete pile over gravel, or the facility may be within a warehouse-type enclosure. Containers for BESS may be around 40 feet by 8 feet by 8.5 feet; however exact dimensions can vary by manufacturer and project specifics. Additional components of BESS infrastructure commonly include power conversion equipment, transformers, inverters, switchgear, thermal management systems (such as HVAC systems), fire detection and suppression systems, control systems, fencing, access roads, stormwater controls, and supporting electrical interconnection facilities.

PSE released a BESS location study in 2021 with preliminary findings and case studies for siting of BESS facilities, specifically relating to PSE's existing substation locations. "Energy Storage System Location Study, 2021".

Siting criteria for BESS facilities are similar to other clean energy facility types in regard to land use and avoidance of critical areas. Favorable site conditions for BESS facilities include areas near existing transmission lines or substations. The following table provides an analysis of favorable, unfavorable, and exclusion areas for BESS.

Table 7: BESS Siting Analysis

BESS	Less Constrained	Constrained	More Constrained	Resources
Terrain	• Flat, below 15% existing grade • Stable soil types, low susceptibility to erosion and liquefaction • Open space surrounding facilities	• Sites which require mass grading (variable slopes across the entire site) • Slopes over 15% (slope instability risks) on or near site • Soils with moderate to high liquefaction potential on site	• Landslide hazard area on or near site • Soils with high liquefaction potential on site • Majority of site is steep slope areas (typically over 30% grades)[53]	• Department of Natural Resources (DNR) Geologic Provinces • Washington Geologic Information Portal • EIM Groundwater Search Map • Web Soil Survey (for specific soil susceptibilities) • WA LiDAR Portal (for site specific contours and slopes)
Habitat	• No indicators of priority habitats or species, habitats or species of local importance, or habitat connectivity concerns	• Nearby priority habitat or species, habitats or species of local importance, or habitat, or habitat connectivity area (off site, but buffers/protection areas extend onsite)	• Federally or state listed endangered, threatened, or candidate for endangered/threatened listed species	• Priority Habitat Species • Habitat Connectivity • Critical Habitat for Threatened & Endangered Species

[53] SCC 14.24.400(1)(a)

BESS	Less Constrained	Constrained	More Constrained	Resources
Water	• No surface water present or near site • Outside floodplain	• Surface water nearby site (buffers may extend onto the site) • Near floodplain or partially in a floodplain	• Surface waters and their buffers • Floodplains • Groundwater contaminated area • No water rights or available water connection source	• Local/site-specific sources when available • Water Availability Focus Sheets by WRIA • Water Availability • Ecology 2016 Modeled Wetland Inventory • USFWS National Wetlands Inventory • Ecology GIS Data • FEMA FIRM • DNR Hydrography • WDFW SalmonScape
Infrastructure	• Existing right-of-way access to the site • Existing utility easements adjacent to site • Multiple access points • Near emergency services (within a fire station service area) • Near existing suitable substation (115 kV) or other interconnection point	• Single access point/limited property access to right-of-way • Utility easements directly over site • Existing underground utilities under the site	None	• County or state easements, right-of-way, and roads GIS data • Fire Services Resource • Mobilization Plan • WA Fire Services
Land Use	• Comprehensive plan future land use designations, zoning, and SMP designations (if applicable) allow for this use • Allowed use under the applicable state/federal	• Conditional, special, or partially restricted use under authorizing code • Partially within or near DOD facilities or training areas • Near residential, schools, hospitals, emergency	• Areas in a zone where use is not allowed under authorizing codes • Military installation property • State and National parks	• Local authorizing codes in effect at the time of siting application • County UGA maps • DNR State Trust Lands • DNR Clean Energy Parcel Screening Tool

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BESS	Less Constrained	Constrained	More Constrained	Resources
	agency management plan and guiding regulations if proposed on state or federal lands	shelters, and other sensitive community gathering places • Requires negotiation with multiple property owners	• Would require eminent domain to make siting feasible • Would interrupt existing neighborhood/ development pattern	• Least Conflict Solar Siting Conservation Value Map • Compatible Energy Siting Assessment • WSDOT Airports

3.2.3. Fusion Small Modular Reactors

For purposes of this EIS, fusion SMRs refer to advanced nuclear reactors that are smaller than conventional nuclear power facilities, modular in design, meaning components may be factory assembled and transported for installation, and utilize nuclear fusion reactions for fuel generation.

It is understood that Skagit County only has permitting jurisdiction for nuclear fusion SMR facilities. Nuclear fusion may have a less intensive impact portfolio, as stated in the EFSEC Fusion Report to the Washington State Legislature, but because technology and related permitting is rapidly evolving, its siting, permitting, and environmental implications remain less established.

In 2016, EFSEC commissioned a statewide report by Golder Associates evaluating the potential for developing nuclear power in Washington State, focusing on SMR technology. The report examined technical, regulatory, and land use considerations associated with SMR development and included a statewide suitability analysis to identify areas with the greatest potential for future deployment. For purposes of the EFSEC SMR analysis, it was assumed the following SMR facility requirements:

> *Facility site requirements include land for the reactor core and all balance of plant infrastructure, setbacks, buffer/site safety areas, and access. Per mPower, the land requirement for a 180 MWe facility is approximately 40 acres. As a conservative estimate for siting considerations, the mPower estimate is scaled up linearly for a 600 MWe facility resulting in a model SMR land requirement equal to approximately 130 acres. This is a conservative estimate as much of the facilities support structures and facilities would not change with added reactor modules.*[54]

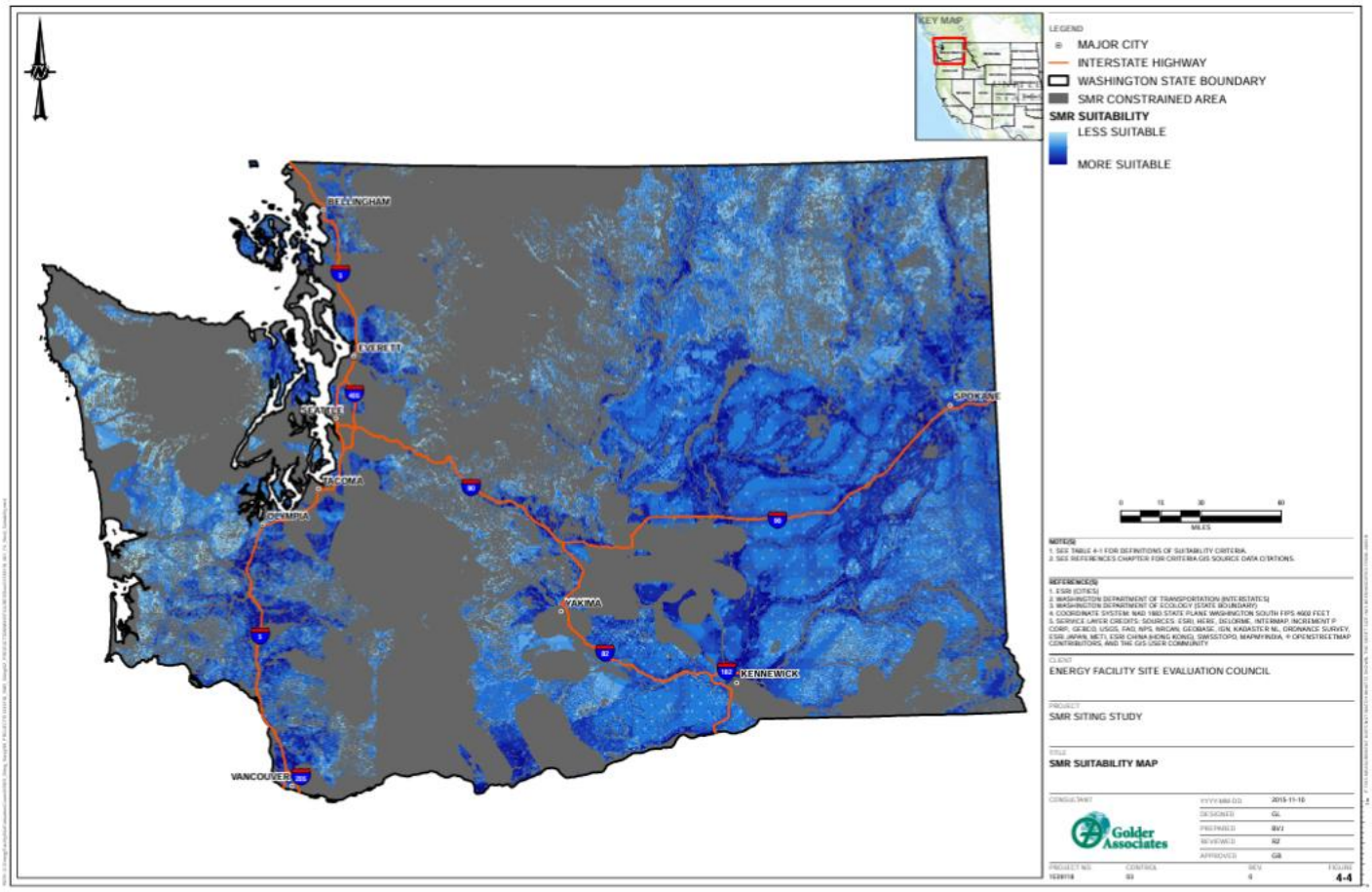
As part of the EFSEC SMR Report, a statewide suitability analysis was conducted to identify areas with the greatest potential for SMR development. Section 4.1 of the report describes the methodology, criteria, and results of the analysis. Suitability was evaluated using GIS-based criteria that identified constrained, avoidance, and attraction areas, which were then used to assign relative suitability scores across Washington State (**Figure 20**).

The results of the analysis indicate that the areas of highest relative suitability within Skagit County are around Anacortes and near the border with Whatcom County. While the EFSEC SMR Report provides a starting point for

[54] Washington State Energy Facility Site Evaluation Council, Small Modular Reactors – An Analysis of Factors Related to Siting and Licensing in Washington State, 2016, https://efsec.wa.gov/sites/default/files/2025-05/20160108SMRFinalReport.pdf

evaluating potential SMR siting considerations within the county, the analysis was completed in 2016 and centered around nuclear fission technology. As a result, some underlying datasets, assumptions, regulatory conditions, and local circumstances may have changed since the analysis was prepared.

Figure 20: Fusion SMR Suitability in Washington



Source: Washington State Energy Facility Site Evaluation Council, "Small Modular Reactors", 2016, https://efsec.wa.gov/sites/default/files/2025-05/20160108SMRFinalReport.pdf

The research published by EFSEC and the additional resources shown below helped create the following suitability table for fusion SMR facilities.

Table 8: Fusion SMRs Siting Analysis

Fusion SMRs	Less Constrained	Constrained	More Constrained	Resources
Terrain	• Stable soil types, low susceptibility to erosion and liquefaction • Areas that are flat or have shallow slopes (less than 15%) • Areas with little to no ground shaking potential (under % ground acceleration)	• Variable slopes across the entire site (15-30%) • Geologic hazards partially on site • Inactive or abandoned mines (on site or within 500 feet of site) • Areas with ground shaking potential (over 60% ground acceleration)	• Landslide hazard area on or near site • Steep slopes present on site (greater than 30%) • Soils with high liquefaction potential on site • Seismic hazards • Surface fault and folds (within 5 miles) • Volcanic flow hazard	• Department of Natural Resources (DNR) Geologic Provinces • Washington Geologic Information Portal • EIM Groundwater Search Map • Web Soil Survey (for specific soil susceptibilities) • Earthquakes and Faults • Geologic Information Portal • DNR Mine Locations • DNR Percent Ground Acceleration tool
Habitat	• No indicators of priority habitats or species, habitats or species of local importance, or habitat connectivity concerns • Areas that contain land that has been previously disturbed or have low habitat value • Lack the presence or potential of listed species of flora and fauna	• Nearby priority habitat species or habitat connectivity area (off site, but buffers/protection areas extend onsite)	• Federally or state listed endangered, threatened, or candidate for endangered/threatened listed species	• Priority Habitat Species • Habitat Connectivity • North American Waterfowl Management Plan • Critical Habitat for Threatened & Endangered Species • Pacific Flyway Council Migratory Bird Management
Water	• No surface water present or near site • Existing water utility infrastructure adjacent to or near site	• Surface water nearby site (buffers may extend onto the site)	• Surface waters and their buffers • 100-year floodplains	• Local/site-specific sources when available • Water Availability Focus Sheets by WRIA

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Fusion SMRs	Less Constrained	Constrained	More Constrained	Resources
	• Outside floodplain	• Near floodplain or partially in a floodplain • Existing water rights or new water rights available for purchase at location	• No water rights or available water connection source	• Water Availability • Ecology 2016 Modeled Wetland Inventory • USFWS National Wetlands Inventory • Ecology GIS Data • Principal Aquifers of the United States • National Hydrography Dataset
Infrastructure	• Existing right-of-way access to the site • Proximity (within 2 miles) to existing transmission lines greater than 69 kV • Near nuclear waste disposal services • Within 2 miles of a thermal power plant, arterial highway, or active railway	• Further than 2 miles from existing transmission lines greater than 69 kV	None	• County or state easements, right-of-way, and roads GIS data • Fire Services Resource • Mobilization Plan • WA Fire Services
Land Use	• Comprehensive plan future land use designations, zoning, and SMP designations (if applicable) allow for this use • Allowed use under the applicable state/federal agency management plan and guiding regulations if proposed on state or federal lands • Outside of tribal owned land	• Conditional, special, or partially restricted use under authorizing code • Partially within or near DOD facilities or training areas • In or near FAA restricted areas • Near residential, schools, hospitals, emergency shelters, and other sensitive community gathering places	• Areas in a zone where use is not allowed under authorizing codes • Military installation property (unless SMR is associated with a military entity) • Areas inside unincorporated UGAs • State and National parks • Near schools and landfills	• Local authorizing codes in effect at the time of siting application • County UGA maps • DNR State Trust Lands • DNR Clean Energy Parcel Screening Tool • Compatible Energy Siting Assessment • WSDOT Airports

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Fusion SMRs	Less Constrained	Constrained	More Constrained	Resources
		•		

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3.2.4. Renewable Fuels

In Washington State, renewable fuel is defined as fuel produced using renewable resources such as renewable natural gas, renewable hydrogen, biodiesel fuel that is not derived from crops raised on land cleared from old growth or first growth forests, or biomass energy. [55,56] Unlike the qualifying renewable biomass under federal definitions, Washington State includes specific exclusions for biomass. Biomass in Washington State does not include wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic; wood from old growth forests; and municipal solid waste. [57] Given the categories that renewable fuels can include, the CESP EIS scope for renewable fuel facilities includes facilities using the following renewable resources:

- **Biomass and organic waste**: Animal waste, solid organic fuels from wood, forest or field residues, and dedicated energy crops (excluding wood treated with chemical preservatives).
- **Manufacturing by-products**: Bark, wood chips, sawdust, and lignin derived from pulping or wood manufacturing processes.
- **Gas recovery**: Landfill gas and gas captured from sewage treatment facilities.
- **Hydrogen**: Renewable and green electrolytic hydrogen produced using renewable resources.
- **Biofuels**: Biodiesel and ethanol not raised on recently cleared old-growth or first-growth forest lands.[58]

Renewable fuels may be produced, stored, transported, and used in gaseous, liquid, or solid form. These fuels may be blended with conventional fuels, converted to electricity through fuel cells, combusted directly to generate heat or power, or used with turbines and other energy-generation equipment. The processes and supporting infrastructure required would vary based on the feedstock, conversion technology, fuel form, facility scale, and intended end use.

Facility components can include pipelines for transportation; however, planning for potential pipelines is not included within CESP. Pipelines and their related jurisdiction authority will proceed through environmental review on a project level. Skagit County already has code in place for pipelines for fuel, oil, natural gas, and petroleum products under SCC 14.18.870.

Instead, the siting overview for renewable fuels will focus on the parameters that measure viability of producing renewable fuels from existing feedstocks.

Biomass and organic waste

The viability of biomass and organic waste for producing renewable fuel can be measured by availability. Biomass and organic waste such as animal waste are already used for other applications such as fertilizer. The most common conversion method for animal waste into renewable fuel is anaerobic digestion. The majority of anaerobic digestion operations use waste from dairy operations, with the remainder using waste from operations

[55] Washington State, Revised Code of Washington, "Office of Renewable Fuels - Definitions," n.d., https://app.leg.wa.gov/RCW/default.aspx?cite=43.330.560
[56] Washington State, Revised Code of Washington, "Definitions," n.d., https://app.leg.wa.gov/RCW/default.aspx?cite=19.405.020
[57] Washington State, Revised Code of Washington, "Definitions," n.d., https://app.leg.wa.gov/RCW/default.aspx?cite=19.405.020
[58] Washington State, Washington Administrative Code, "Definitions to Part 2 and Part 3," n.d., https://app.leg.wa.gov/wac/default.aspx?cite=173-407-110

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focused on hogs, mixed animals, beef, and poultry. For viability, closer proximity to a central collection of manure and other animal waste is a positive siting factor.[59]

Gas Recovery

Gas recovery refers to the process of capturing landfill and sewage treatment facility gas, treating the gas, then converting the gas to a renewable fuel.

For wastewater feedstocks, the higher the wastewater system's flow rate and level of treatment, the more viable the system is for conversion and production of renewable fuels. Per the DOE:

> *The quantity, composition, and quality of sludge within a facility will vary annually, seasonally, and even daily—depending on the composition of the incoming wastewater (i.e., municipal waste stream, combined stormwater runoff, industrial waste stream, etc.) and variations in treatment processes. Generally, increased levels of treatment will yield higher volumes of sludge. However, in the case of combined treatment with stormwater, the stormwater added to normal wastewater influent dilutes the solids concentration per gallon of combined influent.*[60]

The viability of converting landfill gas to biogas and then renewable fuel is measured by the composition and impurities in the substrate. Biogas composition can vary seasonally, particularly at landfills where the landfilled materials contain higher organic fractions from yard waste. Siloxanes represent an additional constituent that causes deleterious effects in biogas. Siloxanes, which are present in personal hygiene, health care, and industrial products, accumulate in wastewater and landfills and can easily volatilize.[61]

Hydrogen

Ecology prepared a Programmatic EIS specific to Green Hydrogen Energy Facilities in 2025 and WSDOC prepared the Green Electrolytic Hydrogen Report in 2023, both of which are used as primary sources for this section.[62,63]

Hydrogen is considered a renewable fuel when it's produced using renewable resources both as the source for the hydrogen and the source for the energy input into the production process. "Renewable hydrogen" is defined in RCW 54.04.190 and RCW 19.405.020 as hydrogen produced using renewable resources both as the source for the hydrogen and the source for the energy input into the production process. In the context of renewable hydrogen inputs, "renewable resource" means:

- Water
- Wind
- Solar energy

[59] US Department of Energy, Biofuels and Bioproducts from Wet and Gaseous Waste Streams: Challenges and Opportunities, 2017, https://www.energy.gov/sites/prod/files/2019/05/f62/biofuels_and_bioproducts_from_wet_and_gaseous_waste_streams_full_report_2.pdf
[60] Ibid.
[61] Ibid.
[62] Washington State Department of Ecology, State Environmental Policy Act Final Programmatic Environmental Impact Statement for Green Hydrogen Energy Facilities in Washington State, 2025, https://apps.ecology.wa.gov/publications/summarypages/2506004.html
[63] Washington State Department of Commerce, Green Electrolytic Hydrogen and Renewable Fuels: Recommendations for Deployment in Washington, 2024, https://deptofcommerce.app.box.com/s/widfnmxbo8ijt3uozpoq91jzapu4dhae

- Geothermal energy
- Renewable natural gas
- Wave, ocean, or tidal power
- Biodiesel fuel that is not derived from crops raised on land cleared from old growth or first growth forests
- Biomass energy

Hydrogen production generally involves taking primary energy through a series of conversion, storage, and transportation stages to delivery in the form of energy services such as heat, light, and propulsion. Hydrogen can be stored at production facilities, distribution facilities, and end-use facilities, and transported long-distance via pipeline or truck.

Favorable criteria for facilities with viability for storage and conversion of primary energy to renewable hydrogen:

- Near existing transmission network, or sites that are co-located with clean electricity generation such that the need for electricity transmission is minimized
- Interconnection potential and timeline
- Access to water

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4. Earth Resources

4.1. Overview

The Earth Resources section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures, associated with Skagit County's geography, geology, hydrology, hydrogeology, geological resources, and geological hazards (referred to as "earth" in the CESP EIS).

Sub-elements within earth resources include soils, topography, unique physical attributes, topographic features, and natural geomorphic systems and conditions, including fluvial and aeolian systems.

In this study area, the following resources could have impacts that overlap with impacts on earth resources. Impacts on these resources are reported in their respective sections:

- **Water Resources:** Aspects related to surface water, groundwater, wetlands, floodplains, and water availability are discussed in the **Water Resources** section. The Earth Resources section focuses on water impacts related to erosion, deposition, and subsidence.
- **Environmental Health and Safety:** Aspects related to wildfire and other environmental health elements are discussed in the **Environmental Health and Safety** section. Wildfire risk areas related to slope instability or debris flow risks are addressed in this section.
- **Historic and Cultural Resources:** General considerations for cultural or historic artifacts are addressed in the **Historic and Cultural Resources** section. Excavation, grading, and other ground disturbances to existing or native ground surfaces that may disturb cultural or historic artifacts are addressed in the Earth Resources section.

4.2. Existing Conditions

The study area for this section encompasses all of Skagit County, Washington, and consists of specific geologies, topographies, hydrologic resources, and geological resources and hazards within the county. This section represents existing conditions at the time the CESP EIS was prepared.

4.2.1. Critical Areas

The Growth Management Act (GMA) requires local governments, including Skagit County, to designate and protect critical areas including wetlands, aquifer recharge areas, frequently flooded areas, geologically hazardous areas, and fish and wildlife habitat conservation areas. Goal 5A of the Skagit County Comprehensive Plan, which pertains to critical areas, aims to minimize risk to life, property, infrastructure, and resources caused by naturally hazardous geologic processes. Refer to the **Biological Resources** section for additional information on critical areas in Skagit County.

4.2.2. Soil and Mineral Resources

Soil formation results from the interaction of various environmental factors, including climate, organisms, parent material, topography, and time. The interplay of these factors dictates the processes of erosion, defined as the

geological process in which natural forces wear away and transport soil or sediment from one location to another; accretion, defined as the slow addition of soil material to land by deposition through the operation of natural causes; and transfer, defined as transformation of soil components. Skagit County consists of multiple different soil types located in the county's agricultural valleys, forest resource lands, deltas, and floodplains. The lower Skagit Valley contains extensive prime alluvial agricultural soils, including Skagit, Sumas, Mt. Vernon, Snohomish, Larush, and Wickersham series. These soils were formed from centuries of river deposition and are among the county's most productive farmland soils. Skagit County designates agricultural lands primarily based on the presence of these prime agricultural soils.[64] Agricultural Natural Resource Lands (Ag-NRL) Zones are a designation of natural resource lands within Skagit County with soils, climate, topography, size, and location characteristics that have long-term commercial significance for farming.[65]

The foothills and mountainous portions of eastern Skagit County contain gravelly loams, volcanic ash-influenced soils, and glacial deposits that support productive forests. These soils are associated with much of the county's designated Industrial (IF-NRL) and Secondary (SF-NRL) Forest Natural Resource Lands Zones. West of Mount Vernon, sediments become increasingly fine-grained. Exposed soils in central and eastern Skagit County can lead to soil loss, dust storms, and impacts to air quality due to dry and windy conditions in these portions of the county.[66] Refer to the **Visual Quality** section and **Air Quality and Greenhouse Gases** section for additional information. Refer to the USDA Soil Survey for comprehensive information on soil types in Skagit County.

Additional geologic formations in Skagit County are designated as mineral resource lands under the Washington State Growth Management Act (GMA) and include sand and gravel deposits and bedrock formations of dunite, greenstone, and limestone. These lands are considered Mineral Resource Overlay (MRO), an overlay to Forest and Rural Resource lands, where geologic deposits have long-term commercial significance for mineral extraction.[67] These lands support mineral and aggregate extraction, which is particularly important for supply of aggregate materials for construction projects, as access to aggregate construction materials is a key consideration for construction planning due to transportation costs. For more information on aggregate resources, refer to the **Energy and Natural Resources** section.

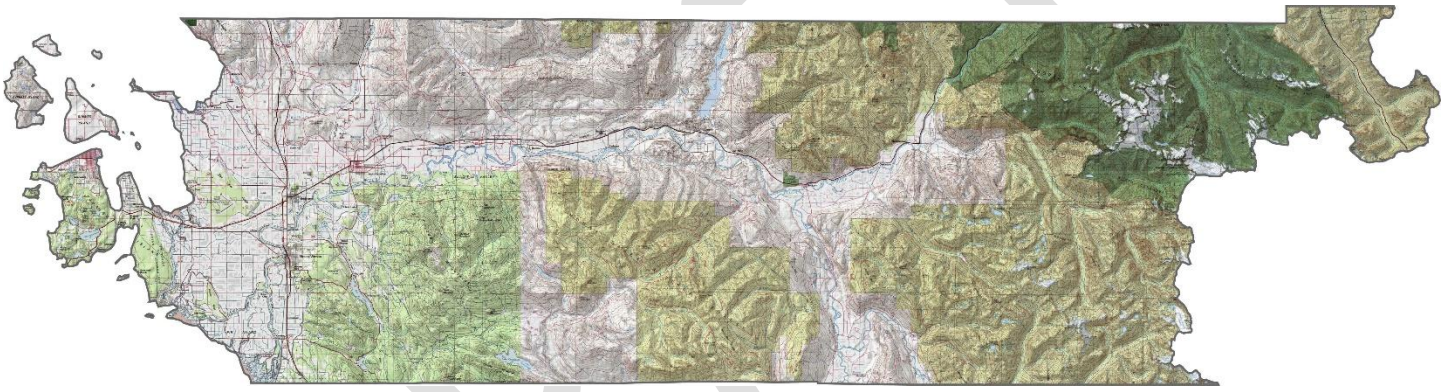
4.2.3. Geography and Topography

Skagit County encompasses several different regional environment types, each with unique ecological conditions. The underlying bedrock of the county is comprised of a variety of sedimentary, volcanic, and metamorphic rocks, much of which is overlaid with glacial deposits. Much of the lower valley is comprised of glacial fill deposits, Glacier Peak ash and lahar deposits, and sediments deposited by the Skagit and Samish rivers. Skagit County contains an approximate 9,000-foot elevation gradient from west to east, with elevations ranging from approximately 10 feet below sea level near La Conner to more than 9,000 feet above sea level at Mount Buckner in the North Cascades. The county can be generally divided into four topographic regions:

[64] Skagit County, Planning and Development Services, "Skagit County Comprehensive Plan", updated June 2025, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/CompPlan2025_WholeDocumentCLEAN_3.0.pdf
[65] Ibid.
[66] Washington Department of Fish and Wildlife, *Skagit Wildlife Area Management Plan* (Olympia, WA: Washington Department of Fish and Wildlife, July 2024), accessed August 27, 2026, Skagit Wildlife Area Management Plan.
[67] Ibid.

- **Marine and Delta Lowlands**: The western portion of the county includes Skagit Bay, Padilla Bay, Samish Bay, Fidalgo Island, and estuarine and tidal environments. The landscape is characterized by flat, low-elevation terrain, tidal marshes and mudflats, coastal bluffs, and the Skagit River delta.
- **Skagit Valley and Floodplain**: The Skagit River forms a broad alluvial valley across the center of the county, which contains floodplains, agricultural lowlands, and glacial sediments and lahar materials.
- **Foothills and Uplands**: East of Sedro-Woolley and Concrete, the terrain transitions into rolling foothills and uplands featuring steep slopes, landslide-prone terrain, forested ridges, and river valleys.
- **North Cascades Mountains**: The eastern half of the county is dominated by the North Cascades mountain range, which features sharp peaks and valleys, alpine ridges, and large reserves of federal land, including North Cascades National Park and Mount Baker-Snoqualmie National Forest. The North Cascade mountain range is segmented by the Skagit River tributaries, including the Cascade, Sauk, and Suiattle rivers.

Figure 21: Topographic Map of Skagit County



Source: US County Maps, Skagit County Topographic Map, 2026, https://uscountymaps.com/skagit-county-map-washington/#Topographic-Map

4.2.4. Geology and Seismicity

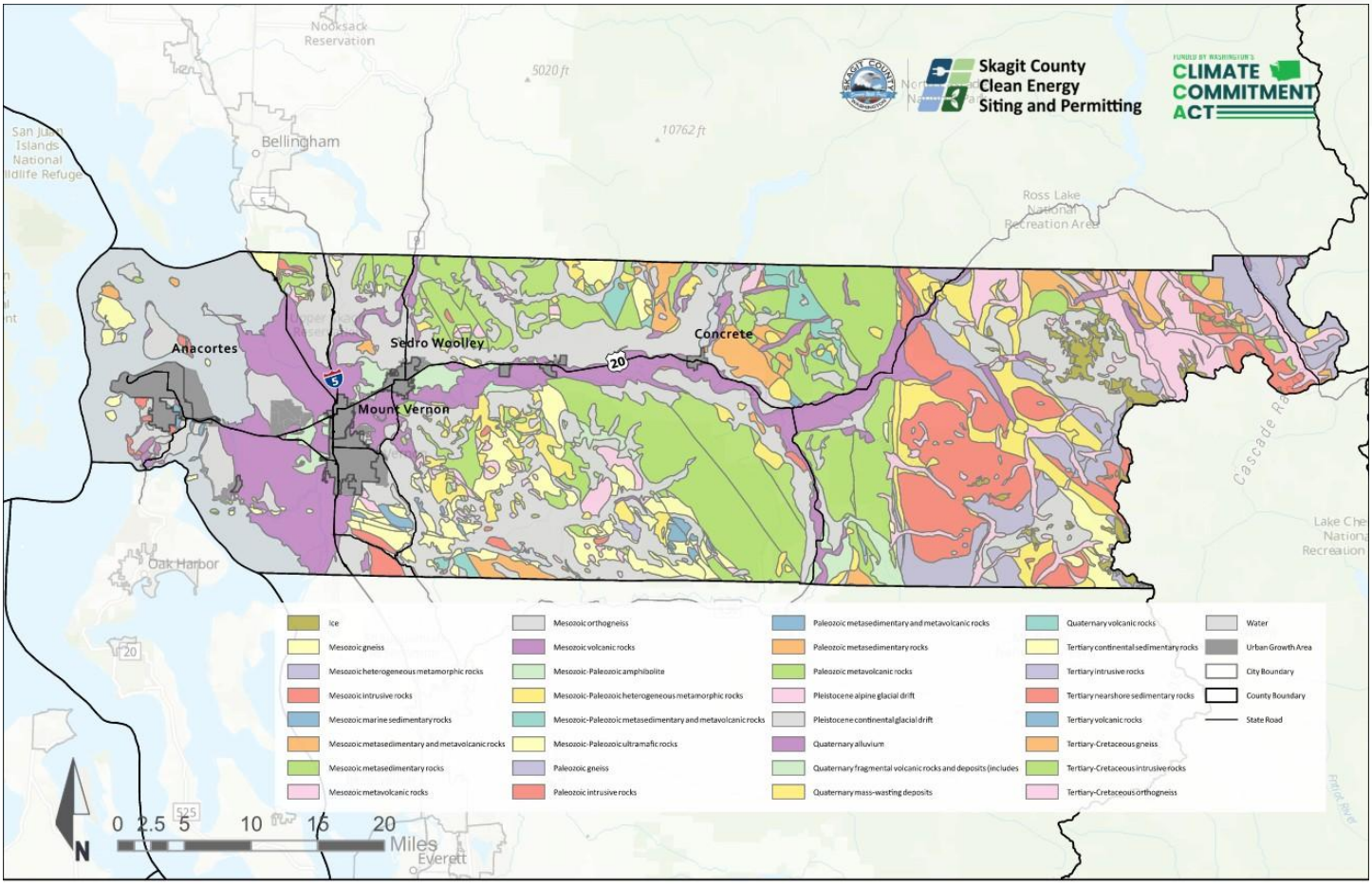
The geologic history of Skagit County is characterized by tectonic uplift, volcanism, glaciation, flooding, erosion, and river deposition. Ancient metamorphic and granitic rocks of the North Cascades formed the county's mountains, while volcanic activity from Mount Baker and Glacier Peak contributed ash, lava, and debris-flow deposits that altered regional drainage patterns. Continental and alpine glaciers carved valleys, dammed rivers, and deposited glacial sediments. Meltwater floods and continued erosion by the Skagit River and its tributaries created the county's floodplains and delta, depositing fertile alluvial soils that are now used for agriculture.

There are nine geologic provinces in Washington, two of which span Skagit County: the North Cascades province and the Puget Lowlands province. The North Cascades province is located east of the Puget Lowland in Skagit County and includes the Cascade mountain range, with an average elevation of 7,000 feet above sea level. The Cascade Range includes Mount Baker and Glacier Peak, the tallest volcanoes in the range.[68] The Puget Lowlands

[68] Washington State Department of Natural Resources, Washington Geological Survey, "North Cascades," n.d., https://dnr.wa.gov/washington-geological-survey/explore-popular-geology/geologic-provinces-washington/north-cascades.

province is located to the west of the Cascade Range and is characterized by glacial deposits of sand and gravel aggregate, glacial carving, and coal pockets.[69]

Figure 22: Geologic Map of Skagit County



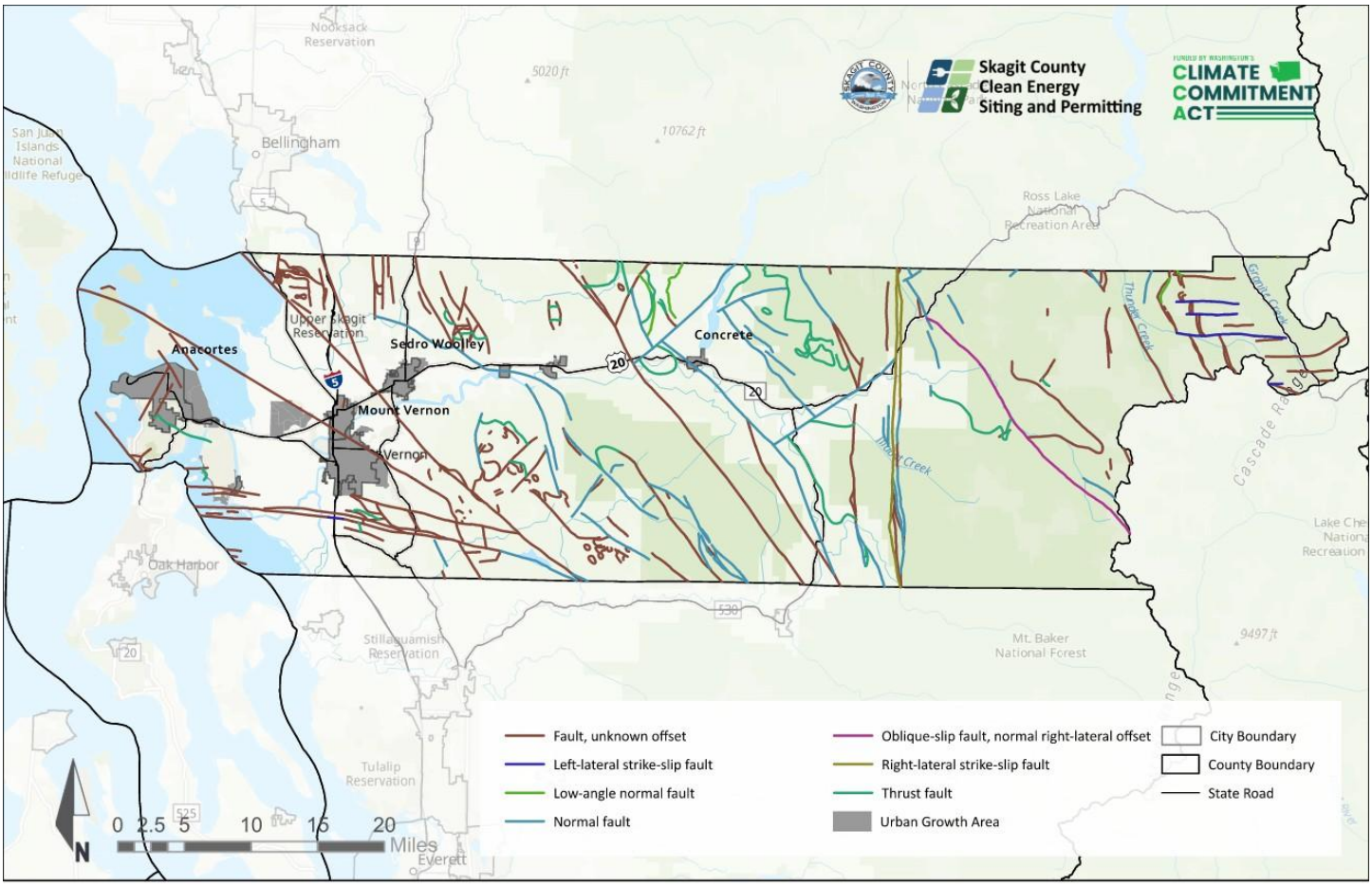
Source: Kimley-Horn, 2026 using Washington Department of Natural Resources, Washinton Geologic Information Portal, "100k Surface Geology Map Units", n.d., https://geologyportal.dnr.wa.gov/#wigm?-13625660,-13495182,6182254,6244779?100K_Surface_Geology_WA_GeMS!11!

There are several fault complexes in Skagit County. The Cascadia Subduction Zone (CSZ), an offshore subduction fault that spans from Northern California to Vancouver Island, has the potential to produce high-magnitude earthquakes that may impact coastal and low-lying areas of Skagit County with tsunamis. In the North Cascades

[69] Washington State Department of Natural Resources, Washington Geological Survey, "Puget Lowlands," n.d., https://dnr.wa.gov/washington-geological-survey/explore-popular-geology/geologic-provinces-washington/puget-lowland.

province, major faults include the Straight Creek Fault, the Ross Lake Fault Zone, and the Pasayten Fault.[70] Several major faults cross the Puget Lowlands province, including the Seattle Fault, the Tacoma Fault, the southern Whidbey Island Fault, and the Darrington-Devils Mountain Fault.[71] The Darrington-Devils Mountain Fault has been determined to be active. The other faults may or may not be active. Other faults in Skagit County include the Bellingham Bay-Lake Chaplain Fault, the Ross Lake Fault, and the Hamilton Fault, are major crustal faults that run directly through portions of the county.[72]

Figure 23: Skagit County Fault Lines



Skagit County Clean Energy Siting and Permitting (CESP) Project

Fault Lines Map

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

[70] Washington State Department of Natural Resources, Washington Geological Survey, "North Cascades," n.d., https://dnr.wa.gov/washington-geological-survey/explore-popular-geology/geologic-provinces-washington/north-cascades.
[71] Washington State Department of Natural Resources, Washington Geological Survey, "Puget Lowlands," n.d., https://dnr.wa.gov/washington-geological-survey/explore-popular-geology/geologic-provinces-washington/puget-lowland.
[72] Skagit County, "Skagit County Multi-Jurisdiction Hazard Mitigation Plan Update", 2020, Hazard Mitigation Plan.

Source: Kimley-Horn, 2026 using Washington State Department of Natural Resources, Washington Geologic Information Portal "100k Faults", n.d. https://geologyportal.dnr.wa.gov/#wigm?-13728111,-13467155,6116849,6241900?100K_Surface_Geology_WA_GeMS!7!

4.2.5. Geologic Hazards

Geologic hazards are defined as areas that are not suited to siting commercial, residential, or industrial development because of their susceptibility to erosion, sliding, earthquake, or other geological events, due to public health or safety concerns.[73] Geologic hazards include both hazards that are avoidable or may be mitigated, and hazards that are unavoidable or may not be mitigated. Some geologic hazards may preclude development at a particular site due to the severity of the geologic condition, lack of mitigation options, or excessive mitigation costs. Per SCC 14.24.410, geologically hazardous areas of known or suspected risk include:

- **Erosion Hazard Areas**: Areas containing soils which, according to the USDA Soil Classification System, may experience severe to very severe erosion. Within Skagit County, this includes areas with gradients equal to or greater than 30 percent; areas located in within specific map units identified by the USDA Natural Resources Conservation Service Soil Survey of Skagit County Area, WA; coastal beaches or bluffs; areas designated as unstable (U), unstable recent slide (URS), or unstable old slide (UOS) by the Ecology Coastal Zone Atlas; and areas susceptible to rapid stream incision and stream bank erosion.
- **Landslide Hazard Areas**: Areas potentially subject to risk of mass movement due to a combination of geologic, topographic, and hydrologic factors.
- **Seismic Hazard Areas**: Areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement, or soil liquefaction.
- **Volcanic Hazard Areas**: Areas subject to pyroclastic flows, lava flows, and inundation by debris flows, mudflows, or related flooding resulting from volcanic activity. Two active volcanoes, Mount Baker and Glacier Peak, border Skagit County to the north and south.
- **Mine Hazard Areas**: Areas underlain by or affected by underground mine workings such as adits, tunnels, air shafts and those areas adjacent to steep slopes produced by open pit mining or quarrying but excluding any areas where the mine workings have been properly stabilized and closed and made safe consistent with all applicable federal, state, and local laws.[74]

Additional geologic hazards possible in Skagit County include:

- **Fault ruptures**: A physical separation of opposite sides of a fault, potentially resulting in both horizontal and vertical displacement.
- **Tsunamis and seiches**: Waves caused by rapid displacement of water, generally resulting from seismic events. Tsunamis occur in the ocean and seiches occur in contained bodies of water. In Skagit County, tsunami inundation hazard areas are located throughout the entire western lowland area, including the lower portion of the islands along the coast.

[73] Washington State Legislature, "WAC 365-190-030: Definitions," Washington Administrative Code, n.d., https://app.leg.wa.gov/WAC/default.aspx?cite=365-190-030.
[74] Skagit County. Comprehensive Plan Update, 2025, https://www.skagitcountywa.gov/services/planning-and-building/community-planning/skagit-county-comprehensive-plan/

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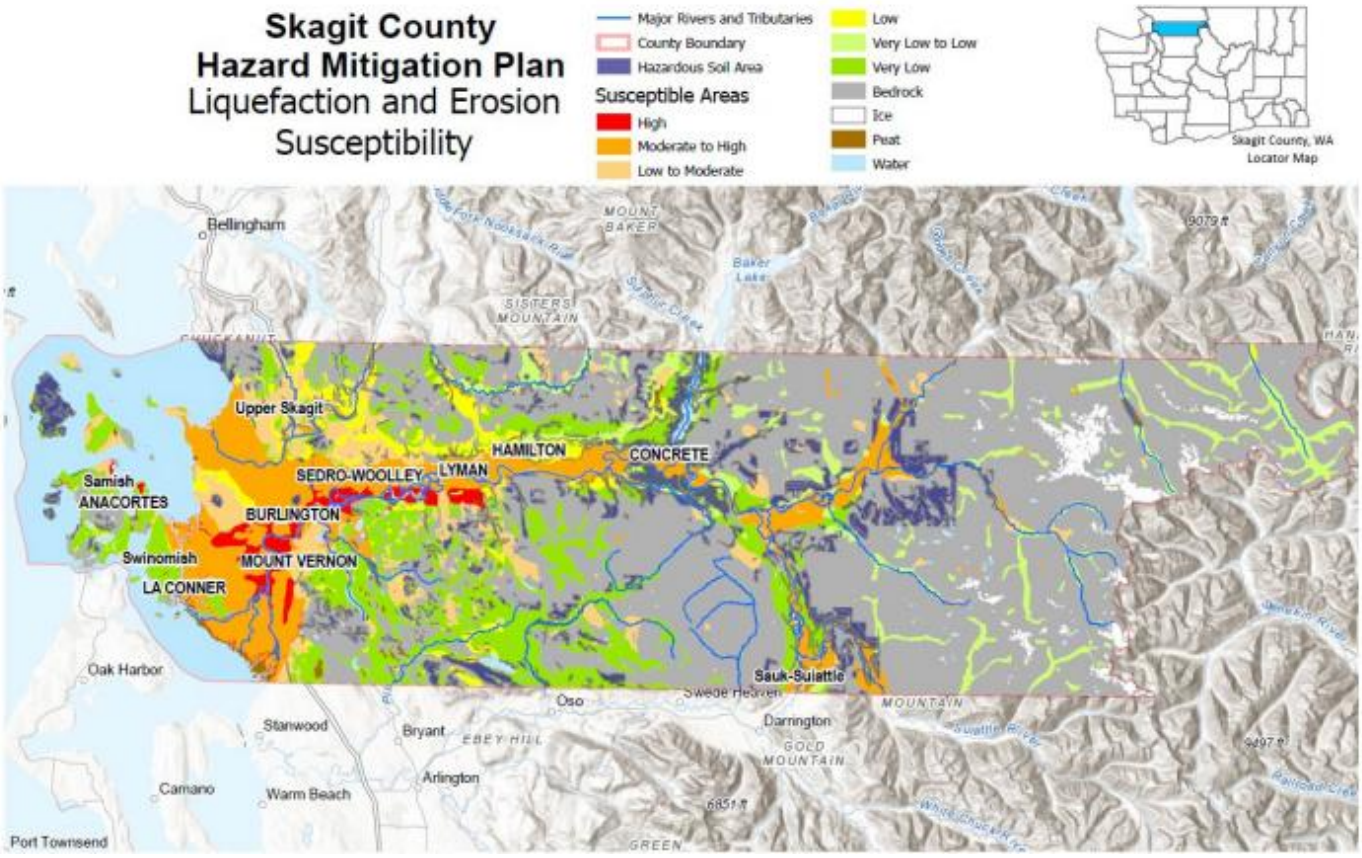
- **Liquefaction**: Water-saturated sediment temporarily loses strength and acts like a fluid. Liquefaction is primarily caused by earthquakes.
- **Subsidence**: The gradual settling or sudden sinking of the earth's surface due to removal or displacement of subsurface earth materials.
- **Sea level rise**: The rise of sea levels surrounding Skagit County's shoreline can increase local flooding, lead to saltwater intrusion in groundwaters, erode coastal areas, and degrade habitats and ecosystems.

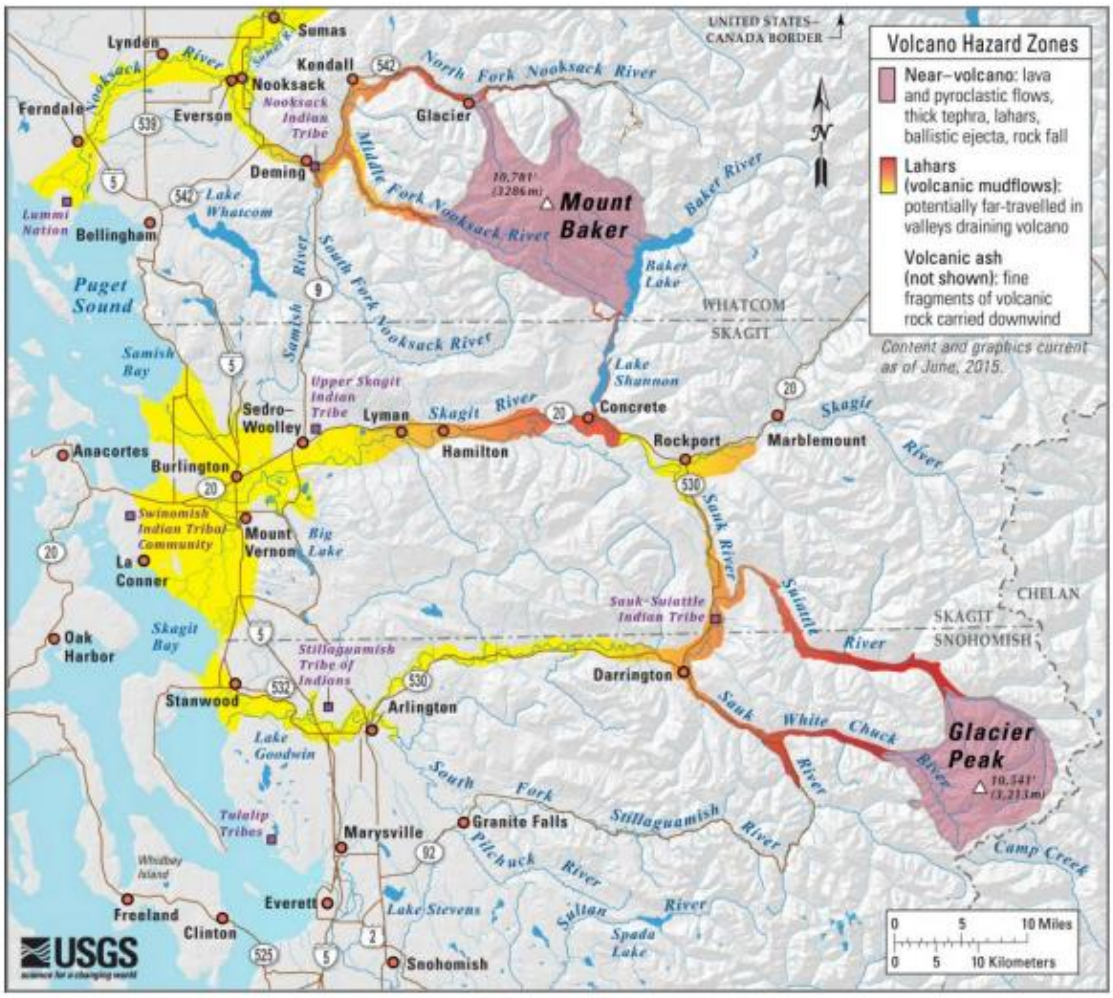
Skagit County plans for natural hazards, including geologic hazards, through the Skagit County Multi-Jurisdiction Hazard Mitigation Plan, prepared in accordance with the Disaster Mitigation Act of 2000. The plan addresses drought, earthquakes, floods and dam failure, landslides, severe weather, tsunamis, and volcanic hazards. The most recent update to the plan (2026) includes maps identifying many of the geologic hazards described above.

Figure 24: Liquefaction and Erosion Susceptibility in Skagit County



Source: Skagit County, Hazard Mitigation Plan: Volume 1, 2026, https://classic.skagitcountywa.gov/Common/Documents/LFDocs/COMMISSIONERS000039/00/00/27/000027c9.pdf

Figure 25: Skagit County Volcanic Hazard Map



Source: Skagit County, Hazard Mitigation Plan: Volume 1, 2026,
https://classic.skagitcountywa.gov/Common/Documents/LFDocs/COMMISSIONERS000039/00/00/27/000027c9.pdf

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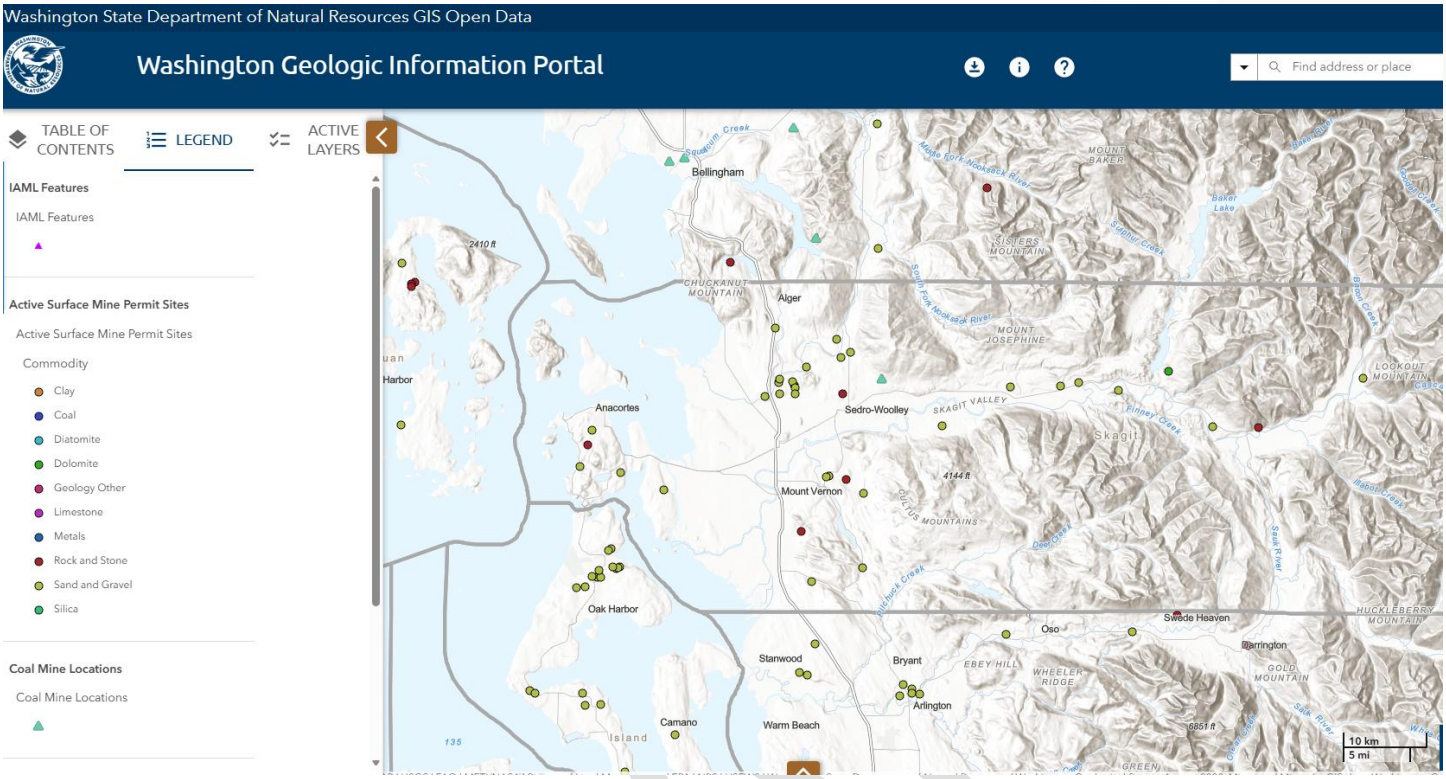
Figure 26: Skagit County Active Surface Mine Permit Sites



Source: Washington State Department of Natural Resources Geologic Information Portal "Active Surface Mine Permit Sites", "Coal Mine Locations", "IAML Features", n.d., https://geologyportal.dnr.wa.gov/#wigm?-13728111,-13467155,6116849,6241900?Active_Surface_Mine_Permit_Sites!1!,Mines_and_Minerals!9!2!

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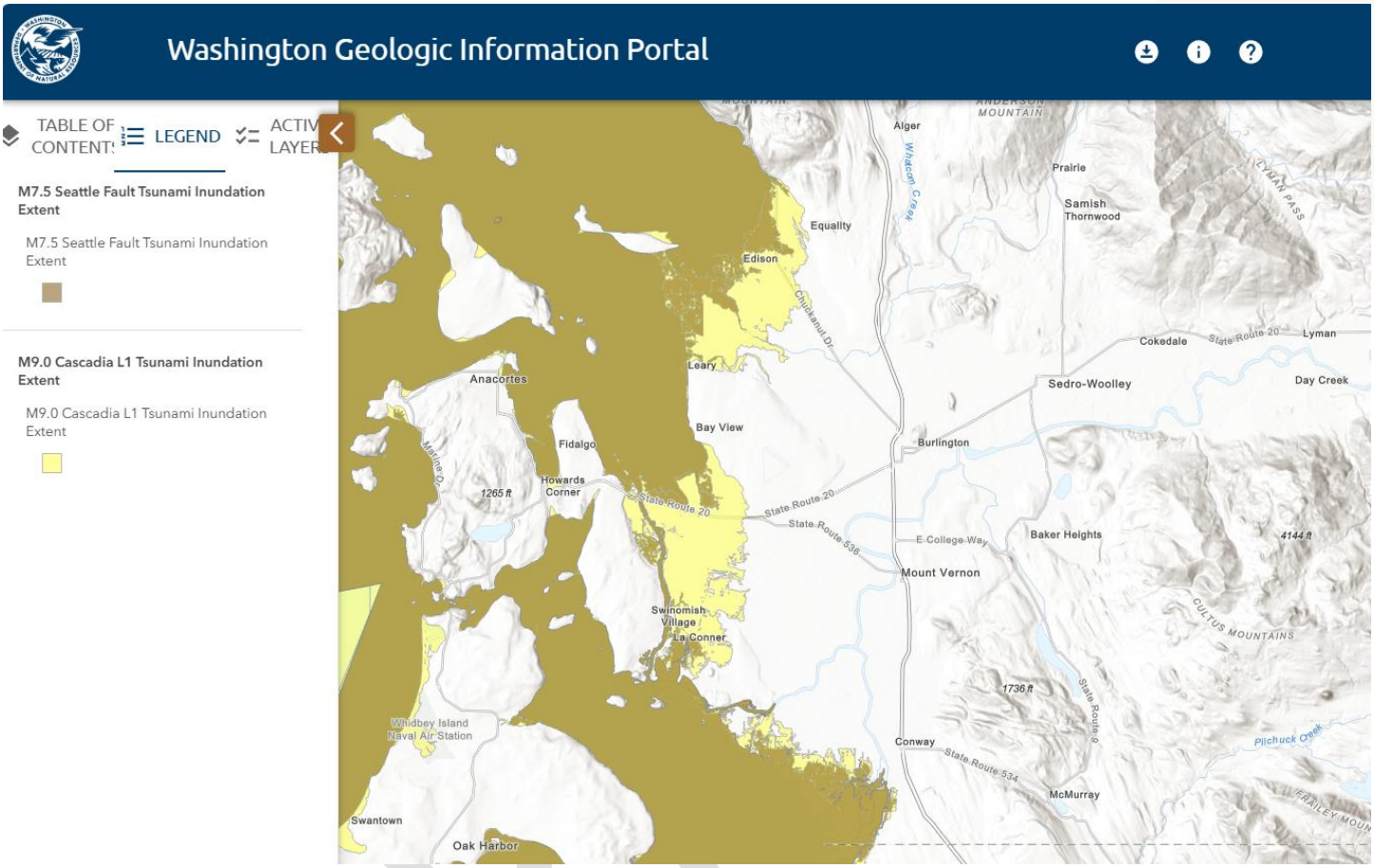
Figure 27: Tsunami Hazard Areas



Source: Washington State Department of Natural Resources, Washington Geologic information Portal, "M7.5 Seattle Fault Tsunami Inundation Extent", "M9.0 Cascadia L1 Tsunami Inundation Extent", https://geologyportal.dnr.wa.gov/#wigm?-13686988,-13540841,6150711,6214459?Tsunami_Hazard!29!24!

4.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative evaluates the potential significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

4.3.1. Impacts Applicable to All Energy Facilities

Construction

Impacts resulting from the construction of renewable energy facilities may include potential soil compaction, mixing of different layers of soil, surface erosion and runoff, sedimentation of nearby waterways, and soil contamination. These impacts could result from construction activities such as excavation, blasting, vegetation removal; grading for foundations and pilings; utility and underground service line trenching; the stockpiling of site

soils; the importing of off-site soils; and the placement and compaction of low-permeability materials. Changing native soil conditions through compaction, grading, and incorporation of stormwater controls could alter surface runoff patterns and volumes, which in turn could lead to greater localized erosion potential and increased sedimentation of nearby waterways. The potential loss of vegetation during clearing would reduce the mechanical ability of root soils to resist the erosive effects of wind and water, also resulting in increased erosion of soil materials.

Construction of facility components such as access roads, equipment and building foundations, or utility installation may require excavation and hauling of soil and rock materials. Aggregate or other materials needed for construction may need to be imported from off-site, which could temporarily reduce the local supply of materials needed for other projects in the area. Construction activities could also result in spills, which could lead to contamination of soil, groundwater, and surface water. Construction activities would be temporary in nature, with impacts varying based on soil conditions and nearby geologic hazards. Project-level analysis would evaluate site susceptibility.

Seismic impacts would depend on the stage of construction and the severity of the event but could result in collapse of temporary construction support systems or unsecured equipment or materials. Seismic events would increase the risk of spills or releases, particularly herbicides and dust control stabilizers and other chemicals needed for construction activities that are stored on site. Ashfall events associated with volcanic activity may include ash accumulation on structures, transportation routes, clogging of equipment, the dispersal of fine particles in air and water, and the disruption of revegetation measures.

Operation

Operation of the energy facility types analyzed may have impacts on soil and geologic resources. The addition of impervious surfaces, including equipment pads and access roads, could lead to altered drainage patterns, soil erosion, or stormwater runoff if not properly managed. Site operations could result in demand for construction materials for maintenance, which could temporarily limit local aggregate supply for other projects. Operations activities may raise the risk of soil or water contamination through accidental spills or stormwater discharges.

Facilities may also be exposed to natural geologic hazards such as earthquakes, flooding, landslides, or long-term subsidence. Although facilities are typically designed to applicable engineering and seismic standards to minimize these risks, if earthquake ground-shaking intensity exceeds design standards, damage to facility infrastructure and disruption to operations could occur. Tsunamis triggered by earthquakes could cause flooding, erosion, and debris that could damage facilities. Landslide hazards can be mitigated during siting, but the risk exists for sloughing or raveling of near surface soils on cut and fill slopes during sustained or extreme rainfall events. These events may require maintenance activity for cleanup operations but are unlikely to result in extreme facility damage or impact facility operations.

Depending on the facility location, there may be potential for volcanic flows or slides to affect facilities. Potential ashfall hazards during operation cannot be avoided during siting, and the impacts of ashfall on a facility may include general accumulation and potential corrosion of surfaces, damage to ventilation systems, damage to site equipment and electronics, and temporarily reduced or suspended operations. However, the potential for a volcanic eruption is often known prior to the occurrence of an event, and facilities could reduce operations and

relocate equipment as a precaution. With implementation of best management practices, monitoring, and regulatory compliance measures, operational impacts on soil resources and geologic conditions would generally be localized.

Decommissioning

Decommissioning of the selected energy facilities discussed would likely result in impacts similar to construction, including potential soil compaction, mixing of different layers of soil, surface erosion and runoff, sedimentation of nearby waterways, and soil contamination. Decommissioning activities such as removal of foundations, pilings, underground infrastructure, or demolition of buildings would result in localized ground disturbance, changes in local drainage patterns, potential slope stability impacts, and subsidence. Decommissioning activities could also result in spills, which could lead to contamination of soil, groundwater, and surface water.

Decommissioning activities would likely be of lesser intensity and duration than those of construction activities due to the availability of previously developed access routes and staging areas. Restoration could improve conditions if the project regrades disturbed areas, restores natural drainage patterns, replaces salvaged topsoil, and establishes stable vegetation. Some compaction or altered soil structure could remain if restoration is incomplete.

Mitigation Measures

Regulatory Framework

Numerous existing Federal, State, and local legislation regulating earth resources will require mitigation for future energy projects. A comprehensive list of federal, state, and local level regulations that govern earth resources is as follows:

Federal Regulations

- CWA (33 U.S. Code [USC] 1251 et seq.)
- CWA Section 401 Water Quality Certification
- CWA Section 402, NPDES
- RCRA
- Toxic Substances Control Act
- Surface Mining Control and Reclamation Act (SMCRA) (30 U.S.C. §§ 1201 et seq.)
- 1977 Earthquake Hazards Reduction Act (42 USC. §§ 7701 et seq.)
- 1976 FLPMA (43 USC. §§ 1701–1787)
- Coastal Zone Management Act (16 USC 1451 et seq.)
- BLM Wind and Solar Rule

State Regulations

- Surface Mining Act (Chapter 78.44 RCW, Chapter 332-18 WAC)
- Washington State GMA (Chapter 36.70A RCW)
- Critical Areas (Chapter 365-190 WAC)
- Geologically Hazardous Areas (Chapter 365-190 WAC, Critical Areas – Section 120)
- Washington State Shoreline Management Act (SMA) (Chapter 90.58 RCW)

- Flood Control Management Act (Title 86 RCW)
- Water Pollution Control Act (Chapter 90.48 RCW)
- Department of Enterprise Services (Building Code Council) (Title 51 WAC)
- Flood Plain Management (Chapter 173-158 WAC)

Local Regulations

- Skagit County Critical Areas Ordinance (CAO) (SCC Chapter 14.24)
    - SCC 14.24.430 (Geologically Hazardous Area Mitigation Standards)
- Skagit County Comprehensive Plan
- Skagit County Unified Development Code
    - SCC Chapter 14.13 Natural Resource Zones and Uses
    - SCC Chapter 14.30 Land Disturbance
    - SCC Chapter 14.32 Stormwater Management
    - SCC Chapter 14.34 Flood Damage Prevention
    - SCC Chapter 14.38 Natural Resource Lands
    - SCC Chapter 14.24 Critical Areas
    - SCC Chapter 14.44 Geohazard Areas
    - SCC Chapter 14.48 Shoreline Master Program
    - SCC Title 15 Buildings and Construction
    - SCC Title 16 Environment
- Municipal Development Codes, as applicable.

Required Mitigation Measures

Federal

- Obtain a CWA Section 402 NPDES Construction Stormwater Permit (Ecology) if applicable
- Obtain a Clean Water Act Section 402 NPDES Industrial Stormwater Permit (Ecology) if applicable
- Obtain a Clean Water Act Section 402 NPDES Individual Permit (Ecology) if applicable

State

- Obtain a Sand and Gravel General Permit (Ecology) if applicable
- Obtain a Surface Mining Reclamation Permit (DNR) if applicable
- Require that proposed new roads are designed based on county and WSDOT requirements as applicable

Local

- Adhere to Skagit County Code 14.24.430 (Geologically Hazardous Area Mitigation Standards)
    - Develop a Stormwater Pollution Prevention Plan (SWPPP)
- Obtain all applicable local development permits (e.g., road access, grading, building, mechanical, signage)
- Review for compliance with applicable environmental ordinances (e.g., critical areas, shorelines)

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- Develop and implement an Erosion and Sediment Control Plan to prevent transportation of soil materials, particularly into surface waters or wetlands.
- Develop a Spill Prevention, Control, and Countermeasure (SPCC) Plan, if necessary.[75]
- If a determination is made that the geologic condition may pose a risk to life and property, or other critical areas on and off the project area, a geologic hazard site assessment is required as described in SCC 14.24.420.
- Implement regular monitoring and maintenance programs to assess soil erosion, sedimentation, and soil stability throughout the facility life cycle. Promptly implement corrective actions or repairs to address any soil-related issues identified during monitoring activities.
- Proposed new roads must be designed based on county and agency requirements and local climate conditions, soil moisture, and erosion potential.
- Address site-specific seismic risks through compliance with current county building codes and standards.

Recommended Measures for Siting and Design

- Request project-level geotechnical information appropriate to site conditions and the proposed facility to identify potential geologic and soil-related hazards and inform facility design.
- Determine whether the proposed development activity is located in or near an area of known or suspected risk as indicated in SCC 14.24.410, or within a distance from the base of a landslide hazard area equal to the vertical relief, and that the geologic condition may pose a risk to life and property, or other critical areas on and off the project area.

Recommended Measures for Construction and Decommissioning

- Encourage grading and excavation practices that limit unnecessary soil disturbance and compaction, where appropriate for site conditions and facility design.
- Minimize vegetation removal where feasible and retain root systems where practicable to help maintain soil stability and reduce erosion.
- Surface access roads, on-site roads, and parking lots should be constructed with aggregate with hardness sufficient to prevent vehicles from crushing the aggregate and causing excessive dust or compacted soil conditions.
- If a facility is located in a sensitive area, utilize weight dispersion mats or weight dispersion equipment to reduce disturbances to native soil structure and vegetation.
- Incorporate best management practices (BMPs) to limit sand or rock material transported by wind and address potential for erosion.
- Require applicants develop a Site Restoration Plan for construction and temporary operations disturbance.
- Require the development and implementation of a Decommissioning Plan for site reclamation at the end of a project.

[75] Washington State Department of Ecology, "Programmatic Environmental Impact on Utility-Scale Solar Energy Facilities in Washington State: Appendix D, Earth Resources Technical Report", updated June 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf

- Coordinate with state and local authorities, including the WDFW and the Skagit County Noxious Weed Control Board, to address measures to salvage topsoil and revegetate disturbed areas with native and pollinator-supporting plants, the management of hazardous and solid wastes, the timeline for restoration and decommissioning activities, and the monitoring of restoration.
- Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration.

Recommended Measures for Operation

- Request applicants to maintain and develop an Emergency Response Plan that includes measures to address project-specific geologic hazards, such as landslides or seismic events.
- Maintain vegetative ground cover on disturbed portions of the site where compatible with facility operations and fire-safety requirements to reduce erosion and stabilize soils.
- Request information on inspection and maintenance procedures for stormwater, drainage, and erosion-control infrastructure, including how identified erosion or drainage issues would be addressed.
- Minimize soil disturbance during routine maintenance activities by restricting vehicle access to designated roads and previously disturbed areas.
- Request a vegetation management plan, where warranted by site conditions, that addresses maintenance of ground cover and areas susceptible to erosion.
- Consider post-event inspections following major storm events, flooding, seismic events, or slope failures to evaluate erosion, settlement, drainage performance, and damage to foundations or other infrastructure that could affect soil stability.
- Request that identified settlement, subsidence, erosion, or recurring runoff problems be addressed through appropriate corrective measures, such as revegetation, drainage improvements, soil stabilization, or additional erosion controls.
- Equipment maintenance and fueling should minimize the potential for releases to soil, including designated areas, containment, and spill-response measures, as applicable.

4.3.2. Solar Facilities

Construction

Construction of ground-mounted solar facilities can result in substantial disturbance of surface soils through vegetation clearing, grading, trenching, pile driving, road construction, and installation of panel foundations and electrical infrastructure. These activities can compact soils, reduce infiltration, disturb natural soil horizons, and increase susceptibility to wind and water erosion. Exposed soils may be mobilized by stormwater runoff, resulting in sediment deposition in nearby drainageways and alteration of local surface drainage patterns. Construction on sloped land may increase the potential for slope instability, form small waterways, or gullying where soils are highly erodible or drainage is concentrated. Spills or leaks of fuels, lubricants, hydraulic fluids, concrete washout, or other construction materials could also result in localized soil contamination if not properly contained and remediated. These impacts are particularly relevant where solar facilities are located in proximity to agricultural lands, as topsoil disturbance may affect long-term soil productivity.

Construction of rooftop-mounted solar installations are not anticipated to result in impacts to earth resources, aside from the limited potential for small amounts of contaminants to be introduced through accidental leaks from transformers, inverters, or maintenance equipment.

Operation

Operational impacts of solar facilities on earth resources would vary depending on facility size, configuration, and location. Access road maintenance, periodic vehicle use, vegetation management, and equipment replacement activities can contribute to ongoing soil compaction and localized erosion. Larger ground-mounted solar arrays may alter site hydrology by changing the distribution of precipitation beneath and between panel rows, potentially concentrating runoff in some areas while reducing erosion in others. If vegetation cover is not adequately maintained, bare ground beneath panels can become vulnerable to erosion and loss of topsoil. Conversely, where native vegetation, pollinator habitat, or perennial groundcover is established and maintained, operational solar facilities may stabilize soils, reduce erosion rates, and improve long-term soil health. Small volumes of contaminants could also be introduced through accidental leaks from transformers, inverters, or maintenance equipment, although such impacts are typically minimal and localized.

Decommissioning

Decommissioning of solar facilities would generate impacts similar to construction activities, although generally over a shorter duration. The removal of solar panels, support structures, foundations, underground electrical infrastructure, and access roads would require excavation, grading, heavy equipment operation, and material transport. These activities could temporarily increase soil disturbance, erosion potential, sediment transport, and compaction. Soil contamination could occur from leaks and spills during demolition or from improper handling of damaged equipment and project materials. Foundation extraction may disturb deeper soil horizons. Decommissioning may provide long-term benefits to earth resources by restoring natural landforms, relieving compaction, reestablishing natural drainage patterns, and allowing agricultural, open space, or other productive land uses to resume. Successful reclamation and revegetation can reduce long-term residual impacts to earth resources following decommissioning activities.

Mitigation Measures

Recommended Measures for Siting and Design

- Encourage solar installations on rooftops, parking canopies, previously developed sites, and other existing disturbed areas to minimize new ground disturbance and associated effects on soils.
- Encourage facilities to be designed according to existing topography and natural contours where practical to minimize grading, cut and fill activities, and soil disturbance.
- Encourage facility layouts that limit the overall area of soil disturbance by consolidating supporting infrastructure where practicable.
- Request information on proposed foundation and mounting systems, including opportunities to use lower-disturbance methods where appropriate for site and geotechnical conditions.
- Consider vegetative cover beneath and between panel rows where compatible with facility operation and fire-safety requirements to help stabilize soils and reduce erosion.
- Request information on how panel layout, spacing, and site drainage would manage runoff and minimize erosion, rutting, or concentrated flow from panel surfaces and drip lines.

- Encourage utility connections and associated infrastructure to use existing disturbed corridors where feasible to minimize new soil disturbance, grading, and vegetation removal.

Required Measures

- Refer to measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Establish vegetative ground cover, including cover crops, beneath and between solar panel rows to maintain soil stability and support soil health.
- Minimize unnecessary soil disturbance between panel rows and in areas not needed for access roads, foundations, electrical infrastructure, staging, or other project components.
- Establish standards that consider long-term soil health, including panel spacing, height, and configurations that provide sufficient sunlight and drainage conditions.
- Require temporary construction access roads, staging areas, and temporary work surfaces not required for long-term operation to be removed following construction, with affected areas regraded, stabilized, revegetated, and otherwise restored as appropriate.

Recommended Measures for Operation

- Encourage vegetation management practices that minimize unnecessary removal of vegetation beneath and between solar panels, including retention of root systems where practicable to maintain soil stability and minimize erosion.
- Request information on how site drainage, erosion-control features, and areas susceptible to concentrated runoff would be inspected and maintained during facility operation.
- Post-storm inspections of site drainage systems can identify changes in runoff patterns, concentrated flows, erosion, or other conditions that could adversely affect soil stability.
- Areas of significant bare ground or erosion should be stabilized or revegetated, as appropriate.
- Periodic inspections of panel drip lines, drainage features, swales, culverts, and other stormwater infrastructure can identify erosion, scour, or sediment accumulation.
- Monitor areas beneath panel edges and along concentrated flow paths for erosion and implement appropriate stabilization measures where erosion is identified.

Recommended Measures for Potential Significant Unavoidable Impacts

- Solar facilities are not likely to have unavoidable adverse impacts on earth resources from construction, operation, or decommissioning that cannot be mitigated below a significant threshold with the measures above.

4.3.3. Battery Energy Storage Systems (BESS)

Construction

Construction of BESS facilities would result in localized disturbance to soils and geologic resources through site preparation, grading, excavation, foundation installation, utility trenching, and construction of access roads and equipment pads. These activities can increase the potential for soil compaction, mixing of soil horizons, erosion, sediment transport, and changes to local drainage patterns. Vegetation clearing may further increase erosion by

removing root systems that stabilize soils. Construction may also require the temporary use of aggregate materials, concrete, and imported fill, creating demand for local construction resources. Ground-disturbing activities on slopes or in areas with unstable soils could increase the risk of localized slope instability or landslides, particularly where grading, cuts, fills, or drainage modifications occur. Temporary risks of soil, groundwater, and surface water contamination could result from accidental spills of fuels, oils, herbicides, dust suppressants, or other hazardous materials, although these risks would be minimized through stormwater management requirements, spill prevention measures, and erosion and sediment control best management practices. Construction may also be vulnerable to natural geologic hazards such as earthquakes, landslides, flooding, volcanic activity, or localized subsidence, although the likelihood of significant effects during the relatively short construction period is low.

Operation

Operation of a battery energy storage system (BESS) would generally involve minimal ground disturbance, with activities largely limited to maintaining access roads, fencing, equipment pads, buildings, stormwater infrastructure, and vegetation. Although operational impacts on earth resources would be substantially less than those associated with construction, impervious surfaces and altered drainage patterns could contribute to localized erosion or stormwater runoff if not properly managed. Routine maintenance activities and vehicle use may create a small potential for soil disturbance and limited use of borrow materials, but are unlikely to affect slope stability or cause subsidence. The primary operational concern relates to the storage and handling of fuels, lubricants, coolants, hydraulic fluids, battery electrolytes, and other maintenance-related materials, which could pose a risk of soil or water contamination through accidental spills or stormwater discharges. However, spill containment systems, stormwater pollution prevention plans, and compliance with applicable permits and regulations would substantially reduce these risks. BESS facilities may also be exposed to natural geologic hazards such as earthquakes, flooding, landslides, volcanic ashfall, or long-term subsidence. Severe events could damage equipment or containment systems, disrupt operations, and increase the potential for releases of stored materials, although facilities are typically designed to applicable engineering and seismic standards to minimize these risks. Overall, with implementation of best management practices, monitoring, and regulatory compliance measures, operational impacts on soil resources and geologic conditions would generally be localized and less than significant.

Decommissioning

Decommissioning activities would involve facility demolition, equipment removal, grading, material handling, and off-site disposal or recycling of construction materials. These activities could temporarily disturb soils and result in impacts similar to those experienced during construction, including erosion, sedimentation, soil compaction, changes to drainage patterns, and the potential for accidental spills or releases of hazardous materials. However, decommissioning impacts are generally expected to be less intensive and shorter in duration because existing roads, staging areas, and previously disturbed surfaces would already be in place. Temporary ground disturbance associated with site restoration and cleanup may occur, but restoration efforts would typically include regrading disturbed areas and re-establishing vegetation to stabilize soils and reduce long-term erosion potential. With adherence to applicable permits, erosion control measures, spill prevention practices, and site restoration requirements, decommissioning-related impacts to earth resources and geologic conditions would generally remain limited and temporary.

Mitigation Measures

Recommended Measures for Siting and Design

- Minimize the extent of permanent access roads, design maintenance access routes to follow existing disturbed corridors where feasible and use permeable aggregate surfaces where feasible to minimize soil compaction.
- Consider the potential for accidental releases when evaluating the location of battery containers, transformers, and other equipment containing hazardous materials, particularly in relation to sensitive soils, seismicity, and geologic hazards.
- Request information on proposed containment, drainage, and spill-control measures for equipment containing electrolytes, oils, coolants, or other hazardous materials.
- Incorporate secondary containment systems, curbing, spill collection features, and drainage controls sufficient to prevent releases of battery electrolytes, oils, coolants, or other hazardous materials from infiltrating surrounding soils.
- Request information for how potentially contaminated runoff or fire-suppression water would be contained and managed following a battery failure, thermal runaway event, or fire, as applicable to facility design and siting factors.

Required Measures

- Refer to measures applicable to all facilities.
- Any potential releases of electrolytes, oils, coolants, or other hazardous materials that could affect soils would be contained, evaluated, remediated, and appropriately managed and disposed of in accordance with applicable federal and state requirements, including the Washington Model Toxics Control Act (MTCA).

Recommended Measures for Construction and Decommissioning

- Request information on spill- and leak-containment measures for BESS components containing electrolytes, oils, coolants, or other hazardous materials.
- Require appropriate secondary spill and leak containment measures around BESS components for all battery types to prevent or minimize the spread of hazardous materials in the event of a failure. This may include reinforced storage facilities and containment barriers to contain spills and leaks.
- BESS-specific response measures for battery failures should be detailed in Emergency Response Plans and stormwater pollution prevention plans (SWPPP).
- Request information and planning documents for how potential soil or water contamination would be evaluated and addressed following a spill, leak, fire, or other BESS failure.
- Grading, excavation, and blasting should minimize the creation of unstable slopes and other conditions that could increase the potential for erosion or slope failure during construction and decommissioning activities.

Recommended Measures for Operation

- Periodic inspections and maintenance of drainage features, swales, culverts, outfalls, and other stormwater infrastructure serving BESS facilities can identify and address erosion, scour, sediment accumulation, or other conditions that could affect soil stability.

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- Inspection of site drainage systems following major storm events can identify changes in runoff patterns, concentrated flows, erosion, or other conditions that could adversely affect soil stability.
- Periodic inspections of areas surrounding battery containers, substations, inverter pads, and other developed portions of the facility can check for signs of erosion, settlement, or scour.
- Corrective stabilization measures can assist where rills, gullies, or slope failures are observed. These measures include regrading, stabilization, revegetation, or installation of additional erosion control measures.
- Routine inspections of battery containers, transformers, electrical equipment, and cooling systems can identify leaks or spills that could affect soils.
- Standards for equipment maintenance activities involving oils, coolants, electrolytes, or other hazardous materials, including use of designated areas and appropriate containment measures can minimize the potential for releases to soil.
- BESS emergency response procedures can address potential battery failures, thermal runaway events, fires, fire suppression activities, and hazardous materials releases that could contaminate surrounding soils, including procedures for containment, assessment, and response following such events.
- BESS facilities should implement applicable spill prevention and containment measures, including BMPs and other NPDES preventative measures, to reduce or avoid spills and unintended contamination.

Recommended Measures for Potential Significant Unavoidable Impacts

- BESS facilities are not likely to have unavoidable adverse impacts on earth resources from construction, operation, or decommissioning that cannot be mitigated below a significant threshold with the measures listed above.

4.3.4. Fusion Small Modular Reactors (Fusion SMRs)

Construction

Due to the early phase of development, the design and scale of fusion SMR facilities is likely to vary. Construction of fusion SMR facilities could require site preparation, mass grading, deep excavations, large foundations, cooling system infrastructure, access roads, utility corridors, and the installation of reactor components. These activities could disturb large areas of soil and geologic materials, resulting in compaction of soil, mixing of soil horizons, topsoil loss, and increased susceptibility to erosion by wind and water. Fusion SMR facilities may require cooling, pumping, and support infrastructure requiring large pads, additional underground utilities, and significant earthwork that may alter landforms and site geology substantially. Excavation and grading could alter natural drainage patterns, increase runoff, and contribute to sediment deposition in nearby waterways. Construction of facilities located on sloping terrain or in areas with unstable soils could increase the potential for slope instability, settlement, or localized geologic hazards.

Operation

Operational impacts on earth resources would generally be lower than construction impacts but could persist throughout the life of the facility. Large foundations, buildings, cooling infrastructure, security setbacks, and associated support facilities would permanently alter site topography and soil conditions. Ongoing maintenance activities and vehicle traffic could contribute to localized soil compaction and erosion along access roads and

disturbed areas. Operational stormwater systems could continue to alter natural drainage patterns and runoff characteristics relative to pre-development conditions. Depending on the final technology design, fusion facilities may utilize tritium and other regulated materials; accidental releases from process systems, cooling systems, chemical storage areas, or waste-management facilities could result in localized soil contamination if containment measures were to fail. Although fusion facilities would occupy land for extended periods, properly managed operations would generally stabilize disturbed soils and minimize ongoing erosion once construction is complete.

Decommissioning

Decommissioning of fusion SMR facilities would involve demolition of major industrial structures, removal of reactor systems, excavation of foundations and utilities, transportation of large equipment, waste handling, and site restoration activities. These actions could temporarily reintroduce many of the earth resource impacts experienced during construction, including soil disturbance, erosion, sediment generation, compaction, and changes to drainage patterns. Excavation associated with removal of foundations, buried infrastructure, and specialized reactor systems could disturb deeper soil horizons and geologic materials. Heavy equipment use and transportation activities could further compact soils and contribute to short-term erosion risks.

Where regulated materials, activated components, or contaminated equipment are present, site characterization, remediation, soil testing, and removal of affected materials may be required before site closure. However, decommissioning may ultimately provide long-term benefits to earth resources by removing infrastructure, restoring natural drainage patterns, alleviating soil compaction, regrading disturbed areas, and allowing land to return to pre-project status where feasible. Restoration could improve conditions if the project regrades disturbed areas, restores drainage, replaces salvaged topsoil, and establishes stable vegetation. Some compaction or altered soil structure could remain if restoration is incomplete.

Mitigation Measures

Recommended Measures for Siting and Design

- Avoid or minimize development on sites with uncontrolled fill, highly compressible soils, or other unstable subsurface conditions that could adversely affect foundation performance, soil stability, or facility infrastructure.
- Require site-specific geotechnical investigations as part of project review to evaluate soil conditions, slope stability, seismic hazards, liquefaction potential, settlement potential, and associated foundation design requirements.
- Encourage facility layouts that minimize unnecessary grading, cut and fill, and soil disturbance outside areas needed for fusion systems, buildings, support facilities, cooling infrastructure, access roads, utilities, and other required facility components.
- Where cooling-water infrastructure is proposed, incorporate appropriate measures to minimize potential seepage, erosion, and soil degradation, such as engineered liners, seepage collection systems, or other containment measures.
- Consider proximity to sensitive soils, groundwater recharge areas, agricultural lands, and geologic hazard areas when reviewing locations for fusion components with the potential for hazardous material releases that may affect soil or groundwater conditions.

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- Evaluate anticipated cut and fill requirements during site selection and design to minimize long-term alterations to landforms and drainage patterns.

Required Measures

- Refer to measures applicable to all facilities.
- Obtain and maintain applicable federal and state licenses and approvals for radioactive materials and radiation-producing equipment.
- Compliance with the containment, handling, inspection, transportation, and waste disposal measures as required under state and federal nuclear regulations.
- Incorporate seismic design measures consistent with applicable building codes and site-specific geotechnical recommendations to reduce the risk of structural failure in the event of earthquakes.

Recommended Measures for Construction and Decommissioning

- Require a site-specific geotechnical report identifying construction constraints, grading recommendations, foundation requirements, and hazard mitigation measures.
- Minimize cut and fill activities to the extent practicable and stabilize temporary and permanent slopes during construction.
- Any excavation and blasting must minimize the creation or exacerbation of unstable slopes or other geologic hazards, with additional stabilization measures required where site-specific conditions warrant.
- Request a soil management plan identifying procedures for salvaging, storing, and reusing topsoil during facility construction.
- Monitor excavations, retaining structures, and engineered slopes during construction where geotechnical conditions warrant additional oversight.
- Establish restoration standards, including regrading, replacement of salvaged soils, revegetation, and drainage restoration, for areas disturbed during construction and decommissioning activities.

Recommended Measures for Operation

- Use applicable BMPs and other NPDES preventative measures to reduce or avoid spills and unintended contamination and adhere to the Washington State Model Toxics Control Act for handling and cleanup protocol.
- Require periodic inspections of foundations, retaining structures, cut slopes, drainage systems, and other engineered features to check for signs of settlement, erosion, or instability.
- Require routine inspections of buildings, transformers, electrical equipment, and cooling systems to identify leaks or spills that could affect soils.
- Evaluate site drainage systems following major storm events to identify changes in runoff patterns that could impact soil stability.
- Require corrective stabilization measures where rills, gullies, or slope failures are observed, including regrading, stabilization, revegetation, or installation of additional erosion control measures.
- Fueling and equipment maintenance activities should occur in designated contained areas to minimize the potential for soil contamination.

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- Coordinate between applicants, county departments, and applicable state agencies for the development and maintenance of emergency response procedures that address potential system failures, fire suppression activities, and hazardous materials that could infiltrate soils.
- Maintain emergency response procedures for natural hazard events such as earthquakes, landslides, volcanic activity, tsunamis, and flooding.
- Periodic inspection and maintenance of drainage features, swales, culverts, outfalls, and other stormwater infrastructure should be conducted to identify and address erosion, scour, sediment accumulation, concentrated flows, or other conditions that could affect soil stability.

Recommended Measures for Potential Significant Unavoidable Impacts

With implementation of mitigation measures, earth resource impacts would generally be reduced. Impacts could be significant where site development requires substantial grading, excavation, cut and fill, or foundation construction that results in long-term alteration of landforms or soil profiles, or where site-specific geologic conditions increase the potential for instability or other geologic hazards.

4.3.5. Renewable Fuels Facilities

Construction

Construction activities for renewable fuels facilities could result in substantial disturbance of soils and geologic resources through site clearing, grading, excavation, foundation installation, tank and pipeline construction, and development of feedstock handling and transportation infrastructure. These activities may compact soils, disturb natural soil horizons, remove topsoil, and increase susceptibility to erosion from wind and water. Exposed soils may contribute to sedimentation of nearby drainage features, wetlands, or waterways if erosion control measures are not implemented. Construction of processing buildings, storage tanks, truck loading facilities, and utility connections may require cut and fill activities that alter topography and drainage patterns. Renewable fuel facilities also require large quantities of aggregate, concrete, steel, and imported fill materials, creating demand for local mineral and aggregate resources.

Operation

Operational impacts of renewable fuel facilities on earth resources are generally associated with the long-term presence of industrial infrastructure and the storage, handling, and processing of feedstocks, fuels, and process chemicals. Permanent foundations, buildings, storage tanks, paved surfaces, and transportation facilities can alter soil conditions, reduce infiltration, and modify local drainage patterns. Renewable fuel facilities may have a recurring risk of localized soil contamination from spills or leaks involving feedstocks, fuels, additives, catalysts, wastewater, treatment chemicals, or other process materials. Facilities may store combustible or flammable materials and operate pipelines, pumps, compressors, and processing equipment, creating pathways for accidental releases if containment systems fail. Operational truck and rail activity may also contribute to localized soil disturbance around loading and unloading areas. Depending on the fuel production pathway, demand for agricultural or biomass feedstocks could indirectly influence soil resources beyond the facility site through changes in agricultural production patterns, feedstock cultivation, or biomass harvesting.

Decommissioning

Decommissioning of renewable fuels facilities would involve demolition of processing facilities, removal of tanks, pipelines, foundations, utility systems, and other industrial infrastructure. Excavation and demolition activities could temporarily increase erosion, sediment transport, soil compaction, and dust generation. Removal of underground structures may disturb deeper soil horizons and require localized grading and landform restoration. Decommissioning activities may result in the potential discovery or removal of contaminated soils beneath tanks, loading areas, pipelines, processing equipment, or chemical storage facilities. Residual fuels, feedstocks, sludges, catalysts, and process chemicals could require specialized handling, cleanup, and disposal before site closure. Site remediation activities may include soil characterization, excavation of contaminated materials, confirmation sampling, and restoration of disturbed areas. Once infrastructure has been removed and remediation completed, decommissioning may provide opportunities to restore natural drainage patterns, improve soil conditions, and return the property to agricultural, industrial, open-space, or other productive uses.

Mitigation Measures

Recommended Measures for Siting and Design

- Avoid or minimize development on sites with uncontrolled fill, highly compressible soils, or other unstable subsurface conditions that could adversely affect foundation performance, soil stability, or facility infrastructure.
- Minimize the extent of grading, excavation, and soil disturbance outside areas necessary for facility infrastructure and components.
- Require facility components to be located away from sensitive soils, groundwater recharge areas, wetlands, and other environmentally sensitive features where feasible.
- Tanks, process units, loading areas, feedstock storage areas, and other facility components with the potential to release hazardous or contaminating materials should evaluate proximity to sensitive soils, geologic hazards, groundwater recharge areas, wetlands, streams, and other environmentally sensitive features and provide appropriate buffers and containment measures.
- Storage and transfer systems containing materials that could contaminate soils should incorporate appropriate leak detection and monitoring systems to facilitate early identification and response to releases.
- Foundations, storage tanks, and process equipment pads must be designed based on site-specific geotechnical analyses to minimize settlement and long-term ground deformation.

Required Measures

- Refer to measures applicable to all facility types.
- Incorporate seismic design measures consistent with applicable building codes and site-specific geotechnical recommendations to reduce the risk of structural failure in the event of earthquakes.
- Implement and maintain applicable spill-prevention, containment, and stormwater BMPs throughout facility operation to avoid and minimize the potential for fuels, feedstocks, process chemicals, and other materials to contaminate soils, consistent with the Washington State Model Toxics Control Act.

Recommended Measures for Construction and Decommissioning

- Any potential excavation, grading, and blasting standards should avoid the creation or exacerbation of unstable slopes and other geotechnical hazards, with stabilization measures where warranted by site-specific conditions.
- Require the development and implementation of a soil management plan for facilities involving substantial grading or excavation, including procedures for salvaging, stockpiling, protecting, and reusing suitable topsoil during construction, decommissioning, and site restoration.
- Minimize unnecessary soil compaction, including limiting heavy equipment to designated work areas, access routes, and haul routes where practicable.
- Decompact disturbed soils following construction or decommissioning activities where necessary to improve infiltration and chances of revegetation success.
- Fueling, equipment maintenance, concrete washout, and similar construction activities that could result in releases to soil, should use designated areas and appropriate containment measures to minimize the potential for soil contamination.
-

Recommended Measures for Operation

- Inspect site drainage systems following major storm events to identify changes in runoff patterns, concentrated flows, erosion, or other conditions that could adversely affect soil stability.
- Require corrective stabilization measures where rills, gullies, or slope failures are observed, including regrading, stabilization, revegetation, or installation of additional erosion control measures.
- Inspect and, where warranted, assess soil of areas beneath tanks, process equipment, and transfer lines for evidence of soil contamination.
- Fueling and equipment maintenance activities involving fuels, oils, chemicals, or other materials with the potential to contaminate soils, should use designated areas and appropriate containment measures.
- Routine inspections of tanks, piping systems, and process units can identify leaks, corrosion, or equipment failure before releases affect soils.
- Inspection and maintenance requirements for liners, containment features, and monitoring systems associated with wastewater or process water management systems can prevent long-term soil degradation.

Recommended Measures for Potential Significant Unavoidable Adverse Impacts

- Renewable Fuels Facilities would likely have no significant unavoidable adverse impacts on earth resources from construction, operation, or decommissioning that could not be mitigated through the measures listed above.

4.4. No Action Alternative Analysis

Under the No Action Alternative, Skagit County would retain its existing development regulations and the selected energy facilities would continue to be reviewed and permitted under current local, state, and federal regulatory frameworks as described in the **Energy Permitting** section. Depending on the type and characteristics, proposed facilities could be reviewed either through Skagit County's existing processes as minor or major utility

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developments or through the Washington State Energy Facility Site Evaluation Council (EFSEC) process where certification is required or voluntarily elected by the applicant.

4.4.1. Impacts from Construction, Operation, and Decommissioning Under Current Processes

For projects reviewed through local government and the EFSEC under the current code, construction and decommissioning activities would continue to have soil and geologic impacts due to earthmoving, installation of impervious surfaces, and other site activities. These activities could temporarily disturb soils through grading, excavation, vegetation removal, or heavy equipment use that may result in soil compaction, erosion, altered drainage patterns, accidental spills, and other impacts. Operations impacts on earth resources would vary depending on facility type but could include altered drainage patterns, soil erosion, or stormwater runoff; an increased demand for construction materials; an increased risk of soil or water contamination through accidental spills or stormwater discharge; or an increased risk of natural geologic hazards depending on project siting.

4.4.2. Mitigation Measures

Facilities reviewed through county permitting processes would remain subject to existing critical area regulations, shoreline regulations, and development and zoning standards. Projects would also be subject to applicable federal and state requirements regarding earth resources, including future project-level SEPA review. Review may address soil erosion, slope instability, seismic hazards, alteration of topography, and impacts to agricultural or resource lands, with mitigation measures identified where necessary to avoid or reduce significant adverse impacts.

Facilities subject to EFSEC jurisdiction would be required to comply with applicable federal and state regulations and would undergo environmental review through the EFSEC process, including the evaluation of soil resources, seismic and geologic hazards, and impacts to agricultural or mineral resource lands. EFSEC may impose project-specific avoidance, minimization, mitigation, monitoring, and restoration requirements through a Site Certification Agreement.

EFSEC possesses authority under RCW 80.50.110 and Chapter 463-28 WAC to preempt local land use plans, zoning ordinances, and development regulations as part of the state certification process. Therefore, some future energy facilities could be approved under EFSEC certification rather than county development regulations, with protections surrounding earth resources implemented through EFSEC conditions and existing state and federal regulatory programs.

4.4.3. Significant Unavoidable Adverse Impacts

While the No Action Alternative would continue to address impacts through existing federal, state, and local regulations, the alternative does not provide opportunities to reduce, standardize, and proactively manage those impacts. As a result, opportunities to reduce impacts to earth resources may be implemented inconsistently on a project-by-project basis. Projects would continue to be required to comply with applicable regulations regarding soil and geologic resources, but the county would have less ability to establish standardized requirements tailored to local conditions and potential resource concerns.

5. Air Quality and Greenhouse Gases

5.1. Overview

The Air Quality and Greenhouse Gases (GHG) section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures, associated with air emissions within Skagit County.

There are currently seven criteria pollutants recognized under the U.S. Clean Air Act:

- Ozone (O3)
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NO2)
- Sulfur Dioxide (SO2)
- Lead (Pb)
- Particulate Matter less than 10 and 2.5 microns (PM_{10} and $PM_{2.5}$, respectively)

Criteria pollutants are common air contaminants regulated by the U.S. Environmental Protection Agency (USEPA) to protect public health and the environment. Ambient air quality is primarily defined in the National Ambient Air Quality Standards (NAAQS) framework under the federal Clean Air Act, which identifies three threshold statuses: attainment, non-attainment, and maintenance.

- **Attainment areas**: Locations where the monitored concentrations of criteria pollutants meet the applicable NAAQS.
- **Non-attainment areas**: Monitored locations where the monitored concentrations of criteria pollutants exceed one of more applicable NAAQS.
- **Maintenance areas**: Former nonattainment areas that have achieved compliance with the applicable NAAQS and have been redesignated to attainment by USEPA.

Apart from the designations for criteria pollutants, the federal Clean Air Act also categorizes certain geographic areas as Class I, II, and III areas.

- **Class I area**: Under the Prevention of Significant Deterioration (PSD) program, all international parks, national wilderness areas, and national memorial parks, that exceed 5,000 acres, and national parks that exceed 6,000 acres are categorized as mandatory Class I areas. As such, the state must prevent and remedy air quality impairment to the pristine air quality and visibility conditions.
- **Class II area**: All other areas in attainment per NAAQS standards are designated as Class II.
- **Class III area**: Class III areas are industrialized areas and may permit a greater degree of air quality deterioration, while still attaining the NAAQS.

While attainment thresholds and class designations are based on patterns over time, daily fluctuations in air quality are also monitored by the USEPA. Day to day pollutant presence is represented by the national Air Quality Index (AQI), which sorts geographic areas into one of six color assigned categories:

- **Good (Green)**: Air quality is satisfactory, and air pollution poses little to no risk.
- **Moderate (Yellow)**: Air quality is acceptable. However, there may be a risk for some people, particularly those who are usually sensitive to air pollution.
- **Unhealthy for Sensitive Groups (Orange)**: Members of sensitive groups may experience health effects. The general public is less likely to be affected.
- **Unhealthy (Red)**: Some members of the general public may experience health effects; members of sensitive may experience more serious health effects.
- **Very Unhealthy (Purple)**: Health alert: The risk of health effects is increased for everyone.
- **Hazardous (Maroon)**: Health warning of emergency conditions: everyone is more likely to be affected.

While criteria pollutants are widely regulated outdoor air contaminants, **volatile organic compounds** (VOC) in contrast, are part of broad class of thousands of carbon-based chemicals that evaporate into gas. Though some VOCs are harmful on their own, many act as chemical building blocks that react with sunlight and nitrogen oxides to form ground-level ozone (O_3), a criteria pollutant.[76]

Greenhouse gases (GHGs) are gases that trap energy in the atmosphere. Washington State adopted targets to reduce its statewide GHG emissions under RCW 70A.45.020(1). These goals include reducing statewide emissions to 45 percent below 1990 levels by 2030, 70 percent below 1990 levels by 2040, and 95 percent below the 1990 levels by 2050. GHG emissions can occur throughout the lifecycle of a facility. Emissions associated with the materials and processes used to produce, construct, maintain, and dispose of a product are referred to as embodied carbon. This EIS provides a high-level discussion of GHG emissions and does not include a life cycle assessment of individual facility types.

Impacts of the alternatives would be considered significant if they result in:

- Cause or contribute to violations of NAAQS or Washington ambient air quality standards.
- Result in substantial emissions of criteria pollutants, toxic air contaminants, hazardous air pollutants, or objectionable odors.
- Expose nearby residents, schools, workers, vulnerable communities, or other sensitive receptors to pollutants at levels that create public health concern.
- Create substantial and sustained degradation of local air quality beyond what would occur under existing conditions.
- Result in GHG emissions that are inconsistent with adopted state climate and decarbonization policies

5.2. Existing Conditions

The study area for this section encompasses all of Skagit County, Washington. Surrounding areas were considered when looking at seasonal weather events, wind patterns, and wildfire incidences. The affected environment represents existing conditions at the time this study was prepared. Ecology and other clean air agencies maintain

[76] U.S. Environmental Protection Agency, "What Are Volatile Organic Compounds (VOCs)?," last modified February 28, 2025, https://www.epa.gov/indoor-air-quality-iaq/what-are-volatile-organic-compounds-vocs.

monitoring stations to continuously measure air pollution in Washington. The Northwest Clean Air Agency is the local clean air agency for Skagit County with air quality stations found throughout the county.

5.2.1. Skagit County Current NAAQS Status and Class Designation

According to the USEPA's Green Book database (current as of June 30, 2026), Skagit County is in attainment for all criteria pollutants.[77]

While most of Skagit County is designated as Class II areas, portions of the North Cascades National Park that overlap the county on the eastern side retain Class I designation.[78] There are no Class III areas in the state of Washington.[79]

5.2.2. Skagit County Air Quality Index and Historical Patterns

Although Skagit County is in attainment for all criteria pollutants, the day-to-day AQI can vary based on surrounding factors including seasonal wildfire smoke, meteorological conditions, weather events, and pollutant transport from surrounding regions due to wind patterns.

According to the Skagit County Growing Healthy Communities online database[80], the county has averaged 339 "Good" AQI days, 14 "Moderate" AQI days, and 1 "Unhealthy for Sensitive Groups/Unhealthy" day over the past five years (2021 – 2025). In 2025, Skagit County observed 354 Good AQI days and 9 Moderate AQI days. No Unhealthy Air Days were reported for Skagit County in 2025.[81]

5.2.3. Seasonal Variations, Wildfire Incidents, and Wind Patterns

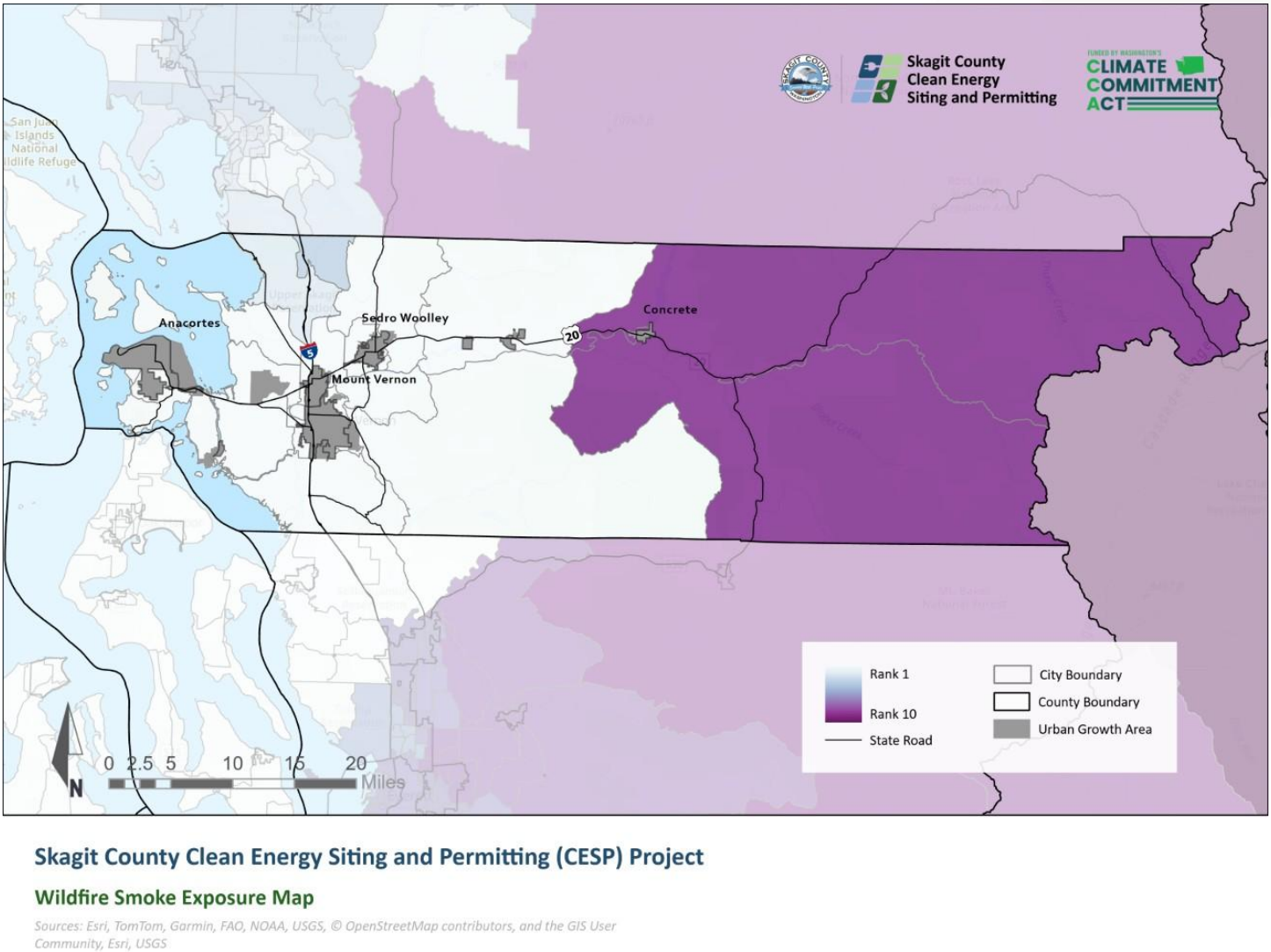
Wildfire events in the Pacific Northwest have become an increasing contributor to short-term air quality, particularly for $PM_{2.5}$, which can temporarily elevate concentrations above levels typically observed under normal conditions. During 2025, the number of days in Skagit County with $PM_{2.5}$ levels in the air was 309, increasing from 220 in 2015, and increasing from 41 in 2000.

The Washington Department of Health (DOH) has produced a Wildfire Smoke Exposure database, which looks at how many smoky days there were per census tract, and how bad smoke pollution was to create a score of wildfire exposure. Each census tract is assigned a rank from 1 to 10 that indicates how the tract compares with other tracts, where 1 is the least impacted, and 10 is the most impacted. According to the DOH data, most of the

[77] U.S. Environmental Protection Agency, "Washington Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants," *Green Book*, n.d., https://www3.epa.gov/airquality/greenbook/anayo_wa.html.
[78] National Park Service, "Class I Areas," *Air Resources Division*, last modified November 30, 2023, https://www.nps.gov/subjects/air/class1.htm.
[79] Washington State Department of Ecology, "Programmatic Environmental Impact on Utility-Scale Solar Energy Facilities in Washington State: Appendix E: Air Quality and Greenhouse Gases Technical Report," updated June 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf
[80] This database is provided in part by Skagit County Public Health and Eastern Washington University. The air quality data referenced is compiled from US EPA Air Quality Index Reports and related sensor locations.
[81] Skagit County Trends, Skagit County Growing Healthy Communities, "Air Quality Days by Severity Level," n.d., https://skagitcountytrends.org/graph.cfm?cat_id=4&sub_cat_id=1&ind_id=1.

western portion of Skagit County falls into Rank 1, the lowest statewide smoke exposure category. Wildfire smoke exposure is concentrated on the eastern side where it falls into Rank 8. (see **Figure 28**).[82]

Figure 28: Wildfire Smoke Exposure



Source: Kimley-Horn, 2026, using Washington State Department of Health, Environmental Health Disparities Map - Wildfire Smoke Exposure, 2025, https://experience.arcgis.com/experience/d133fa97a3854f8eac905ec152f16b05/page/Measures

[82] Washington Tracking Network, Washington State Department of Health, "Wildfire Smoke Exposure," published September 2025, https://www.arcgis.com/home/item.html?id=f2fb7086f74448479bdf287313300738#overview

5.2.4. Greenhouse Gas Emissions Inventory and Reduction Goals

GHG emissions within Skagit County are generated from a variety of sources, including transportation, residential and commercial energy consumption, industrial and commercial activities, agriculture, waste management, and electricity use.

According to the Skagit County 2022 Greenhouse Gas Emissions Analysis, the county's largest sources of emissions were as follows:[83]

- **60 percent** from the built environment. The built environment is defined as emissions from the use of electricity, natural gas, propane, and fuel oil to heat, cool, and power buildings, as well as direct emissions from industrial processes within the county.
- **23 percent** from land use. Land use is defined as emissions from agricultural activities such as soil management, digestive processes in livestock (enteric fermentation), and manure management, in addition to emissions from land use changes and tree loss.
- **15 percent** from transportation and other mobile sources. Transportation is defined as emissions from the use of on-road vehicles and off-road equipment, as well as emissions from marine, rail, and air travel.
- **One percent** from solid waste and wastewater. Solid waste and wastewater is defined as emissions from the generation and disposal of solid waste and commercially processed compost, as well as the treatment of wastewater.
- **One percent** from refrigerants. Refrigerants are defined as emissions from the use and leakage of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and CO_2 from ozone depleting substances (ODSs).[84]

Existing greenhouse gas inventories and climate planning efforts indicate that future emissions are influenced by population growth, economic development, transportation demand, and energy consumption patterns.

5.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative evaluates the potential significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

5.3.1. Impacts Applicable to All Energy Facilities

Construction

Construction of renewable energy facilities would result in temporary emissions of criteria pollutants and GHGs associated with site preparation, grading, excavation, foundation installation, utility construction, equipment mobilization, worker travel, and material transport. Construction equipment, haul trucks, generators, and

[83] Washington State Department of Commerce, "Skagit County 2022 Greenhouse Gas Emissions Analysis," published 2022, https://www.skagitcountywa.gov/media/itmdvn4x/countyghganalysisreport_skagit.pdf
[84] Ibid.

employee vehicles would emit nitrogen oxides (NOx), carbon monoxide (CO), particulate matter (PM_{10} and $PM_{2.5}$), volatile organic compounds (VOCs), sulfur dioxide (SO_2), and GHGs associated with fuel combustion.

Fugitive dust emissions would also occur from soil disturbance, vegetation clearing, earthmoving activities, and vehicle travel on paved and unpaved roads. The magnitude of these impacts would vary depending on facility size, construction duration, and site conditions but would generally be greatest during periods of intensive earthwork and infrastructure installation.

Although Skagit County is currently designated as attainment for all NAAQS, localized and short-term increases in pollutant concentrations could occur near active construction sites and haul routes. Seasonal weather conditions, including dry summer periods, high winds, and occasional wildfire smoke events, could exacerbate local particulate matter concentrations.

Operation

Operational impacts would vary among technologies but generally consist of ongoing emissions associated with facility maintenance, support equipment, transportation activities, and facility-specific operational processes.

Decommissioning

Decommissioning of renewable energy facilities would result in impacts similar to construction activities, although generally occurring over a shorter duration and over a more limited geographic area. Site restoration, demolition, equipment removal, foundation extraction, grading, and transportation of materials for recycling, disposal, or reuse would generate temporary emissions of criteria pollutants and greenhouse gases. The quantity of emissions would vary depending on facility type, size, and decommissioning methods.

Mitigation Measures

Regulatory Framework

Numerous existing Federal, State, and local legislation regulating air quality and greenhouse gas emissions will require mitigation for future energy projects. A comprehensive list of federal, state, and local level regulations that govern air quality and emissions is as follows:

Federal Regulations

- Clean Air Act (CAA) (42 USC §7401 et seq.)
- National Ambient Air Quality Standards (NAAQS)
- Mandatory Greenhouse Gas Reporting Program (40 CFR Part 98)

State Regulations

- Washington Clean Air Act (Chapter 70A RCW)
- Washington State Implementation Plan (SIP)
- Title V Air Operating Permit Program
- State Environmental Policy Act (SEPA) (Chapter 43.21C RCW; WAC 197-11)
- Energy Facility Site Evaluation Council (EFSEC) Regulations
- Northwest Clean Air Agency (NWCAA) Regulations

Local Regulations

- Skagit County Comprehensive Plan, Chapter 12 Climate and Resiliency

Required Mitigation Measures

Federal

- Obtain a Prevention of Significant Deterioration (PSD) permit under the Clean Air Act
- Demonstrate that project construction and operational emissions will not cause or contribute to violations of applicable National Ambient Air Quality Standards
- Quantify, monitor, maintain records of, and report greenhouse gas emissions in accordance with EPA Mandatory Greenhouse Gas Reporting Program requirements where applicability thresholds are met

State

- Obtain Air Operating Permit and Notice of Construction (NOC) (Northwest Clean Air Agency (NWCAA and Ecology)
- Obtain Clean Air Act Prevention of Significant Deterioration Permit (EFSEC, Ecology)
- State Refrigerant Management Program (Ecology)

Local

- Demonstrate Best Available Control Technology (BACT)

Recommended Measures for Siting and Design

- Request facility siting and design demonstrate how potential air quality impacts from grading, excavation, soil disturbance are minimized through best management practices.
- Encourage site design practices that limit vegetation clearing, preserve natural topography, and retain existing natural features where practicable to reduce potential air quality impacts from construction.
- Consider the consolidation and co-location of project infrastructure, including access roads, equipment pads, fencing, utilities, and lighting, where feasible, to reduce land consumption and environmental disturbance.
- Prioritize using existing roads, utility corridors, electrical infrastructure, staging areas, and previously disturbed lands where feasible to reduce impacts on undeveloped areas.
- Request air quality monitoring if significant adverse impacts are anticipated to nearby uses or sensitive receptors.
- Adjust facility setbacks if emissions exceed significant thresholds, especially if a proposed project is in close proximity residences, schools, parks, and other sensitive receptors.
- Consider opportunities to reduce embodied carbon[85] associated with construction materials, equipment, and infrastructure, where feasible and appropriate for a proposed facility.

Recommended Measures for Construction and Decommissioning

- Request information on the anticipated number of trips generated from the construction, operation, maintenance, and decommissioning activities of future facilities, including what measures are being taken

[85] The USEPA refers to 'embodied carbon' as the "greenhouse gas emissions associated with the production" (USEPA, 2026)

to reduce vehicle miles traveled and/or use alternative fuel sources to reduce potential air quality and GHG emissions.

- Request information identifying whether and how vehicle and equipment idling would be reduced during construction and decommissioning activities. This could include limits on unnecessary engine idling and shutting down vehicles and equipment when not actively in use, consistent with applicable regulations and industry best management practices.
- Promote the use of locally or regionally sourced construction materials, where feasible, to reduce transportation-related emissions and support regional supply chains.
- Require implementation of best management practices for dust suppression and particulate matter control during construction and decommissioning activities, including measures to minimize emissions from exposed soils, haul roads, and material handling operations. The "Guide to Handling Fugitive Dust from Construction Projects," as published by the Associated General Contractors of Washington (AGC 2009) or updated guidance recommended by the local air agency can provide potential measures.
- Request offsets to reduce the amount of greenhouse gases in the atmosphere, if significant emissions are anticipated. Offset projects should demonstrate how they result in greenhouse gas reductions that are real, permanent, quantifiable, verifiable, and enforceable.
- Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration.

Recommended Measures for Operation

- Require the maintenance of vehicles, maintenance equipment, and facility support equipment in good working condition and in accordance with manufacturer specifications to minimize emissions.
- Request applicants identify how their operational practices will minimize dust generation, including limiting soil disturbance during dry and windy conditions and using wind barriers or covers.
- Request information for how aggregate access roads, parking areas, and other unpaved travel surfaces will be maintained to minimize fugitive dust emissions. Activities could include surfacing, stabilization, watering, or other approved dust-control measures.
- Request salvaging and reuse of topsoil during restoration activities where practicable.

5.3.2. Solar Facilities

Specific site characteristics and the scale of solar energy facilities would influence the potential impacts solar facilities have throughout their phases. It would be anticipated that the larger a solar facility is, the more emissions likely to occur from equipment and related vehicles.

Construction

Construction of solar facilities would generate temporary emissions of criteria pollutants and GHGs associated with vegetation clearing, site grading, trenching, pile installation, road construction, and transportation activities. Fugitive dust emissions would occur from soil disturbance, earthmoving activities, and vehicle travel on paved and unpaved surfaces. Impacts may remain on site or impact neighboring land uses depending on their proximity and weather patterns.

Construction activities generating GHG emissions are likely to be associated with fuel combustion, worker commuting, transportation of solar panels and electrical equipment, and the production and delivery of construction materials such as steel and concrete, depending on the types of vehicles and fuels used in construction.

Operations

Operational impacts to air quality from solar facilities would depend on the scale of the solar facility, the amount of clearing and vegetation removal that occurred during the construction phase, and vegetation management at the site. Overall air quality impacts are anticipated to be minimal because photovoltaic electricity generation occurs without fuel combustion and does not directly emit criteria pollutants.

Fugitive dust can have a potential impact through operation from unpaved roads and the presence of bare soils. Fugitive dust emissions may occur depending on soil conditions, high wind events, and vehicular traffic. Impacts may remain on site and reduce solar efficiency or impact neighboring land uses depending on their proximity and weather patterns.

Long-term emissions would primarily consist of minor exhaust emissions associated with maintenance vehicles, periodic equipment inspection, vegetation management, and panel cleaning activities. Small quantities of fugitive dust could result from maintenance traffic on unpaved roads.

From a GHG perspective, solar facility operation has the potential for fewer emissions than conventional fossil-fuel-based electricity generation. However, the magnitude of this potential benefit depends on the extent to which solar generation offsets existing fossil fuel use within the County. If solar facilities are added to the energy system without reducing or replacing fossil fuels, the reduction of GHG emissions would be expected to be minimal.

Decommissioning

Decommissioning activities would produce impacts similar to, but generally less intensive than, those associated with construction. Removal of solar panels, foundations, electrical equipment, and access roads would generate temporary fugitive dust emissions and equipment-related exhaust emissions. Additional emissions would be associated with transportation of materials for recycling, disposal, or reuse. Temporary GHG emissions would result from operation of heavy equipment and transportation of project components off site. These impacts would be localized and short-term and would diminish following completion of decommissioning activities and site restoration.

Mitigation Measures

Recommended Measures for Siting and Design

- Consider proximity to existing transmission infrastructure when evaluating facility siting, where such siting could reduce the need for new infrastructure and associated construction emissions.
- Request information on opportunities to reduce GHG emissions associated with construction materials and facility design, where feasible and appropriate for the proposed facility.
- Encourage the co-location and consolidation of infrastructure such as roads, pads, fencing, utilities, and lighting.

- Consider site design and facility placement to minimize grading, excavation, soil disturbance, erosion, compaction, and waterlogging.

Recommended Measures for Construction and Decommissioning

- Require a vegetation management plan that identifies measures for any clearing or replanting vegetation as well as controlling noxious weeds.
- Request information on proposed dust-control measures during construction and decommissioning, including applicable best management practices.
- Request information on measures proposed to reduce construction-related GHG emissions, such as measures to reduce unnecessary vehicle and equipment idling, where applicable.

Recommended Measures for Operation

- Require the maintenance of continuous vegetative cover beneath and between solar panel arrays, except where vegetation is incompatible with facility infrastructure or fire-safety requirements.
- Require the implementation of a vegetation management plan, including control measures for potential noxious weeds.
- Require periodic monitoring and request the incorporation of adaptive management practices to ensure vegetation cover remains sufficient to minimize wind-blown dust.

5.3.3. Battery Energy Storage Systems (BESS)

Specific site characteristics and the scale of BESS facilities would influence the potential impacts BESS facilities have throughout a project phase. It would be anticipated that larger BESS facilities may have greater impacts than smaller BESS facilities, though the level of impacts would also depend on the site location and adjacent land uses.

Construction

Construction of BESS facilities would generate air quality impacts similar to those of other energy facilities but at a more localized scale. Site grading, installation of concrete pads, electrical equipment, storage enclosures, and associated infrastructure would produce fugitive dust emissions and exhaust emissions from construction equipment and delivery vehicles. Additional material transport associated with battery containers, cooling systems, transformers, and fire protection systems would contribute to construction-related GHG emissions. Because BESS facilities generally occupy smaller footprints than other energy facilities, overall emissions would be proportionally smaller though depend on final project scale.

Operations

Normal operation of BESS facilities would generate minimal direct air pollutant emissions because electricity storage itself does not require fuel combustion. However, cooling systems and associated electrical equipment may contain refrigerants that could be released during equipment malfunction, maintenance errors, or accidental damage. Depending on the type of refrigerant, releases may include substances with higher heat trapping effect. More substantial air quality impacts could occur during rare battery failure events involving thermal runaway or fire. Such events may produce smoke, particulate matter, volatile organic compounds, acid gases, metals, and other combustion byproducts. These gases can pose health risks to nearby residents and first responders. Although these events are infrequent and subject to extensive safety requirements, localized air quality impacts

could occur until emergency response actions are completed. Secondary containment, continuous thermal runaway monitoring systems, battery management technologies, and emergency response plans, including a Fire and Air Quality Emergency Response Plan, could substantially reduce the likelihood and severity of such impacts.

Decommissioning

BESS decommissioning would generate temporary emissions associated with dismantling battery modules, removal of electrical equipment, transportation of batteries for recycling or disposal, and site restoration activities. Fugitive dust and diesel exhaust emissions would occur during equipment operation and truck traffic.

Mitigation Measures

Recommended Measures for Siting and Design

- Co-locate BESS facilities with existing energy generation or existing electrical infrastructure, such as substations, where feasible.
- Site facilities away from sensitive receptors, schools, residences, and recreation areas where practicable.
- Design ventilation and thermal management systems to minimize criteria pollutant emissions and potential releases.
- Incorporate energy-efficient building and cooling systems.
- Consider the design of BESS units (battery chemistry, manufacturing quality assurance/quality checks, unit design, battery management system analytic capabilities, and system integration) and consult the most recent industry safety standards.
- Communicate with local first responders to develop emergency response plans and training for potential incidents, including air quality hazards.

Required Measures

- Comply with applicable fire and building code requirements addressing BESS fire prevention, detection, containment, and emergency response.
- Require the development of a facility specific emergency response and air quality protection plan coordinated with local fire districts, emergency managements agencies, and the NWCAA.

Recommended Measures for Construction and Decommissioning

- Require the preparation of a greenhouse gas reduction strategy demonstrating the minimization of construction and decommissioning activities.

Recommended Measures for Operation

- Continuous battery monitoring, thermal management, and fire suppression systems capable of detecting abnormal operating conditions should be maintained, replaced, and upgraded as necessary for early detection and fire prevention.
- Annual inspections of refrigerant systems and identify/remedy leaks and spills should be performed.
- Require facility-specific emergency response and air quality protection procedures for battery fires and thermal runaway events are provided, including procedures for identifying potentially hazardous smoke or gases, notifying emergency responders and appropriate regulatory agencies, establishing protective or

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exclusion zones, and communicating with adjacent sensitive receptors when off-site smoke exposure could occur.

- Incident notification procedures should immediately alert local responders, NCWAA, and sensitive receptors when a significant event occurs.
- Isolate affected battery modules, racks, or containers when conditions indicative of thermal runaway are detected to reduce the potential for propagation and associated air pollutant releases.
- Periodic emergency response drills or training with local fire and emergency response agencies that address BESS-specific thermal runaway hazards, smoke and gas releases, and protection of responders and adjacent receptors from gaseous and aerosol emissions would assist in response readiness.
- Require the use of early suppression or cooling systems designed to prevent fire spread between battery containers and reduce smoke generation.
- If a BESS failure event were to occur, evaluation of the event should occur This can include assessment of the nature and extent of air pollutant releases and documentation of corrective actions needed to reduce the likelihood of a similar future event.

5.3.4. Fusion Small Modular Reactors (Fusion SMRs)

Construction

Construction of fusion SMRs would likely generate greater air emissions than other selected energy facilities because of extensive excavation, structural foundations, concrete placement, utility installation, and transportation of specialized reactor components. Fugitive dust emissions would result from grading and earthmoving, while construction equipment and delivery vehicles would emit NOx, CO, particulate matter, VOCs, and GHGs. Production and transportation of concrete, steel, and specialty components would represent a significant portion of GHG emissions created during a fusion SMR facility's lifecycle. Emissions would be temporary but potentially substantial during peak construction periods because of the scale and complexity of facility development.

Operations

Fusion SMRs would be expected to produce very low operational emissions of conventional criteria pollutants because electricity generation would occur without combustion of fossil fuels. Operational emissions would primarily be associated with auxiliary equipment, backup generators, cooling systems, and maintenance activities. Depending on final technology design, fusion facilities may include highly controlled radioactive process streams containing tritium or other regulated byproduct materials.

For the fusion facility in Malaga, Washington, five byproducts were identified in the associated SEPA checklist. These included: a proton (or, hydrogen-1), helium-3, helium-4, tritium (or, hydrogen-3), and a neutron. Of these byproducts, tritium has the potential for impacts. Tritium is a rare and radioactive isotope of hydrogen. It decays at a rate of roughly 5.5 percent per year for a total half-life of roughly 12 years. As it decays, the tritium becomes

helium-3. Facility systems can be designed to recapture tritium and helium-3 for reuse reducing the risk for potential impacts. As part of normal operations, tritium may be emitted in small planned-for measures and fall. [86]

Any radioactive air emissions would be monitored and regulated through federal and state permitting processes and would be released only through engineered containment, filtration, and monitoring systems designed to protect public health and the environment.

Decommissioning

Decommissioning of fusion SMRs would involve demolition of facilities, removal of reactor systems, transportation of equipment and materials, and management of regulated wastes. Temporary dust emissions, diesel exhaust, and transportation-related emissions would occur during dismantling activities. Additional controls would be required if radioactive materials or contaminated equipment must be removed or disposed of.

Mitigation Measures

Recommended Measures for Siting and Design

- Require facilities to be located in areas designated for industrial uses where feasible.
- Applicants should demonstrate that locations have been selected to minimize the need for new transmission infrastructure and associated land disturbance reducing potential dust and air pollutant generation.
- Require adequate separation from sensitive receptors, including residences, schools, agricultural uses, parks, and recreation areas.
- Applicants should demonstrate how the ventilation, filtration, and thermal management systems are to be designed, operated, and maintained to minimize criteria pollutant emissions and potential releases.
- Existing roads, utility corridors, electrical infrastructure, staging areas, and previously disturbed lands should be utilized to the maximum extent feasible to reduce potential impacts to air quality.
- Request applicants identify whether and to what extent recapture systems, such as for tritium, are used as part of facility design.

Required Measures

- Ensure that applicants obtain and adhere to all necessary state and federal radioactive materials and emission permits and requirements, including:
    - Require applicants obtain and maintain compliance with a Washington State Radioactive Air Emissions License and comply with all the associated standards, monitoring requirements, reporting requirements, and permit conditions included.
    - Require applicants demonstrate compliance with applicable federal and state radioactive air emissions standards through approved modeling, monitoring, testing, and reporting.
    - Require the installation of periodic or continuous air monitoring systems, as required by regulatory agencies.

[86] Chelan County, “Orion SEPA Checklist”, 2025
https://apps.ecology.wa.gov/separ/Main/SEPA/Record.aspx?SEPANumber=202502238

- Require applicants maintain records of radioactive material inventories, emissions monitoring data, inspections, and incident reports.

Recommended Measures for Construction and Decommissioning

- Construction and decommissioning activities should be phased and sequenced, where feasible, to minimize the extent and duration of exposed soils and reduce fugitive dust emissions.
- Request that applicants identify measures, including potential adjustments to construction activities or scheduling, to minimize dust and emissions during periods of degraded air quality, wildfire smoke, or other adverse atmospheric conditions, as feasible and consistent with project safety requirements.

Recommended Measures for Operation

- Coordinate with applicable state and federal agencies, including Washington State Department of Health and Department of Ecology, on potential operational measures relating to emissions capture, filtration, containment, or recapture technologies, as appropriate to facility design, to minimize potential emissions and releases during facility operations.
- In coordination with state and federal agencies, require ongoing inspection, maintenance, testing, and performance verification of emissions control systems to ensure continued compliance with applicable air quality and radioactive emissions standards.
- Request that applicants maintain applicable records of radioactive material inventories, emissions monitoring, inspections, and incidents, and provide the County with relevant updates or copies of reports submitted to state or federal agencies, as appropriate.

Mitigation Measures for Potential Significant Impacts

- Work with applicable state and federal agencies to ensure that applicants are applying and documenting air quality control measures consistent with facility design, regulatory requirements, and available technology at the time of project development.

5.3.5. Renewable Fuel Facilities

Construction

Construction of renewable fuel facilities would generate temporary emissions from site preparation, grading, foundation construction, utility installation, and transportation of equipment and materials. Fugitive dust emissions would result from earthmoving activities, while construction equipment and haul trucks would emit NOx, CO, PM_{10}, $PM_{2.5}$, VOCs, and GHGs. The scale of impacts would depend largely on facility size, feedstock handling infrastructure, storage systems, and processing equipment. Construction-related emissions would be short-term and localized but could be more intensive than those associated with solar or BESS development because of the more industrial nature of these facilities.

Operations

Renewable fuel facilities have the greatest potential for operational air quality impacts among the renewable energy technologies evaluated. Depending on the type of facility, emissions may include NOx, CO, particulate matter, VOCs, hazardous air pollutants, combustion byproducts, and odors associated with fuel production, feedstock handling, storage systems, and industrial processing activities.

Additional emissions may result from boilers, heaters, emergency generators, compressors, digesters, flares, and other process equipment. Increased truck traffic associated with feedstock delivery and product distribution could further contribute to regional emissions. Facilities involving renewable natural gas or biogas production may also experience methane leakage if systems are not properly designed, monitored, and maintained.

Greenhouse gas emissions associated with renewable fuel facilities would primarily result from combustion equipment, process energy demands, mobile equipment, transportation activities, and potential fugitive methane releases. Renewable natural gas and biogas facilities may warrant particular consideration because methane possesses a significantly greater global warming potential than carbon dioxide. Even relatively small methane leaks from digesters, gas collection systems, compressors, storage vessels, or pipeline interconnections could contribute disproportionately to greenhouse gas emissions if not effectively controlled.

It would be anticipated that renewable fuel facilities would assist in the reduction of GHG emissions; however, the magnitude in doing so would depend on whether the renewable fuel offsets existing fossil fuel use within the County. If facilities are added to the energy grid without reducing or replacing fossil fuels, the reduction in GHG emissions would be expected to be minimal.

Decommissioning

Decommissioning of renewable fuel facilities would involve demolition of industrial structures, processing equipment, storage tanks, and supporting infrastructure. Temporary dust emissions, combustion emissions from heavy equipment, and transportation-related emissions would occur during dismantling and waste removal activities. GHG emissions would result from equipment operation, trucking, and disposal or recycling of facility components.

Mitigation Measures

Recommended Measures for Siting and Design

- Request applicants demonstrate that process equipment is designed to minimize emissions of volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and potential significant odors that could impact surrounding users.
- Request that facility designs involving biogas, renewable natural gas, or other methane-containing feedstocks and fuels demonstrate how they incorporate closed systems, leak detection, pressure monitoring, and emergency isolation technologies sufficient to minimize fugitive methane releases.
- Request information on how the proposed renewable fuel reduces reliance on fossil fuels and contributes to a more circular use of materials and resources.

Required Measures

- Refer to measures applicable to all facilities.
- Obtain and comply with applicable air quality permits and implement required emissions monitoring, testing, and control measures to minimize air pollutant emissions.

Recommended Measures for Construction and Decommissioning

- Reduce potential emissions during construction and decommissioning by identifying applicable equipment standards, idling restrictions, transportation controls, and management procedures.

- Require preparation and implementation of a dust control plan addressing unpaved roads and exposed soils.

Decommissioning plans should address residual feedstocks, fuels, intermediate products, and wastes so that facility closure does not result in uncontrolled emissions or releases. Recommended Measures for Operation

- Utilize best management practices and best available science to reduce VOCs, NOx, particulate matter, and toxic air contaminants.
- Methane leak monitoring and repair measures should be identified and utilized when applicable to proposed facilities.
- Encourage applicants to site facilities near anticipated feedstock sources and product distribution infrastructure, including compatible rail, pipeline, port, or roadway facilities, to minimize transportation distances and associated greenhouse gas emissions.
- Evaluate emissions associated with transporting feedstocks and finished fuels and incorporate transportation routing measures that reduce potentially significant emissions.
- Identify significant material inputs used in fuel production and encourage lower-carbon materials or substitutes where technically feasible.

Mitigation Measures for Potential Significant Adverse Impacts

- Additional measures to mitigate remaining GHG emissions may include verified carbon reduction or offset programs. Offset projects should demonstrate how they result in GHG reductions that are real, permanent, quantifiable, verifiable, and enforceable. Additionally, reviewing the use of low-carbon and energy efficient equipment and processes may assist reduce emissions.

5.4. No Action Alternative Analysis

Under the No Action Alternative, Skagit County would retain its existing development regulations and the selected energy facilities would continue to be reviewed and permitted under current, local, state, and federal regulatory frameworks as described in the in the **Energy Permitting** section. Depending on the type and characteristics, proposed facilities could be reviewed either through Skagit County's existing minor and major utility development processes or through the Washington State Energy Facility Evaluation Council (EFSEC) process where certification is required or voluntarily elected by the applicant.

5.4.1. Impacts from Construction, Operation, and Decommissioning Under Current Processes

In projects reviewed through local government and the EFSEC under the current code, construction and decommissioning activities would continue to generate temporary emissions of criteria pollutants, greenhouse gases, and fugitive dust from site preparation, grading, earthmoving activities, equipment operation, material transportation, and worker vehicle trips. Operational emissions would vary depending on facility type, feedstock, and project-specific technology.

Solar energy facilities and battery energy storage systems would generally have relatively low operational emissions associated primarily with maintenance activities and support equipment, while renewable fuel facilities

may generate emissions from fuel processing, storage, combustion equipment, and transportation activities. Fusion SMRs may generate emissions associated with construction, support infrastructure, backup power systems, and facility maintenance, although direct operational greenhouse gas emissions would generally be substantially lower than those associated with conventional fossil-fuel power generation.

5.4.2. Mitigation Measures

Facilities reviewed through County permitting processes would remain subject to federal and state air quality regulations, project-level SEPA review, and permit and review processes administered by agencies including the Northwest Clean Air Agency and the Washington Department of Ecology.

Facilities subject to EFSEC jurisdiction would be required to comply with applicable federal and state air quality regulations and may require notices of construction, operating permits, greenhouse gas reporting, emissions monitoring, and other approvals as applicable. EFSEC may also impose project-specific air quality, emissions monitoring, reporting, and compliance requirements through a Site Certification Agreement. Furthermore, EFSEC possesses authority to preempt local land use plans, zoning ordinances, and development regulations as part of the state certification process. Therefore, some future energy facilities could be approved under EFSEC certification rather than County development regulations, with air quality and greenhouse gas protections implemented through EFSEC conditions and existing state and federal regulatory programs.

5.4.3. Significant Unavoidable Adverse Impacts

Under the No Action Alternative, air quality impacts would continue to be addressed through existing federal, state, and local regulations, and project-level review. Because the County would not adopt use specific development standards under this alternative, measures within County authority, such as measures relating to dust control, lower-emission construction practices, and local approaches to reduce greenhouse gas emissions, may be identified and applied on a project-by-project basis rather than through standardized requirements for energy facilities. Compliance with applicable air quality permitting and regulatory requirements would continue regardless of the alternative.

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6. Water Resources

6.1. Overview

The Water Resources section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures, associated with water features within Skagit County. Washington is divided into 62 Water Resource Inventory Areas (WRIAs) based on natural watersheds. WRIAs are areas defined by higher elevation that capture precipitation and funnel rain and snowmelt through smaller subbasins into streams, tributaries, and rivers.[87]

The conditions analyzed in this section include:

- Water Quantity
- Wetlands
- Water Quality
- Groundwater
- Water Availability and Water Rights
- Floodplains

6.2. Existing Conditions

The study area for water resources encompasses areas within the Skagit River and Samish River hydrological basins, with small portions falling within the Nooksack and Stillaguamish watersheds (see **Figure 29**).

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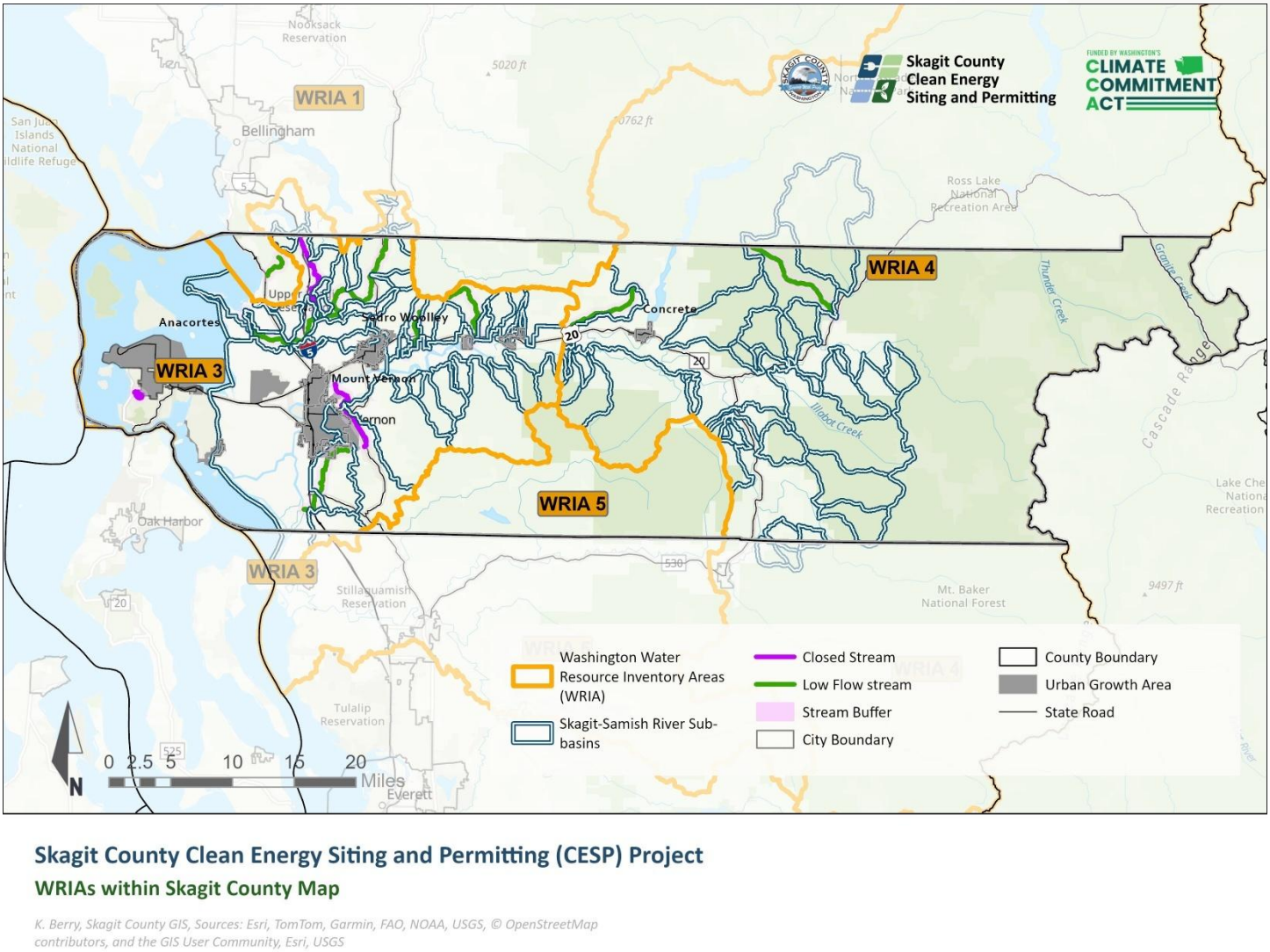
[87] Washington State Department of Ecology, "Programmatic Environmental Impact on Utility-Scale Solar Energy Facilities in Washington State: Appendix F, Water Resources Technical Report", updated June 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf

Figure 29: WRIAs within Skagit County



Source: Kimley-Horn, 2026, using Skagit County iMap, n.d., https://geo.skagitcountywa.gov/server/rest/services/PortalServiceLayers

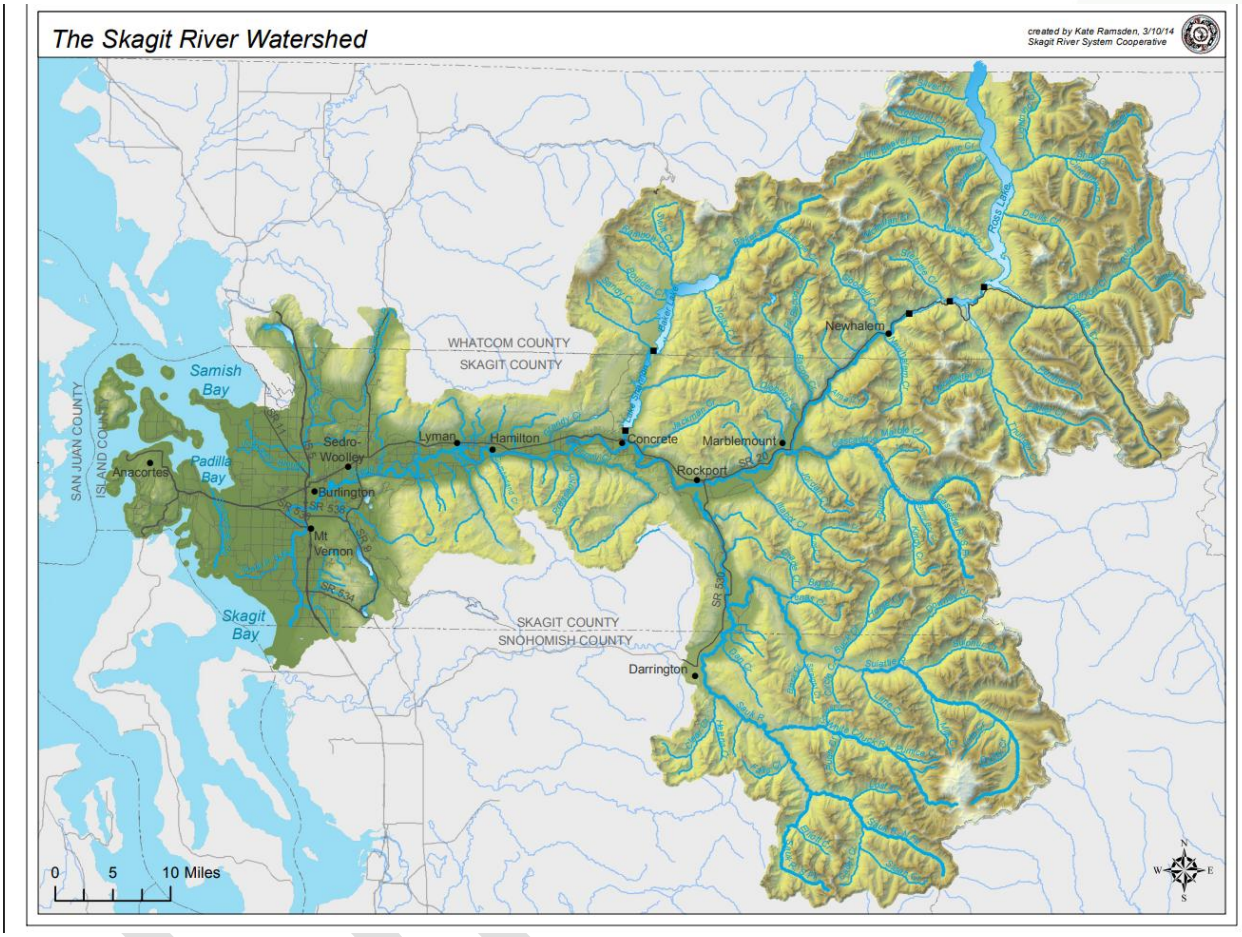
The study area for the evaluation of water resources associated with the construction and operation of projects would be determined by the presence (or absence) of water resources during project specific reviews. Resources could include streams, rivers, lakes, reservoirs, wetlands, groundwater, and floodplains

6.2.1. Water Quantity

Surface water resources in Skagit County are dominated by the Skagit River watershed, the largest watershed draining to Puget Sound. The Skagit River watershed is one of the most significant hydrologic systems in Washington State, due to its size, volume, and ecological importance, supplying 30 percent of freshwater to Puget

Sound and supporting all five native salmonoid species.[88] The Skagit River originates in British Columbia and flows southwest through the Cascade Mountains before discharging to Skagit Bay and Puget Sound through an extensive delta system near Mount Vernon and La Conner (see **Figure 30**).

Figure 30: Skagit River Watershed



Source: Skagit River System Cooperative, The Skagit River Watershed, 2014, https://www.skagitwatershed.org/wp-content/uploads/1_watershed_map.pdf

Major tributaries include the Sauk, Baker, Cascade, and Suiattle Rivers, which contribute substantial streamflow, sediment transport, floodplain processes, and aquatic habitat throughout the basin. Portions of the county also occur within the Samish River watershed, while small areas near the county boundaries are associated with the Nooksack and Stillaguamish basins.

[88] Washington Wild, "Skagit Headwaters," n.d., https://wawild.org/defend/skagit-headwaters/

The county is located primarily within WRIAs 3 (Lower Skagit-Samish) and 4 (Upper Skagit).[89] These WRIAs provide the primary framework for water resource planning, watershed management, instream flow regulation, and water rights administration by the Washington State Department of Ecology.

Major lakes and reservoirs include Ross Lake, Diablo Lake, Gorge Lake, Baker Lake, Lake Shannon, Big Lake, Lake Cavanaugh, Campbell Lake, Clear Lake, and Lake McMurray.

Several rivers within Skagit County are protected through designation under the National Wild and Scenic Rivers System, including designated reaches of the Skagit River, Sauk River, Suiattle River, and Cascade River.[90]

6.2.2. Wetlands

Wetlands occur throughout Skagit County and include freshwater wetlands, forested wetlands, emergent marshes, shrub wetlands, floodplain wetlands, estuarine wetlands, and tidal wetlands associated with the Skagit Delta and Samish Bay. Wetlands are commonly found adjacent to rivers and streams, within floodplains, around lakes and ponds, within depressional landscapes, and throughout estuarine transition zones where freshwater and marine systems interact. Wetlands are categorized using the Washington State Wetland Rating System and are protected through state and federal regulations as well as the county critical areas ordinance under SCC Chapter 14.24.

6.2.3. Water Quality

Water quality throughout Skagit County is influenced by watershed conditions, stream flow, land use activities, and tidal processes within the Skagit Delta and adjacent marine waters.

The Washington State Department of Ecology (ECY) conducts periodic assessments of rivers, streams, lakes, estuaries, and marine waters pursuant to Section 303(d) of the Clean Water Act. Waterbodies that fail to meet applicable water quality standards are placed on the state's impaired waters list and may be subject to Total Maximum Daily Load (TMDL) requirements. All surface waterbodies are classified into one of five distinct water quality categories:

- **Category 1**: Meets tested standards for clean water
- **Category 2**: Water of concern
- **Category 3**: Insufficient Data
- **Category 4**: Impaired water that does not require a TMDL
    - **Category 4A**: Already has an EPA-approved TMDL plan in place and implemented
    - **Category 4B**: Has a pollution control program, similar to a TMDL plan, that is expected to solve the pollution problems
    - **Category 4C**: Is impaired by causes that cannot be addressed through a TMDL plan. Impairments in these water bodies include low water flow, stream channelization, and invasive plants and aquatic life.

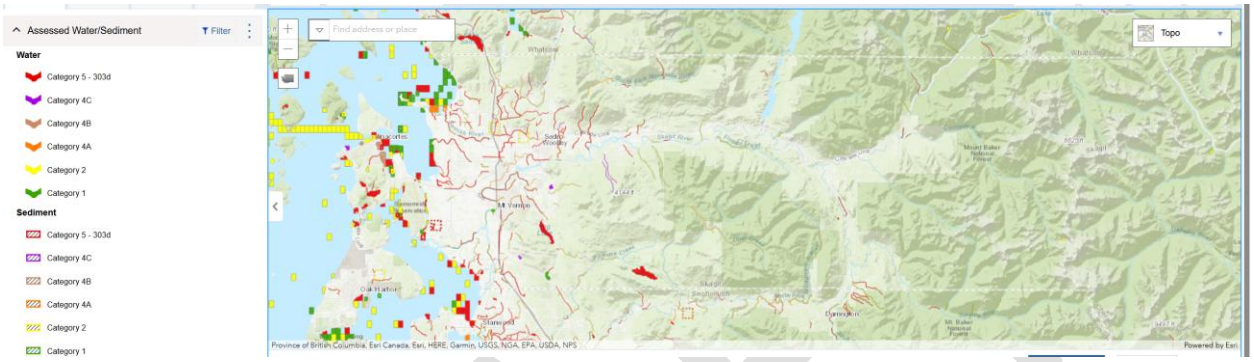
[89] Washington State Department of Ecology, "Find Your Water Resources Inventory Area," n.d, https://gis.ecology.wa.gov/portal/apps/webappviewer/index.html?id=6161245732144516921 09e1e2971b548
[90] National Wild and Scenic Rivers System, "Washington," n.d., https://www.fws.gov/rivers/washington

These problems, while not pollutants, require complex solutions to help restore water bodies to more natural conditions.

- **Category 5**: Polluted water on the 303(d) list

Washington Department of Ecology reports that waterways in Skagit County vary anywhere from Category 1 to Category 5 (see **Figure 31**).[91]

Figure 31: Water Quality Categories in Skagit County



Source: Washington State Department of Ecology, Water Quality Atlas "Assessed Water/Sediment", 2016, https://apps.ecology.wa.gov/waterqualityatlas/wqa/map

Water quality concerns within portions of the county include elevated temperatures, sedimentation, low dissolved oxygen, bacteria, nutrients, agricultural runoff, stormwater discharges, and contaminants associated with urban and industrial development. Agricultural activities within the Skagit and Samish valleys, urban development near population centers, and historic industrial activities can contribute pollutants to receiving waters. Conversely, upper watershed areas within the North Cascades generally exhibit high water quality due to extensive forest cover and limited development.

6.2.4. Groundwater

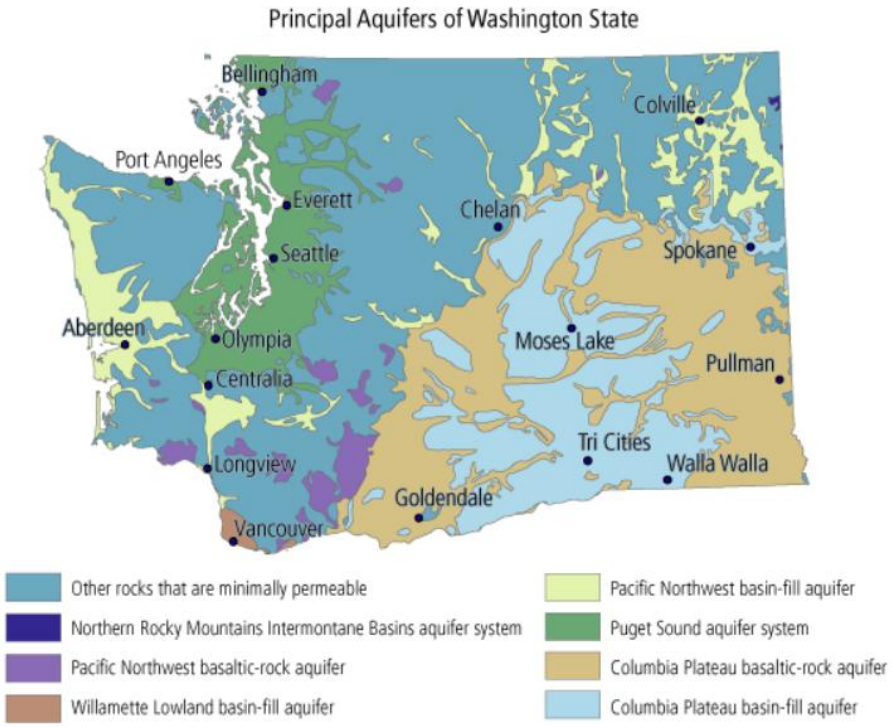
Groundwater supplies municipal, agricultural, industrial, and rural domestic water users throughout Skagit County. Groundwater recharge occurs when water from the surface (e.g., rain or snowmelt, or surface waterbodies) seeps downward to groundwater. Groundwater flow is influenced by topography and generally moves toward surface water drainage and marine waterbodies.

There are seven principal aquifers in Washington as identified in the U.S. Geological Survey (USGS) Groundwater Atlas of the United States.[92] The Puget Sound Aquifer System and Pacific Northwest Basaltic-Rock Aquifer are the primary principal aquifers for Skagit County (see **Figure 32**).

[91] Washington State Department of Ecology, "Water Quality Atlas," n.d., https://apps.ecology.wa.gov/waterqualityatlas/wqa/map?CustomMap=y&BBox=-14338616,5395963,-12562831,6503994&RT=0&Layers=27&Filters=y,n,n,n,n,n

[92] U.S. Geological Survey, "Ground Water Atlas of the United States: Segment 7, Idaho, Oregon, Washington," published 1994, https://doi.org/10.3133/ha730H

Figure 32: Principal Aquifers of Washington State



Source: Washington State Department of Natural Resources, "Groundwater", 2025, https://dnr.wa.gov/washington-geological-survey/earth-resources/groundwater

Cities and counties in Washington protect groundwater resources by establishing critical aquifer recharge areas (CARAs). CARAs are defined under GMA as areas with a critical recharging effect on aquifers used for potable water, including areas where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of water, or is susceptible to reduced recharge.[93] Aquifer recharge occurs where rainfall, snowmelt, infiltration from lakes, wetlands and streams, or irrigation water infiltrates into the ground and adds to the underground water that can supply a well. Development activities within CARAs are regulated by the local county critical area ordinances under SCC Chapter 14.24.

USEPA administers a sole-source aquifer (SSA) program through its authorities under the federal Safe Drinking Water Act of 1974 (Section 1424[e]). SSAs are defined as aquifers that supply at least 50 percent of the drinking water for its service area and for which there are no reasonably available alternative drinking water sources should the aquifer become contaminated. USEPA has designated 13 SSAs in Washington and Guemes Island is the only area which is currently designated in Skagit County.

[93] Washington State Department of Ecology, "Critical Aquifer Recharge Areas Guidance," revised March 2021, https://apps.ecology.wa.gov/publications/documents/0510028.pdf

6.2.5. Water Availability and Water Rights

Water availability within Skagit County is governed by both physical and legal constraints. Surface water and groundwater availability varies seasonally and spatially based on precipitation, snowpack, watershed conditions, existing water rights, and instream flow requirements. Water rights in Washington are administered under the prior appropriation doctrine, which generally allocates water according to seniority of rights.

USGS compiles and publishes data on water withdrawals by county, tracking use trends over time. In 2015, the top category of groundwater use was irrigation. This is consistent with the data collected every 5 years since 1985; irrigation has remained the top use categories, with average volumes increasing every year.[94]

The Skagit River Basin Instream Resources Protection Program establishes minimum instream flows for the Skagit River and many tributaries in order to protect fisheries, aquatic habitat, water quality, recreation, and other public resources.[95] As a result, water availability can be limited in portions of the county, particularly during low-flow periods. As a result, water availability can be limited in portions of the county, particularly during low-flow periods. New groundwater withdrawals may require mitigation to offset impacts on instream flows or in some cases may be prohibited.

6.2.6. Floodplains

Floodplains are a dominant landscape feature throughout large portions of Skagit County. The Skagit River floodplain extends across much of the central and western parts of the county. Floodplains also occur along the Sauk, Baker, Cascade, Suiattle, Samish, and other river systems.

Flood hazards are influenced by riverine flooding, coastal flooding, storm surge, tidal fluctuations, and climate-related changes in hydrology. The county has a long history of significant flood events along the Skagit River and associated tributaries. Special Flood Hazard Areas identified by Federal Emergency Management Agency (FEMA) are regulated through local floodplain management regulations and the National Flood Insurance Program. Development within flood-prone areas is subject to floodplain review requirements designed to protect life, property, ecological resources, and floodplain functions.

Frequently flooded Areas (FFA) are defined in the Skagit County Code as areas identified as A, AO, AH, A1—10, A12, A14, A16, A18, A21—22, V1 and V4 zones on the official Flood Insurance Rate Map (FIRM) for Skagit County. FEMA defines the above listed flood areas as follows:

- **Flood Zone A:** Area with a one percent annual chance of flooding and a 26 percent chance of flooding over the life of a 30-year mortgage.
- **Flood Zone AO:** River or stream flood hazard areas, and areas with a one percent or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from one to three feet.

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[94] United States Geological Survey, "Water-Use Data-Gap Analysis," n.d., https://storymaps.arcgis.com/stories/c8e2d30f212149c28875d87325592d2e#n-rMFHDZ

[95] Washington State, Washington Administrative Code, "Instream Resources Protection Program – Lower and Upper Skagit Water Resources Inventory Areas (WRIA 3 and 4)," n.d., https://app.leg.wa.gov/WAC/default.aspx?cite=173-503&full=true

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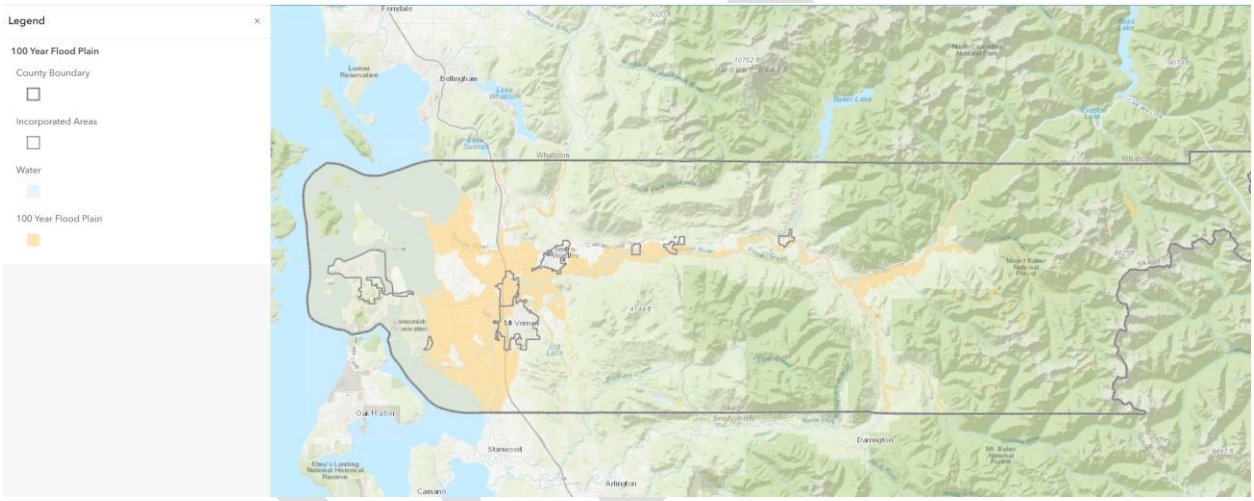
- **Flood Zone AH:** Areas with a one percent annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from one to three feet.
- **Flood Zone A1 – 30:** Special Flood Hazard Areas (SFHA) that will be inundated by a flood event having a one percent chance of being equaled or exceeded in any given year.
- **Flood Zone V1 – 30:** Coastal areas with a one percent or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26 percent chance of flooding over the life of a 30-year mortgage.

Cumulatively these zones represent the floodway and 100-year floodplain (see **Figure 33**).[96]

Figure 33: 100 Year Floodplain Areas within Skagit County



Source: Skagit County iMap "100 Year Flood Plain", n.d., https://classic.skagitcountywa.gov/maps/iMap/?mapid=a5d855713e7f4a41bf393249d8a1da7f

6.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative evaluates the potential significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

6.3.1. Impacts Applicable to All Energy Facilities

Construction

Construction of renewable energy facilities has the potential to result in temporary impacts to surface waters, groundwater resources, wetlands, floodplains, and stormwater systems. Common construction activities,

[96] Skagit County, County Code, "Frequently Flooded Areas Designations," n.d., https://www.codepublishing.com/WA/SkagitCounty/#!/SkagitCounty14/SkagitCounty1424.html#14.24.600

including vegetation clearing, grading, trenching, excavation, utility installation, road construction, and foundation development would increase the potential for soil erosion, sediment transport, and stormwater runoff. Ground disturbance may alter site-specific drainage patterns, reduce infiltration rates, and increase the potential for localized flooding during storm events.

Accidental releases of fuels, lubricants, concrete washouts, or other hazardous materials during construction could affect water quality if not properly contained. Water demands for construction activities including dust suppression, concrete production, and worker needs may require temporary use of groundwater or surface water sources.

The extent of the impacts would depend on the facility location, proximity to CARAs, wetlands, floodplains, and waterbodies, as well was the scale of the construction activities.

Operation

Operational impacts on water resources would vary among facility types but generally involve long-term changes in site hydrology, water use, stormwater management, and water quality. Facility infrastructure may alter runoff patterns, infiltration rates, and groundwater recharge by introducing impervious surfaces, compacted soils, and modified drainage systems. Some facility technologies may require ongoing water use for cooling, washing, processing, fire suppression systems, or maintenance activities, creating long-term demands on groundwater and surface water resources.

Potential water quality impacts could result from spills, leaks, wastewater generation, use of herbicides, or other chemicals associated with facility operation. Facilities located near wetlands, floodplains, shorelines, streams, or designated aquifer recharge areas may require additional protection measures to avoid adverse effects.

Decommissioning

Decommissioning impacts would involve the removal of infrastructure, foundations, utilities, roads, and site improvements, resulting in temporary disturbances similar to those that occur during construction. Ground disturbance could increase erosion, sedimentation, and stormwater runoff, while equipment operation may create opportunities for accidental releases of fuels, oils, and contaminants. Temporary water use may be necessary for dust suppression, demolition, and revegetation activities.

Mitigation Measures

Regulatory Framework

Numerous existing Federal, State, and local legislation regulating water resources will require mitigation for future energy projects. A more comprehensive list of federal, state, and local level regulations that govern water resources is as follows:

Federal Regulations

- Clean Water Act (33 U.S.C. §1251 et seq.)
  - Section 402: National Pollutant Discharge Elimination System (NPDES) permits for wastewater and stormwater discharges, as applicable.

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  - Section 404: U.S. Army Corps of Engineers permitting for dredge and fill activities in waters and wetlands, if applicable.
  - Section 401: State water quality certification for federally permitted activities affecting waters, if applicable.
- Safe Drinking Water Act (42 U.S.C. §300f et seq.)
- Rivers and Harbors Act
- Wild and Scenic Rivers Act
- National Flood Insurance Program (NFIP)

State Regulations

- Water Code of Washington (RCW 90.03)
- Washington Floodplain Management Program (RCW 86.16)
- Groundwater Code (RCW 90.44)
- Water Pollution Control Act (RCW 90.48)
- Water Quality Standards for Surface Waters of the State of Washington (Chapter 173-201A WAC)
- Skagit River Instream Flow Rule (WAC 173-503)
- Shoreline Management Act (RCW 90.58)
- Growth Management Act (RCW 36.70A)

Local Regulations

- Skagit County Critical Areas Ordinance (SCC Chapter 14.24)
- Skagit County Shoreline Master Program (SMP) (SCC Chapter 14.48)
- Land Division Ordinance (SCC Chapter 14.74)
- Stormwater Management Ordinance (SCC Chapter 14.32)
- Unified Development Code (Title 14 SCC)
  - Flood Damage Prevention Ordinance (SCC Chapter 14.34)
- Floodplain Regulations
  - Skagit County Flood Damage Prevention Ordinance (SCC Chapter 14.34)
- Stormwater Regulations and Municipal Stormwater Permit Requirements

Required Measures

Federal

- Obtain all applicable permits related to stormwater, wetlands, floodplains, stream crossings, groundwater use, and water quality
- Conduct wetland delineations and surface water assessments before facility design is finalized
- Obtain required Section 401 certifications and Section 404 permits

State

- Maintain any applicable shoreline, wetland, and stream buffer requirements

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- Obtain required water rights, water supply approvals, wastewater, and NPDES permits, as applicable.
- Obtain critical area and shoreline approvals and floodplain authorizations, as applicable.

Local

- SWPPPs, spill prevention, control and countermeasure plans
- Establish erosion and sediment control measures
- Identify nearby public water supply wells, aquifers, and groundwater recharge areas
- Compliance with the county critical areas ordinance (SCC Chapter 14.24)
- Prepare and implement required construction stormwater, erosion and sediment control, spill prevention, and water quality prevention plan.
- Obtain water right authorization and service provider approval for construction and operational water use, where applicable.

Recommended Measures for Siting and Design

- Avoid siting facilities in or near wetlands, streams, lakes, floodplains/flood zones, or riparian corridors.
- Restrict siting within CARAs.
- Minimize grading, soil compaction, and impervious surfaces and use permeable aggregate surfaces where practicable.
- Maintain appropriate setbacks and buffers from wetlands, streams, shorelines, floodplains, wells, and CARAs.
- Where practicable, require siting facility on previously developed or disturbed land.
- Where practicable, require site design to adhere to natural drainage patterns, and avoid concentration of storm water runoff.
- Where practicable, require site design to include impervious surfaces through use of permeable materials.
- Require site to provide documentation of a reliable and legally available water supply that accounts for seasonal low flow conditions, instream flow requirements, existing water users, and climate variability.
- Site design should minimize impervious surfaces and preserve natural drainage and infiltration outside the development footprint.

Recommended Measures for Construction and Decommissioning

- Require measures to avoid or reduce sediment transport into streams, wetlands, and drainage systems.
- Project-level decommissioning and restoration plans should include:
  - Removal of impervious surfaces and infrastructure during decommissioning where feasible
  - Restoration of natural drainage patterns
  - Re-establishing vegetation cover to pre-project or improved conditions
  - Monitoring and evaluation of restoration success and implement corrective actions if needed
  - Financial assurance mechanisms that remain in place throughout facility operation to support future facility removal and land restoration

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Recommended Measures for Operation

- Require ongoing inspection and maintenance for stormwater conveyance, treatment, infiltration, and flow-control facilities throughout operation.
- Require ongoing monitoring of drainage patterns, erosion, sediment accumulation, and receiving water conditions after major storm or flood events and implement corrective measures where needed.
- Designate areas for fueling, maintenance, equipment washing, and chemical handling with appropriate containment and spill response materials.
- Where feasible, operational water use should include conservation, reuse, efficient fixtures and equipment, and dry-cleaning methods.
- Where practicable, establish restrictions for the use of herbicide, pesticide, and fertilizer near surface waters, wetlands, drainage features, wells, and groundwater recharge areas and follow label and permit requirements.
- Require documentation of spill prevention and emergency response procedures and promptly contain, report, assess, and remediate releases.
- Coordinate with appropriate agencies and providers on water withdrawals and wastewater discharges to ensure continued compliance with permit conditions.

Recommended Measures for Potential Significant Unavoidable Impacts

- Require watershed-scale restoration efforts that improve instream flows, fish habitat, and floodplain function
- Conservation measures or alternative water supplies should be secured where project demand would impact instream flows or existing water users.
- Redesign or relocation of facility components where runoff, groundwater, recharge, wetland, stream, floodplain, or water supply impacts cannot be adequately controlled.
- Require the remediation of affected media and provide replacement water supplies if a facility related release affects a potable water source.

6.3.2. Solar Facilities

Construction

Construction of solar facilities in Skagit County could result in temporary impacts on surface water, groundwater, wetlands, and floodplain resources. Site clearing, grading, trenching, installation of driven piles, access road construction, and electrical infrastructure development could increase the potential for erosion and sediment transport to nearby streams, wetlands, drainage ditches, and other waterbodies depending on project scale and proximity to water resources.

Construction equipment would also introduce the potential for accidental releases of fuels, lubricants, hydraulic fluids, concrete washout, and other hazardous materials that could affect surface water quality or infiltrate groundwater in CARAs. Groundwater resources could be temporarily affected by soil compaction, excavation, and dewatering activities, which may reduce infiltration rates and alter shallow groundwater flow paths. Construction water demands for dust suppression, concrete production, and worker needs may require temporary groundwater

withdrawals or surface-water supplies, potentially increasing pressure on already appropriated water resources during low-flow periods when instream flow requirements are most restrictive.

Operation

Operation of solar facilities would generally result in fewer impacts than construction; however, long-term changes to site hydrology could occur. Solar arrays, access roads, equipment pads, and associated infrastructure may alter runoff patterns by redirecting precipitation, changing infiltration characteristics, and creating localized areas of soil compaction. These changes could reduce groundwater recharge in some locations and modify the timing and magnitude of surface-water runoff reaching adjacent streams, wetlands, or drainage systems. Water use associated with facility maintenance, including periodic panel washing, could create an ongoing demand for water resources.

Although individual facilities typically require relatively low quantities of water compared to agricultural irrigation, cumulative water demand from multiple facilities could be important when considered alongside existing municipal, industrial, and agricultural water uses within the county. Potential water-quality impacts may occur from herbicide application, septic system operation, spills from transformers or backup generators, and runoff associated with maintenance activities. Emergency events, including fires, could also generate contaminated runoff capable of affecting nearby surface waters or groundwater resources if not properly contained.

Decommissioning

Decommissioning activities would involve removal of solar panels, foundations, electrical equipment, access roads, and associated infrastructure. Similar to construction, temporary ground disturbance could increase erosion, sedimentation, and stormwater runoff, potentially affecting nearby streams, wetlands, and drainage features. Equipment removal activities would create opportunities for accidental releases of fuels, oils, or other contaminants if improperly managed. However, unlike construction, decommissioning would generally result in long-term restoration benefits by removing impervious infrastructure and allowing natural infiltration processes to recover.

Mitigation Measures

Recommended Measures for Siting and Design

- Panel rows, access roads, equipment pads, and drainage features should maintain runoff and existing drainage patterns.
- Panel spacing, groundcover, swales, and energy-dissipation features should be designed to prevent concentrated runoff and erosion.
- Locate transformers, inverters, generators, chemical storage, and panel washing areas away from water resources and provide secondary containment where warranted.

Required Measures

- Refer to measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- During construction, require phased clearing and grading to limit the area of exposed soil and stabilize disturbed areas promptly.

- Require erosion and sediment control BMPs at panel rows, access roads, trenches, stockpiles, stream crossings, and drainage outfalls.
- Restrict the locations of equipment fueling, maintenance, concrete washout, and material storage to avoid wetlands, streams, wells, drainage features, and flood prone areas.
- Require dewatering controls and restrict discharge treatment where utility trenching or excavation could intercept groundwater or release sediment.
- During decommissioning, require the removal of impervious surfaces and unneeded access roads, restore drainage patterns, decompact soils, and revegetating disturbed areas.

Recommended Measures for Operation

- Require ongoing maintenance to ensure continuous vegetative cover beneath and between panel rows where compatible with facility operation and fire safety.
- Require periodic inspections to panel drip lines, swales, culverts, access roads, and outfalls for erosion, scour, ponding, or sediment accumulation.
- During operation, require cleaning products and vegetation management chemicals that minimize risks to surface water and groundwater.
- Require ongoing maintenance of equipment that may be at risk for leaks, fires, or releases.

Recommended Measures for Potential Significant Unavoidable Impacts

- Require facility components to be redesigned or relocated where runoff, groundwater, recharge, wetland, stream, floodplain, or water supply impacts cannot be adequately controlled.
- Compensatory wetland, stream, riparian, or floodplain mitigation should be provided consistent with applicable agency requirements.
- Where project water demand would impact instream flows or existing water users, secure mitigation water, conservation measures, or alternative water supplies.

6.3.3. Battery Energy Storage Systems (BESS)

Construction

Construction of battery energy storage systems (BESS) would produce impacts generally similar to those associated with all facilities. Site grading, installation of concrete pads, foundations, electrical infrastructure, and stormwater facilities could increase erosion, sedimentation, and runoff to nearby water resources. Additional impervious surfaces associated with battery enclosures and equipment pads may locally reduce infiltration and groundwater recharge.

Operation

Operational impacts associated with BESS facilities are primarily related to water quality rather than water quantity. Modern battery systems contain chemical components that could affect surface water or groundwater if released during equipment failure, fire, flooding, or physical damage. Fire suppression runoff may contain dissolved metals, electrolytes, or other contaminants and has the potential to affect adjacent streams, wetlands, drainage facilities, or aquifers if containment measures fail. Risks would be greatest where facilities are located within flood-prone areas, CARAs, or near sensitive aquatic resources.

Secondary containment systems, emergency response plans, stormwater controls, and compliance with National Fire Protection Association (NFPA) standards substantially reduce the likelihood and severity of such impacts. Because BESS facilities do not typically require large operational water withdrawals, impacts to water availability and water rights would be minimal.

Decommissioning

BESS decommissioning could result in temporary disturbances similar to construction activities and would require careful handling of batteries and associated hazardous materials. Improper removal, transportation, or disposal activities could create risks of chemical releases to soil, groundwater, or surface water.

Mitigation Measures

Recommended Measures for Siting and Design

- Request secondary containment, curbing, shutoff controls, and lined or impervious collection areas around battery containers, transformers, and chemical storage areas.
- Include emergency water supply and containment systems in coordination with responders so contaminated suppression water cannot infiltrate surface and groundwater.

Required Measures

- Prepare and implement spill prevention, hazardous materials, fire response emergency response, and contaminated runoff management procedures specific to the facility technology.
- Comply with applicable stormwater, CARA, floodplain, hazardous materials, fire code, and waste management permits, restrictions, and requirements.
- Prepare facility specific water balance, cooling water, wastewater, stormwater, spill prevention, emergency response, and decommissioning plans.

Recommended Measures for Construction and Decommissioning

- Require battery unit inspection before installation, removal, and transport and isolate damaged or leaking units in contained areas.
- Require battery staging, damaged unit storage, equipment maintenance, and waste handling to be away from water resources and drainage pathways.
- After decommissioning, require drainage restoration, concrete pads and impervious surfaces removal, soil decompaction, and site-wide revegetation.

Recommended Measures for Operation

- Ongoing inspection of battery containers, cooling systems, transformers, piping, seals, and containment areas should be conducted to check for leaks, corrosion, damage, or evidence of water intrusion.
- Facilities should maintain ongoing maintenance of spill kits, drain covers, temporary berms, and compatible containment materials onsite during battery handling. If a release occurs, require characterization and remediation of affected soil, groundwater, sediment, or stormwater.
-
- Maintain stormwater isolation valves, containment capacity, leak detection, alarms, and emergency shutdown systems.

- Inspection of facilities following storms or major weather events should be conducted and damaged materials and equipment should be removed.

Recommended Measures for Potential Significant Unavoidable Impacts

- Increase containment capacity, relocate equipment, or redesign drainage where incidents could release runoff beyond the site.
- Where incidents could release runoff beyond the site, require an increase in containment capacity, the relocation of equipment, or the redesign of drainage.
- Project specific surface water and groundwater monitoring should occur where/when site conditions indicate a potential contaminant pathway.

6.3.4. Fusion Small Modular Reactors (Fusion SMRs)

Construction

Construction of fusion SMRs would likely result in greater water-resource impacts than solar or BESS facilities because of the larger and more intensive site development requirements. Excavation, foundation construction, utility installation, and development of cooling-water infrastructure could increase erosion, sedimentation, and runoff to nearby water resources. Deep excavation and dewatering may locally alter groundwater levels and flow patterns, while extensive impervious surfaces could reduce infiltration and groundwater recharge.

Water demands for concrete production, dust suppression, testing, and construction operations may require substantial short-term withdrawals from groundwater or surface-water systems. In watersheds already constrained by instream flow requirements or limited water availability, acquisition of adequate water rights could be a significant consideration during project development.

Operation

Operation of fusion SMRs has the greatest potential for long-term impacts to water resources because cooling and process systems may require continuous water supplies. Depending on facility design, water withdrawals could affect local water availability, stream flows, and aquifer levels, particularly during seasonal low-flow conditions.

Wastewater generation, cooling-water discharges, and water treatment processes may also affect water quality if not properly managed. Although fusion technologies do not produce the same waste associated with conventional nuclear reactors, accidental releases involving cooling systems or other regulated process materials could affect surface water or groundwater resources depending on project design.

Decommissioning

Fusion SMR decommissioning would involve dismantling cooling infrastructure, process systems, buildings, and utilities. Temporary construction-like impacts to surface water quality, erosion, and stormwater management would occur during demolition and site restoration. Water quality impacts could result from removal of cooling systems, wastewater treatment components, and regulated process infrastructure. Once facilities are removed and disturbed areas restored, infiltration and groundwater recharge functions would gradually return toward baseline conditions, reducing long-term hydrologic impacts.

Mitigation Measures

Recommended Measures for Siting and Design

- Prioritize closed-loop, dry, hybrid, reclaimed water, or other cooling designs that minimize freshwater withdrawals and consumptive use where technically feasible.
- Facilities should be sited away from wetlands, streams, shorelines, floodways, CARAs, and areas where dewatering or excavation would substantially alter groundwater flow.
- Cooling water intake and discharge systems should be designed to prevent erosion, excessive temperature changes, and adverse effects on aquatic resources.
- Include redundant containment, leak detection, isolation, wastewater treatment, and monitoring for cooling water and regulated process water systems.

Required Measures

- Obtain and maintain applicable federal and state licenses and approvals for radioactive materials and radiation-producing equipment.
- Compliance with the containment, handling, inspection, transportation, and waste disposal measures as required under state and federal nuclear regulations.
- Require project-specific characterization of water supply, demand, consumption, cooling needs, wastewater generation and discharge, and water reuse, as applicable to the proposed facility design.
- Require measures to prevent and respond to spills or releases that could affect surface water or groundwater, consistent with applicable federal and state regulatory requirements.
- Require stormwater, wastewater, and cooling-water management measures consistent with applicable permits and regulatory requirements in coordination with federal and state agencies.

Recommended Measures for Construction and Decommissioning

- Phased excavation, dewatering controls, water treatment, and discharge monitoring should be used to avoid contamination of nearby wells, wetlands, and surface waters.
- During construction, require ongoing monitoring of groundwater levels and settlement where deep excavation or prolonged dewatering could alter groundwater conditions.
- During construction and decommissioning, require measures to contain washouts, fuels, chemicals, cooling system fluids, and regulated materials from drainage pathways.
- During decommissioning, require restoration of drainage, infiltration, floodplain function, and vegetation removal of facility infrastructure.

Recommended Measures for Operation

- Require ongoing metering and reporting of water withdrawals, consumptive use, wastewater generation, discharge volumes, and relevant water quality parameters, as appropriate.
- Require drought and low-flow operating procedures, including reduced withdrawals or alternative supplies where required to protect instream flows and water rights.
- Require routine inspections and maintenance of cooling water, wastewater, containment, leak detection, and stormwaters system to identify and prevent leaks, failures, and accidental releases.

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Recommended Measures for Potential Significant Unavoidable Impacts

- If water demand cannot be met without significant impacts, require the reduction of facility capacity, the modification of cooling technology, the provision of reclaimed or alternative water supplies, or the relocation of the facility.
- Require habitat, wetland, riparian, floodplain, or streamflow mitigation developed with applicable agencies where significant unavoidable adverse impacts remain.
- Require long term groundwater, surface water, and discharge monitoring with adaptive management and enforceable response thresholds.

6.3.5. Renewable Fuel Facilities

Construction

Construction of renewable fuel facilities, including renewable natural gas, biodiesel, and other renewable fuel technologies, would be similar to other industrial facilities and could affect water resources through grading, excavation, utility installation, and construction of processing infrastructure. Additionally, temporary erosion, sedimentation, stormwater runoff, and accidental spills or leaks of fuels or construction materials could affect streams, wetlands, drainage ditches, groundwater, and floodplain resources.

Operation

Renewable fuel facilities may have high operational water demands. Water may be required for feedstock processing, cooling, cleaning, steam generation, wastewater treatment, hydrogen production, or other industrial processes. As a result, long-term withdrawals could affect water availability and water rights, particularly in areas where existing agricultural irrigation already represents a major water use.

Wastewater generation and management would be a key consideration because process water may contain nutrients, organic compounds, residual feedstocks, treatment chemicals, and other constituents requiring treatment before discharge or reuse.

Additional water risks include leaks or spills from storage tanks, digesters, pipelines, wastewater treatment systems, and fuel handling facilities. If not properly managed, these releases could affect surface waters, groundwater, wetlands, and CARAs.

Decommissioning

Decommissioning of renewable fuel facilities could result in temporary water-quality impacts associated with demolition, removal of processing equipment, treatment systems, storage tanks, and associated infrastructure. Residual fuels, wastewater, chemicals, and process byproducts could be released if facilities are not properly cleaned and decommissioned prior to dismantling. Ground disturbance would also increase the potential for erosion and sediment transport.

Mitigation Measures

Recommended Measure for Siting and Design

- Facilities should be sited where a reliable water supply and adequate wastewater treatment or discharge capacity are available without impairing instream flows, water rights, or public water supplies.

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- Avoid wetlands, streams, shorelines, floodways, CARAs, and areas where spill or emergency response water could readily reach surface or groundwater.
- Encourage secondary containment, leak detection, overfill protection, isolation valves, and lined collection systems for tanks, pipelines, process equipment, and loading areas.
- Design should include wastewater treatment, storage, reuse, and discharge systems for the expected flow and pollutant characteristics associated with the facility feedstock materials and processes, where applicable.
- Encourage use of water conservation practices and reuse of treated wastewater where feasible.

Required Measures

- Obtain required water rights or water service approvals and applicable wastewater, NPDES, pretreatment, stormwater, shoreline, critical area, and floodplain permits, as applicable.
- Prepare and implement facility specific spill prevention, hazardous materials, wastewater management, stormwater, emergency response, emergency water containment, and closure plans.
- Prepare facility specific water balance, wastewater, stormwater, spill prevention, emergency response, and decommissioning plans.

Recommended Measures for Construction and Decommissioning

- During construction and decommissioning, require measures that protect tanks, pipelines, digesters, wastewater systems, and loading areas from construction damage and verify integrity before removal.
- Contain residual fuels, feedstock, treatment chemicals, and catalysts and manage them through approved reuse, treatment, or disposal pathways.
- Require appropriate erosion and sedimentation controls and stabilize all disturbed on the project site.

Recommended Measures for Operation

- Require ongoing metering of water use and wastewater generation and maintain records sufficient to identify leaks or releases.
- Require periodic inspections to verify leak detection, overfill prevention, secondary containment, isolation, and emergency shutdown systems.
- Use treated water, reclaimed water, or closed-loop systems where feasible, to reduce freshwater demand.

Recommended Measures for Potential Significant Unavoidable Impacts

- Where water demand or wastewater loads would exceed available capacity, impose a limit on production, require the modification of facility processes, or require secure alternative water supplies.
- Require tanks, pipelines, or wastewater facilities to be relocated where spill pathways to sensitive waters cannot be adequately controlled.
- Require the implementation of long-term surface and groundwater monitoring where any residual contamination risks remain.
- Require compensatory wetland, stream, riparian, floodplain, or habitat mitigation where unavoidable impacts remain after avoidance and minimization.

6.4. No Action Alternative Analysis

Under the No Action Alternative, Skagit County would retain its existing development regulations and the selected energy facilities would continue to be reviewed and permitted under current local, state, and federal regulatory frameworks as described in the in the **Energy Permitting** section. Depending on the type and characteristics, proposed facilities could be reviewed either through Skagit County's existing minor and major utility development processes or through the Washington State Energy Facility Evaluation Council (EFSEC) process where certification is required or voluntarily elected by the applicant.

6.4.1. Impacts from Construction, Operation, and Decommissioning Under Current Processes

In regard to water resources, projects reviewed through County permitting processes would continue to be subject to existing requirements relating to critical aquifer recharge areas, flood hazard areas, stormwater management, shorelines, wetlands, water quality, and water rights. Projects reviewed through EFSEC would undergo environmental review addressing potential impacts to surface waters, groundwater resources, water quality, wetlands floodplains, and aquatic habitats. EFSEC may require project-specific avoidance, minimization, monitoring, and mitigation measures through the Site Certification Agreement process. In addition, EFSEC possesses authority to preempt local land use plans, zoning ordinances, and development regulations for certified facilities. As a result, some future projects may be approved through EFSEC certification rather than County-specific permitting pathways, with water resource protections provided through state and federal permitting requirements and EFSEC-imposed conditions.

Primary impacts of concern are soil erosion, sediment transport, and stormwater runoff, as well as the alteration of site-specific drainage patterns, reduction in infiltration rates, use or contamination of surface water or groundwater, and increase in the potential for localized flooding during storm events. Multiple energy facilities developed over time may contribute to cumulative effects on stormwater runoff patterns, groundwater recharge, water withdrawals, wetland functions, and aquatic habitat conditions. The degree and scale of impacts would vary based on facility size, location, design, and construction methods. For further analysis of the selected energy facilities, refer to the impacts analyzed under the **Summary of Alternatives** section.

6.4.2. Mitigation Measures

Under the No Action Alternative, cumulative water resource impacts would continue to be evaluated during individual project reviews, but the County would not establish a programmatic framework to consistently evaluate or manage watershed-scale effects associated with future energy development. Additionally, under the No Action Alternative, the County would not adopt additional energy-facility-specific siting criteria designed to discourage development in environmentally sensitive areas or reduce conflicts with flood-prone and ecologically important landscapes.

Additional mitigation and minimization measures applicable to the no action alternative can be found under the **Mitigation Measures** applicable to all energy facilities.

6.4.3. Significant Unavoidable Adverse Impacts

For facilities certified through EFSEC, local development regulations may be preempted through the state certification process. Consequently, water resource protections for some future facilities may be implemented through EFSEC-imposed conditions and state and federal permitting requirements rather than County-developed standards. Although environmental review and permitting would still occur, the County would have less direct authority over the application of locally tailored water resource protection measures.

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7. Biological Resources

7.1. Overview

The Biological Resources section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures, associated with plant, animal, and habitat features within Skagit County.

Federally, the Endangered Species Act (ESA) establishes protections for fish, wildlife, and plants, monitors species and modifies statuses, as well as implements mitigation and recovery plans. Under the ESA, protected fish, wildlife, and plants are generally categorized into one in four groups:

- **Endangered**: A species that is in danger of extinction throughout all or a significant portion of its range. Endangered species often receive the highest level of protection under the ESA.
- **Threatened**: A species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Threatened species are protected under the ESA, although conservation measures may vary by species.
- **Candidate**: A species for which the U.S. Fish and Wildlife Service (USFWS) has sufficient information on biological vulnerability and threats to support listing under the ESA but for which a formal proposed rule has not yet been issued.
- **Proposed**: A species for which the federal government has published a proposal to list the species as threatened or endangered, but the listing has not yet been finalized.

When species are proposed for listing as endangered or threatened under the ESA, specific areas are identified that are essential to its conservation. These areas are called **critical habitat**. While critical habitat does not prevent all development or other activities from occurring, it may trigger additional mitigations needed to minimize harm. Generally, only activities that involve a federal permit, license, or funding, and are likely to destroy or adversely modify critical habitat will be affected.

Nationally, vegetation and wildlife may also be considered a Species of Greatest Conservation Need (SGCN) or Species of Greatest Information Need (SGIN), in addition to their listing status. These groupings were established in the 2005 Comprehensive Wildlife Conservation Strategy (CWCS) which requires proactive statewide wildlife action plans to be developed by all 50 U.S. states and territories. SGCN are wildlife species that need conservation attention as listed in action plans.[97] SGIN signals significant data gaps in necessary species information and generally applies to potentially at-risk plant and animal species.

On a state level, the Washington Department of Fish and Wildlife (WDFW) maintains a database of threatened and endangered species that are at risk of state extinction. Additionally, WDFW established the Priority Habitat and Species (PHS) program, that identifies and transfers information about fish and wildlife to local governments,

[97] U.S. Geological Survey, "Species of Greatest Conservation Need National Database, 2005–2022," n.d., https://www.usgs.gov/data/species-greatest-conservation-need-national-database-2005-2022

landowners, and others who use it guide habitat protection decisions. PHS information is used primarily by cities and counties to implement and update land use plans and development regulations.

The conditions analyzed in this section include:

- Federally and state protected species
- Aquatic habitats and fisheries
- Species of greatest conservation need and species of greatest information need
- Critical habitats and wildlife connectivity
- Fish and wildlife habitat conservation areas
- Vegetation
- Conservation lands

7.2. Existing Conditions

The study area for biological resources encompasses the overall Skagit County area and its various habitats, including the greater Puget Sound and Salish Sea.

7.2.1. Critical Areas

Critical areas are environmentally sensitive areas regulated through Skagit County's Critical Areas Ordinance (CAO). Development within or adjacent to critical areas may be subject to buffers, setbacks, mitigation requirements, and additional environmental review to protect ecological functions and public safety. The location and extent of critical areas can influence the suitability of lands for future development. Critical areas within Skagit County include:

- Wetlands
- Fish and wildlife habitat conservation areas
- Frequently flooded areas
- Geologically hazardous areas
- Critical aquifer recharge areas
- Shoreline environments

Shoreline land uses and land use modifications in Skagit County are regulated by Washington's Shoreline Management Act (SMA) and the Skagit County Shoreline Master Program (SMP). The SMP is intended to balance shoreline use and development with public access, ecological protection, and preservation of shoreline resources.

7.2.2. Federal and State Protected Species

The USFWS Information for Planning and Consultation (IPaC) review identified multiple federally protected species that may occur in or near the Skagit County study area, including threatened, endangered, and proposed-listed mammals, birds, fish, amphibians, insects, and plants. In addition, numerous wildlife species within Skagit County are protected under Washington State Regulations and may be classified by the Washington Department of Fish and Wildlife (WDFW) as endangered, threatened, sensitive, candidate, or otherwise protected species. See **Table 9**for species status listings on both a federal and state level.

Table 9. Federal and State Protected Species

Name	Scientific Name	Federal Listing Status	State Listing Status	Critical Habitat in Skagit County
Mammals				
Canada Lynx	*Lynx canadensis*	Threatened	Threatened	X
Gray wolf	Canis lupus	Endangered	Endangered	
North American wolverine	*Gulo gulo luscus*	Threatened	Threatened	
Amphibians				
Oregon spotted frog	*Rana pretiosa*	Threatened		X
Reptiles				
Northwestern pond turtle	*Actinemys marmorata*	Proposed Threatened	Endangered	
Birds				
Marbled Murrelet	*Brachyramphus marmoratus*	Threatened	Threatened	X
Mt. Rainier white-tailed ptarmigan	*Lagopus leucura rainierensis*	Threatened	Threatened	
Northern spotted owl	*Strix occidentalis caurina*	Threatened	Threatened	X
Yellow-billed Cuckoo	*Coccyzus americanus*	Threatened	Threatened	
Fishes				
Bull Trout	*Salvelinus confluentus*	Threatened	Threatened	X
Insects				
Monarch butterfly	*Danaus plexippus*	Proposed Threatened	Proposed Threatened	
Suckley's cuckoo bumble bee	*Bombus suckleyi*	Proposed Endangered	Proposed Endangered	
Conifers and Cycads				
Whitebark pine	*Pinus albicaulis*	Threatened	Threatened	

Source: USFWS and WDFW, 2026

7.2.3. Aquatic Habitats and Fisheries

Aquatic resources are among the most abundant biological assets in Skagit County. The Skagit River system is the largest watershed draining into Puget Sound and supports extensive riverine, floodplain, estuarine, and nearshore

habitats. The watershed provides habitat for salmon recovery in the Puget Sound region including critical spawning, rearing, migration, and estuarine habitats for numerous salmon populations.

Salmonid populations, such as Chinook, coho, chum, pink, sockeye, and steelhead, commonly grouped in as "anadromous fish", are a keystone species of the area due to both their ecological and cultural significance.

Ecologically, salmonids utilize the Skagit River and its tributaries during various stages of their life cycles. Estuarine habitats within the Skagit Delta serve as a transitional environment for juvenile salmon migrating between freshwater and marine ecosystems. Salmonids not only inhabit the waterways of Skagit County, but they sustain more than 100 other species by both being their source of food and by returning essential nutrients to the streams where they die.[98]

Beyond their ecological importance, anadromous fish are central to the cultural identity, treaty-reserved rights, and traditional lifeways of Indigenous communities in the region, including the Swinomish Indian Tribal Community, Samish Indian Nation, Upper Skagit Indian Tribe, Sauk-Suiattle Indian Tribe, and other Coast Salish peoples.[99] Under treaties negotiated in the 1850s, including the Treaty of Point Elliott, Tribal Nations reserved the right to fish at their usual and accustomed fishing grounds, making the protection and recovery of salmon populations closely tied to Tribal sovereignty and cultural continuity.[100]

Additionally, bull trout, a federally listed threatened species, also occur within portions of the watershed rely on cold, connected aquatic habitats for survival. The protection and restoration of aquatic habitat connectivity, water quality, streamflow processes, riparian vegetation, and estuarine function are important considerations for future development within the county.

7.2.4. Species of Greatest Conservation Need and Species of Greatest Information Need

The Washington State Wildlife Action Plan identifies numerous Species of Greatest Conservation Need (SGCN) that may occur within Skagit County. These species include wildlife populations that are declining, vulnerable to habitat loss, or dependent upon rare or sensitive ecosystems. Species of conversation concern occur across a variety of habitat types, including marine shorelines, estuaries, wetlands, rivers, mature forests, alpine environments, and agricultural landscapes. Conservation efforts in Skagit County are focused on maintaining habitat connectivity, protecting priority habitats, conserving biodiversity, controlling invasive species, and climate change.

In addition to SGCN, the Washington State Wildlife Action Plan identifies Species of Greatest Information Need (SGIN). While SGCN are known to be declining or at risk, SGIN represent knowledge gaps where basic research and monitoring are required before proper conservation steps can be assigned. The 2025 Washington State Wildlife Action

[98] Washington Recreation and Conservation Office, "State Board Awards Nearly $76 Million in Grants to Recover Salmon," *Recreation and Conservation Office*, released September 26, 2022, State Board Awards Nearly $76 Million in Grants to Recover Salmon.
[99] Northwest Indian Fisheries Commission, "Agreement: Dam Operator Will Invest in Salmon Recovery," released March 16, 2026, https://nwtreatytribes.org/agreement-dam-operator-will-invest-in-salmon-recovery/
[100] Washington State Governor's Office of Indian Affairs, "Treaty of Point Elliott, 1855," n.d. https://goia.wa.gov/resources/treaties/treaty-point-elliott-1855

Plan identifies 180 SGIN species statewide across multiple taxonomic groups, including birds, fishes, mammals, insects, mollusks, and other invertebrates.[101]

7.2.5. Critical Habitats and Wildlife Connectivity

Skagit County contains a diverse network of interconnected terrestrial, freshwater, estuarine, marine, and alpine habitats that support a wide variety of fish and wildlife species. Major habitat types include coniferous and mixed forests within the foothills and North Cascades, riparian corridors associated with the Skagit, Sauk, Suiattle, Baker, Cascade, and Samish river systems, freshwater and estuarine wetlands, agricultural lands, marine shorelines, eelgrass beds, tidal marshes, mudflats, and nearshore habitats of Puget Sound. Collectively, these ecosystems form an extensive habitat network that supports breeding, foraging, overwintering, and migration functions for numerous species throughout the county.

The Skagit Wildlife Area is in Skagit, Island, San Juan and Snohomish counties and is comprised of 21 management units totaling 18, 138 acres.[102] The Skagit River and estuary provides critical habitat for a variety of native fish species, including federally listed Skagit Chinook Salmon, bull trout, and steelhead trout, as well as a variety of wildlife, including shorebirds, ducks, geese, swans, raptors, river otters, beavers, and harbor seals. Additionally, each winter this delta serves as a significant refuge for waterfowl, including core habitat for trumpeter swans and snow geese within the Pacific Flyway.

The Washington Department of Fish and Wildlife (WDFW) is a member of the Washington Wildlife Habitat Connectivity Working Group (WHCWG), which in part works to identify key wildlife habitat connectivity linkage networks at the statewide level. The analysis showed land around the Skagit River as a major habitat corridor connecting large blocks of contiguous, mostly protected habitat in the upper watershed (see **Figure 34**).[103]

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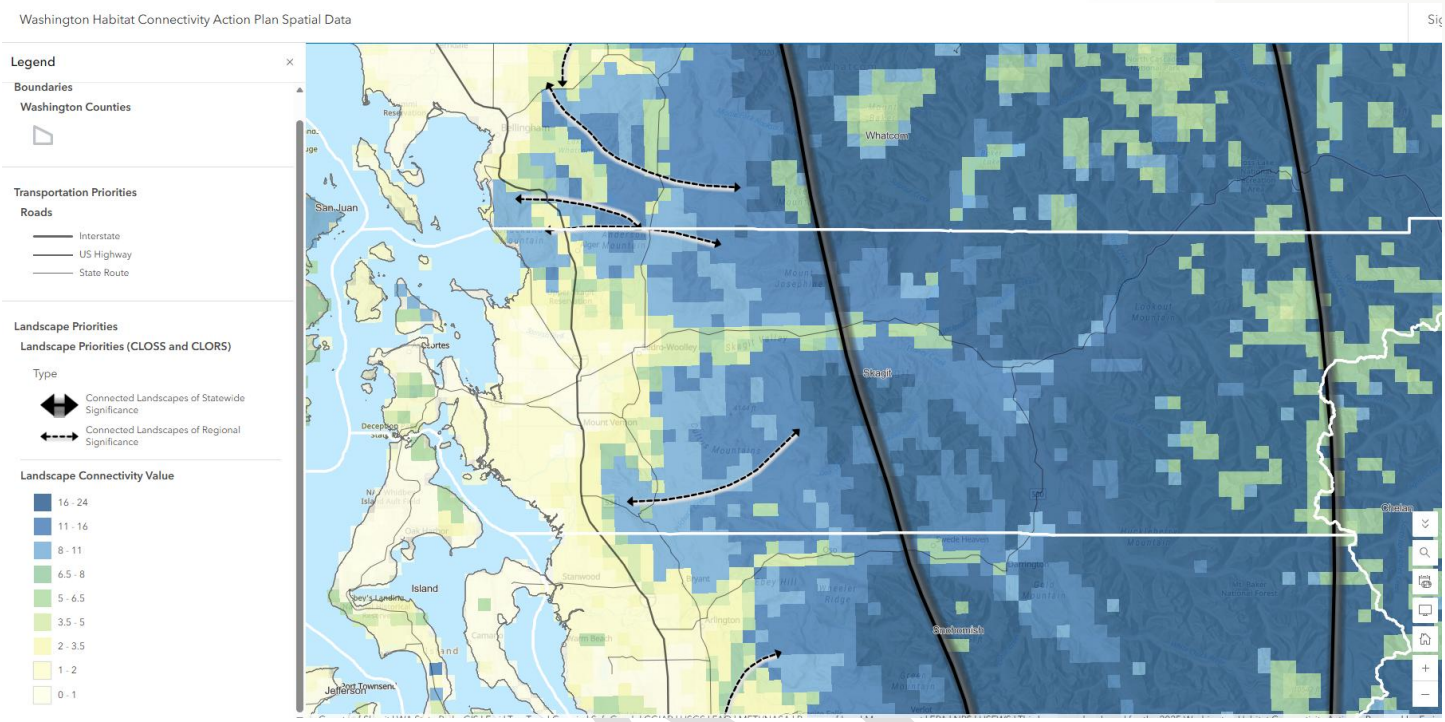
[101] Washington Department of Fish and Wildlife, "Washington State Wildlife Action Plan," published December 15, 2025, https://wdfw.wa.gov/publications/02665
[102] Washington Department of Fish and Wildlife, "Washington State Wildlife Action Plan," published December 15, 2025, https://wdfw.wa.gov/publications/02665
[103] Washington Department of Fish and Wildlife, "ArcGIS Map Viewer (interactive map)," n.d., https://wdfw.maps.arcgis.com/apps/mapviewer/index.html?webmap=cd2f9ff6e6cf47fb8630daa02a70c45f

Figure 34: Wildlife Connectivity Map



Source: Washington State Department of Fish and Wildlife, Washington Habitat Connectivity Action Plan Spatial Data, n.d., https://www.arcgis.com/apps/mapviewer/index.html?webmap=cd2f9ff6e6cf47fb8630daa02a70c45f

The Skagit Unit provides stepping stones for species movements, and especially for populations of lower mobility species that would otherwise be isolated if the landscape was entirely agriculture or developed. Generally, lower mobility species are defined as animals with a short dispersal range or limited ability to move across landscapes. More specifically, this would include small, slow-moving species that require specific ambient conditions, such as moisture and light, e.g. aquatic reptiles (turtles) and amphibians (frogs, toads, salamanders).[104]

7.2.6. Fish and Wildlife Habitat Conservation Areas

Skagit County has designated Fish and Wildlife Habitat Conservation Areas (FWHCA) as listed in Washington state code.[105]

These areas generally include:

- Areas with which endangered, threatened, and sensitive species have a primary association
- Habitats and species of local important that have been designated by the county
- All public and private tidelands suitable for shellfish harvest
- Kelp and eelgrass beds, herring and smelt spawning areas

[104] Washington Department of Fish and Wildlife, "Washington Habitat Connectivity Action Plan," published June 30, 2025, https://wdfw.wa.gov/publications/02630
[105] Washington State, Washington Administrative Code, "Fish and Wildlife Habitat Conservation Areas," n.d., https://app.leg.wa.gov/wac/default.aspx?cite=365-190-130.

- Natural occurring ponds under 20 acres with submerged aquatic beds that provide fish or wildlife habitat as defined by Washington state code
- Waters of the State as defined by Washington state code
- Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity
- Areas with which anadromous fish species have primary association
- State natural area preserves and natural resource conservation areas
- Other aquatic resource areas
- Forage fish spawning areas
- State priority habitats and areas associated with State priority species as defined in Washington state code, or documented in WDFW Priority Habitats and Species List
- Areas of rare plant species and high-quality ecosystems as identified by the Washington State Department of Natural Resources through the Natural Heritage Program

At the time of this document, the Skagit County code requires any project within 200 feet of a fish and wildlife habitat conservation area outside the special flood hazard area (SFHA) or within the protected review area to complete a FWHCA site assessment.[106] Protected review areas are comprised of, and shall be the greater of, those lands that lie within the boundaries of the floodway, the riparian habitat zone (RHZ), and the channel migration area (CMA).

7.2.7. Vegetation

Dominant vegetation communities in Skagit County include Douglas-fir, western hemlock, and western red cedar forests, which characterize much of the county's forested landscape. Riparian areas are commonly dominated by black cottonwood, red alder, and associated shrub communities. Estuarine and wetland habitats include vegetation such as sedges, rushes, cattails, bulrushes, eelgrass, and salt march species adapted to tidal conditions. Alpine and subalpine environments contain specialized vegetation communities shaped by high elevations, short growing seasons, and harsh climatic conditions.

Many of these dominant species are also native plants that have adapted over thousands of years to the region's unique environmental conditions. Native vegetation communities provide ecological functions including erosion control, water quality protection, carbon storage, wildlife habitat, and support for pollinators and other beneficial species.[107]

Invasive and noxious plant species are present throughout Skagit County and can adversely affect native vegetation communities, wildlife habitat quality, agricultural productivity, and ecosystem functions.[108] Common invasive species include knotweed, Scotch broom, Himalayan Blackberry, reed canary grass, and other invasive plants that may displace native vegetation, alter hydrologic conditions, increase erosion, or reduce habitat value.

[106] Skagit County, Wash., Code § 14.24.500, "Fish and Wildlife Habitat Conservation Areas," n.d., https://www.codepublishing.com/WA/SkagitCounty/#!/SkagitCounty14/SkagitCounty1424.html#14.24.500
[107] Skagit Conservation District, "Native Plants," n.d., https://www.skagitcd.org/native-plants
[108] Skagit County Noxious Weed Control Board, "Skagit County Noxious Weed List," n.d., https://www.skagitcounty.net/Departments/NoxiousWeeds/weedlist.htm.

7.2.8. Conservation Lands

Skagit County contains an extensive network of protected conservation lands that preserve ecological resources, maintain habitat connectivity, protect working landscapes, and support public recreation. One of the largest and ecologically significant conservation complexes is the Skagit Wildlife Area, managed by the WDFW. As previously mentioned, this wildlife area provides important habitat for migratory birds, raptors, waterfowl, salmon, and numerous state and federally protected species.

Additional conservation lands throughout the county are owned or managed by organizations such as the Skagit Land Trust, which protects numerous conservation areas, wildlife corridors, wetlands, forests, shorelines, agricultural landscapes, and stream habitats. These lands help maintain connectivity between the North Cascades, the Skagit River watershed, the Skagit Delta, Padilla Bay, Samish Bay, and the marine environments of Puget Sound.

7.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative evaluates the potential significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

7.3.1. Impacts Applicable to All Energy Facilities

Construction

Construction of renewable energy facilities has the potential to affect biological resources through vegetation clearing, grading, excavation, road construction, utility installation, and establishment of laydown areas and temporary workspaces. These activities may result in the direct loss of vegetation, reduced plant growth and reproduction, habitat alteration, and temporary displacement, disturbance, or mortality of wildlife due to noise, vibration, lighting, vehicle activity, and increased human presence.

The magnitude of potential impacts on wildlife depends on how long construction takes, whether activities occur during the day or night, and whether activities overlap with nesting, breeding, rearing, migration, wintering, or other sensitive seasonal periods. Low-mobility species, including reptiles, amphibians, burrowing mammals, invertebrates, and ground-nesting birds, are generally more vulnerable to construction related impacts than higher mobility species. Vehicle collisions could result in wildlife injury or mortality. Impacts on special-status species would be greater than those described for non-special-status species because special-status species populations may be more sensitive to disturbance, geographically restricted, dependent on specific habitat features, or vulnerable to small changes in survival, reproduction, or habitat connectivity. Project-level review should identify whether proposed facility components overlap known or suitable habitat for federal or state special-status species and whether surveys, seasonal timing restrictions, buffers, or agency consultation are warranted.

Habitat loss may reduce opportunities for wildlife to forage, shelter, migrate, nest, and breed/spawn. Impacts on special status habitats, including wetlands, riparian corridors, priority habitats, and other sensitive habitat

features, would be similar to those affecting other habitats but may be greater because these habitats support more sensitive species, are often limited in extent, may be difficult to restore, or already subject to regional development pressures. The magnitude of impacts would depend on the number, configuration, and overall size of facility components; the location and extent of roads, gen-tie corridors, pipelines, water infrastructure, and security fencing; and the level of lighting, noise, dust, and long-term vegetation management required.

Construction activities may also increase the potential for invasive plant establishment through soil disturbance and equipment traffic. Where the construction occurs near streams, wetlands, riparian areas, or other aquatic habitats, sedimentation, altered drainage patterns, and accidental spills or releases of fuels or other contaminants could adversely affect aquatic species and habitat quality. Permanent degradation, conversion, or fragmentation of habitat supporting special-status species or important wildlife movement corridors could result in significant adverse biological impacts.

Operations

Operational impacts generally consist of the long-term effects associated with habitat conversion, vegetation management, facility maintenance, lighting, security infrastructure, vehicle traffic, noise, and human activity. Operation of energy facilities may reduce habitat availability, alter habitat structure and ecological functions, impede wildlife movement, and contribute to long-term fragmentation of terrestrial habitats. Vegetation maintenance activities, including mowing, herbicide application, and invasive species control, may affect plant communities' composition and wildlife use of the facility areas.

Species occupying adjacent habitats may experience reduced habitat quality due to chronic disturbance from facility operations. Long-term operational impacts may also occur if facilities affect migration routes, breeding habitat, foraging opportunities, or habitat connectivity for special-status species. Aquatic and wetland resources may be affected where operational activities alter drainage patterns, water quality, or riparian conditions.

Decommissioning

Decommissioning activities typically result in impacts similar to construction, including temporary vegetation removal, ground disturbance, increased noise, truck traffic, and human activity associated with dismantling infrastructure and restoring disturbed areas. Habitat disturbance would generally occur in areas previously disturbed during construction and operations. The degree of impact would vary depending on the extent to which vegetation and habitat functions had recovered during the operational phase and the amount of grading, equipment removal, soil stabilization, revegetation, and weed control required. Restoring some habitat types, such as special status habitats, may take decades and may not fully replace lost habitat functions without long-term management.

Wildlife may temporarily avoid active work areas, and less mobile species may be vulnerable to injury or mortality during facility removal. However, decommissioning may also provide beneficial long-term outcomes by removing barriers to wildlife movement, eliminating collision hazards associated with infrastructure, and allowing restoration of habitat and ecological function. The degree of biological recovery depends on pre-facility habitat quality, restoration success, future land uses, and habitat type. Recovery may occur relatively quickly in disturbed grassland settings but could require more efforts in sensitive habitats, e.g. mature forests.

Mitigation Measures

Regulatory Framework

Numerous existing Federal, State, and local legislation regulating biological resources will require mitigation for future energy projects. A more comprehensive list of federal, state, and local level regulations that govern biological resources is as follows:

Federal Regulations

- Endangered Species Act (ESA) (16 USC §1531 et seq.)
- Migratory Bird Treaty Act (MBTA)
- Bald and Golden Eagle Protection Act (BGEPA)
- Fish and Wildlife Coordination Act (FWCA)
- Magnuson-Stevens Fishery Conservation and Management Act

State Regulations

- Washington Fish and Wildlife Conservation Statutes (RCW 77)
- State Threatened, Endangered, and Sensitive Species Designations (WAC 220-610 and WAC 220-200)
- Priority Habitats and Species (PHS) Program
- State Environmental Policy Act (SEPA) (Chapter 43.21C RCW)
- Washington Shoreline Management Act

Local Regulations

- Skagit County Critical Areas Ordinance (CAO) (SCC Chapter 14.24)
- Skagit County Shoreline Master Program (SMP)
- Skagit County Comprehensive Plan

Required Measures

Federal

- Complete consultation under Section 7 of the ESA
- Obtain any applicable ESA required permits
- Obtain applicable USFWS or MBTA required permits
- Complete consultation with NOAA fisheries under Section 7 of the ESA, if applicable
- Complete consultation with NOAA fishers under the Magnuson-Stevens Fishery Conservation and Management Act, if applicable
- Comply with federal biological resource protections, including monitoring, timing, and restoration requirements

State

- Complete project-level review under the SEPA and implement biological resource mitigation imposed through permit conditions
- Consult Washington Department of Fish and Wildlife during project-level review for applicable site-specific avoidance, timing, buffer, and monitoring requirements

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- Comply with Washington Department of Fish and Wildlife requirements for state-listed endangered, threatened, and sensitive species
- Comply with Washington Shoreline Management Act requirements and shoreline permit conditions protecting wetlands, riparian areas, fish habitat, and wildlife habitat when applicable

Local

- Complete critical areas review and obtain an applicable authorization under Skagit County Code Chapter 14.24
- Comply with Skagit County wetland classification, site-assessment, buffer protection, and other mitigation requirements
- Comply with Skagit County noxious weed control requirements and use the County's noxious weed list when preparing vegetation surveys, vegetation management plans, and invasive species control measures
- Comply with Skagit County biological resource protections and habitat resource conditions, imposed through grading, clearing, drainage, shoreline, and critical area approvals

Recommended Measures for Siting and Design

- Avoid priority habitat and species, wildlife corridors, habitat linkages, biodiversity conservation areas, and other sensitive areas.
- Avoid siting within migration corridors, wildlife movement pathways, breeding areas, and other critical habitats.
- Project-level biological resources assessment should use WDFW PHS data, Washington Habitat Connectivity.
- Where possible, encourage facility siting in areas that are already disturbed, developed, or have a low ecological value.
- Avoid fragmenting large blocks of intact habitat and disrupting regional habitat connectivity.
- Maintain habitat connectivity through facility layouts and building designs, e.g. wildlife friendly fencing.
- Require applicants to conduct desktop biological resources assessment using data from WDFD PHS, Washington Habitat Connectivity Action Plan (WAHCAP), Washington Natural Heritage Program, and USFWS IPaC.
- Require project-level fieldwork, pre-construction wildlife, habitat, wetland, and rare plant surveys by qualified biologists, also species-specific surveys.
- Where activities would need nighttime lighting, require implementation of DarkSky Approved lighting and use downward shielded lighting fixtures.
- Require applicants to consult the County's noxious weed list prior to conducting pre-construction vegetation surveys and coordinate with the Skagit County Noxious Weed Control Board.
- Require coordination with WDFW and other applicable agencies to establish site-specific buffers around habitats and areas identified as critical to special-status species, such as nests. Require the exclusion or modification of facilities and activities within those potential areas.

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Recommended Measures for Construction and Decommissioning

- Use seasonal species-specific timing restrictions and buffers to avoid/minimize impacts to breeding, nesting, migration, spawning, and other sensitive activities.
- Require project-level vegetation plans that limits disturbance to the minimum area necessary and require native vegetation retention where possible.
- Where sensitive biological resources are present, require flagging, protective fencing, and other access controls.
- Avoid using sensitive habitats for staging, stockpiling, equipment storage, or access routes.
- Where construction or decommissioning activities could affect sensitive biological resources, require biological monitoring by a qualified biologist to ensure compliance with biological resource protection measures.
- Require equipment cleaning, inspection, and site management practices to prevent the spread of invasive and noxious species.
- Establish vehicle speed limits on project access roads to reduce wildlife collisions.
- Limit evening and nighttime construction and decommissioning activities near sensitive habitats where practicable. Where nighttime work is necessary, conditions could require measures to minimize wildlife disturbance from lighting, noise, and vehicle activity.
- Require implementation of applicable best management practices for erosion, sediment, and dust control during construction and decommissioning, to avoid or minimize impacts to adjacent habitats.
- Require disturbed areas to be stabilized and revegetated with appropriate native vegetation following construction and decommissioning activities, consistent with an approved revegetation or restoration plan.
- Require decommissioned areas be restored with native vegetation and habitat features, where practicable. Require construction practices that minimize wildlife entrapment or mortality associated with open trenches, excavation, conduits, or other temporary construction features, including covering, ramping, or inspecting such features as appropriate before backfilling or closure.
- Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration.

Recommended Measures for Operation

- Vegetation within and around facilities should be managed using low-maintenance native shrubs and grasses, where practicable and compatible with facility operational requirements and fire safety.
- Require ongoing post-construction monitoring of wildlife use, habitat conditions, revegetation success, and species mortality where appropriate.
- Require native vegetation and habitat function be maintained through appropriate mowing, grazing, and vegetation management practices.
- Where herbicide use is necessary,
    - Application methods should avoid or minimize use near wetlands, priority habitats, habitat corridors, and other sensitive biological areas.
- The herbicides used are approved and applied in accordance with applicable regulations.

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- Restore areas temporarily disturbed following maintenance activities.
- Remove project infrastructure and reclaim disturbed areas at the end of facility life.
- Require the development and implementation of a vegetation management plan, including provisions to periodically monitor and treat noxious weeds.
- Limit evening and nighttime maintenance activities near sensitive habitats. Where nighttime activities are necessary for essential maintenance, require DarkSky approved lighting to limit the impacts on migratory and nocturnal wildlife.

Mitigation Measures for Potential Significant Impacts

- Where possible, minimize the permanent footprint of facilities through micro-siting and design.
- Compensate for significant unavoidable adverse impacts through habitat preservation, restoration, enhancement, creation, or protection.
- Protect mitigation lands through conservation easements, land acquisition, or permanent deed restrictions
- Develop habitat management and monitoring plans to ensure long-term mitigation.
- Where significant habitat impacts occur, provide habitat replacement ratios consistent with applicable agency requirements and habitat sensitivity.
- Conduct compensatory mitigation for impacts to wetlands, streams, riparian habitats, special-status species habitat, and other sensitive biological resources.

7.3.2. Solar Facilities

Construction

Construction of solar facilities may result in the substantial removal of native vegetation and wildlife habitat to accommodate solar arrays, access roads, substations, gen-tie corridors, and support facilities depending on the project scale and installation location. Habitat fragmentation may occur where moderate to larger solar facilities, fencing, and access roads divide contiguous habitat blocks or disrupt wildlife movement corridors.

Construction may disturb nesting birds, burrowing species, reptiles, and other wildlife through vegetation clearing, noise, dust, vibration, and increased human activity. Aquatic resources may be indirectly affected through erosion, sedimentation, altered runoff patterns, and temporary disturbances near riparian areas, wetlands, or fish-bearing streams. Special-status habitats, including riparian corridors and designated wildlife movement areas, are particularly sensitive to habitat loss and fragmentation.

Operations

Operation of solar facilities may result in long-term habitat conversion and wildlife displacement within the project footprint. Fencing and solar panel arrays may restrict wildlife movement and reduce habitat connectivity, particularly where facilities occur adjacent to migration corridors or other priority habitats. Ongoing vegetation management can alter native plant communities and facilitate invasive species with solar panels or associated transmission infrastructure. Long-term changes in habitat structure, vegetation composition, and wildlife use may persist throughout the operational life of the facility.

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Decommissioning

Removal of solar arrays, foundations, substations, and associated infrastructure would result in temporary biological disturbances similar to those occurring during construction. Removal of infrastructure may ultimately allow habitat restoration, improve habitat connectivity, and restore ecological functions depending on future site conditions and land management objectives.Successful revegetation and habitat restoration may allow wildlife species to recolonize former facility areas, although full recovery may require many years and may be particularly slow within sensitive habitats.

Mitigation Measures

Recommended Measures for Siting and Design

- Consider WDFW's best management practices for solar energy development.
- Use the mapping resources identified in the WDFW guidelines, including:
  - WDFW's priority habitat and species online viewer
  - WDFW's Washington Habitat Connectivity Action Plan maps
  - USFWS Information for Planning and Consultation (IPaC) map viewer
- Minimize vegetation clearing and grading through panel placement that follows existing topography.
- Panel placement should consider wildlife movement corridors, referring to resources from WDFW.
- Use the latest recommendations and BMPs for reducing solar panel collision risk for birds and bats.
- Avoid siting access roads and facilities near open water or other areas known to attract a large number of birds.
- Follow Avian Power Line Interaction Committee guidelines.

Required Measures

- Refer measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Require seasonally appropriate walkthroughs prior to any ground-disturbing activity to ensure that important or sensitive species or habitats are not present in or near facility sites.
  - Require walkthroughs by a qualified biologist or team of biologists and include federal agency representatives, state natural resource agencies, and Tribal staff, as appropriate.
- Vegetation within and around facilities should be managed using low-maintenance native shrubs and grasses, where practicable and compatible with facility operational requirements.
- Require ongoing post-construction monitoring of wildlife use, habitat conditions, revegetation success, and species mortality where appropriate.
- Require native vegetation and habitat function be maintained through appropriate mowing, grazing, and vegetation management practices.
- Require adherence to best management practices for dust control during construction and decommissioning, such as the following:

  - Prevent dust accumulation on restored native vegetation and pollinator habitat areas to maintain vegetation health, flowering success, and habitat suitability for pollinators
- Adhere to best management practices for noxious weeds during construction and decommissioning.

Recommended Measures for Operation

- Where possible, require that native vegetation within corridors remains to provide cover, forage, and movement opportunities for wildlife.
- Require ongoing monitoring and evaluation for effectiveness of wildlife corridors and fencing through periodic wildlife cameras, tracking surveys, and other methods in coordination with state agencies and Tribal staff.
- Require evening and nighttime maintenance activities to be limited
- Adhere to best management practices for noxious weeds during operation.

7.3.3. Battery Energy Storage Systems (BESS)

Construction

Construction of BESS facilities may result in localized habitat loss associated with battery containers, foundations, transformers, substations, security infrastructure, and access roads. Biological impacts are generally similar to those associated with solar facilities but occur over a smaller footprint. However, co-located BESS facilities require additional ground disturbance beyond solar facilities alone.

Vegetation clearing and grading may affect nesting birds, small mammals, reptiles, amphibians, and invertebrates occupying project areas. Construction activities also create opportunities for invasive plant establishment and may temporarily displace wildlife through noise, lighting, and human activity.

Operations

Operational BESS impacts are generally associated with habitat displacement within the developed footprint, wildlife exclusion from fenced areas, and disturbance from facility lighting, security equipment, and HVAC systems. The additional noise generated by cooling and ventilation systems may have localized effects on wildlife behavior, particularly for noise-sensitive species. While normal battery operations are not expected to substantially increase impacts on terrestrial or aquatic habitats beyond those associated with the primary facility, the permanent facility footprint contributes to long-term habitat conversion and wildlife displacement.

A thermal runaway event or fire from a BESS facility could adversely affect biological resources both through direct habitat loss and the release of contaminated fire suppression runoff, which often contains metals, combustion byproducts, and suspended particles that could be transported to nearby surface water features and floodplains. The toxicity of wastewater resulting from BESS fire suppression methods is affected by the water's exposure to battery fragments and smoke.[109]

[109] National Fire Protection Association, "Environmental Impact of Lithium-Ion Battery Incidents Compared to Other Common Incidents," updated October 2025, https://www.nfpa.org/education-and-research/research/fire-protection-research-foundation/projects-and-reports/environmental-impact-of-li-ion-incidents-compared-to-other-types-of-fires

Decommissioning

Decommissioning of BESS facilities would involve the removal of battery containers, foundations, electrical equipment, fencing, and supporting infrastructure. Impacts would largely mirror construction-related disturbances but would be temporary and generally confined to previously disturbed areas. Removal of infrastructure may ultimately allow habitat restoration, improve habitat connectivity, and restore ecological functions depending on future site conditions and land management objectives. Successful revegetation and habitat restoration may allow wildlife species to recolonize former facility areas, although full recovery may require many years and may be particularly slow within sensitive habitats.

Mitigation Measures

Recommended Measures for Siting and Design

- Consolidate BESS facilities within existing energy generation sites when feasible.
- Require project-level flood hazard assessments for BESS facilities proposed in areas susceptible to coastal, riverine, or shallow flooding to evaluate potential inundation depths, flow pathways, erosion or scour, and pathways through which contaminants could be transported to sensitive biological resources.
- Avoid siting BESS facilities within streams, wetlands, wetland buffers, and other areas with a high likelihood of transporting contaminated runoff.
- Avoid siting BESS facilities with FEMA-mapped floodways and frequently flooded areas where floodwater could directly contact facility equipment.
- Require BESS facilities to maintain adequate buffer separation from combustible vegetation and require defensible space for vegetation management around battery containers and associated equipment to reduce the potential for a battery fire to spread into surrounding habitat.
- BESS facilities proposed within or adjacent to flood-prone areas should demonstrate that battery modules, transformers, electrical equipment, hazardous materials, and other components capable of releasing pollutants are located or elevated above anticipated flood elevations, considering reasonably foreseeable future flood conditions over the operational life of the facility.
- Facility design should demonstrate how it incorporates fire-resistant materials, appropriate separation between battery units or containers, and other thermal runaway isolation features to limit propagation of a fire between battery units and reduce the duration and extent of fire, smoke, and pollutant releases.
- Use secondary containment, grading, drainage controls, or other containment systems to prevent contaminated fire suppression water, battery electrolytes, and other released materials from discharging to wetlands, streams, or other environmentally sensitive areas.
- Require applicants to provide project-level fire hazard evaluations for BESS facilities proposed near sensitive biological resources, considering battery chemistry and facility configuration, surrounding vegetation, prevailing winds, and the location of wetlands, streams, fish and wildlife habitat, and other sensitive receptors.
- Require a fire safety and emergency response training plan in coordination with local fire and emergency management departments to reduce potential risks.

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Required Measures

- Require spill prevention, fire response, and hazardous materials management plans to protect biological resources. WDFW recommends spill response planning and containment strategies.
- Adhere to critical area setbacks between BESS facilities and fish-bearing streams, salmonid habitat, wetlands, estuaries, and designated wildlife corridors.

Recommended Measures for Construction and Decommissioning

- Require spill prevention and containment procedures during installation, removal, transportation, and handling of battery modules and other equipment containing hazardous materials, particularly where a release could reach wetlands, streams, riparian areas, or other sensitive habitats.
- Require battery modules to be stored and handled in designated areas separated from sensitive habitats and combustible vegetation during construction and decommissioning activities.
- Decommissioning plans should address removal of BESS equipment and restoration of biological resources, including removal of unnecessary impervious surfaces, restoration of disturbed soils, revegetation with native or locally appropriate species, invasive species control, and restoration of habitat functions where feasible.

Recommended Measures for Operation

- Require emergency response procedures for BESS fires, thermal runaway events, leaks, or other failures to identify nearby sensitive biological resources and establish measures for minimizing the discharge of contaminated fire water, electrolyte, oils, or other pollutants into aquatic or terrestrial habitat.
- Require biological resource inspections following major BESS fires, spills, or other incidents when sensitive habitat could have been affected, with appropriate remediation, habitat restoration, or follow-up monitoring where effects are identified.

7.3.4. Fusion Small Modular Reactors (Fusion SMRs)

Construction

Construction of fusion SMR facilities would likely generate some of the more substantial biological impacts because of the potential need for large facility footprints, security setbacks, cooling systems, transmission interconnections, access roads, and ancillary support facilities. Habitat fragmentation, vegetation removal, and wildlife displacement may occur over extensive areas.

Prolonged construction schedules, heavy-haul transportation, excavation, and infrastructure installation may result in long-term disturbance to wildlife behavior, including breeding, foraging, and migration activities. Where facilities are located near aquatic systems, wetlands, or riparian corridors, indirect impacts could include altered drainage patterns, sedimentation, habitat degradation, and disturbance to aquatic species. Special-status species and migration corridors may be particularly vulnerable to the scale and duration of construction activities. Impacts would be similar to those identified for utility-scale energy facilities but potentially greater because of project scale and infrastructure requirements.

Operations

Operational impacts may include long-term habitat conversion, restriction of wildlife movement, ongoing disturbance from lighting, security infrastructure, maintenance activities, and operation of cooling and support systems. Permanent infrastructure may alter ecological processes and reduce habitat connectivity. New transmission corridors associated with fusion SMRs could further fragment habitat and increase disturbance within otherwise intact landscapes. Long-term operational impacts may disproportionately affect special-status habitats and wildlife species with large home ranges or movement requirements.

Depending on final technology design, fusion facilities may include highly controlled radioactive process streams containing tritium or other regulated radioactive materials. Potential contamination impacts would depend on the handling, storage, and transportation of materials and waste generated.

Decommissioning

Decommissioning activities would involve dismantling major infrastructure, removal of support facilities, and restoration of disturbed areas. Temporary disturbances from demolition, excavation, traffic, and equipment use could affect wildlife and vegetation. Removal of infrastructure may ultimately allow habitat restoration, improve habitat connectivity, and restore ecological functions depending on future site conditions and land management objectives. Successful revegetation and habitat restoration may allow wildlife species to recolonize former facility areas, although full recovery may require many years and may be particularly slow within sensitive habitats.

Mitigation Measures

Recommendations for Siting and Design

- Where possible, require the siting of Fusion SMR facilities on previously disturbed, industrial, or developed lands and away from sensitive uses whenever feasible.
- Where possible, require facility infrastructure, including cooling water, transmission, and access infrastructure, to avoid sensitive habitats.
- Cluster facility infrastructure to minimize overall habitat conversion.

Required Measures

- Obtain and maintain applicable federal and state licenses and approvals for radioactive materials and radiation-producing equipment.
- Compliance with the containment, handling, inspection, transportation, and waste disposal measures as required under state and federal nuclear regulations.
- Any radioactive waste generated requires monitoring and compliance with regulations through federal and state permitting processes, including potential filtration, monitoring systems, and control procedures designed to protect public health and the environment.

Recommended Measures for Construction and Decommissioning

- Where sensitive biological resources are present, require clearly marked flagging, protective fencings, and other access controls, and establish exclusion zones during construction and decommissioning.
- Require vegetation clearing to be scheduled outside of sensitive nesting, breeding, spawning, and migration periods, where practicable.

- Require implementation of erosion and sediment control measures to prevent sediment transport into streams, wetlands, and aquatic habitats.

Recommended Measures for Operation

- Where possible, require operational noise levels to be limited when facilities are adjacent to sensitive wildlife habitat.
- Limit evening and nighttime construction and decommissioning activities near sensitive habitats where practicable. Where nighttime work is necessary, implement DarkSky approved lighting.

7.3.5. Renewable Fuel Facilities

Construction

Construction of renewable fuel facilities may result in direct removal of vegetation and wildlife habitat for processing buildings, storage areas, utility corridors, stormwater facilities, roads, and supporting infrastructure. Wildlife may be displaced by construction noise, lighting, traffic, and human activity. Vegetation clearing and soil disturbance may increase the risk of invasive species establishment and habitat fragmentation. Facilities near streams, wetlands, or riparian areas could affect habitat through erosion, sedimentation, runoff, and temporary hydrologic changes.

Operations

Operations of renewable fuel facilities may result in continued habitat displacement and wildlife disturbance associated with industrial activities, lighting, traffic, facility maintenance, and equipment operation. Feedstock cultivation, harvesting, transport, and storage may create indirect biological effects across broader landscapes depending on feedstock sources. Organic materials, feedstocks, digesters, and storage areas may attract wildlife, potentially increasing wildlife-human interactions and exposure to industrial activities. Long-term operation may also contribute to habitat fragmentation, altered wildlife movement patterns, and ongoing disturbance of sensitive species.

Decommissioning

Decommissioning would result in temporary disturbance to vegetation and wildlife during demolition, equipment removal, traffic, and site restoration activities. Aquatic and wetland resources could experience temporary effects from soil disturbance, runoff, and restoration activities if present. Removal of industrial infrastructure may ultimately allow habitat restoration, improve habitat connectivity, and restore ecological functions depending on future site conditions and land management objectives. Successful revegetation and habitat restoration may allow wildlife species to recolonize former facility areas, although full recovery may require many years and may be particularly slow within sensitive habitats.

Mitigation Measures

Recommendations for Siting and Design

- Where practicable, development should occur on existing industrial, brownfield, or previously disturbed sites.
- Require spill containment, wastewater containment, and secondary containment systems to be included facility design.

- Renewable fuel facilities should demonstrate how potential impacts have been avoided and/or minimized through site selection, facility configuration, setbacks, and other protection measures.
- Loading, unloading, and storage areas for fuels, feedstocks, waste, and other materials should be located on impervious surfaces with curbing, berms, shutoff controls, or other containment measures.

Required Measures

- Adhere to county critical area ordinance.
- Prepare and implement a Spill Prevention, Control, and Countermeasure plan.
- Develop a Stormwater Pollution Prevention Plan (SWPPP)

Recommended Measures for Construction and Decommissioning

- Require spill response materials to be readily available during construction and decommissioning.
- Require construction and decommissioning activities to minimize clearing, grading, excavation, and other ground disturbance associated with renewable fuels production areas, feedstock storage areas, pipelines, utilities, and other facility infrastructure to reduce habitat loss and fragmentation.
- Require decommissioning plans to address removal of renewable fuels processing, feedstock storage, pipeline, and other infrastructure, as well as restoration of affected habitat functions, particularly where facilities are located adjacent to wetlands, streams, riparian corridors, or other sensitive biological resources.

Recommended Measures for Operation

- Require the use of waste management systems that do not attract wildlife.
- Require secondary containment, spill prevention, and leak detection measures for feedstock fuels, process chemicals, finished fuels, and wastes to minimize the potential for releases to wetlands, streams, riparian areas, or other sensitive biological resources.
- Require process wastewater and contaminated stormwater to be collected, managed, and treated to prevent degradation of aquatic habitat or adverse effects on fish and other aquatic organisms.
- Require runoff from process areas, feedstock storage areas, and other areas with potential pollutant exposure to be appropriately contained, separated, and treated before discharge, as necessary to protect aquatic resources.
- Require operational noise control measures where renewable fuels production equipment, loading and unloading operations, or other facility activities have the potential to disturb sensitive wildlife or adjacent habitat.

7.4. No Action Alternative Analysis

Under the No Action Alternative, Skagit County would retain its existing development regulations and the selected energy facilities would continue to be reviewed and permitted under current local, state, and federal regulatory frameworks as described in the **Energy Permitting** section. Depending on the type and characteristics, proposed facilities could be reviewed either through Skagit County's existing processes as minor or major utility developments or through the Washington State Energy Facility Site Evaluation Council (EFSEC) process where certification is required or voluntarily elected by the applicant.

7.4.1. Impacts from Construction, Operation, and Decommissioning Under Current Processes

In regard to biological resources, primary impacts of concern are permanent degradation, conversion, or fragmentation of habitat supporting special-status species or important wildlife movement corridors, due to the construction, operation, and decommissioning of energy facilities including solar facilities, battery energy storage systems (BESS), fusional small modular reactors (SMR), and renewable energy facilities. The degree and scale of impacts would vary based on facility size, location, design, and construction methods.

Under the No Action Alternative, impacts on biological resources would generally be similar to those under the Action Alternative. Future proposed energy facilities would still undergo project-level environmental review through either the county permitting process or the EFSEC siting and permitting process. Both processes provide opportunities for agency review and comment pursuant to SEPA. Facilities permitted by the County would remain subject to the County's Critical Areas Ordinance and other applicable regulations, while major regional utility projects would not be permitted. The key distinction between the alternatives is that the Action Alternative would provide the County with additional specifics regarding the zones for facility siting, application materials, development standards, and mitigation measures tailored to local county conditions.

For further analysis of the selected energy facilities, refer to the impacts analyzed under the **Alternatives Analysis** section.

7.4.2. Mitigation Measures

Projects reviewed through the County permitting process would continue to be subject to existing critical area regulations, shoreline regulations, SEPA review, and applicable state and federal resource protection requirements. Projects subject to ESFEC certification would undergo environmental review through the EFSEC process, including evaluation of fish and wildlife resources, wetlands, listed species, habitat connectivity, and Tribal resources. ESFEC may impose project-specific avoidance, minimization, mitigation, monitoring, and restoration through a Site Certification Agreement. In addition, EFSEC has authority under RCW 80.50.110 and Chapter 463-28 WAC to preempt local land use plans, zoning ordinances, and development regulations as part of the certification process when approved by the Governor. Consequently, some future energy facilities could be approved through EFSEC even where County-specific development standards would otherwise apply.

Additional mitigation and minimization measure applicable to the no action alternative can be found under the **Mitigation Measures** applicable to all energy facilities.

7.4.3. Significant Unavoidable Adverse Impacts

Because resource protection measures would continue to be implemented through existing local regulations, state and federal permits, and project-specific conditions imposed by permitting agencies, the No Action Alternative would not provide additional consistency, predictability, and energy-facility specific resource protections that could be established through adoption of updated County code and energy permitting regulations.

8. Energy and Natural Resources

8.1. Overview

The Energy and Natural Resources section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures associated with energy and natural resources within Skagit County. Energy resources are generally grouped into two components: primary energy resources and secondary energy resources, as follows:

- **Primary energy**: Energy that is found as a natural resource, e.g. sunlight and wood
- **Secondary energy**: Energy that is derived by processing primary energy sources, e.g. electricity and gasoline

The energy and natural resources factors analyzed in this section include:

- Energy Resources
- Transportation and Equipment Fuels
- Mineral and Aggregate Resources
- Natural Resource Lands

8.2. Existing Conditions

The study area for this section encompasses all of Skagit County, Washington. Surrounding areas were considered when applicable. The affected environment represents existing conditions at the time this study was prepared.

8.2.1. Energy Resources

Skagit County is served by a diverse and interconnected energy system consisting of electrical generation facilities, transmission infrastructure, natural gas distribution systems, petroleum fuel supply networks, and renewable energy resources. The county lies within the broader Northwest electrical grid and benefits from Washington's low-carbon electricity supply, which is dominated by hydropower and supplemented by natural gas, nuclear power, wind, and solar generation (see **Table 10**).[110]

Table 10: Energy Generation in Washington (2023)

Primary Energy Source	Energy Generated (million kWh)
Freshwater	60,840
Natural gas	16,914
Uranium	8,435

[110] Washington State Department of Ecology, "Programmatic Environmental Impact on Utility-Scale Solar Energy Facilities in Washington State: Appendix H, Energy and Natural Resources Technical Report", updated June 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf

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Primary Energy Source	Energy Generated (million kWh)
Wind	7,601
Coal	4,138
Sunlight	363
Biomass	351
Other	69
Petroleum	15
TOTAL	**98,726**

Source: ECY, 2025

Puget Sound Energy (PSE) is the main electrical service provider in Skagit County. PSE builds, operates, and maintains an electrical system consisting of generating plants, transmission lines, substations, and distribution systems. PSE power-delivery facilities in Skagit County include 1,400 miles of overhead facilities and 1,000 miles of underground cables. PSE generates about 46 percent of the electricity used by customers from its own power plants, and the rest is purchased from utilities, power producers, and energy marketers. Electricity provided by PSE to Skagit County is often produced with the Baker River Hydroelectric Project and is interconnected to the Northwest's regional transmission grid through a network of transmission facilities.[111] Transmission facilities within the County are shown below in **Figure 35**.

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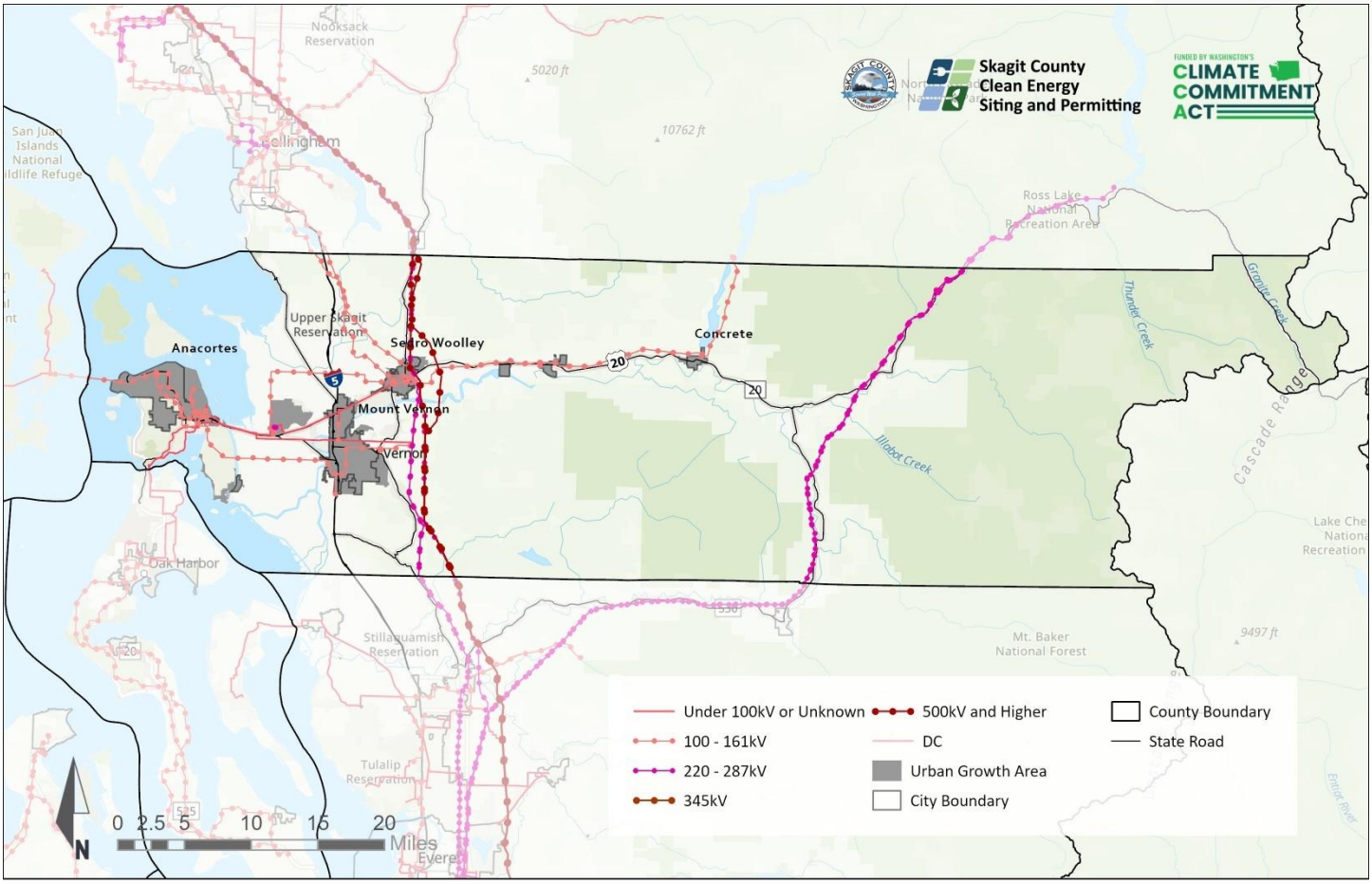
[111] Skagit County, Skagit County Comprehensive Plan 2025-2045, n.d., https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf

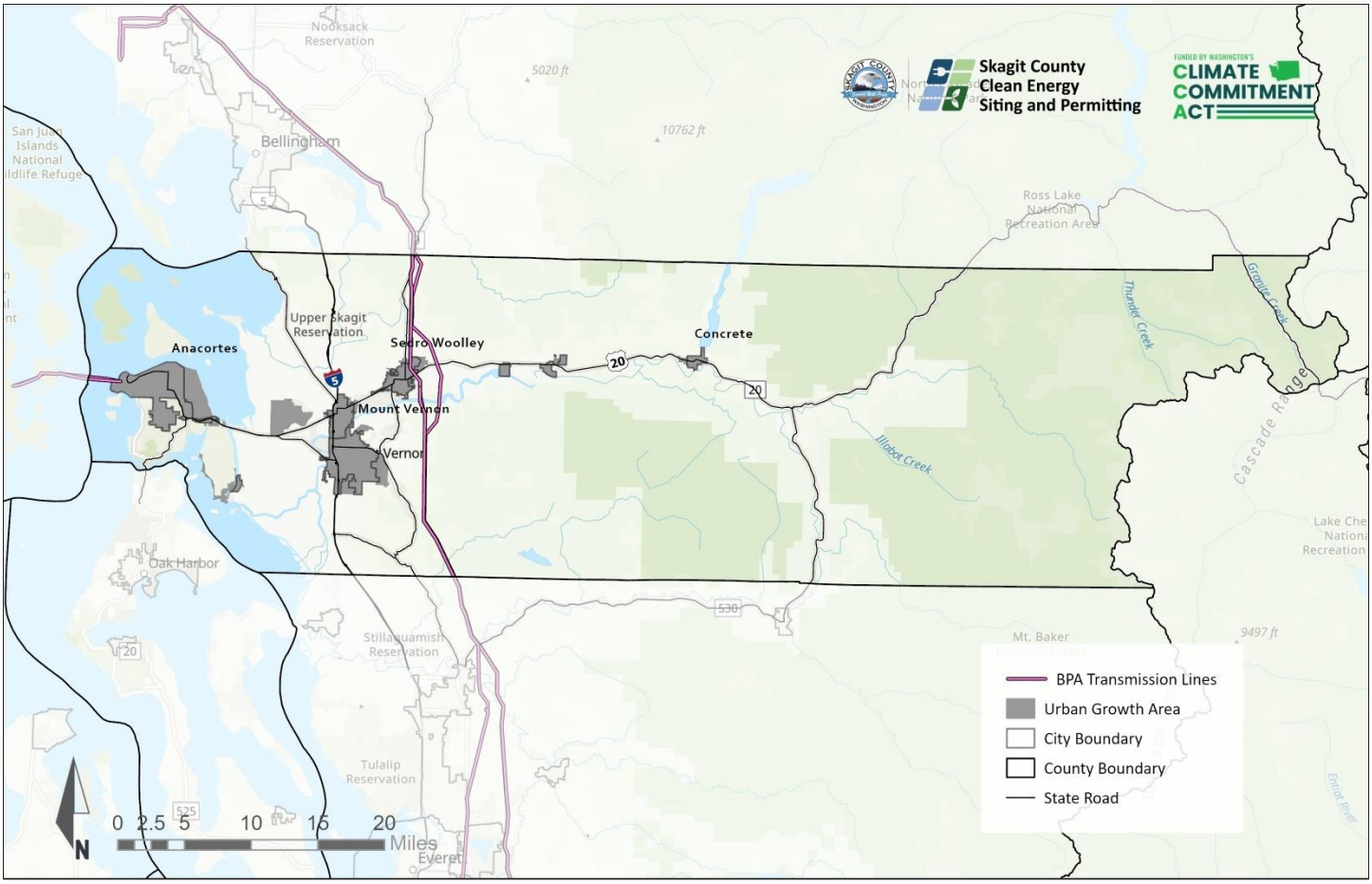
Figure 35: Skagit County Electrical Transmission Lines Map



Source: Kimley-Horn, 2026, using Energy Information Administration, U.S. Electrical Transmission Lines, 2024, https://gem.anl.gov/tool/r/conus

Of the transmission lines shown above, Bonneville Power Administration (BPA) is involved in the higher capacity transmission that extends beyond the county. The BPA transmission lines are shown below in **Figure 36**.

Figure 36: BPA Transmission Lines in Skagit County



Source: Kimley-Horn, 2026, using Bonneville Power Administration, Transmission Assets, 2019, https://data-bpagis.hub.arcgis.com/apps/BPAGIS::bpa-transmission-assets/explore

For more information on utility providers, see the **Public Services and Utilities** section.

8.2.2. Transportation and Equipment Fuels

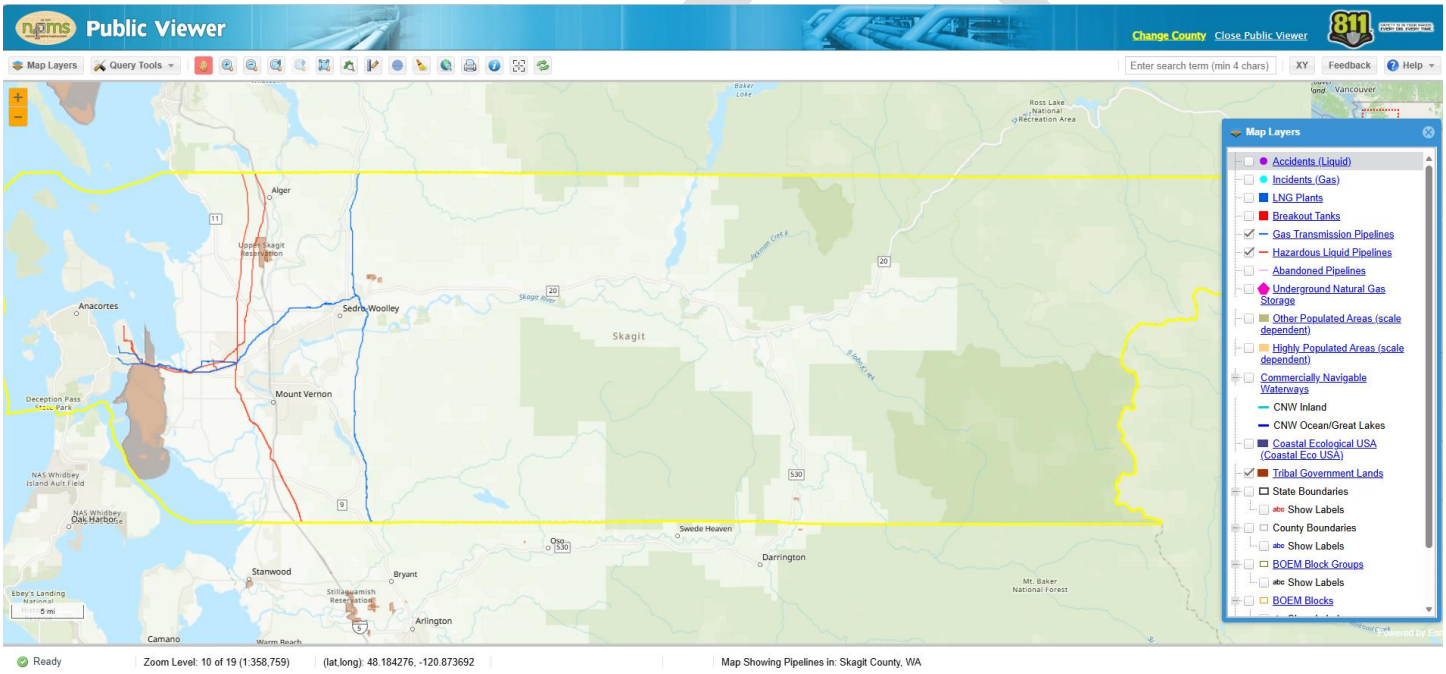
Gasoline, diesel fuel, natural gas, propane and other refined fuels are available throughout Skagit County and support transportation, agriculture, industrial activities, and utility operations. Major transportation corridors, including Interstate 5, State Route 20, and regional rail networks, facilitate the movement of fuel, equipment, construction materials, and goods throughout the county and the broader region. Fuel distribution infrastructure throughout western Washington provides reliable access to petroleum products necessary for construction equipment, agricultural machinery, freight transportation, and maintenance vehicles.

Skagit County is home to two major oil refineries, located near Anacortes. The Marathon Anacortes Refinery, operated by Marathon Petroleum, produces roughly 119,000 to 120,000 barrels of crude oil per day. The HFSinclair Puget Sound Refinery, operated by HF Sinclair, produces roughly 135,000 to 160,000 barrels of crude oil per day. Both plants play a central role in the Pacific Northwest energy sector and serve as major industrial entities in the region.

Agriculture, one of the county's primary economic sectors, relies on transportation fuels and energy resources for field operations, food processing, irrigation systems, and product distribution. Industrial facilities, marine activities, and commercial operations similarly depend on regional fuel supplies.

Current gas transmission pipelines and hazardous liquid pipelines in Skagit County are shown below in **Figure 37**. Existing pipeline infrastructure provides context for the transportation infrastructure present within the county that could be relevant to future renewable fuel facilities as of this EIS.

Figure 37: Skagit County Gas and Hazardous Liquid Pipelines



Source: The National Pipeline Mapping System Public Map Viewer, "Gas Transmission Pipelines", "Hazardous Liquid Pipelines", n.d., NPMS Public Viewer

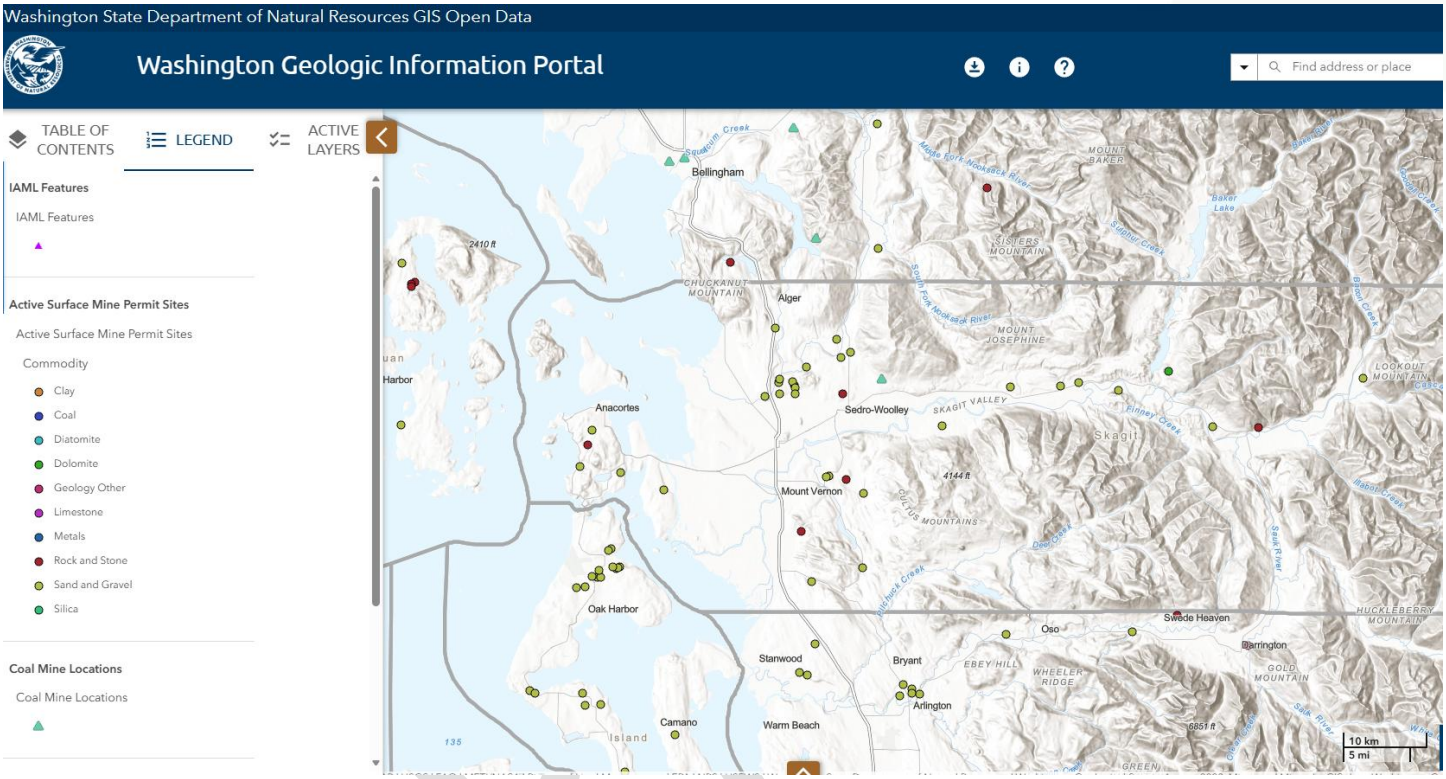
8.2.3. Mineral and Aggregate Resources

Construction aggregate resources, including sand, gravel, and crushed stone, constitute the primary natural resource relevant to energy facility construction in Skagit County.[112] Aggregate materials are necessary for access roads, equipment pads, foundations, substations, drainage infrastructure, and other project components

[112] Washington State Department of Natural Resources, Washington Geological Survey, "Aggregate Resources," n.d., https://dnr.wa.gov/washington-geological-survey/energy-mining-and-minerals/aggregate-resources

associated with utility-scale energy development. Aggregate resources are found throughout the county and the surrounding region and are extracted from permitted mining operations regulated by the Washington Department of Natural Resources and Skagit County (see **Figure 38**).

Figure 38: Aggregate Resource Locations in Skagit County



Source: Washington Department of Natural Resources, Washington Geologic Information Portal "IAML Features", "Active Surface Mine Permit Sites", "Coal Mine Locations", n.d., https://geologyportal.dnr.wa.gov/#wigm?-13707473,-13446517,6129895,6254946?Mines_and_Minerals!9!2!,Active_Surface_Mine_Permit_Sites!1!

Skagit County contains designated mineral resource lands identified under the Growth Management Act and supports active aggregate extraction operations that supply materials for transportation, utility, commercial, and residential development projects. Aggregate availability is particularly important because transportation costs increase significantly with hauling distance, making access to local or regional aggregate supplies a key consideration for construction planning. Washington's substantial aggregate production capacity indicates that aggregate resources are generally available to support future energy facility construction, although localized supply constraints may occur where multiple large infrastructure projects are under construction simultaneously.

8.2.4. Natural Resource Lands

Skagit County contains extensive agricultural, forest, mineral, and water resources that contribute significantly to the local economy and community character.[113] Large areas of the county are designated as Agricultural-Natural Resource Lands, including highly productive farmland within Skagit Valley. The county also contains commercially managed forest lands in upland and mountainous areas, as well as designated mineral resource lands that support aggregate extraction. These lands provide important economic, ecological, and cultural values and are protected through state and local land-use planning policies.

Energy uses are limited in Natural Resource Land (NRL) zones because they are not secondary or directly related to a resource use. The Agricultural - Natural Resource Lands (Ag-NRL) zone and the Growth Management Act allow up to 1-acre of land per lot of record to be converted to a non-agricultural use. Skagit County Code does not allow energy production or storage in the Ag-NRL zone.

Currently, Skagit County Code prohibits major utility developments involving the generation and/or storage of electricity in the Ag-NRL zone per SCC 14.18.870(4)(b). A utility development in all NRL zones must be designed to minimize the amount of resource lands utilized and submit an alternatives analysis proving there is no other viable alternative to providing the expansion in the zone or on nonnatural resource lands.

8.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative evaluates the potential significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

8.3.1. Impacts Applicable to All Energy Facilities

Construction

Construction of energy facilities would require varying amounts of energy resources, transportation fuels, aggregate materials, and natural resource lands depending on facility type, generating capacity, site conditions, and infrastructure requirements. The construction period would generally represent the greatest resource demand due to site preparation, grading, excavation, road construction, foundation installation, utility interconnections, and equipment delivery.

New or modified electrical infrastructure may be required to connect the facility to the existing electrical system and transmit or distribute generated or stored energy. Depending on the facility type, location, and existing infrastructure, construction could include gen-tie lines, substations or substation expansions, transformers, switchyards, distribution upgrades, and other interconnection improvements. The extent of these improvements

[113] Skagit County, "Natural Resource Lands Profile," published February 10, 2006, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/GMAupdate021006/Comprehensive%20Plan/Natural%20Resource%20Conservation%20Profile%2002-10-06.pdf

would depend on project-specific interconnection requirements and, for facilities connecting to the existing grid, proximity to existing grid infrastructure.

Transportation and equipment fuel demand would also increase through worker commuting, material deliveries, hauling activities, and operation of heavy equipment. Fuel consumption would generally be greatest during grading, excavation, foundation installation, and deployment of major facility components. These temporary demands would generally be served by existing fuel supply and distribution systems.

Mineral aggregate resources, including sand, gravel, crushed rock, and fill materials, may be required for access roads, equipment pads, foundations, drainage features, substations, and utility infrastructure. Aggregate demand may differ depending on project size and site characteristics. Concurrent construction of multiple large energy facilities could temporarily increase demand for aggregate resources and transportation services within the county and surrounding region.

Development of designated agricultural resource lands could potentially remove farmland from agricultural production temporarily or for the life of the project and reduce the availability of these resources within the county. Conversion of forest or mineral resource lands may have similar effects on long-term resource availability. Temporary impacts may result from construction staging, access roads, utility corridors, and associated disturbances. Permanent impacts could occur where energy infrastructure occupies natural resource lands for extended periods or where site modifications affect the long-term productivity of agricultural soils, forestry operations, or mineral resource extraction activities. In areas designated as agricultural lands, the Growth Management Act (GMA) allows up to one acre of land per lot of record to be converted to a non-agricultural use. [114]

Operation

Operational resource demands are generally lower than construction demands and primarily involve facility maintenance, routine operations, personnel activities, utility services, and equipment replacement.

During operation, energy facilities would rely on electrical and interconnection infrastructure to generate, store, transmit, distribute, or otherwise manage energy, depending on the facility type. Operational activities could require continued use and maintenance of gen-tie lines, substations, transformers, switchyards, distribution facilities, and other interconnection infrastructure. Maintenance, repair, or replacement of these components could periodically require additional equipment and materials over the operational life of a facility.

Operational fuel use would primarily result from employee travel, routine inspections, maintenance activities, vegetation management, equipment testing, and periodic replacement of facility components. Certain facility types may also require transportation of feedstocks, products, or waste materials throughout facility operations. While generally lower than construction-related fuel use, these operational demands could continue for the life of the facility.

[114] RCW 36.70A.177(3)(ii) and WAC 365-196-480(h)

Operational demand for mineral aggregate resources would typically be limited to maintenance of access roads, drainage systems, equipment pads, and other supporting infrastructure. Aggregate consumption during operations may represent only a minor increase to regional aggregate demand.

Energy facilities may occupy agricultural, forest, or mineral resource lands throughout their operational life. Long-term occupation of these lands could reduce or eliminate opportunities for agricultural production, timber harvest, mineral extraction, or other resource-based activities. Depending on facility design, some projects may allow continued compatible uses on portions of the site, thereby reducing potential impacts on natural resource lands.

Decommissioning

Decommissioning would occur at the end of a facility's operational life and would involve dismantling infrastructure, transporting components, recycling materials, managing waste streams, restoring disturbed lands, and implementing site reclamation measures.

Removal of electrical and interconnection infrastructure could include gen-tie lines, substations, transformers, switchyards, and other associated facilities, depending on project-specific decommissioning requirements. Some infrastructure may remain in place where continued use is appropriate or required. Resource demands during decommissioning are generally temporary and often comparable to or lower than those experienced during construction.

Transportation and equipment fuel consumption would result from removal of facility infrastructure, transportation of recyclable materials and waste, worker travel, and restoration activities. Depending on facility size, fuel consumption may be substantial during short-term decommissioning activities but would not be expected to affect long-term regional fuel availability.

Mineral aggregate demands during decommissioning are typically limited because major infrastructure is being removed rather than constructed. Aggregate materials may be required for restoration, grading, erosion control, or stabilization activities. Existing on-site materials may also be salvaged and reused during reclamation where feasible.

Decommissioning provides the opportunity to restore lands for agricultural production, forestry uses, mineral resource extraction, open space, habitat, or other compatible land uses. The extent to which natural resource uses could be restored would depend on site-specific conditions, infrastructure removal, soil preservation, revegetation, and other reclamation measures. Permanent impacts could remain where alterations to soils, topography, drainage patterns, or access conditions limit future resource-related uses.

Mitigation Measures

Regulatory Framework

Numerous existing Federal, State, and local legislation regulating energy and natural resources will require mitigation for future energy projects. A more comprehensive list of federal, state, and local level regulations that govern energy and natural resources is as follows:

Federal Regulations

- Energy Policy Act

- Federal Power Act
- Federal Energy Regulatory Commission (FERC) Regulations
- Public Utility Regulatory Policies Act (PURPA)
- National Energy Conservation Policy Act
- Surface Mining Control and Reclamation Act

State Regulations

- Clean Energy Transformation Act (Chapter 194-40 Washington Administrative Code)
- Clean Fuels Program (Chapter 70A.535 RCW)
- Climate Commitment Act (CCA)
- Growth Management Act (GMA) (Chapter 36.70A RCW)

Local Regulations

- Skagit County Unified Development Code
- Mineral Resource Overlay and Resource Land Policies
- Skagit County Utility Facility Siting Requirements

Required Measures

Federal

- Obtain all applicable federal, state, and local permits, approvals, and authorizations related to land use, natural resource protection, construction, utilities, stormwater management, grading, transportation, and reclamation.
- Comply with applicable federal energy regulatory requirements, including Federal Energy Regulatory Commission (FERC) regulations, the Federal Power Act, and the Public Utility Regulatory Policies Act (PURPA), where facility interconnection, transmission infrastructure, wholesale energy transactions, or grid reliability considerations are subject to federal jurisdiction.
- Comply with all applicable federal, state, and local requirements related to fuel storage, transportation, handling, spill prevention, and emergency response.

State

- Comply with applicable provisions of the Growth Management Act (GMA), including requirements governing designated agricultural, forest, and mineral resource lands.
    - Includes compliance with RCW 36.70A.177(3)(ii) that nonagricultural accessory uses and activities, including new buildings, parking, or supportive uses, shall not be located outside the general area already developed for buildings and residential uses and shall not otherwise convert more than one acre of agricultural land to nonagricultural use.
    - Ensure that development does not result in conversion to a use that removes the land from resource production, or interferes with the usual and accustomed operations of the natural resource lands.[115]

[115] WAC 365-196-480(h)

- Where aggregate extraction, quarry expansion, or mineral resource development is required to support facility construction, comply with applicable federal, state, and local permitting, reclamation, and resource management requirements, including applicable provisions of the Surface Mining Control and Reclamation Act and Washington surface mining regulations.
- Prepare and implement a Construction Transportation and Access Plan identifying haul routes, delivery schedules, roadway-use requirements, and measures to minimize impacts on transportation infrastructure and fuel consumption.

Local

- Coordinate with electrical utilities and transmission authorities to obtain all required interconnection approvals and ensure that adequate electrical generation, transmission, distribution, and utility capacity is available to support facility construction and operation.
- Demonstrate consistency with applicable Skagit County Comprehensive Plan policies, zoning designations, natural resource land protections, and other local land use regulations.
- Prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) and associated erosion and sediment control measures where required.
- Prepare and implement a Restoration and Decommissioning Plan identifying facility removal procedures, site stabilization methods, revegetation requirements, material recycling and disposal strategies, post-restoration monitoring, and long-term reclamation objectives.
- Prepare and implement a Materials Management Plan addressing the sourcing, transportation, storage, reuse, recycling, and disposal of aggregate materials, construction materials, and other resource-intensive inputs.
- Identify and document existing site conditions, including agricultural productivity, forestry resources, mineral resources, drainage patterns, and soil characteristics prior to construction.
- Siting and usage of the facility shall not prevent access to or usage of surrounding properties, where applicable.
- Comply with all applicable requirements governing reclamation of disturbed lands and restoration of natural resource productivity.
- Secure applicable utility interconnection approvals and coordinate with utility providers regarding energy demand, electrical service, and infrastructure upgrades.
- Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration.
- Monitor restoration success following decommissioning and implement corrective actions if performance standards are not achieved.
- Maintain access to adjacent agricultural operations, forestry activities, mineral resource extraction areas, utility infrastructure, and transportation corridors where required by permits or approvals.
- Coordinate with state and local agencies regarding resource land protection, reclamation requirements, and restoration standards prior to final site closure.

Recommended Measures for Siting and Design

- Promote siting of facilities on previously disturbed, developed, or industrialized lands where feasible.

- Encourage site designs that avoid or minimize conversion of designated agricultural, forest, and mineral resource lands and other areas identified for long-term commercial resource production. Where impacts cannot be avoided, promote designs that minimize fragmentation and loss of productive resource lands to be prioritized.
- Prioritize siting facilities near existing transportation corridors, utility corridors, roads, water systems, and other developed infrastructure to reduce the need for new utility extensions, access roads, and associated land disturbance.
- Reduce land and natural resource disturbance through minimization of facility footprints through the co-location of infrastructure, the consolidation of operational areas, and the co-location of compatible project components.
- Reduce grading, excavation, blasting, and alteration of natural landforms by utilizing natural topography and avoiding unnecessary cut and fill activities.
- Encourage a site design that minimizes the volume of imported aggregate, fill, concrete, and other raw construction materials through efficient engineering approaches, reuse of onsite materials where suitable, and incorporation of recycled materials where practicable.
- Use existing permitted aggregate, quarry, borrow, and material sources whenever feasible to reduce demand for new mineral resource extraction sites and associated environmental impacts.
- Proposed site design should consider the proximity to sources of construction materials, aggregate, recycled materials, and disposal or recycling facilities during project planning to reduce transportation distances, fuel consumption, and long-term resource demands.

Recommended Measures for Construction and Decommissioning

- During construction and decommissioning, encourage the use of existing roads and disturbed areas for staging and access where feasible.
- Recommend the salvaging and repurposing of suitable topsoil and aggregate materials during construction and restoration where feasible.
- Promote the recycling or recovery of facility components and construction materials to the maximum extent practicable.
- Suggest the coordination of deliveries and transportation activities to reduce unnecessary fuel consumption, where practicable.
- Encourage the use of efficient construction equipment and reduction in vehicle idling.
- Restore temporarily disturbed areas as soon as practicable following construction or decommissioning.
- Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration.

Recommended Measures for Operation

- Suggest ongoing maintenance for equipment and infrastructure to maximize energy efficiency and minimize unnecessary resource consumption.
- Promote preventative maintenance programs that extend equipment life and reduce replacement needs.
- Implement minimization measures for fuel consumption through efficient vehicle routing and consolidated maintenance activities.

- Encourage ongoing maintenance of existing aggregate roads and facilities using the minimum material necessary to ensure safety and access.
- Monitor ongoing control measures for invasive species and implement vegetation management practices that support continued productive use of surrounding lands.
- Periodically evaluate opportunities for co-located agricultural, forestry, or compatible land uses where appropriate.
- Ensure ongoing monitoring of facility resource consumption and implement adaptive management measures to improve efficiency.
- Encourage ongoing recycling, repurposing, or recovery of equipment and materials replaced during facility operation.

Mitigation Measures for Potential Significant Unavoidable Impacts

- Ensure conservation easements or comparable protection mechanisms are implemented where applicable to acquire and preserve agricultural, forest, or mineral resource lands.
- Require off-site restoration, enhancement, or reclamation of resource lands where on-site impacts cannot be fully avoided.
- Promote the use of alternative or recycled aggregate materials where technically feasible.
- Develop site-specific soil restoration and agricultural productivity recovery plans.
- Require phased construction schedules when multiple projects occur at the same time in close proximity or one large development has potential to significantly impact surrounding resources to reduce simultaneous demand for aggregate resources, fuel supplies, and transportation infrastructure.
- Implement additional monitoring and adaptive management programs to ensure restoration objectives and natural resource land productivity goals are achieved.

8.3.2. Solar Facilities

Construction

Construction of solar facilities would require transportation fuels for worker commuting, material deliveries, heavy construction equipment, and installation activities. Fuel demand would be concentrated during site preparation and grading, road construction, and installation of solar panels and associated infrastructure. It is anticipated that these temporary demands would generally be served by existing fuel supply and distribution systems.

Solar facilities may require new or modified electrical infrastructure to connect to the existing grid, including inverters, substations, transformers, switchyards, gen-tie lines, and other interconnection improvements. The extent of this infrastructure would depend on facility location, generating capacity, interconnection requirements, and proximity to existing grid infrastructure.

Construction would require aggregate resources for access roads, equipment pads, inverter foundations, substation development, drainage features, and ancillary structures. Depending on project size, aggregate demands could be substantial. However, aggregate resources are widely available through Washington and Skagit County. Temporary localized reductions in available aggregate supplies may occur where multiple large infrastructure projects are constructed in tandem.

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Solar facilities are currently limited in Natural Resource Land zones because they are not secondary or directly related to a resource use. The Agricultural - Natural Resource Lands (Ag-NRL) zone and the GMA allows up to 1-acre of land per lot of record to be converted to a non-agricultural use.[116] Skagit County Code currently does not allow energy production or storage in the Ag-NRL zone. Development of designated agricultural resource lands could remove farmland from agricultural production for the life of the project and reduce the availability of these resources within the county. Conversion of forest or mineral resource lands may have similar effects to long-term resource availability. These impacts could be temporary in nature or long-term depending on specific project design.

Operation

Operational energy demands would be limited relative to facility capacity. Solar facilities would require continued operation and maintenance of electrical collection and interconnection infrastructure, with periodic repair or replacement of panels, inverters, transformers, and other electrical equipment over the operational life of the facility.

Fuel consumption during operations would primarily occur from routine maintenance activities and employee travel. Aggregate resources would periodically be required to maintain access roads and equipment staging areas. These resource demands would be minor when compared to regional fuel production and aggregate supply usage and would not be expected to impact resource availability.

Where solar facilities occupy agricultural, forest, or mineral resource lands, effects on the availability or use of those lands could continue throughout facility operation. Depending on facility design, compatible uses may continue on portions of the site, reducing the extent of long-term resource land conversion.

Decommissioning

Decommissioning would require fuel and electricity for dismantling and exporting equipment, removing foundations where necessary, transporting materials, and restoring disturbed areas. Electrical collection and interconnection infrastructure would be removed or otherwise addressed in accordance with project-specific decommissioning requirements. Aggregate demands would be limited because there would be no new infrastructure construction.

Removal of solar infrastructure and implementation of reclamation measures would allow previously occupied resource lands (agricultural, forest, and mineral) return to productive use wherever feasible. The extent of restoration would depend on site conditions, soil preservation, infrastructure removal, and reclamation measures, and some impacts could remain where site alterations limit future resource uses.

Mitigation Measures

Recommended Measures for Siting and Design

- Require design to include minimization measures for electricity demand by using project power for operational needs whenever possible, using high-efficiency fixtures and appliances in operations buildings, and using high-efficiency security lighting.

[116] RCW 36.70A.177(3)(ii) and WAC 365-196-480(h)

- Require solar facilities co-located within or adjacent to agricultural lands to demonstrate that the facility will not convert agricultural land by siting the facility over existing developed areas. Facilities within or adjacent to agricultural lands must minimize interference with ongoing agricultural operations and long-term agricultural productivity, including access to fields, irrigation and drainage infrastructure, and movement of agricultural equipment.
- Refer additional measures applicable to all facilities.

Required Measures

- Refer to required measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Require measures to minimize impacts to aggregate resources by reusing suitable excavated materials, identifying and securing commitments from commercial suppliers, and scheduling project construction to avoid simultaneous large demands on aggregate resources by other local projects.
- Require decommissioning plans for ground-mounted solar facilities to address removal, reuse, recycling, or disposal of panels, racking, electrical equipment, and other facility components, with preference for reuse or recycling where practicable.

Recommended Measures for Operation

- Require measures to minimize transportation and equipment fuels by encouraging carpooling or electric vehicle use by work crews or setting up ridesharing or shuttle programs, using alternative fuel, electric, or latest-model-year vehicles as project service vehicles, and limiting engine idling time and shutting down equipment when not in use.
- Require the county to review proposed expansions, equipment replacements, or substantial modifications to large-scale solar facilities for additional impacts on natural resource lands, aggregate demand, and supporting infrastructure.

8.3.3. Battery Energy Storage Systems (BESS)

Construction

Similarly to other energy facilities, construction of standalone BESS facilities would require excavation, site grading, concrete foundations/pads, battery enclosures, electrical equipment, transformers, and substation infrastructure. Construction activities would increase demand for fuels, electricity, steel, concrete, and aggregate materials. Aggregate requirements may be relatively concentrated within the facility footprint because BESS equipment is typically installed on engineered foundations or pads and supported by access roads and other site infrastructure.

Standalone BESS facilities would also require electrical infrastructure to charge and discharge stored energy and connect to the existing grid or end user/s. Depending on facility location and interconnection requirements, this could include transformers, substations or substation expansions, switchyards, gen-tie lines, and other interconnection improvements.

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Operations

During operation, BESS facilities would charge, store, and discharge electricity through associated electrical and interconnection infrastructure. Unlike some other energy facilities, BESS facilities are net consumers of electricity because their technology allows for the storage and discharge of electricity, rather than generation. Energy losses associated with discharge would occur due to system inefficiencies. Operational activities related to energy infrastructure would include monitoring, cooling or ventilation, routine maintenance, and periodic repair or replacement of batteries and associated electrical equipment.

Fuel consumption during operations would generally be limited to employee travel, inspections, maintenance, and equipment replacement. Aggregate resource demands would primarily be associated with maintenance of access roads, equipment pads, drainage facilities, and other supporting infrastructure and would generally be minor compared to construction.

Decommissioning

Decommissioning would involve the removal and transportation of batteries, electrical equipment, foundations, and associated infrastructure. Temporary demands for fuels and transportation resources would occur during dismantling and equipment recycling or disposal activities. Existing aggregate resources would generally be unaffected. Electrical and interconnection infrastructure would be removed or otherwise addressed in accordance with project-specific decommissioning requirements. Aggregate demand would generally be limited but may occur as needed for grading, stabilization, access modification, or site restoration.

Where a BESS facility occupies agricultural, forest, or mineral resource lands, removal of facility infrastructure and implementation of reclamation measures could allow the site to return to productive or other compatible resource uses, depending on site conditions and the extent of restoration.

Mitigation Measures

Recommended Measures for Siting and Design

- Site design should include minimization measures for grading, excavation, soil compaction, and alteration of natural drainage patterns through layout adjustments and use of terrain-following installation methods where practicable.

Required Measures

- Prepare and implement a Materials Management Plan addressing the sourcing, transportation, storage, reuse, recycling, and disposal of aggregate materials, concrete, steel, battery components, construction debris, and other resource-intensive inputs.
- Comply with all applicable requirements governing reclamation of disturbed lands and restoration of natural resource productivity, including restoration of soil functions, revegetation of disturbed areas, stabilization of slopes, removal of temporary facilities, and return of affected lands to compatible post-project uses where practicable.
- Characterize and manage any hazardous, universal, or solid wastes generated during construction, operation, maintenance, and decommissioning, included damaged battery components, electrolyte-containing materials, contaminated soils, and other regulated waste streams, in accordance with applicable regulatory requirements.

- Require adherence to National Fire Protection Association (NFPA) 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations, including but not limited to the implementation of a Fire Prevention Program, hot work controls, emergency response procedures, temporary fire protection measures, and fire department access.
- Require inspections during and after facility construction to ensure compliance with NFPA and National Electric Code (NEC).

Recommended Measures for Construction and Decommissioning

- Where feasible, prioritize recycled or locally sourced materials and utilize existing permitted aggregate sources to reduce demand for new mineral resource extraction
- During decommissioning, ensure removal of facility components and subsurface infrastructure to the depth required by the approved decommissioning plan and proposed future land use.
- Develop and implement procedures for the removal, transportation, recycling, reuse, and disposal of battery modules, electrical equipment, transformers, cables, foundations, and associated infrastructure during facility decommissioning in accordance with applicable federal, state, and local requirements.
- Minimize the need for new aggregate extraction, quarry expansion, and other resource-intensive material sources by optimizing facility design, reducing unnecessary grading, reusing onsite materials where feasible, and utilizing existing permitted material sources when available.

Recommended Measures for Operation

- Comply with battery manufacturer-specified parameters to maintain performance and extend useful life.
- Promote the use of efficient battery-management, monitoring, cooling, and auxiliary systems to limit parasitic electricity consumption.
- Encourage regular maintenance to identify poorly performing battery modules and avoid premature replacement of entire battery units.
- Maintenance of access roads and aggregate pads shall use the minimum amount of new material necessary for safe operation and emergency access.

8.3.4. Fusion Small Modular Reactors (Fusion SMRs)

Construction

Fusion SMRs could have substantial construction resource demands due to the scale and complexity of facility infrastructure. Construction could require significant amounts of aggregate, concrete, steel, specialty metals, electrical equipment, and imported facility components. Resource demands would vary based on the facility design, generating capacity, site conditions, and infrastructure requirements. A larger facility and/or a facility with a larger generation capacity would likely have greater resource demands.

Transportation fuel demand could result from delivery of heavy equipment, specialized facility components and construction materials, worker commuting, excavation, and other construction activities. Depending on facility size and design, aggregate demands could temporarily increase regional demand for sand, gravel, and crushed stone. Energy demands during construction would be notable due to longer construction durations, larger workforces, extensive excavation, and more complex facility infrastructure.

Depending on the end user, fusion SMR facilities would require additional electrical infrastructure to connect to either the existing grid for energy transmission or directly to the end user/s. Depending on facility location, generating capacity, and interconnection requirements, this additional infrastructure could include substations, transformers, switchyards, gen-tie lines, and other interconnection improvements.

Construction on natural resource lands could result in the long-term or permanent conversion of agricultural, forest, or mineral resource lands to industrial use, reducing opportunities for natural resource production.

Operation

Fusion systems are likely to require certain high-intensity conditions, such as high temperatures and compression, to initiate and sustain fusion reactions during operation. Electrical power would be required to support this process, while electricity generated by the facility would be delivered through associated electrical and interconnection infrastructure.

Operational electricity demand would include power for fusion support and cooling systems, security and grid interconnection infrastructure, and HVAC, heating, and other general building or facility operations. Continued use and maintenance of facility electrical systems and grid interconnection infrastructure would be required during operation, including periodic repair and replacement of equipment.

The range for electrical demand and generation from future fusion SMRs are unclear as of this EIS and would vary depending on facility design and technology. Smaller and modular facilities are likely to allow for greater diversity in scale for both initial energy demand and energy generation.

Fusion facilities using tritium may incorporate systems to recover tritium, separate and purify it, and recycle it for continued use as fusion fuel. Tritium recovery and reuse would reduce the amount of replacement fuel required during operation and would be a component of the fusion fuel cycle; however, tritium recovery and related technologies remain an area of active development and would vary based on facility design.

Other fuel demands during operations would generally be limited to employee transportation, maintenance activities, emergency generators, and periodic equipment replacement. Aggregate consumption would be minimal after construction and largely limited to maintenance activities.

Decommissioning

Decommissioning would involve removal of industrial infrastructure, specialized fusion facility systems, and associated electrical and interconnection infrastructure. Temporary resource demands would likely include substantial fuel use, transportation requirements, demolition equipment, and waste handling activities coordinated with state agencies. Aggregate demand would generally be limited, but transportation demands could remain elevated throughout the decommissioning activities.

Removal of facility infrastructure and implementation of reclamation measures could allow portions of disturbed resource lands to return to productive or other compatible uses. The extent of restoration would depend on site-specific conditions, infrastructure removal, and restoration measures. Some impacts could remain where site alterations limit future natural resource uses.

Mitigation Measures

Recommended Measures for Siting and Design

- Prepare a project-level assessment of electricity needed for startup, cooling, controls, pumping, security, maintenance, and other auxiliary loads.
- Encourage siting facilities in locations with reasonable access to existing transmission and distribution infrastructure to minimize the need for new utility corridors, substations, and transmission line extensions, where feasible.
- Ensure early coordination with electric utilities and transmission providers to identify proposed interconnection locations, evaluate available system capacity, and determine potential constraints associated with integrating facility-generated electricity into the regional grid.
- Where facilities are intended to provide power directly to a co-located industrial user or other end user, site design should demonstrate that electrical infrastructure, system capacity, and backup power arrangements are adequate to support anticipated operational demands.

Required Measures

- Obtain all applicable federal, state, and local permits, approvals, and authorizations related to land use, natural resource protection, construction, utilities, stormwater management, grading, transportation, and reclamation.
- Ensure the identification of utility system impacts, as appropriate, to identify required transmission, distribution, substation, or interconnection upgrades and incorporate those improvements into facility planning and design.
- Comply with all applicable requirements governing reclamation of disturbed lands and restoration of natural resource productivity.
- Comply with applicable Skagit County landscaping, screening, setback, building height, lighting, glare, shoreline, and land use requirements.
- Obtain all applicable Washington Department of Health (DOH) permits, potentially to include a Radioactive Materials License or a Radioactive Air Emissions License.
- Adhere to all applicable Washington DOH requirements, including Radiation Protection Program approval and monitoring requirements and radiological emergency preparedness coordination.

Recommended Measures for Construction and Decommissioning

- Recommend construction sequencing and demolition methods that reduce energy and fuel consumption while meeting worker safety and environmental requirements.
- Promote the reuse and recovery of structural steel, concrete, electrical equipment, and other construction materials where feasible to reduce demands on regional mineral and material resources.
- Source aggregate and fill from existing permitted facilities where feasible and minimize the need for new mineral resource extraction associated with facility construction, maintenance, and decommissioning.
- Transportation and delivery of oversized equipment, reactor components, and construction materials shall comply with an approved haul route plan.

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- Encourage characterization and disposal of radioactive materials and activated components generated during decommissioning in a manner that minimizes waste generation and maximizes opportunities for material recycling, reuse, or beneficial recovery where allowed by applicable regulations.
- Evaluate opportunities to retain and repurpose existing utility infrastructure, substations, transmission facilities, and site improvements following facility retirement to reduce future resource consumption associated with redevelopment.

Recommended Measures for Operation

- Implement monitoring for facility gross generation, internal electricity consumption, and net electrical output to identify opportunities to reduce auxiliary energy demand.
- Ensure energy-efficient operating conditions through ongoing maintenance for pumps, cooling equipment, ventilation systems, transformers, and other major loads.
- Implement energy management practices that optimize facility operations, improve thermal efficiency, and minimize electricity consumption associated with cooling, fuel processing, and other non-generating uses.
- Require routine inspections and maintenance of transmission interconnections, substations, transformers, and electrical infrastructure to maintain system reliability and reduce the need for resource-intensive repairs or replacement.

8.3.5. Renewable Fuel Facilities

Construction

Construction of renewable fuel facilities could require aggregate, concrete, steel, process equipment, storage tanks, utility connections, and transportation infrastructure. Transportation fuels would be required for worker commuting, material and equipment deliveries, site preparation, and installation of equipment. Aggregate materials could be required for access roads, equipment pads, foundations, drainage facilities, and additional accessory infrastructure.

Depending on the renewable fuel type, including fuel inputs and outputs, new or modified electrical, gas, and utility infrastructure may also be required for construction and interconnection to existing utility infrastructure. The extent of such improvements depends on the fuel processing needs, site characteristics, location and capacity of existing infrastructure. Renewable fuel facilities could also require infrastructure to receive, store, and transport feedstocks and finished products. This could include truck or rail loading areas, storage facilities, or other transportation infrastructure. Pipelines may also be associated with certain facilities depending on their end user connection; however, planning and related analysis for potential pipelines in the County is outside the scope of the CESP EIS and would be addressed through applicable project-level environmental review and permitting.

Operation

A distinguishing resource consideration for renewable fuel facilities is the ongoing use of feedstocks. Depending on facility technology, feedstocks may include agricultural products, crop residues, forestry byproducts, algae, organic waste, or other renewable resources. Ongoing demand for biomass or agricultural feedstocks could affect the availability or use of these resources and could influence local agricultural or forestry activities.

Operation would also require continued receipt of feedstocks and distribution of finished products. Transportation fuel consumption could result in recurring truck or other vehicle trips associated with feedstock deliveries, product distribution, employee travel, maintenance, and waste handling. The extent of these demands would depend on facility production capacity, feedstock source, transportation mode, and proximity to suppliers and end users.

Where renewable fuel facilities generate electricity, associated electrical and interconnection infrastructure would require ongoing operation and maintenance. Other facility types may primarily use energy to support processing equipment, pumps, compressors, material handling systems, storage systems, and other facility operations.

Renewable fuel facilities may also use pipelines to transport fuels or feedstocks. Where new or modified pipeline infrastructure would be necessary, associated impacts would depend on the location, scale, and characteristics of the proposed infrastructure. Because planning for new pipelines is outside the scope of the CESP EIS, pipeline-specific impacts would be evaluated through applicable project-level environmental review and permitting.

Decommissioning

Decommissioning would involve the removal of processing equipment, tanks, pipelines, and support infrastructure. Temporary transportation fuel demand would result from demolition activities, worker travel, material and waste transportation, equipment removal, and site restoration. Aggregate demand would generally be limited. Restoration activities could allow previously developed lands to return to agricultural, industrial, and other productive uses. The extent of restoration would depend on site conditions, infrastructure removal, and restoration measures.

Mitigation Measures

Recommended Measures for Siting and Design

- Encourage the siting of facilities near the anticipated feedstock supply and product distribution network where feasible to reduce transportation distances and equipment fuel consumption.
- Where a facility depends on agricultural or forestry feedstocks, applicants shall demonstrate whether feedstock demand could interfere with existing resource uses or encourage conversion of natural resource lands.
- Promote facility designs that minimize the footprint of feedstock storage, processing, product storage, utilities, wastewater facilities, access roads, and loading areas.

Required Measures

- Obtain all applicable federal, state, and local permits, approvals, and authorizations related to land use, natural resource protection, construction, utilities, stormwater management, grading, transportation, and reclamation.
- Comply with all applicable requirements governing reclamation of disturbed lands and restoration of natural resource productivity.
- Comply with all applicable federal, state, and local requirements related to fuel storage, transportation, handling, spill prevention, and emergency response.

Recommended Measures for Construction and Decommissioning

- Coordinate with adjacent agricultural and forestry operators to avoid unnecessary interference with harvests, planting, livestock movement, timber hauling, and other seasonal activities.
- Require decommissioning plans to address the removal, reuse, recycling, or lawful disposal of processing equipment, tanks, and other facility components, with preference for reuse and recycling where practicable.

Recommended Measures for Operation

- Facility should implement ongoing monitoring of facility electricity, thermal energy, transportation fuel, feedstock, water, and material consumption to identify efficiency opportunities.
- Encourage the recovery and reuse of process heat, byproducts, and suitable residual materials where technically feasible and environmentally appropriate.
- Facility should implement ongoing monitoring to determine if feedstock sourcing affects agricultural or forestry production patterns and adjust procurement practices where practicable to avoid contributing to natural resource land conversion.
- Avoid feedstock procurement practices that would contribute to unsustainable harvest or conversion of designated resource lands.
- Minimize transportation fuel consumption through efficient routing and consolidated loads.
- Facilities that use agricultural or forestry feedstocks should account for seasonal availability and variability of feedstock supplies to minimize the potential for facility demand to adversely impact existing resource-dependent industries or land uses.

8.4. No Action Alternative Analysis

Under the No Action Alternative, Skagit County would retain its existing development regulations and the selected energy facilities would continue to be reviewed and permitted under current local, state, and federal regulatory frameworks as described in the **Energy Permitting** section. Depending on the energy type and characteristics, proposed facilities could be reviewed either through Skagit County's existing processes as minor or major utility developments or through the Washington State Energy Facility Site Evaluation Council (EFSEC) process where certification is required or voluntarily elected by the applicant.

8.4.1. Impacts from Construction, Operation, and Decommissioning Under Current Processes

In regard to energy and natural resources, primary impacts of concern under the No Action Alternative would be changes in demand, namely increases, for electricity and supporting interconnection infrastructure, transportation and equipment fuels, and mineral and aggregate resources, as well as the temporary or permanent conversion of agricultural, forest, or mineral resource lands depending on whether an applicant uses the state or local permitting pathway. The type, magnitude, and duration of these impacts would vary based on facility type, generating or storage capacity, site location, design, construction methods, operational requirements, feedstock needs, and decommissioning approach. For further analysis of the selected energy facilities, refer to the impacts analyzed under the **Alternatives Analysis** section.In the Agricultural – Natural Resource Lands (Ag-NRL) zone, an energy

project that is considered a major utility development is not allowed per SCC 14.18.870(4)(b). In other Natural Resource Lands (NRL) zones, the applicant is required to submit an alternatives analysis demonstrating that no other viable parcel is available for the project and must minimize the disturbance to the natural resource. As such, under a no action alternative, facilities considered a major utility development would continue to be limited within NRL zones because such uses are not secondary or directly related to a resource use.

8.4.2. Mitigation Measures

Projects reviewed through the County permitting process would continue to be subject to existing applicable federal, state, and local permits and approvals, as well as Skagit County Comprehensive Plan policies, zoning, natural resource land protections, and utility siting requirements. Project-specific measures would address land use, grading, transportation, stormwater, utilities, materials management, reclamation, and decommissioning as current code addresses as of the timing of this EIS.

Projects reviewed through EFSEC would undergo the applicable state certification and environmental review process, and project-specific conditions could be established through a Site Certification Agreement. EFSEC may preempt local land use plans, zoning ordinances, and development regulations through the certification process when approved by the Governor. Consequently, some future energy facilities could be approved through EFSEC where County-specific development standards would otherwise apply. Additional mitigation and minimization measures applicable to the No Action Alternative are provided in the mitigation measures applicable to all energy facilities and facility-specific mitigation sections.

8.4.3. Significant Unavoidable Adverse Impacts

Because resource protection measures would continue to be implemented through existing local regulations, state and federal permits, and project-specific conditions imposed by permitting agencies, energy and natural resource impacts under the No Action Alternative generally be similar to those identified for the representative facility types analyzed and would likely be reduced through compliance with applicable, regulatory requirements. Temporary demands for transportation fuels, aggregate, construction materials, and other resources would generally not be expected to result in significant unavoidable adverse impacts. Development of new or modified electrical interconnection infrastructure could result in additional resource demands and land disturbance, with impacts dependent on electricity, fuels, aggregate, and construction materials would not be expected to create significant unavoidable impacts. Development of new or modified electrical interconnection infrastructure could result in additional energy resource demands and natural resource land disturbance, with impacts depending on the location, scale, and infrastructure required for individual facilities.

Significant unavoidable adverse impacts could occur where a facility or associated infrastructure permanently converts substantial areas of designated agricultural, forest, or mineral resource lands, causing lasting loss of resource productivity or access, or creates resource demands that cannot feasibly be avoided, minimized, restored, and compensated. Potential pipeline and/or transmission infrastructure associated with the selected energy facilities would be subject to applicable project-level environmental review and permitting because planning for such facilities is outside the scope of the CESP EIS. Overall, the No Action Alternative would not provide additional consistency, predictability, and energy-facility specific resource protections that could be established through adoption of updated County code and energy permitting regulations.

9. Parks and Recreation

9.1. Overview

The Parks and Recreation section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures, associated with parks and recreational areas within Skagit County.

The conditions analyzed in this section include:

- Local Parks
- Trails
- Sports Fields and Recreation Facilities
- State Parks
- Federal Recreation Areas
- Skagit County Parks Level of Service and Anticipated Facility Needs

Impacts of the alternatives would be considered significant if they result in:

- Permanent change in use, loss of access, or substantial reduction in quality of recreational use and experience with no opportunity to relocate.
- Potential for loss of existing recreational opportunities or areas that could result in overuse and overcrowding of other recreational activities in the surrounding area.
- Potential segmentation of existing recreational resources.

9.2. Existing Conditions

The study area for parks and recreation encompasses all parks and recreation areas in Skagit County. Designated recreation areas in or adjacent to the CESP EIS study area include trails, campgrounds, national forest land managed by USFS, water access points, golf courses, swimming pools, wilderness areas, national monuments, state and local parks, and lands managed by the United States Department of Natural Resources (DNR), the Washington Department of Fish and Wildlife (WDFW), and the Bureau of Land Management (BLM). See **Table 11:** Skagit County Public Lands Ownership

Ownership	Agency	Acreage
Federal		500,740
State	State Parks	3,690
	WDFW	6,700
	WA DNR Uplands	133,310
	WA DNR Aquatics	93,870
Subtotal		**237,570**
Local	City and County	3,880

Source: Washington State Recreation and Conservation Office, Public Lands Inventory, 2019, https://geo.wa.gov/datasets/wa-rco::wa-rco-public-lands-inventory-2019/about

for a summary of park and recreation areas in Skagit County by ownership.

Table 11: Skagit County Public Lands Ownership

Ownership	Agency	Acreage
Federal		500,740
State	State Parks	3,690
	WDFW	6,700
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	WA DNR Aquatics	93,870
Subtotal		**237,570**
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Source: Washington State Recreation and Conservation Office, Public Lands Inventory, 2019, https://geo.wa.gov/datasets/wa-rco::wa-rco-public-lands-inventory-2019/about

Recreation in Skagit County varies by season. During the summer, recreational activities include hiking, biking, camping, and water activities such as swimming, rafting, kayaking, and paddleboarding. These activities are popular in designated recreation areas and on public lands. Winter activities primarily take place on federally managed lands in eastern Skagit County and include snowshoeing, cross-country and backcountry skiing, snowmobiling, winter hiking, wildlife viewing, and camping.

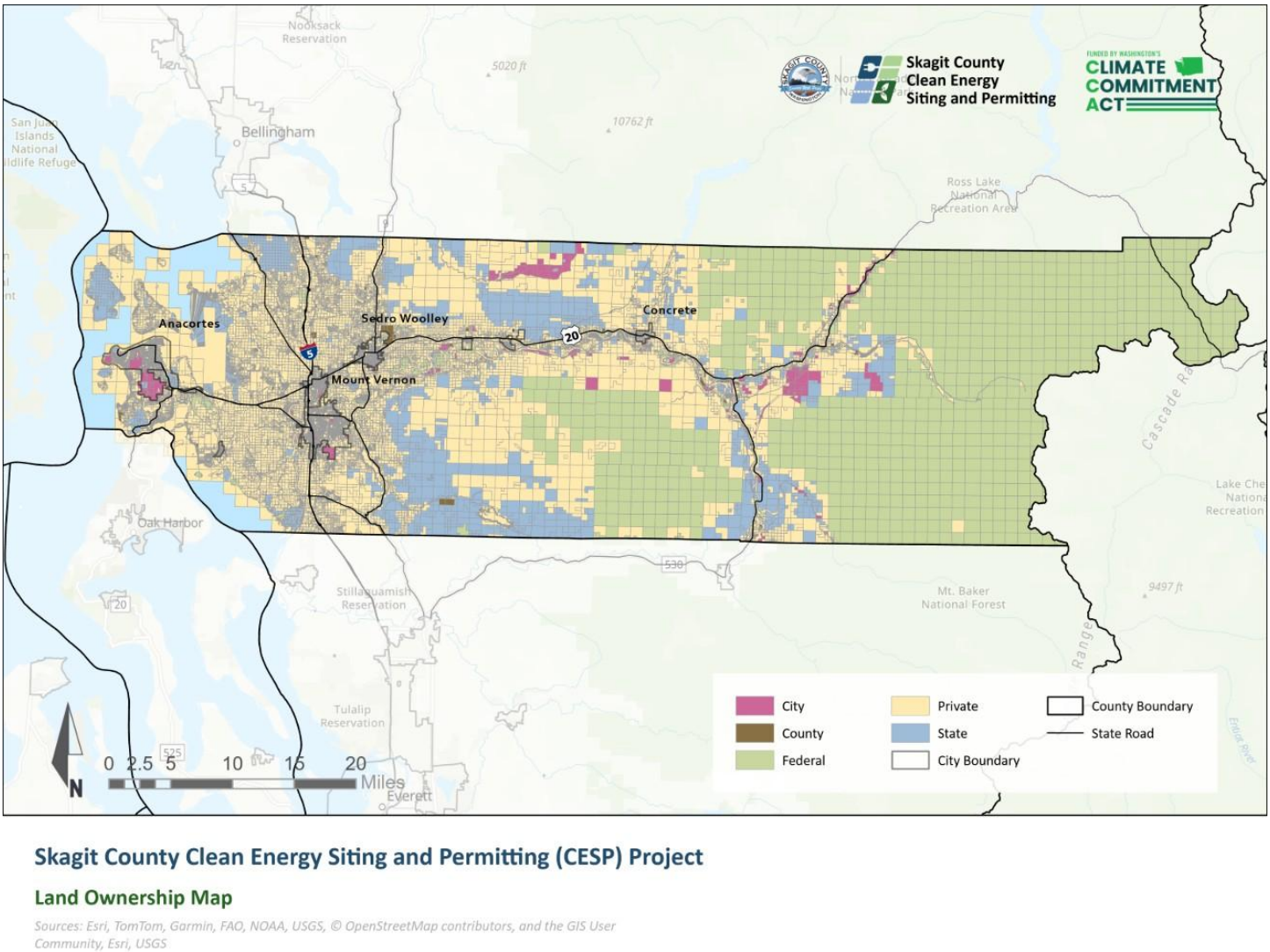
Other common recreational activities include:

- **Hunting and Fishing**: Hunting is concentrated in wildlife areas and national forest lands managed by WDFW particularly within the Skagit Wildlife Area and the public lands in eastern Skagit County. Recreational fishing occurs in rivers, lakes, reservoirs, estuaries, and marine waters throughout the county, including those in Ross Lake National Recreation Area, Mount Baker-Snoqualmie National Forest, state parks, and county shoreline access facilities.
- **Informal/Passive Recreation**: Includes recreational activities that do not require a field or court, including walking, hiking, wildlife and scenic viewing, birdwatching, and photography. Primary opportunities are provided in Skagit County's federally and county-managed trails and shoreline access areas.
- **Water-Based Recreation**: Occurs across a range of public lands and waters managed by federal, state, county, municipal, and wildlife management agencies. Recreational opportunities include boating, fishing, kayaking, canoeing, swimming, beachcombing, and shoreline recreation. Major recreation destinations include Ross Lake National Recreation Area, Baker Lake, the Skagit River, Skagit Bay, Padilla Bay, and other lakes and publicly accessible shorelines in the county. State parks, WDFW wildlife areas, county parks, and municipal waterfront facilities provide public access through boat launches, beaches, and shoreline parks.

Skagit County's inventory identifies approximately 35 public boat launches and 30 public shoreline access areas.[117]

- **Sports and Recreation Teams**: The Skagit County Parks and Recreation Department (SCPR) provides adult and youth sports leagues, tournaments, and camps. Primary locations for active recreation programs are provided by the Skagit County School Districts, with the Skagit Valley College gym serving as the most utilized indoor facility and the Skagit Playfields serving as the most utilized outdoor facility.[118]

Figure 39: Recreational Land Ownership



Source: Kimley-Horn, 2026 using Skagit County iMap "Tax Parcels", n.d., https://classic.skagitcountywa.gov/Maps/iMap/?mapid=2b61bc759ac34c8596b266e75f7857e7

[117] Skagit County Parks and Recreation Department, "2022 Comprehensive Parks and Recreation Plan," published April 2022, https://www.skagitcountywa.gov/media/fslbyxu5/2022-parks-and-rec-comprehensive-plan.pdf
[118] Ibid.

9.2.1. Parks and Recreation Facilities in Skagit County

Local Parks

There are approximately 2,400 acres of park land in Skagit County, both developed and undeveloped, that provide opportunities for active recreation, leisure activities, and events. Parkland in Skagit County is owned and/or managed by Skagit County Parks and Recreation (SCPR) and ranges from small neighborhood parks to large areas of open space, including Open Space of Regional/Statewide Importance (OSRSI). OSRSI is discussed in the **Land Use** and **Visual Quality** sections. Local parks are classified by SCPR into five categories based on park size and service area:

- **Regional Parks:** Larger sites that offer natural, cultural, or historic features, water access, or a concentration of facilities that can accommodate large-scale events.
- **Community Parks:** Parks that are larger than neighborhood parks and smaller than regional parks. Community parks can host a larger number and variety of ball fields, open space, picnic areas, swimming areas, and other facilities capable of hosting large gatherings. Passive recreational development in community parks includes boardwalks, nature trails, shelters, benches and picnic tables, environmental, cultural, or historical interpretive facilities, and parking. Natural areas may include streams, wetlands, forestlands, or a unique natural feature.
- **Neighborhood Parks:** Parks that are generally small, pedestrian-oriented and situated to serve residents of an immediate area. Recreational activities may include both active uses, including basketball courts, tennis courts, or playgrounds, and active uses, including open areas. Neighborhood parks are intended to emphasize needs of the surrounding neighborhoods and communities and may include play equipment or other family-oriented facilities. Neighborhood parks are ultimately the responsibility of local cities; Skagit County only oversees Cleveland Park.
- **Open Space and Undeveloped Parks:** Parks available for passive outdoor recreation, including trails, parking, and other limited improvements. Open space and undeveloped parks typically allow for passive recreation opportunities in the form of sightseeing, picnicking, beachcombing, and other activities, and may feature natural or conservation areas. They may also function as a viewshed with no public access.
- **Special Use Parks or Facilities:** Park lands acquired to provide for park activities that have specific needs that may or may not be compatible with typical park use. These uses may include land acquired for golf course development, off-road vehicle facilities, or regional events, such as the Skagit County Fairgrounds.

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Figure 40: Park Locations in Skagit County

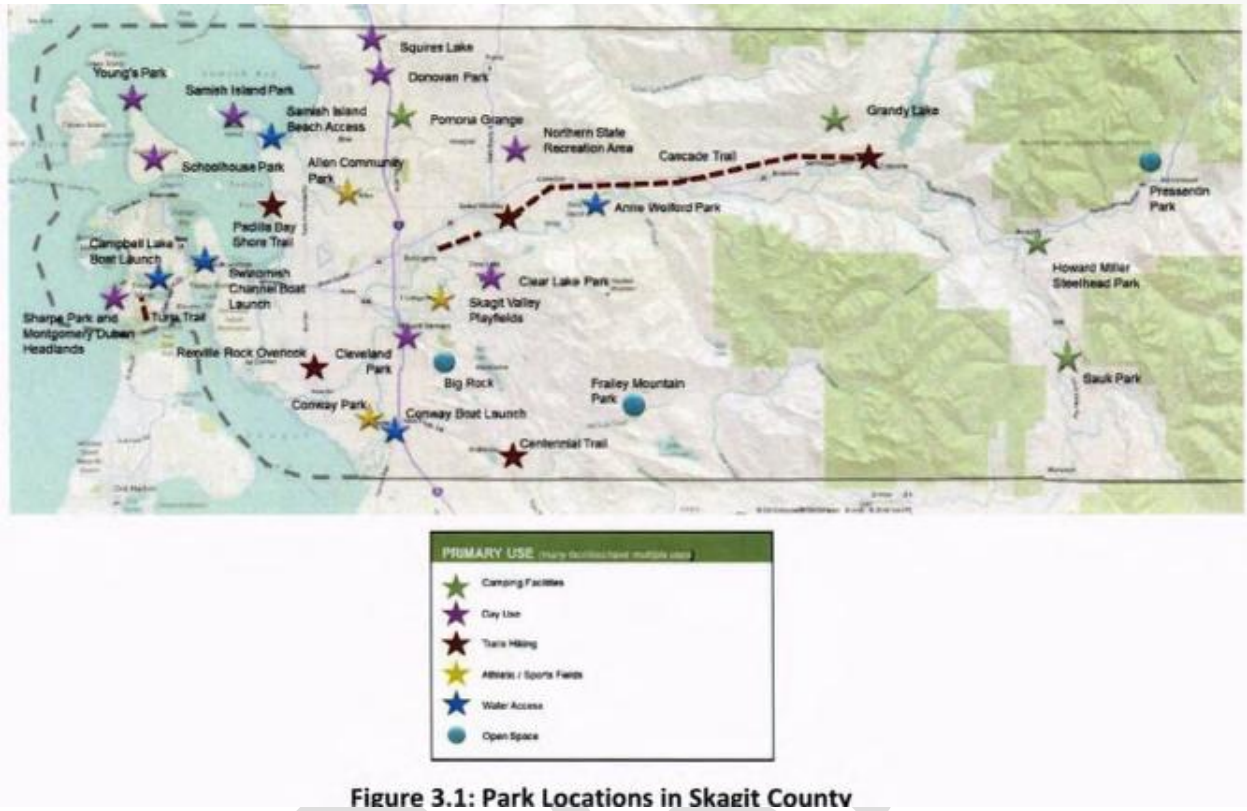

Figure 3.1: Park Locations in Skagit County

Source: Skagit County, Comprehensive Parks and Recreation Plan, 2022, https://www.skagitcountywa.gov/media/fslbyxu5/2022-parks-and-rec-comprehensive-plan.pdf

Table 12: Local Parks and Trails in Skagit County[119]

Local Recreational Area/Trail	Park Classification	County-Owned	Acreage/Mileage (within county limits)
Allen Community Park	Community Park	Yes	17 acres
Ann Wolford Park	Open Space/Undeveloped Park	Yes	33 acres
Big Rock Park	Open Space/Undeveloped Park	Yes	13 acres
Burlington-Sedro-Woolley Trail	Regional Park	Yes	7 acres
Campbell Lake Boat Launch	Community Park	No	390 acres
Cascade River Park	Open Space/Undeveloped Park	Yes	41 acres
Cascade Trail	Regional Park	Yes	23 miles
Centennial Corridor	Open Space/Undeveloped Park	Yes	45 acres
Centennial Trail	Regional Park	Yes	0.5 miles

[119] Skagit County, Planning and Development Services, "Capital Facilities Plan 2026–2031," adopted December 8, 2025, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/2025CFP/CFP%202026-2031%20CLEAN.pdf

Local Recreational Area/Trail	Park Classification	County-Owned	Acreage/Mileage (within county limits)
Clear Lake Beach	Community Park	Yes	1 acre
Conway Park	Regional Park	Yes	4 acres
Conway Park Boat Launch	Regional Park	Yes	3 acres
Cleveland Park	Neighborhood Park	Yes	1 acre
Donovan Park	Community Park	Yes	3 acres
Fairgrounds (Mount Vernon)	Special Use Parks/Facilities	Yes	20 acres
Frailey Mountain Park	Open Space/Undeveloped Park	Yes	400 acres
Grandy Lake Campground	Regional Park	Yes	22 acres
Hansen Creek Park	Not Classified in 2022 SCPR	Yes	3 acres
Howard Miller Steelhead Park	Regional Park	Yes	97 acres
Lake Erie Boat Launch	Community Park	No	1 acre
Marblemount Community Club	Not Classified in 2022 SCPR	Yes	22 acres
Nichol's Bar Park	Not Classified in 2022 SCPR	Yes	34 acres
Northern State Recreation Area	Regional Park	Yes	726 acres
Padilla Bay Shore Trail	Regional Park	Yes	2.1 miles
Pilchuck Forest Trail	Open Space/Undeveloped Park	Yes	81 acres
Pomona Grange Park and Interpretive Trail	Regional Park	Yes	15 acres
Pressentin Park	Open Space/Undeveloped Park	Yes	54 acres
Rexville Rock Overlook Park	Open Space/Undeveloped Park	Yes	0.5 acres
Rogers Park	Not Classified in 2022 SCPR	Yes	10 acres
Samish Beach Access	Regional Park	Yes	
Samish Island Park	Community Park	Yes	2 acres
Sauk Park Campground	Regional Park	Yes	30 acres
Schoolhouse Park	Community Park	Yes	4 acres
Sharpe Park	Open Space/Undeveloped Park	Yes	112 acres
Skagit Valley Playfields	Regional Park	Yes	30 acres
Squires Lake Park and Trail	Open Space/Undeveloped Park	Yes	4 miles
Swinomish Channel Boat Launch	Regional Park	Yes	3 acres
Tursi Trail	Community Park	No	2.5 acres
Young's Park	Regional Park	Yes	13 acres

Source: Skagit County Comprehensive Parks and Recreation Plan, 2022; Skagit County Capital Facilities Plan, 2026-2031

Trails

There is an extensive trail network in Skagit County, including county-owned, city-owned, state-owned, and federally owned trails. Skagit County Parks and Recreation (SCPR) owns and maintains the Cascade Trail, segments of the Centennial Trail, the Northern State Recreation Area trails, and various other regional trail facilities. The Centennial Trail includes portions of the old north/south Burlington Northern railroad right-of-way, and the Cascade Trail is located along a 23-mile segment of an abandoned Burlington Northern rail line between Sedro-Woolley and Concrete.

Anacortes, Mount Vernon, Burlington, and Sedro-Woolley own and maintain their own trail systems. These jurisdictions have also identified proposed trail corridors in their park plans, including connection points to the countywide system.

- **Anacortes**: Over 50 miles of trail, including the Tommy Thompson Trail, Anacortes Community Forest Lands (ACFL) Trail System, Cranberry Lake Trail, and Heart Lake Trail
- **Mount Vernon**: Includes the Edgewater Park Trail System, the Skagit Riverwalk, and Maiben Park Trail connections
- **Burlington**: Includes the Burlington-Sedro-Woolley Trail and the Tammi Wilson Memorial Trail
- **Sedro-Woolley:** Includes the Riverfront Trail System

State-owned trails include trails within state park limits and Skagit Wildlife Areas and are managed by Washington State Parks or the Washington Department of Fish and Wildlife (WDFW). These include Deception Pass, Rasar, and Rockport state park trails, operated by Washington State Parks and North Cascades National Park trails, operated by the National Park Service (NPS).

Federally owned trails include all trails within national parks, including the North Cascades National Park and Mount Baker-Snoqualmie National Forest. These trails are managed by NPS or USFS. A portion of the Pacific Northwest Trail, a part of the National Trails System, runs east to west directly through northwest Skagit County.

Additional trails fall under separate ownership, including those within special-purpose districts and lands protected by conservation organizations and nonprofits, such as the Skagit Land Trust. The Padilla Bay Shore Trail is located on special-purpose dike district property but is publicly accessible under agreements with Skagit County. The Port of Skagit also owns and manages nature trails adjacent to the Bayview Business Park and Skagit Regional Airport.

Sports Fields and Recreation Facilities

Many of the local parks in Skagit County include sports fields or facilities. Major sports complexes include:

- Skagit River Park Sports Complex Playfields
- Skagit Valley Playfields
- Janicki Field
- Allen Community Park
- Alton R. Daniels Stadium and Field

Skagit County Clean Energy Siting and Permitting

There are multiple recreational facilities in Skagit County, managed by private organizations, cities, the county, and the state. Most of these facilities lie within city- or county-owned parklands.

Table 13: Number of Sports Fields and Recreation Facilities by Type

Facility Type	Number of Facilities
Senior Baseball Fields	12
Youth Baseball Fields	53
Softball Fields	25
Adult/Junior Soccer Fields	40
Youth Soccer Fields	33
Football Fields	11
Day Use/Group Picnic Areas	20
Public Swimming Pools	2
Outdoor Swimming Areas	0
Boat Launches	35
Public Shoreline	30

Source: Skagit County Comprehensive Parks and Recreation Plan, 2022

State Parks

There are eight state parks in Skagit County, located either fully or partly within county limits. These parks are primarily used for fishing, camping, biking, along with boating and other water-related activities, and contribute to the county's designation of Public Open Space of Regional/Statewide Importance (OSRSI). Deception Pass Park is the largest park in Skagit County by acreage and receives between two to three million visitors per year, making it the most visited state park in Washington. Other state parks in the county, particularly the marine state parks, receive fewer visitors per year due to their limited accessibility and amenities. Saddlebag Island Marine State Park receives approximately 2,000 visitors per year, is only accessible by boat or kayak, and features minimal campground amenities with no drinking water.

Table 14: State Recreation Area by Acreage

State Recreation Area	Acreage
Deception Pass Park	4,134 acres
Skagit Island Marine State Park	25 acres
Rockport State Park	670 acres
Bay View State Park	66 acres
Rasar State Park	180 acres
Hope Island Marine State Park	106 acres
Saddlebag Island Marine State Park	24 acres
Larrabee State Park	2,748 acres

Source: Washington State Parks Foundation

Federal Recreation Areas

Federally managed recreation lands make up the largest component of the parks and recreation system in Skagit County and are concentrated in the Cascade Mountains in the eastern portion of the county. These areas provide opportunities for hiking, backpacking, camping, winter recreation, and scenic tourism. Major federal recreation lands include:

- **Mt. Baker-Snoqualmie National Forest:** Covers the central and eastern portions of Skagit County, and is managed by USFS
- **North Cascades National Park:** Skagit County contains a large western portion of the North Cascades National Park, including the Skagit River valleys, and is managed by NPS
- **Ross Lake National Recreation Area:** Located in the northern section of Skagit County and is managed by NPS

Federally designated wilderness areas within these lands support primitive recreation opportunities and contribute to the county's scenic, ecological, and recreational resources. Collectively, National Park and Recreation areas encompass approximately 130,848 acres within Skagit County, and National Forest lands encompass approximately 282,812 acres[120].

Skagit County Parks Level of Service and Anticipated Facility Needs

To quantify future park and recreation facility needs, SCPR developed a level of service (LOS) for Skagit County and compared with an LOS reflecting a compilation of three other counties in Washington, including Whatcom, Snohomish, and Spokane. These LOS standards are derived from the number and size of existing park and recreation facilities in Skagit County and the comparison counties, and they apply only to county facilities, as local cities and towns should develop their own LOS standards for recreation lands under their jurisdiction. The LOS standards for Skagit County, as well as the tri-county average, are shown in **Table 15** below.

Table 15: Levels of Service for Skagit County Parks[121]

Park or Facility Type	Average LOS between Snohomish, Spokane, and Whatcom County LOSs	Skagit County LOS	Skagit County Difference
Regional Parks	9.81	9.68	-0.13
Community Parks	0.54	0.26	-0.28
Neighborhood Parks	0.16	0.01	-0.15
Open Space	25.06	6.44	-18.62
Campgrounds	0.40	0.86	-0.46
Total Park Average	**42.21**	**17.25**	**-24.96**

[120] Skagit County, "Skagit County Comprehensive Plan 2025-2045," n.d., https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf
[121] Skagit County Parks and Recreation Department, "2022 Comprehensive Parks and Recreation Plan," published April 2022, https://www.skagitcountywa.gov/media/fslbyxu5/2022-parks-and-rec-comprehensive-plan.pdf

Source: Skagit County Comprehensive Parks and Recreation Plan, 2022

9.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative evaluates the potential environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuels facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

9.3.1. Impacts Applicable to All Energy Facilities

Construction

Construction activities for future facilities may generate temporary noise, lighting, and visual disturbances that impact nearby parks and recreation facilities. Fugitive dust emissions would also occur from soil disturbance, vegetation clearing, earthmoving activities, and vehicle travel on paved and unpaved roads, which may result in dust deposition on adjacent lands used as parks or for formal or informal recreation activities. This may impact visibility and visitor comfort along trails and at parks and sports facilities.

Construction activities could have impacts on recreational events, festivals, and seasonal tourism typically taking place in national, state, or local parks. Cranes, temporary fencing, and construction equipment could cause visual intrusions to neighboring parks or recreational lands, particularly in rural areas where viewsheds are generally unobstructed. The magnitude of these impacts would vary depending on facility size, construction duration, and site conditions, but would generally be greatest during periods of intensive earthwork and infrastructure installation. Construction of facilities may lead to a temporary increase in use at alternative recreation sites if construction prevents access to other recreation sites in the area.

Recreation lands may experience impacts from construction due to temporary closures or restrictions on access roads, trails and trailheads, or boat launches, and may result in temporary increased construction traffic on roads used by park or recreation land visitors. Noise or vibration from construction equipment may impact natural areas or wildlife habitats, which may limit opportunities for recreational opportunities such as wildlife photography or birdwatching. Nighttime construction lighting may degrade the visual quality of dark sky conditions for outdoor recreation activities such as stargazing or camping.

Depending on project location and scale, construction may also require temporary or permanent conversion of existing land uses that are adjacent to recreational lands or on lands that are used for recreation. This could result in a potentially significant adverse impact if lands of significant recreational use are converted or fragmented, which may lead to habitat fragmentation or a loss of park and trail connectivity.

Operation

Operation of the energy facility types analyzed may create potential conflicts with nearby parks and recreation facilities if the infrastructure, buildings, or equipment associated with these facilities alter the rural character of the area, including scenic views. Construction activities could limit access to any recreation sites that are in or near construction areas. Depending on the project location and facility type, continued recreation may be

restricted for security or safety reasons and result in the loss of the recreational opportunities that took place on the land previously. This reduction or elimination of recreational opportunities may also result in higher uses of neighboring recreational opportunities or the segmentation of existing recreational areas, such as trails.

The perceived industrialization of landscapes, particularly in rural areas and along scenic corridors, could result in a reduction in tourism appeal. Nighttime operational lighting may impact dark-sky conditions that could degrade camping, stargazing, and other nighttime outdoor recreation activities.

Depending on the facility type, noise and vibration impacts during operations may result in the degradation of wildlife habitats, including vegetation disturbance or the displacement of wildlife species, which may impact hunting opportunities and limit the tourism appeal for birdwatching, wildlife photography, and other wildlife-oriented recreation activities. Visitors may also be impacted by noise or fugitive dust emissions from ongoing facility operations that could degrade the recreational experience.

Decommissioning

Decommissioning of all the selected energy facilities discussed could result in the temporary reintroduction of noise, dust, truck traffic, and visual disturbances to parks and recreational areas adjacent to the facility site. Trail or recreation facility access may be temporarily restricted during decommissioning activities, and roads providing access to parks and recreation areas may experience increased delays or temporary closures. The visitor experience in adjacent park or recreation areas may be temporarily degraded by construction activities, including noise, fugitive dust emissions, or construction equipment that limits or degrades vistas or viewsheds. However, decommissioning would also remove facility-related constraints on parks and recreation facilities, which may result in the restoration of recreational opportunities that were previously lost from construction of a renewable energy facility, the reopening of previously closed lands, or the conversion of reclaimed sites to open space, habitat, or recreation uses as seen in pre-project conditions.

Mitigation Measures

Regulatory Framework

Numerous existing Federal, State, and local legislation regulating parks and recreational lands will require mitigation for future energy projects. A more comprehensive list of federal, state, and local level regulations that govern parks and recreation is as follows:

Federal Regulations

- National Park Service (36 CFR)
- Federal Lands Recreation Enhancement Act (FLREA)
- National Environmental Policy Act (NEPA)
- Section 4(f) of the U.S. Department of Transportation Act of 1966 (23 USC 138 and 49 U.S.C. 303)
- Land and Water Conservation Fund Act (LWCF) (54 U.S.C. §§200301 et seq.)
- 1968 National Trails System Act (16 U.S.C. §§1241-1251)
- National Park Service Organic Act (16 U.S.C. l 2 3, and 4)

State Regulations

- Public Recreational Lands (Title 79A RCW)

- Parks and Recreational Facilities (Chapter 36.68 RCW)
- 2023 Washington State Recreation and Conservation Plan (SCORP)
- 2021-2031 Washington State Parks and Recreation Commission Strategic Plan
- Washington Recreation and Conservation Office (RCO)

Local Regulations

- Skagit County Comprehensive Plan
- Skagit County Unified Development Code
- SCC Chapter 14.25-Landscaping
- SCC Chapter 14.28-Setbacks
- SCC 14.20.040-Heat, Glare, and Steam
- 2022 Skagit County Parks and Recreation Comprehensive Plan
- 2026-2031 Skagit County Capital Facilities Plan

Required Mitigation Measures

Federal

- There are no specific federal permit requirements that pertain to recreation.

State

- There are no specific state permit requirements that pertain to recreation.

Local

- Comply with the Skagit County Shoreline Master Program where facilities are located near shoreline recreation areas, boat launches, beaches, trails, or recreation areas providing water access.
- Comply with the Skagit County Unified Development Code, including zoning, critical areas, shoreline, and permit review requirements that may affect recreation resources or public access.
- Compliance with SEPA environmental review requirements, including implementation of mitigation conditions imposed through a Determination of Nonsignificance (DNS), Mitigated DNS, or project-specific permit approvals.
- Adhere to Skagit County screening and buffering requirements to protect sensitive viewsheds from parks and recreation lands from visual impacts due to energy facility construction, operation, and decommissioning activities.
- Require the preparation and implementation of traffic management plans to reduce conflicts between construction vehicles and recreation users, particularly during weekends, holidays, peak recreation seasons, festivals, or sports events. The plan will address construction vehicle routing, recreational access, pedestrian and bicyclist safety, and measures to minimize conflicts during high recreational use.
- Require the implementation of dust control measures, including watering disturbed soils, covering haul trucks, limiting vehicle speeds on unpaved roads, and stabilizing exposed soils, to limit fugitive dust emissions impacts on adjacent parks or recreation areas.

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- Require replacement, restoration, enhancement, or equivalent mitigation for recreational facilities, access opportunities, or recreational resources that would be permanently displaced or significantly degraded by project development.

Recommended Measures for Siting and Design

- Require applicants to identify existing parks, trails, recreation areas, water access sites, scenic recreation resources, and other recreational uses within the project area and evaluate potential impacts during site selection and facility design.
- Require applicants to incorporate additional setbacks if proposed facilities are directly adjacent to Open Space of Regional/Statewide Importance (OSRSI) lands.
- Prohibit the change in land use of OSRSI lands for development unless the proposed use is supportive of or accessory to a recreational use.
- Require consultation with applicable recreation providers and land management agencies, including Skagit County Parks and Recreation, Washington State Parks, Washington Department of Fish and Wildlife (WDFW), and National Park Service (NPS) during project planning and environmental review when recreation resources may be affected.
- Implement facility siting and design measures to avoid or minimize impacts to existing recreational resources, recreation access, designated recreation areas, scenic recreation settings, and areas that support informal recreation activities.
- Review project siting, facility layout, and associated infrastructure to ensure the fragmentation, isolation, or displacement of existing recreation areas and recreational corridors is avoided to the maximum extent feasible.
- If segmentation of existing recreational facilities cannot be avoided, require the development of an alternate linkage to connect the remaining segments.
- Promote coordination with agencies, Tribes, and communities during project planning and throughout the life of the project to discuss project siting and design, construction, operations, and decommissioning impacts, as well as measures to avoid, reduce, and mitigate impacts. Obtain feedback from agencies, Tribes, and communities when developing and implementing the resource protection plans and mitigation plans identified in the CESP EIS.
- Encourage engaging with land managers and statewide and local interest groups dedicated to conserving natural resources and recreation, like trail associations and environmental advocacy groups, to coordinate mitigation efforts.
- Applicants shall identify recreation resources within the project viewshed and demonstrate how project design minimizes visual impacts to recreation settings where visual quality is an important component of the recreational experience.

Recommended Measures for Construction and Decommissioning

- Require applicants to provide advance public notice of construction and decommissioning activities that may affect recreational access or use, including the anticipated schedule, hours of activity, affected recreation facilities or areas, and expected access restrictions or other impacts. Notice will be provided through appropriate methods such as on-site signage, online postings, and public notices.

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- Locate temporary staging areas, material stockpiles, laydown yards, and construction access roads outside parks, recreation areas, campgrounds, trail corridors, or designated open space areas.
- Construction and decommissioning should avoid temporary closures of parks, trails, campgrounds, boat launches, and other recreation facilities where feasible. If avoidance is not feasible, require applicants to minimize the duration, extent, and frequency of temporary closures or restrictions.
- Ensure safe public access to nearby or impacted recreation facilities during construction and decommissioning where feasible unless temporary closure is necessary to protect public safety. Where access cannot be maintained, applicants shall provide clearly marked temporary detours or alternative access where feasible.
- Recommend the installation of temporary screening, fencing, barriers, or vegetated buffers where construction activities may create safety concerns for recreation users.
- Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration.

Recommended Measures for Operation

- Where applicable, recommend permanent exterior lighting to use shielded, downward-directed fixtures and the minimum illumination necessary for safe facility operation and security to minimize light pollution, spill, or glare onto nearby recreational resources and to minimize adverse effects on nighttime recreational activities and the nighttime character of nearby parks, trails, campgrounds, scenic areas, and other recreation resources.
-
- Routine maintenance activities that could substantially affect recreational access or experience shall scheduled, to the extent practicable, outside periods of peak recreational use, including high-use seasons, weekends, holidays, and scheduled recreational events.
- Public access to adjacent parks, trails, boat launches, and other recreational facilities shall be maintained during routine operations and maintenance, except when temporary restrictions are necessary to protect public safety. Where access restrictions are necessary, require advance notice and alternative access where practicable.

Recommended Measures for Potential Significant Unavoidable Impacts

- Require applicants to provide replacement or enhanced recreational opportunities when significant impacts to existing recreational resources, access, or use cannot be fully avoided or minimized. Require coordination with land managers and statewide and local interest groups dedicated to conserving natural resources and recreation, like trail associations and environmental advocacy groups, to identify appropriate mitigation.
- Require applicants to fund, construct, or otherwise contribute to trail improvements, recreation facility enhancements, habitat restoration, or open space conservation to compensate for residual adverse impacts to recreation resources. Mitigation shall be reasonably related and proportional to the identified project impact.

- Require restoration of recreational lands and facilities disturbed by project construction, operation, or decommissioning activities to conditions that provide recreational access and function equivalent to or better than pre-project conditions.

9.3.2. Solar Facilities

Construction

For solar facilities, construction activities have the potential to result in impacts such as dust, noise, and light pollution that may impact adjacent parks and recreation areas and the experience of visitors to these areas. Fugitive dust emissions are a particular concern for solar facility construction activities, which commonly involve vegetation clearing, trenching for electrical lines, access road construction, and heavy equipment operation. The magnitude of the impact would be related to the distance from the construction area and local conditions. Traffic due to construction may increase on roadways in the county, including scenic corridors and access roads for parks or recreation areas. Access to these areas may be temporarily restricted due to safety or construction area limits.

Noise and vibration impacts during construction may result in the degradation of wildlife habitats, including vegetation disturbance or the displacement of wildlife species, which may impact hunting opportunities and limit the tourism appeal for birdwatching, wildlife photography, and other wildlife-oriented recreation activities. Visitors may also be impacted by noise or fugitive dust emissions from ongoing facility operations that could degrade the recreational experience.

Operation

Operational impacts of solar facilities on parks and recreation would vary depending on facility size, configuration, and location. Smaller-scale and distributed generation facilities are often incorporated into existing developed areas, rooftops, parking facilities, or other dual-use applications that would generally not impact parks or recreation areas during operation. Ground-mounted facilities may occupy more land and have greater potential to impact recreational areas, particularly in the county's rural areas with notable viewsheds or recreational opportunities. Compatibility concerns would depend on site-specific factors, including facility footprint, visual characteristics, fencing, lighting, and the extent to which the facility may interfere with existing recreational uses. Where appropriately sited and designed, solar facilities would be unlikely to result in substantial conflicts to parks and recreational opportunities in Skagit County.

Visual changes from solar facilities may impact adjacent parks or recreation uses, particularly those with scenic viewsheds or viewpoints. Glare may be a result of the type of solar technology utilized. Although glare from modern solar facilities is generally limited, siting near recreational areas may require additional evaluation to ensure compatibility with existing viewsheds, sports facilities, and national, state, and local parks.

Decommissioning

Removal of solar infrastructure may result in temporary disturbances to adjacent parks and recreation uses, particularly due to increased noise, dust, construction traffic, and human activity. However, decommissioning would also remove facility-related land use constraints regarding parks or recreation areas and may allow affected properties to be returned to recreational uses that were previously lost from construction, the reopening of previously closed lands, or the conversion of reclaimed sites to open space, habitat, or recreation uses as seen in pre-project conditions.

Mitigation Measures

Recommended Measures for Siting and Design

- Retain existing vegetation where feasible to preserve visual screening from recreation resources.
- Design ground-mounted solar panel layouts to follow natural contours and reduce visual contrast.
- Where recreation areas occur nearby, design fencing, security measures, and facility layouts in a way that avoids creating barriers to existing recreational movement patterns.
- Require applicants to conduct viewshed analyses for projects visible from parks, trails, campgrounds, scenic highways, or recreation viewpoints. If a determination is made that the proposed project will cause a direct and significant impact to parks or recreational resources, including viewsheds, require applicants to pursue other sites. If no other sites are available or will also lead to direct and significant impacts to parks and recreational resources, minimize impacts as much as possible through screening, landscape buffering, and other mitigation measures.

Required Measures

- Refer to measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Minimize the need for extensive grading and excavation and reduce soil disturbance where feasible to limit fugitive dust emissions that may impact adjacent parks or recreation uses.
- Adhere to best management practices for dust control during construction and decommissioning to prevent dust accumulation on adjacent parks or recreational uses.
- Promote the use of non-reflective panels and low-profile equipment to minimize visual impacts on recreation users and scenic resources.

Recommended Measures for Operation

- Conduct glare analyses where facilities may be visible from recreational areas. Applicants must modify panel orientation, setbacks, or screening and buffering measures if glare impacts are identified.
- Maintain vegetative cover beneath and around ground-mounted panels to reduce visual disturbance and improve compatibility with surrounding landscapes.
- Encourage the incorporation of compatible recreation uses as a mitigation measure, such as trails or interpretive paths, into solar facility areas where safety and operational requirements allow co-located recreational opportunities.

Recommended Measures for Potential Significant Unavoidable Impacts

- Require the provision of new opportunities for recreational activities, including incorporating biking or hiking trails or wildlife viewing areas into ground-mounted solar facilities or solar facilities co-located with agricultural use. Applicants may also consider opening facilities to hunting during portions of the year.

9.3.3. Battery Energy Storage Systems (BESS)

Specific site characteristics and the scale of BESS facilities would influence the potential impacts BESS facilities have throughout a project phase. It would be anticipated that larger BESS facilities would have greater impacts than smaller BESS facilities, but would still depend on the site location and proximity to adjacent land uses.

Construction

Construction of BESS facilities may result in temporary fugitive dust emissions, construction site lighting, noise impacts, vegetation and habitat loss, and the displacement of species due to site grading, installation of battery containers, electrical equipment, security infrastructure, and access improvements. Because larger BESS facilities are typically located near existing substations, transmission infrastructure, or other utility facilities, it would be anticipated that construction would occur in areas already characterized by utility or industrial uses. Depending on facility size and location, adjacent properties may be acquired or converted to accommodate facility infrastructure and associated operational requirements. Where adjacent lands support recreational uses, trails, or wildlife habitats valued for activities such as birdwatching and wildlife photography, segmentation of otherwise contiguous natural or open space areas by BESS facilities and associated infrastructure could diminish recreational quality, reduce opportunities for wildlife observation, and alter users' experience of the landscape.

Depending on the facility type, noise and vibration impacts during operations may result in the degradation of wildlife habitats, including vegetation disturbance or the displacement of wildlife species, which may impact hunting opportunities and limit the tourism appeal for birdwatching, wildlife photography, and other wildlife-oriented recreation activities. Visitors may also be impacted by noise or fugitive dust emissions from ongoing facility operations that could degrade the recreational experience.

Operation

Normal operation of BESS facilities would generate minimal light pollution because they are typically unmanned and do not require illumination to function. BESS facilities do generate noise, which would be greater near battery modules and electrical equipment and would be less impactful near property boundaries. Depending on project scale and location, the facility may be visible from roads, including scenic corridors, parks, recreation facilities, or viewsheds. Recreationists near a BESS facility during operations could experience changes that could degrade the recreational experience, including changes in noise and the visual environment.

Operations of BESS facilities could also result in impacts on vegetation, displacement of wildlife species, and changes in wildlife habitat areas, which could impact hunting, wildlife viewing, and other wildlife-oriented recreational activities.

Decommissioning

BESS decommissioning would generate temporary noise, lighting, and vibrations associated with dismantling battery modules, removal of electrical equipment, transportation of batteries for recycling or disposal, and site restoration activities. Fugitive dust emissions would occur during truck traffic and land disturbance activities, which could impact visual quality along nearby scenic corridors or adjacent land uses.

Mitigation Measures

Recommended Measures for Siting and Design

- Require sites to be designed so that battery modules and electric equipment are centralized as much as feasible away from property lines to reduce noise impacts or impacts to adjacent properties during construction and decommissioning.
- Establish and enforce setbacks between BESS facilities and recreation resources sufficient to maintain the recreational setting and user experience.
- Require facilities to be sited outside of areas identified for future park expansions, trail development, and recreation improvements where feasible. If a facility must be sited within an area planned for future park or recreational opportunities, measures could include that the applicant provides additional recreational opportunities through funding or land donations.
- Require applicants to evaluate potential glare, lighting, height, and other compatibility concerns near parks or recreation areas to avoid interference with scenic views or degradation of rural character.

Required Measures

- Refer measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Require applicants to coordinate construction schedules to avoid interference with seasonal recreational activities or peak seasons and times, including holidays and weekends.
- Require the minimization of temporary visual impacts through screened staging and storage areas.

Recommended Measures for Operation

- Require battery containers, substations, and equipment to be screened with vegetation to avoid degradation of the visual landscape, particularly adjacent to parks or recreation facilities in open space or rural areas.
- Require the use of non-reflective exterior materials and colors that blend with surrounding landscapes for BESS containers and facility buildings.
- Require the installation of acoustic treatment or sound barriers and the positioning of BESS equipment away from property boundaries to limit noise impacts to adjacent recreation areas.
- Require the applicant provide readily available public information regarding facility safety measures when facilities are located near recreational resources. These measures may be provided through appropriate methods such as posted signage, online postings, and press releases.

9.3.4. Fusion Small Modular Reactors (Fusion SMRs)

Construction

Construction of fusion SMRs could result in temporary impacts to nearby parks and recreation resources due to excavation, concrete placement, utility installation, and heavy equipment use that may generate substantial noise, traffic, fugitive dust emissions, or visual disturbances, particularly if large-scale infrastructure or transmission upgrades are required. Access to parks or recreational areas may be restricted for users due to safety or security concerns. Construction may result in the fragmentation of trails, recreation areas, or habitats popular for wildlife-

oriented recreation. Fusion SMRs can be co-located with other industrial facilities, which are generally located in already industrialized areas and therefore may have a less significant impact on parks and recreation.

Operation

Fusion SMR facilities would represent a long-term industrial or utility use characterized by containment facilities, cooling systems, security infrastructure, support buildings, and electrical infrastructure. If visible from adjacent parks, recreation areas, scenic corridors, or viewsheds, fusion SMR facilities could degrade the visual quality and character of the project area and reduce the tourism appeal for the recreation opportunities in the area. Due to the early stage of nuclear fusion development, fusion SMR facility designs are likely to vary. There may be potential for buildings or facility infrastructure to be visible due to height depending on facility design.

Fusion SMR facilities generate noise and light pollution comparable to industrial centers due to cooling systems and power supplies. Security requirements may increase lighting levels and increase perceptions of industrialization from adjacent parks or recreation areas. Some recreationists may perceive fusion energy facilities as incompatible with outdoor recreation, resulting in changes in visitation patterns.

Fusion SMR facilities may generate small amounts of radioactive waste depending on the facility scale and method of operation. Transport and disposal of this waste, in addition to regular maintenance activities and worker transportation, may result in increased traffic on adjacent roads, creating longer travel times for recreationists to reach their activity, and could impact access to parks and recreation facilities.

Decommissioning

Decommissioning of fusion SMR facilities would involve the removal of facilities, support buildings, electrical infrastructure, and associated site infrastructure. Due to the potential presence of regulated radioactive materials, decommissioning may require site characterization, remediation, monitoring, and regulatory clearance in close coordination with state agencies. If previously used for recreation activities, formal or informal, the land may not be able to be restored to pre-project conditions due to the intense industrial use. Decommissioning activities may result in noise, light, and visual disturbances similar to those during construction, but on a smaller scale. Decommissioning activities are also anticipated to have a shorter duration than construction activities.

Mitigation Measures

Recommended Measures for Siting and Design

- Consolidate utility corridors and infrastructure where feasible to minimize impacts on recreation landscapes.
- Locate facilities away from major recreational destinations, scenic viewpoints, campgrounds, and trail networks where feasible, and require the co-location of facilities near existing industrial uses where feasible.
- Where feasible, locate transmission infrastructure within existing utility corridors.

Required Measures

- Refer to measures applicable to all facilities.
- Obtain and maintain applicable federal and state licenses and approvals for radioactive materials and radiation-producing equipment.

- Compliance with the containment, handling, inspection, transportation, and waste disposal measures as required under state and federal nuclear regulations.

Recommended Measures for Construction and Decommissioning

- Incorporate vegetated screening measures to reduce perceived incompatibility with adjacent parks or recreation areas.
- Consider and plan for the timing of construction and decommissioning activities with potential conflicts with seasonal recreation uses in the surrounding area.

Recommended Measures for Operation

- Minimize security lighting to the extent consistent with operational and safety requirements.
- Recommend the use of shielded lighting fixtures designed to limit visibility from recreation areas.

9.3.5. Renewable Fuel Facilities

Construction

Renewable fuel facilities may require processing buildings, storage areas, utility connections, transportation infrastructure, and supporting facilities that result in the conversion of existing land used for formal or informal recreation. Because renewable fuel facilities often rely on the transportation and storage of feedstocks, facilities may be located near agricultural areas, industrial centers, transportation corridors, ports, rail facilities, or other infrastructure necessary to support facility operations. Construction of these facilities may introduce temporary compatibility, access, or scenic concerns where industrial-scale development occurs adjacent to parkland or recreation areas.

Operation

Renewable fuels facilities may have significant potential for long-term operational impacts to parks and recreation resources due to their industrial character and ongoing operational activities. These facilities can operate 24/7, which may result in exacerbated light and noise pollution due to safety or security concerns and facility equipment. These effects would be particularly noticeable in rural areas or adjacent to parks or recreation facilities. Because renewable fuel facilities operate as an intense industrial use, they may present a significant visual impact for recreationists along scenic corridors, at scenic viewsheds, or in parks or recreation areas in the county. Operational noise, lighting, and potential odors could diminish the quality of recreational experiences, particularly for passive activities such as camping, wildlife photography, birdwatching, and nature observation.

Transport of feedstock and finished renewable fuels may result in increased traffic on adjacent roads, creating longer travel times for recreationists to reach their activity, and could impact access to parks and recreation facilities.

Operational activities may indirectly affect recreational opportunities dependent on wildlife resources if habitat use or wildlife behavior changes in areas adjacent to a renewable fuel facility. The potential for ongoing industrial activity, lighting, and wildlife disturbance has also been identified for renewable fuel facilities within the **Biological Resources** section.

Decommissioning

Decommissioning of renewable fuel facilities would involve removal of industrial equipment, tanks, buildings, and utility systems. These activities could temporarily generate noise, dust, traffic, and visual disturbances that affect nearby recreation resources. Following decommissioning, restoration of the site could improve visual quality and recreational compatibility if industrial infrastructure is removed and the site is returned to a natural condition. The site may also be used for formal or informal recreation, depending on the quality of the restoration to pre-project conditions.

Mitigation Measures

Recommended Measures for Siting and Design

- Encourage siting renewable fuel facilities in industrial areas and co-locating with existing industrial uses to avoid land or habitat fragmentation.
- Avoid locating facilities adjacent to campgrounds, wildlife viewing areas, scenic parklands, or other recreation settings sensitive to noise, odor, and visual impacts where feasible.
- If applicants are unable to avoid locating facilities adjacent to recreational areas, applicant shall consolidate utility corridors and infrastructure to minimize impacts on landscapes, scenic views, or parks and recreation areas.

Required Measures

- Refer to measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Minimize the need for extensive grading and excavation and reduce soil disturbance where feasible to limit fugitive dust emissions that may impact adjacent parks or recreation uses.

Recommended Measures for Operation

- Conduct periodic public outreach regarding facility operations, environmental protections, and safety measures to address public concerns that could affect recreational use.
- Implement shielded lighting fixtures designed to reduce visibility from recreation areas.
- Utilize measures for tanks, processing equipment, buildings, and associated infrastructure from recreational viewpoints.
- Use noise attenuation measures such as enclosed equipment, sound barriers, and quieter technologies.
- Implement odor control measures where feedstock, digesters, storage facilities, or processing activities may generate off-site odors.
- Truck traffic shall be routed away from major recreation destinations where feasible.
- Monitor operational noise and odor complaints and implement corrective actions if impacts are identified.

9.4. No Action Alternative Analysis

Under the No Action Alternative, Skagit County would retain its existing development regulations and the selected energy facilities would continue to be reviewed and permitted under current federal, state, and local regulatory frameworks as described in the **Energy Permitting** section. Depending on the type and characteristics, proposed

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facilities could be reviewed either through Skagit County's existing minor and major utility development processes or through the Washington State Energy Facility Evaluation Council (EFSEC) process where certification is required or voluntarily elected by the applicant.

9.4.1. Impacts from Construction, Operation, and Decommissioning Under Current Processes

In regard to parks and recreation, primary impacts of concern are the loss of existing recreational areas, the permanent change in use of recreational areas, a substantial reduction in the quality of recreational use, and the segmentation of existing recreational resource due to the construction, operation, and decommissioning of energy facilities including solar facilities, battery energy storage systems (BESS), fusion small modular reactors (SMRs), and renewable fuels facilities. The degree and scale of impacts would vary based on facility size, location, design, and construction methods.

Under the No Action Alternative, impacts on parks and recreation resources would generally be similar to those under the Action Alternative. Future proposed energy facilities would undergo project-level environmental review through either the county permitting process or the EFSEC siting and permitting process where designated and informal recreational opportunities in the area are to be identified. Both processes provide opportunities for agency review and comment pursuant to SEPA. Under both EFSEC and SEPA siting processes, proposed energy facilities will be reviewed for impacts on environmental resources, including recreational opportunities, public access, and visual character. Facilities permitted by the county would remain subject to the county's Critical Areas Ordinance, the Skagit County Comprehensive Parks and Recreation Plan, the Skagit County Comprehensive Plan, and other applicable regulations, while major regional utility projects would not be permitted. The key distinction between the alternatives is that the Action Alternative would provide the county with additional specifics regarding the zones for facility siting, application materials, development standards, and mitigation measures tailored to local county conditions.

For further analysis of the selected energy facilities, refer to the impacts analyzed under the **Alternatives Analysis** section.

9.4.2. Mitigation Measures

Projects reviewed through the county permitting process would continue to be subject to the existing comprehensive plan, land use designations, critical areas regulations, SEPA review, and applicable state and federal requirements regarding parks and recreation lands. Specific mitigation measures would vary and would likely take place as part of a conditional use applications on the local level or EFSEC may impose project-specific avoidance, minimization, or mitigation efforts for impacts on parks and recreation resources through a Site Certification Agreement.

Additional mitigation and minimization measures applicable to the No Action Alternative can be found with the measures applicable to all energy facilities.

9.4.3. Significant Unavoidable Adverse Impacts

Under the No Action Alternative, the potential for significant adverse impacts on parks and recreation resources in the county would remain. This potential is particularly applicable to larger scale facilities that may seek EFSEC certification and be approved through a process that may preempt local land use regulations, which may result in the permanent change in use of or loss of access to existing informal recreation areas. While project-level environmental review and mitigation would continue to occur, direct or indirect conflicts with parks and recreation lands and inconsistencies in the application of mitigation measures and compatibility requirements may not be fully avoided. As a result, significant land use impacts could occur and remain unavoidable under the No Action Alternative.

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10. Historic and Cultural Resources

10.1. Overview

The Historic and Cultural Resources section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures, associated with historic and cultural features within Skagit County.

Historical lands include properties listed on federal, state, or local historic registers, as well as locations recognized for their cultural, archaeological, or historical significance. These lands include:

- Historic properties
- Transportation corridors
- Archaeological sites
- Traditional cultural properties (TCP)
- Other resources that contribute to the County's heritage

The historic and cultural resources analyzed in this section include:

- Historic Properties
- County Settlement History
- Museums
- Archaeological Resources
- Traditional Cultural Properties (TCPs)
- Sacred Sites
- Human Remains and Cemeteries

The following elements of the environment could have impacts that overlap with impacts on cultural resources. The impacts identified in the respective sections may apply:

- **Earth Resources**
- **Environmental Health and Safety**
- **Tribal Rights, Interests, and Resources**

10.2. Existing Conditions

The county includes cultural landscapes associated with four distinct federally recognized sovereign tribal nations of Coast Salish Peoples, the Swinomish Indian Tribal Community, Samish Indian Nation, Upper Skagit Indian Tribe, and Sauk-Suiattle Indian Tribe, who have inhabited and stewarded this region since time immemorial. Each Tribe may possess a distinct record of their history, including important properties, sites, ancestors, and belongings, which may be publicly available or privately held.

This section reflects existing conditions and known information at the time the CESP EIS was prepared through a western scientific approach and largely uses current Washington State Department of Archaeology and Historic

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Preservation's (DAHP's) Washington Information System for Architectural and Archaeological Records Data (WISAARD). The database includes recorded historic, archaeological, and traditional cultural properties and is commonly used to identify the location of recorded archaeological sites, historic resources, cemeteries, historic districts, TCPs, NRHP listed properties, and cultural survey reports.

Some of this information with DAHP is available to the public, but other information is restricted for resource preservation and to respect data sovereignty. The following table describes the information available under WISAARD.

Table 16: WISAARD Data Availability

Data Type	Access	Description
Property	Public	Inventoried historic built environment resources/Historic Property Inventory forms. Not all forms are complete. The layer also contains information on the historic register status of the building (unevaluated, eligible, or not eligible).
Register public	Public	Properties listed in the NRHP, the Washington State Heritage Register, and Heritage Barn Register.
Project/Area of Potential Effects	Public	Project areas shared with DAHP for consultation under the NHPA Section 106, GEO 21-02, the Washington SEPA, and Washington State Forest Practices rules.
Tribal	Public	Compiled from several different sources, the layer contains historical treaty boundaries, Tribal reservation boundaries, and Tribal areas of interest for consultation, human remains, and oil spills.
Government Land Office (GLO) Survey Plat Maps	Public	Digitized features based on the GLO survey plat map.
GLO Images	Public	Georeferenced layer of select GLO survey maps.
Environmental	Public	Compiled from several different sources, the layer contains drainages, waterways, surface geology, and soil data.
Predictive Model	Public	Statewide predictive model to predict the location of select archaeological sites.
Archeological	Restricted	Archaeological sites, isolates, and districts recorded with DAHP.
Register	Restricted	Properties listed in the NRHP (including archaeological sites and districts), the Washington State Heritage Register, and Heritage Barn Register.
Cemeteries and human remains	Restricted	Recorded cemeteries throughout the state and location of human remains that were inadvertently discovered.
TCP	Restricted	TCPs recorded with DAHP made available by the Tribe or community who shared the information. May only be available to DAHP staff.

Data Type	Access	Description
Cultural resource surveys	Restricted	Cultural survey reports shared with DAHP written after 1995. Selected older studies are available but lack geospatial references.

Source: Department of Ecology, PEIS for utility-scale solar, 2025

10.2.1. Historic Properties

Historic properties are sites, buildings, structures, districts, and objects that are eligible for listing or are listed in the National Register of Historic Places (NRHP). Historic building information is publicly available. As of August 2026, DAHP's database currently documents close to 2,955 buildings, 75 structures, 20 sites, and seven objects within Skagit County.[122] This inventory includes properties located within city jurisdictions, which is where the largest concentrations of historic properties are located. **Figure 41** below shows the publicly available properties that may be historic within Skagit County.

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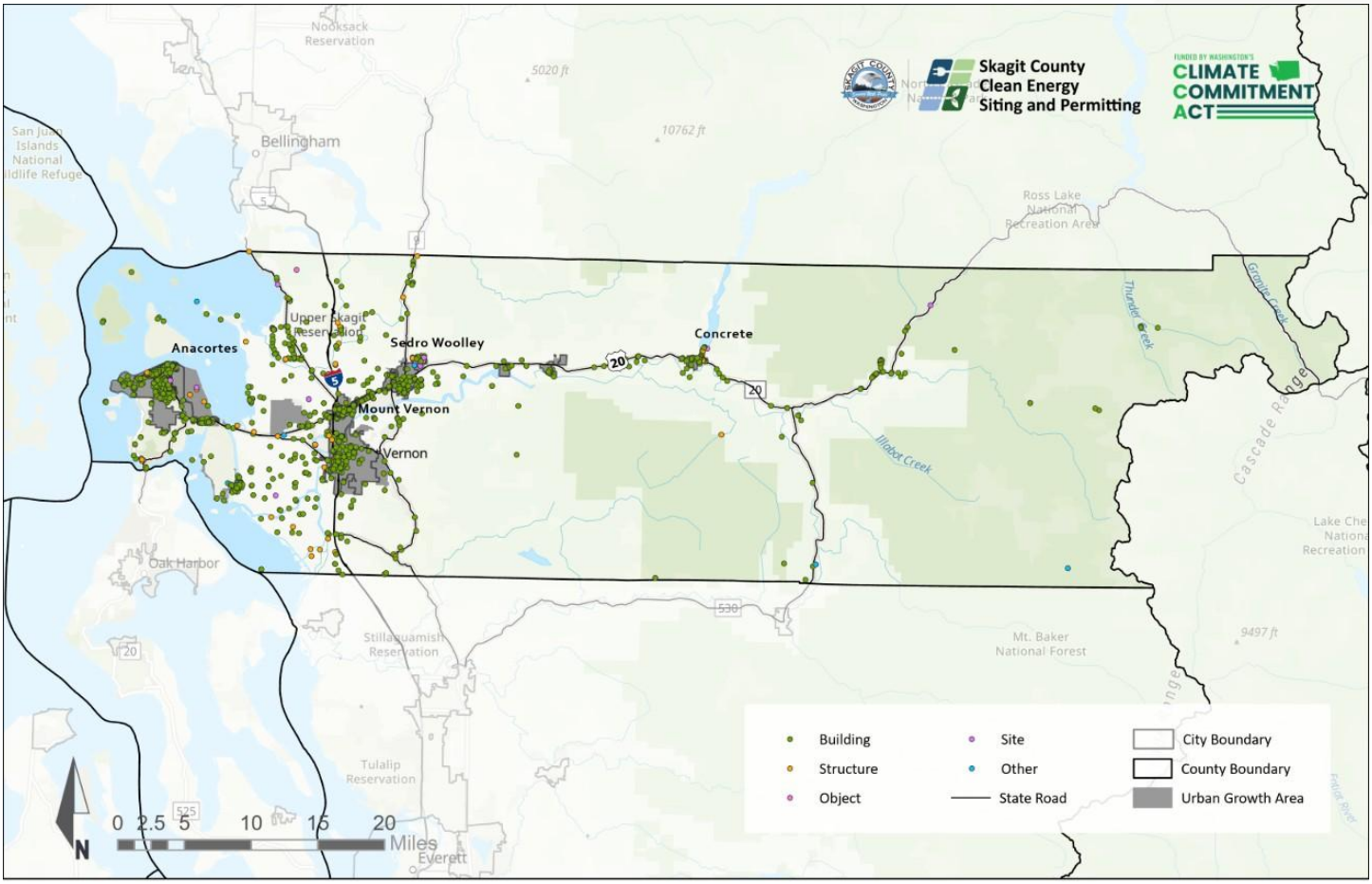
[122] Washington State Geospatial Open Data Portal, "DAHP – Historic Property Inventory," n.d. https://geo.wa.gov/datasets/83a333e56437461889414b3268362fb2/about

Figure 41: Historic Property Inventory



Source: Kimley-Horn, 2026, using DAHP Historic Property Inventory data, 2026, https://www.arcgis.com/home/item.html?id=83a333e56437461889414b3268362fb2#overview

The properties above are not all registered for historic preservation. The data includes properties that are unevaluated, eligible, or determined currently not eligible. This dataset is constantly being updated. DAHP's WISAARD contains inventory of multiple registered properties, heritage barns, historic bridges, and registered districts throughout the county.

10.2.2. Archaeological Resources and Predictive Model

An archaeological site is the location of objects that comprise the physical evidence of an Indigenous or subsequent culture, including material remains of past human life, such as monuments, symbols, tools, facilities,

and technological byproducts. DAHP has established that an archaeological site must contain at least two archaeological objects; a single archaeological object is known as an archaeological isolate.[123]

Archaeological resources are typically identified through archaeological survey work and project-level environmental review for specific site areas. The majority of the County has not been archaeologically surveyed. It should be assumed that potential facility sites have not been intensively surveyed. Tribal knowledge of specific areas may also contain information regarding the locations of precontact archaeological sites.

For early planning and risk identification, DAHP hosts an archaeological predictive model that assesses the risk for finding archaeological resources across Washington State. This model is not a definitive assessment and according to the Department of Ecology is only around 85 percent correct. The model also does not account for cultural and sacred places.

The predictive model helps determine the likelihood of precontact era archaeological sites being present based on environmental factors such as elevation, slope percent, aspect, distance to water, geology, soils, and landforms as well as archaeological data including archaeological site locations, archaeological surveys, and information depicted on Government Land Office (GLO) maps. (cite the PEIS) While the model is a useful screening tool, the Department of Ecology notes that its results should be interpreted in conjunction with an understanding of local geomorphology and past land use and development, as these factors influence both the presence and preservation of archaeological resources.

Five categories are used in the prediction model; these categories are as follows:

- **Low Risk**: Survey Contingent Upon Project Parameters
- **Moderately Low Risk**: Survey Contingent Upon Project Parameters
- **Moderate Risk**: Survey Recommended
- **High Risk**: Survey Highly Advised
- **Very High Risk**: Survey Highly Advised

As shown in **Figure 42** below, the areas in yellow are the highest risk areas for potential archaeological resources. These areas are located along the Skagit River and its related delta and tributaries.

[123] Washington State Department of Ecology, "Programmatic Environmental Impact on Utility-Scale Solar Energy Facilities in Washington State: Appendix N: Historic and Cultural Resources Technical Report", updated June 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf

Figure 42: Architectural and Archaeological Records Data Map



Source: DAHP, Washington Information System for Architectural and Archaeological Records Data, n.d., https://wisaard.dahp.wa.gov/Map

For the areas along the Skagit River, shown in yellow to bright yellow, further project level surveys are highly advised. While darker areas may be less of a risk, that does not necessarily mean there are no archeological resources present at a given site. These areas and whether a survey would be necessary is contingent upon the specific project. A full assessment of a location's probability to contain archaeological resources by a professional archaeologist may be higher or less than the initial assessment in the figure above.

A complete assessment of the probability for encountering all types of cultural resources requires a focused research effort into a wide range of archival resources, and consultation with affected Tribes. Tribes often hold detailed information about the history of an area, which is a factor in assessing the probability of finding cultural resources in a given location. These ethnographic data are not incorporated into the DAHP predictive model and often cannot be assessed by outside researchers without direct collaboration with Tribal knowledge holders. The Tribes contacted and archival resources reviewed as part of a full probability assessment would be unique to any particular location. The model's baseline probability assessments are often considered in conjunction with archival research findings by researchers once a detailed archival effort has been conducted.

10.2.3. Traditional Cultural Properties

Traditional Cultural Properties (TCPs) are a property or a place that is inventoried or determined to be eligible for inclusion on the NRHP or the Washington Heritage Register because of its association with cultural practices and beliefs that are:

- Rooted in the community's history

- Important to maintaining the continuing cultural identity of the community's traditional beliefs and practices[124]

TCPs can be any location, landform, or object with association or importance to a group. DAHP maintains a database of TCPs, although few are publicly disclosed. TCPs may include culturally significant locations, landforms, or objects ranging in scale from a single feature to an entire landscape. Because TCPs are often associated with sensitive cultural or spiritual practices, they are typically documented only to the extent necessary to evaluate potential project impacts. The details and locations of these restricted resources are shared on an as-needed basis through the consultation process.[125]

10.2.4. Human Remains and Cemeteries

Skeletal remains represent the physical remains of once-living individuals and as such should be treated with the utmost care, dignity, and respect. DAHP holds jurisdiction over all non-forensic human skeletal remains found in Skagit County on non-federal and non-tribal lands. It also has the primary responsibility for the notification of appropriate cemeteries and affected tribes when non-forensic skeletal remains are discovered. Cemeteries, Indian burial grounds, historic graves, and pioneer cemeteries are significant and irreplaceable cultural resources in Washington state. Because of their cultural importance, they are all strictly protected under state laws and their data is restricted.

10.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative evaluates the potential significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

Specific impacts on historic and cultural resources need to be assessed on a project-level basis. However, there are common activities related to the development of energy facilities that have the potential to cause significant impacts to resources. The following analysis focuses on impacts that could result from the energy facilities under study. Impacts will need to be considered as part of subsequent project-level analyses for any energy facility.

10.3.1. Impacts Applicable to All Energy Facilities

Construction

Construction of renewable energy facilities would result in ground disturbance, vegetation clearing, grading, and excavation activities that could result in the direct disturbance of previously recorded or undocumented historic and cultural resources. Construction may also affect the setting or association of historic properties and cultural

[124] Washington State Department of Archaeology and Historic Preservation, "Traditional Cultural Properties and Cultural Landscapes Guidance" n.d., https://dahp.wa.gov/sites/default/files/2017_SIGNED_TCP.pdf

[125] Washington State Department of Ecology, "Programmatic Environmental Impact on Utility-Scale Solar Energy Facilities in Washington State: Appendix N: Historic and Cultural Resources Technical Report", updated June 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf

landscapes by introducing industrial features, removing historic landscape elements, altering viewsheds, or changing the character of places important to Tribal communities and local history. Increased traffic, noise, vibration, and dust due to construction activities could temporarily affect access to historic sites associated with county history.

Because many areas of Skagit County have not been intensely surveyed for archaeological resources, cultural materials may also be present in locations not previously identified. Construction could also impact the setting and association of nearby historic properties and cultural landscapes through the introduction of construction equipment, temporary visual intrusions, noise, vibration, dust, and increased traffic. The installation of solar panels could present a stark contrast to existing natural landforms, particularly in rural or undeveloped areas, and dust or noise could impact cultural resources for which visual integrity contributes to site significance. TCPs or sacred sites are especially susceptible to noise impacts, as they could cause the cultural uses or practices that occur at these locations to be interrupted. Vibration caused by pile driving, blasting, heavy equipment use, or vibratory rollers could impact cultural resources by damaging or toppling archaeological features on the surface.

Operation

The introduction of permanent structures, lighting, fencing, and other site infrastructure necessary for renewable energy facility operation could alter the visual, cultural, and historic setting of nearby cultural resources, potentially diminishing the integrity of historic properties, cultural landscapes, TCPs, or sacred sites. A Tribe's spiritual practices could be interrupted by construction impacts on or near cultural or sacred sites due to noise, dust, or the interruption of access.

Ongoing maintenance activities could result in recurring disturbances in areas containing archaeological resources or culturally significant locations. For Tribal communities, operations could affect the cultural context or traditional use of places that derive value from their natural setting or connection to ancestral landscapes. While operational impacts are typically less intensive than construction-related impacts, they may persist for the life of the facility and contribute to long-term changes in the character and perception of historic and cultural resources.

Additionally, the increase in opportunity for human access due to the establishment of corridors or facilities, particularly in rural or otherwise inaccessible areas, could result in impacts to archaeological sites and historic structures such as looting, vandalism, and trampling.

Decommissioning

Decommissioning activities could result in impacts similar to those associated with construction, although the extent and intensity would depend on the removal methods used and the degree of prior site disturbance. Removal of structures, foundations, utilities, and access improvements could require additional excavation that may disturb previously unidentified archaeological resources. Equipment operation and demolition activities could temporarily affect nearby historic properties or cultural landscapes through noise, vibration, dust, and increased traffic.

Mitigation Measures

Regulatory Framework

Archaeological, cultural, and sacred sites are not subject to public disclosure, and some may only be known to a Tribal cultural resources department or official. Numerous existing Federal, State, and local legislation regulating historic and cultural resources, known and unknown, will require mitigation for future energy projects. A more comprehensive list of federal, state, and local level regulations that govern historic and cultural is as follows:

Federal Regulations

- Antiquities Act of 1906 (54 USC 320301-320303, 18 USC 1866(b))
- Archaeological and Historic Preservation Act (54 USC 312501-312508)
- Archaeological Resources Protection Act (ARPA)
- National Historic Preservation Act (NHPA)
- Section 106 of the NHPA: Requires consultation with the relevant Tribal Historic Preservation Officer (THPO), Indian Tribes, and Native Hawaiian organizations.
- Native American Graves Protection and Repatriation Act
- American Indian Religious Freedom Act

State Regulations

- Centennial Accord Between the Federally Recognized Tribes in Washington and the State of Washington
- Chapter 27.53 RCW, Archaeological Sites and Resources
- RCW 42.56.300, Archaeological Site Public Disclosure Exemption
- RCW 19.27.120, Washington State Historic Building Code
- RCW 27.34.400, Heritage Barn Program
- Chapter 27.44 RCW, Indian Graves and Records
- Chapter 68.50 RCW, Human Remains
- Chapter 68.60 RCW, Abandoned and Historic Cemeteries and Historic Graves
- Chapter 43.376 RCW, Government-to-Government Relationship with Indian Tribes

Local Regulations

- Skagit County Countywide Planning Policies – Policy 13
- Skagit County Comprehensive Plan
- Skagit County Code 14.30.070 Archaeological and historical resources.
- Local historic preservation groups, including local registers and preservation offices

Historic and cultural resources can impact Tribal rights and governance. As such, federal, state, and local laws often require notification and consultation with affected Tribes before, during, and after project review. Formal government-to-government consultation occurs between federal or state agencies and Tribal sovereign governments. Each Tribe is a sovereign nation and may have its own definition of what constitutes an appropriate consultation.

At the local planning level, RCW 36.70A.040(8) provides the opportunity for federally recognized Tribes whose reservation or ceded lands are located within a county to voluntarily participate in the countywide planning

process. The process includes the development of a mutually agreed-upon memorandum of agreement (MOA) or memorandum of understanding (MOU) that establishes procedures for collaboration and involvement in planning activities moving forward. At the time of the CESP EIS, there is an MOU between Skagit County and the Swinomish Tribe (MOU AF#199805260015) establishing procedures for the administration of a cooperative land use planning program. There are no other MOAs or MOUs between Skagit County and other Tribes.

Required Measures

- Conduct an Archaeological Site Alteration and Excavation Permit through DAPH DAHP if any precontact archaeological site or NRHP-eligible historic-era archaeological site related to Tribal activities are impacted by a project.
- Undergo an NHPA Section 106 consultation for actions that may impact historic properties and which is typically completed along with other federal permitting or approval processes. The process associated with Section 106 of the NHPA includes consultation with interested and affected Tribes, the Advisory Council on Historic Preservation, and the State Historic Preservation Office (SHPO).
- Develop an Inadvertent Discovery Plan to be implemented in the event that unrecorded archaeological resources are identified during construction or decommissioning. Work within 30 meters (100 feet) of the find must be halted and directed away from the discovery until it can be assessed in accordance with steps in the Inadvertent Discovery Plan.
- Stop work and complete required notifications if archaeological materials or human remains are discovered.

Recommended Measures for Siting and Design

- Locate facilities outside known historic properties, archaeological resources, TCPs, sacred sites, cemeteries, or other historically or culturally sensitive areas.
- Request facilities be designed to avoid fragmentation of culturally important landscapes and traditional use areas through methods such as clustering, buffers, and maintaining contiguous areas or corridors.
- Prioritize siting facilities on previously disturbed or developed areas, including existing infrastructure corridors or industrial sites, to reduce the likelihood of disturbing archaeological resources, where practicable.
- Where potential disturbance of historic and cultural resources is not avoidable, require minimization of the footprint of facilities where feasible.
- In areas where homesteading was a prevalent historic activity, require coordination with the County assessor's office and historical museums to determine if the area includes known homestead sites.
- Recommend consultation with potentially affected Tribes early in the siting process and through project development to help identify potential impacts on Tribes, including off-reservation rights, trust lands, and other areas of Tribal significance during the siting process.
- Coordinate with Tribal Historic Preservation Officers to provide input on TCPs, sacred sites, or any other culturally significant sites during site selection.
- Review facility siting to avoid or provide additional information for areas identified as having moderate, high, or very high archaeological sensitivity through DAHP predictive modeling, cultural resource inventories, Tribal consultation, or site-specific investigations.

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- Suggest a site-specific cultural survey to evaluate potential impacts in accordance with DAHP and federal requirements and guidance. To expedite the review process, DAHP and the affected Tribes should be given the opportunity to review the cultural resource survey methodology.
- Encourage site layouts that preserve contributing landscape features such as historic agricultural patterns, irrigation systems, tree rows, hedgerows, historic roads, and other elements that contribute to the integrity of historic and cultural landscapes.

Recommended Measures for Construction and Decommissioning

- Identify and mark the boundaries of known archaeological sites, historic properties, traditional cultural properties, and other sensitive cultural resource areas prior to construction or decommissioning activities.
- Minimize ground disturbance in areas with moderate, high, or very high archaeological sensitivity and use the least ground-disturbing construction methods where feasible.
- Minimize the use of areas within or adjacent to historic properties and areas of cultural significance construction as locations for staging, material stockpiling, equipment parking, and access routes.
- Limit clearing, grading, and excavation activities to construction limits and notes avoidance areas.
- If disturbing ground in culturally sensitive areas, require Tribal cultural monitors or archaeological monitors.
- Limit vehicle travel for construction activities to access roads to limit unnecessary disturbance of existing historic or cultural resources on site.
- Restrict new or unauthorized access into culturally sensitive areas.
- Provide cultural resource awareness training to all construction and decommissioning personnel, including information on legal protections for archaeological resources, human remains, sacred sites, and Tribal cultural resources.
- Construction and decommissioning personnel should understand project specific reporting procedures and stop work requirements in case of archaeological discovery.
- Require clearly marked temporary fencing and signage around sensitive resources.
- Require minimization of vibration-producing activities near historic structures where feasible.
- Conduct pre-construction cultural resource surveys in areas that have not previously been evaluated or where site conditions have changed.
- Where known historic or cultural resources are located, require monitors to oversee construction, drainage changes, erosion, public access, or facility operations could cause continuing impacts.
- Decommissioning activities should minimize renewed disturbance and avoid unnecessary removal or subsurface components where removal would cause greater cultural resource impacts.
- Require restoration of disturbed areas in a manner compatible with the affected resource, surrounding historic properties, and agreed-upon treatment measures.
- Avoid unnecessary disturbance of existing stone features, cultural landscape elements, historic agricultural features, and other significant site characteristics during both construction and facility removal.
- Avoid temporary construction activities, equipment placement, or material storage that would obstruct access to historic properties, interpretive features, cemeteries, monuments, or culturally significant locations.

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- Require a restoration plan that reintroduces native vegetation and landscape features that contributed to the historic character or cultural significance of affected areas prior to construction activities. Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration.

Recommended Measures for Operation

- Maintain fencing, barriers, signage, and other protective measures established around known archaeological resources, historic properties, cemeteries, sacred sites, TCPs, and other culturally sensitive areas throughout facility operation.
- Where feasible, require the maintenance of access to culturally significant locations, traditional use areas, cemeteries, historic sites, and other historic and cultural resources that may be adjacent to the facility.
- Restrict off-road vehicle travel and maintenance activities to designated access routes to avoid inadvertent disturbance of archaeological resources and cultural resource protection areas.
- Coordinate with Tribes, DAHP, and appropriate cultural resource professionals if previously unidentified cultural resources are discovered during operations or maintenance activities.
- Continue implementation of inadvertent discovery procedures during operational maintenance activities that involve ground disturbance.
- Maintain screening vegetation, landscape buffers, and other visual mitigation measures to minimize visual effects on historic properties and cultural landscapes.
- Maintain exterior lighting systems to minimize light spill, glare, and visual intrusion on nearby historic properties, cultural landscapes, and sacred or culturally important areas.
- In areas adjacent to historic properties, museums, cemeteries, sacred sites, or areas used for cultural practices, require noise generated by facility operations and maintenance activities to be limited to the maximum extent practicable through appropriate noise-control measures.
- Non-emergency maintenance activities should be scheduled to avoid interference with known cultural events or ceremonies taking place in areas used for cultural practices.
- Re-evaluate cultural resource protection measures if facility modifications, expansions, or upgrades are proposed during the operational life of the facility.
- Avoid vegetation management practices that could damage historic landscape features, traditional plant gathering areas, historic agricultural features, stone walls, irrigation features, or culturally important vegetation.
- Suggest coordination of construction and decommissioning schedules with affected Tribes when activities occur adjacent to locations used for cultural practices, ceremonial activities, treaty-protected uses, or other culturally important resources.
- Require periodic evaluation of operational impacts on nearby historic properties, cultural landscapes, and traditional cultural properties, particularly where facility operations introduce sustained industrial activity within historically rural, agricultural, or culturally significant landscapes.

Mitigation Measures for Potential Significant Impacts

- Where avoidance is not feasible, project-specific mitigation should be developed through consultation with affected Tribes, DAHP, federal agencies, and other consulting parties, as applicable. Measures may include

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redesign or relocation, data recovery, documentation, preservation, access agreements, interpretation, screening, landscape restoration, monitoring, or other culturally appropriate treatment. A location may be unsuitable for development where the significance, integrity, or cultural function of a resource cannot be adequately protected or restored.

- Implement training and educational programs to potentially reduce the likelihood of disturbances, vandalism, or harm to historic and cultural resources.
- If a project requires federal permits or impacts federal lands, develop mitigation measures with Tribes under Section 106 of the National Historic Preservation Act to avoid, reduce, or mitigate the potential for adverse impacts on significant cultural resources. Section 106 consultations between the federal agencies, DAHP, affected federally recognized Tribes, and other consulting parties would be required.
- When possible, follow the best available guidance and strategies developed by federal, Tribal, and state governments. This may include compensatory mitigation, formal ongoing consultation between the state and Tribes to address new concerns and monitor long-term mitigation, and the development and maintenance of new technologies and geospatial analysis that help identify and avoid historic and cultural resources.

10.3.2. Solar Facilities

Specific site equipment and the scale of proposed project would influence the potential impacts solar facilities would have throughout their phases. It would be anticipated that the larger a solar facility is, the more impacts are likely to occur from construction, operation, and decommissioning efforts.

Construction

Construction of solar facilities could result in direct impacts to historic and cultural resources through vegetation clearing, grading, pile driving, trenching, access road construction, and installation of electrical infrastructure. While ground disturbance is anticipated to be minimal, such related activities could damage, destroy, or alter known or unidentified archaeological resources, traditional cultural properties (TCPs), sacred sites, historic artifacts, cemeteries, or human remains.

Operations

Operation of ground-mounted solar facilities could result in long-term changes to the visual and cultural setting of historic properties. The presence of solar panels, fencing, access roads, substations, and electrical infrastructure may alter viewsheds that contribute to the historic significance or cultural value of a resource. Vegetation management, facility maintenance, and routine access activities could result in recurring disturbance near archaeological resources or culturally significant areas. Long-term conversion of agricultural, rural, or undeveloped landscapes may also affect resources associated with county settlement history or Tribal cultural practices that rely on the continued integrity of the surrounding landscape. Facility fencing and changes in access could impact travel paths or site access used for historic and cultural resources adjacent to solar facilities.

Operational impacts from building-mounted and small-scale solar facilities would generally be limited to visual and architectural changes associated with the presence of solar panels and related equipment, particularly where solar arrays are visible from public viewpoints. Small-scale solar facilities would typically not require extensive

ground disturbance during operation and would therefore have lower potential to affect archaeological resources directly.

Decommissioning

Decommissioning activities associated with ground-mounted solar facilities could result in impacts similar to those associated with construction. The removal of panels, support structures, racking, foundations, and underground utilities could require additional earthwork that could disturb previously unidentified archaeological deposits, burial sites, or cultural resources. Heavy equipment operations could temporarily affect nearby historic properties through increased noise, dust, vibration, and traffic.

Mitigation Measures

Recommended Measures for Siting and Design

- Site ground-mounted solar facilities and associated infrastructure outside of known historic properties or areas of cultural significance where feasible.
- Require panels and associated equipment to be located in areas such that visual effects on nearby historic properties and areas of cultural significance will be minimized, where feasible.
- For building-mounted and small-scale solar facilities, restrict facility infrastructure installation on character-defining elevations, features, materials, or architectural elements of historic buildings where feasible.
- Suggest rooftop arrays be designed to minimize visibility from public rights-of-way and historically significant viewpoints where feasible.

Required Measures

- Refer measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- For building-mounted and small-scale solar projects, require that installation methods minimize alteration of character-defining features.
- Construction and decommissioning activities should be limited to clearly defined work areas and use construction techniques that reduce soil disturbance where feasible.
- Require construction access routes, panel arrays, and equipment locations to follow existing topography where feasible to minimize grading and excavation.
- Limit disturbance to designated work areas and avoid unnecessary clearing between panel rows and in areas not required for access roads, foundations, or electrical infrastructure.
- Encourage low-impact installation and removal methods, such as driven piles or screw anchors where feasible, to minimize subsurface disturbance in areas with archaeological sensitivity.

Recommended Measures for Operation

- Periodic inspections of vegetative buffers should be conducted and replace dead or damaged vegetation to ensure continued screening of solar arrays and associated infrastructure from culturally significant viewpoints and historic resources.

- Panel finishes, anti-reflective coatings, and support structures should be maintained to minimize glare and visual contrasts that could adversely affect the setting or feeling of nearby historic properties.
- Require implementation of corrective actions, such as supplemental screening, panel reorientation, or vegetation enhancement, if operational glare is identified as adversely affecting historic properties or culturally significant locations.
- Avoid storage of equipment, materials, replacement panels, or maintenance supplies within identified cultural resource buffer areas.
- Avoid installation of additional operational equipment that would increase visibility from public rights-of-way or alter the historic character of the structure without appropriate review.

10.3.3. Battery Energy Storage Systems (BESS)

Construction

Construction of battery energy storage system (BESS) facilities would result in localized ground disturbance for site preparation, grading, excavation, foundation installation, utility trenching, and construction of access roads and equipment pads. These activities may have the potential to impact existing and previously unidentified cultural or historic resources on site, including human remains or archaeological deposits. The presence of construction equipment, vegetation clearing, and noise or dust generated by construction activities may impact adjacent historic or cultural sites.

Operations

Operations of BESS facilities would generally involve minimal ground disturbance, with activities largely limited to maintenance of access roads, fencing, equipment pads, battery containers, stormwater infrastructure, and vegetation management. While BESS facilities are generally compact and often co-located with existing electrical infrastructure, they may alter the visual character and setting of nearby historic properties, cultural landscapes, TCPs, or sacred sites, particularly in rural or undeveloped areas. Exterior lighting, security features, and utility infrastructure could introduce visual elements that are incompatible with adjacent areas that have historic or cultural significance. Routine maintenance activities, vegetation management, and vehicle access could also result in recurring disturbances near cultural resources. If located within or adjacent to culturally important landscapes, the long-term presence of BESS facilities could affect the cultural context, traditional use, or visual integrity of places important to Tribal communities and local history.

Decommissioning

Decommissioning of BESS facilities could result in impacts similar to those associated with construction, although impacts would generally occur within previously disturbed areas. Removal of battery containers, foundations, underground electrical infrastructure, substations, security fencing, and associated facilities may require ground disturbance that could disturb previously unidentified archaeological resources that were not detected during construction. Decommissioning activities may also temporarily impact nearby historic or cultural resources through dust, noise, vibration, and increased traffic.

Mitigation Measures

Recommended Measures for Siting and Design

- Consider siting BESS facilities within existing substations, industrial areas, energy generation sites, utility corridors, or other locations with existing development where feasible to reduce the likelihood of existing previously undisturbed cultural resources.
- Require battery containers, transformers, and associated infrastructure to be located outside buffers established for known cultural and historic properties.
- Facility design should minimize grading, excavation, utility trenching, and new access road construction, particularly in areas with archaeological sensitivity.
- Where possible, require consolidation of battery containers, transformers, fire suppression equipment, and support infrastructure within a compact development area to minimize facility footprint.

Required Measures

- Refer to measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Minimize excavation depths and trenching lengths associated with battery container foundations, transformers, collection lines, and other infrastructure.
- Require use of non-reflective materials and muted, earth-tone colors on battery containers, transformers, fencing, and ancillary facilities to reduce visual contrast with surrounding historic and cultural landscapes.
- Avoid siting BESS facilities in locations where fencing, access restrictions, or security requirements could impede access to culturally important sites, cemeteries, traditional gathering areas, or locations used for ceremonial or traditional purposes.

Recommended Measures for Operation

- Require ongoing maintenance for non-reflective coatings and finishes on battery containers, transformers, fencing, and ancillary facilities to reduce visual contrast with surrounding historic and cultural landscapes.
- Minimize operational lighting to the extent practicable and maintain shielded, downward-directed fixtures to reduce nighttime visual effects on historic properties, culturally significant landscapes, and traditional cultural resources.
- Require periodic reviews of operational conditions to identify whether facility infrastructure, lighting, noise, or security features are creating unanticipated effects on historic or cultural resources and apply mitigation measures where appropriate.

10.3.4. Fusion Small Modular Reactors (Fusion SMRs)

Construction

Construction of fusion SMR facilities could result in direct impacts to historic and cultural resources through site clearing, grading, excavation, utility installation, and the development of associated infrastructure. These activities could disturb or destroy known or previously unidentified archaeological resources traditional cultural properties (TCPs), sacred sites, historic-period artifacts, cemeteries, or human remains, particularly due to potential significant ground disturbance required for reactor buildings, support structures, roads, and utility corridors

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required for fusion SMR facilities. The degradation of cultural resources could result from the alteration of hydrologic patterns, removal of soils, runoff into adjacent areas, or potential contaminant spills.

Operations

The operation of fusion SMR facilities could result in long-term impacts on historic and cultural resources due to the permanent presence of large reactor buildings, cooling systems, transmission infrastructure, and other industrial features. Although fusion SMR facilities are still in the initial phases of development and design requirements may vary due to facility needs, these facilities may function as highly visible industrial developments that may substantially alter the character, setting, feeling, and association of nearby historic and cultural resources. The introduction of prominent buildings and supporting infrastructure into rural or undeveloped portions of Skagit County could affect viewsheds that contribute to the significance of historic properties, historic agricultural landscapes, and culturally important Tribal places. Permanent infrastructure and access changes could alter public or traditional access patterns to culturally significant landscapes. Operational lighting, visual contrasts between facility structures and surrounding landscapes, and ongoing maintenance activities may further affect the cultural context and historic setting of nearby resources over the life of the facility.

Decommissioning

Decommissioning of fusion SMR facilities could result in impacts similar to those experienced during construction due to the removal of large reactor buildings, cooling infrastructure, foundations, underground utilities, and other infrastructure. Activities such as demolition, excavation, and grading could disturb previously unidentified archaeological deposits, cultural materials, cemeteries, sacred sites, or human remains that were not identified during initial development. Noise, vibration, dust, increased traffic, and temporary construction staging associated with decommissioning activities could affect nearby historic properties.

Mitigation Measures

Recommended Measures for Siting and Design

- Site buildings, cooling infrastructure, transmission interconnections, substations, access roads, and ancillary facilities outside areas containing identified cultural resources and establish appropriate protective buffers.
- Where feasible, require large buildings, cooling facilities, and infrastructure to be located in areas that would minimize visual impacts on nearby historic properties and culturally significant landscapes.
- Exterior lighting, building colors, and architectural treatments should be designed to reduce visual contrasts with surrounding landscapes.
- Request consolidation of facility footprints where feasible to limit potential impacts to areas that may contain historic or culturally significant resources.

Required Measures

- Refer to measures applicable to all facilities.
- Obtain and maintain applicable federal and state licenses and approvals for radioactive materials and radiation-producing equipment.
- Compliance with the containment, handling, inspection, transportation, and waste disposal measures as required under state and federal nuclear regulations.

Recommended Measures for Construction and Decommissioning

- Require avoidance areas to be established around known cultural resources and clearly identify those areas before ground-disturbing activities begin.
- Conduct ongoing archaeological and Tribal cultural resource monitoring during major ground-disturbing activities, including excavation for reactor buildings, cooling infrastructure, substations, and associated infrastructure where warranted by resource sensitivity.
- Screen construction and decommissioning staging areas, stockpiles, cranes, and major equipment from nearby historic properties, cultural landscapes, and Tribal cultural resources where feasible to reduce temporary visual effects during project implementation.
- During decommissioning, remove facilities, cooling systems, transmission infrastructure, substations, security infrastructure, and associated facilities using methods that minimize additional disturbance beyond the original construction footprint.

Recommended Measures for Operation

- Building finishes, coatings, and architectural treatments intended to reduce visual contrast between fusion SMR facilities and surrounding landscapes should be maintained.
- Restrict operational activities that would unnecessarily block or limit access to culturally or historically significant areas. Where access restrictions are required for safety or security reasons, require coordination with affected Tribes and resource agencies to identify appropriate accommodations.
- Coordinate with affected Tribes and historic and cultural resource agencies before implementing substantial operational changes such as new security zones, transmission facilities, cooling infrastructure, lighting systems, access roads, or other modifications that could affect historic properties or culturally significant landscapes.
- Require the development of procedures to protect cultural resources during routine maintenance, repairs, utility upgrades, emergency response activities, and infrastructure replacement projects that may involve localized ground disturbance.
- Require the development and maintenance of emergency response, waste management, and materials handling programs in a manner that avoids impacts to nearby culturally significant landscapes, traditional cultural properties, and historic resources.

10.3.5. Renewable Fuel Facilities

Construction

Construction activities for renewable fuel facilities could result in substantial ground disturbance due to potentially large facility footprints, which may damage or destroy known or previously unidentified archaeological resources, traditional cultural properties (TCPs), sacred sites, historic-period artifacts, cemeteries, or human remains. Because renewable fuel facilities may have significant footprints, the setting or association of nearby historic properties and cultural landscapes may be diminished due to construction-related noise, traffic, vibration, or dust. If development of a renewable fuel facility occurs in areas associated with Tribal history, cultural practices, or historic settlement patterns, construction activities could alter landscapes that contribute to the significance of those resources.

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Operation

Operational impacts of renewable fuel facilities could result in long-term impacts on historic and cultural resources through the continued presence of processing buildings, storage tanks, pipelines, and other infrastructure. Renewable fuel facilities are typically manned facilities with daily worker presence, so there is increased potential for historic or cultural resources to be disturbed or destroyed due to standard operation activities or maintenance. The expansion of facilities or a phased development approach may increase the likelihood of disturbing or destroying historically or culturally significant resources adjacent to the immediate project site. Renewable fuel facilities may affect viewsheds that contribute to the significance of historic properties or culturally important places, particularly in rural or agricultural areas. Facility traffic, maintenance, lighting, fencing, and other site infrastructure or activity may introduce ongoing disturbances that affect the experience and perception of nearby resources.

Decommissioning

Decommissioning of renewable fuel facilities would involve the demolition or removal of processing facilities, tanks, pipelines, and other industrial infrastructure that could disturb previously unidentified archaeological deposits. Heavy equipment operation, increased truck traffic, noise, vibration, and dust could temporarily affect adjacent historic properties and cultural landscapes.

Mitigation Measures

Recommended Measures for Siting and Design

- Processing facilities, storage tanks, loading areas, and supporting infrastructure should be sited outside identified cultural resource protection areas and establish appropriate buffers.
- Co-locate renewable fuel facilities within existing industrial areas or infrastructure corridors where feasible to minimize the area of potential historic or cultural resource disturbance.
- Incorporate screening, landscaping, architectural treatments, and compatible exterior colors standards to reduce visual impacts on nearby historic and cultural resources.
- Large structures such as processing buildings, storage tanks, and loading facilities should be located such that visual intrusion on nearby historic properties and culturally significant Tribal landscapes is minimized.
- Transportation access routes, truck entrances, and pipeline corridors should be designed to avoid historic districts, historic transportation corridors, archaeological sites, and culturally sensitive areas whenever feasible.

Required Measures

- Refer to measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Ongoing archaeological and Tribal cultural resource monitoring should occur during excavation activities in areas identified as having moderate or high archaeological sensitivity, including work associated with tanks, pipelines, utility corridors, and processing facilities.
- Construction and decommissioning plans should minimize grading, excavation, and trenching to the extent practicable and confine ground disturbance to approved work areas, particularly when installing processing units, storage tanks, utility corridors, and pipeline infrastructure.

- Encourage the use of existing industrial sites, pipelines, and existing access routes wherever feasible during construction and decommissioning to minimize disturbance of culturally significant landscapes and archaeological resources.
- Major construction equipment, stockpiles, demolition activities, and staging areas should be screened from nearby historic properties and culturally significant landscapes where feasible to reduce temporary effects on the setting and feeling of those resources.
- During decommissioning, the removal of processing equipment, storage tanks, pipelines, and associated facilities should use methods that minimize additional disturbance beyond the previously developed footprint.
- If contaminated soils are encountered during decommissioning, require implementing remediation activities in a manner that avoids unnecessary disturbance to adjacent archaeological deposits, cultural resources, or historically significant landscape features.

Recommended Measures for Operation

- Periodic reevaluation of cultural resource protection measures would assist when facility upgrades, expansions, feedstock handling modifications, pipeline expansions, or other operational changes are proposed.
- Require periodic inspection and maintenance of screening vegetation, berms, fencing treatments, and architectural screening features to ensure continued effectiveness in reducing views of processing facilities, storage tanks, and other infrastructure from sensitive historic and cultural resource areas.
- Require maintenance of exterior colors, architectural treatments, and non-reflective finishes intended to reduce visual contrast between renewable fuels facilities and surrounding historic or cultural landscapes.
- Feedstock deliveries and product transport should be managed in a manner that minimizes recurring effects on nearby historic or culturally sensitive areas.
- Restrict location of temporary equipment, feedstock stockpiles, maintenance materials, or waste storage areas within identified cultural resource areas or established buffers.
- Require applicants to coordinate with affected Tribes and resource agencies before implementing facility modifications, operational expansions, or pipeline extensions that could affect historic properties or culturally significant landscapes.

10.4. No Action Alternative Analysis

Under the No Action Alternative, Skagit County would retain its existing development regulations and the selected energy facilities would continue to be reviewed and permitted under current local, state, and federal regulatory frameworks as described in the **Energy Permitting** section. Depending on the type and characteristics, proposed facilities could be reviewed either through Skagit County's existing processes as minor or major utility developments or through the Washington State Energy Facility Site Evaluation Council (EFSEC) process where certification is required or voluntarily elected by the applicant.

10.4.1. Impacts from Construction, Operation, and Decommissioning Under Current Processes

For projects reviewed through local government and the EFSEC under the current code, construction and decommissioning activities would still present potential impacts to historic and cultural resources on site due to earthmoving, infrastructure installation, and other activities that could affect subsurface archaeological deposits. Construction and decommissioning could also introduce visual intrusions through the presence of construction equipment, traffic, dust, or worker activity, which may impact the setting of nearby culturally or historically significant sites. Operational impacts on historic and cultural resources may include potential impacts to subsurface archaeological deposits due to facility expansion, routine maintenance activities, truck or equipment traffic occurring outside of designated roads, or contaminant spills or leaks. The operation of renewable energy facilities could result in noise impacts, increased traffic, or access limitations that may prevent traditional access to culturally significant sites and interrupt Tribal spiritual or cultural practices.

10.4.2. Mitigation Measures

Facilities reviewed through county permitting processes would remain subject to existing comprehensive plans and countywide planning policies. Projects would also be subject to applicable federal and state requirements regarding historic and cultural resources, including consultation of and review by the State Historic Preservation Officer (SHPO) or the Tribal Historic Preservation Officer (THPO) under Section 106 of the National Historic Preservation Act. Review may address the presence of historic or cultural resources within an Area of Potential Effect (APE) within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, with mitigation measures identified where necessary to avoid or reduce significant adverse impacts.

Facilities subject to EFSEC jurisdiction would be required to comply with applicable federal and state regulations and would undergo environmental review through EFSEC, including the evaluation of archaeological resources, historic properties, traditional cultural properties (TCPs), cemeteries, human remains, and Tribal cultural resources as part of project-level environmental reviews. EFSEC coordinates with the Washington Department of Archaeology and Historic Preservation (DAHP), affected Tribes, and other agencies to identify cultural resources that could be affected by a proposed facility and to develop appropriate avoidance, minimization, or mitigation measures. Project-specific studies, Tribal consultation, and cultural resource surveys may be required to support the review process. EFSEC may incorporate cultural resource protection measures into a project's Site Certification Agreement (SCA), which establishes conditions governing construction, operation, decommissioning, and site restoration.

10.4.3. Significant Unavoidable Adverse Impacts

While the No Action Alternative would continue to address impacts through existing federal, state, and local regulations, the alternative does not provide opportunities to reduce, standardize, and proactively manage those impacts. As a result, opportunities to reduce impacts to historic and cultural resources may be implemented inconsistently on a project-by-project basis. Projects would continue to be required to comply with applicable regulations regarding historic and cultural resources, but the county would have less ability to establish standardized requirements tailored to local conditions and potential resource concerns.

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11. Environmental Health and Safety

11.1. Overview

The Environmental Health and Safety section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures, associated with environmental health within Skagit County. Environmental health refers to the risks and hazards that can threaten the well-being of people and other environmental factors within the county. Related topics are addressed in the following sections:

- Frequently flooded areas are discussed in the **Water Resources** section
- Geological hazards are discussed in the **Earth Resources** section
- The wildland-urban interface is discussed in the **Land Use** section
- Emergency response services are discussed in the **Public Services and Utilities** section
- Potential disproportionate impacts are discussed in the **Impacts on Overburdened Communities** section

Hazardous materials are substances that pose a potential risk to life, health, or property due to their chemical, physical, or biological nature, when released. Releases can take the form of spills, leaks, or emissions depending on the state of a substance. A potential release can pose a risk if it escapes containment and enters the environment. Substances may have explosive, flammable, corrosive, reactive, poisonous, toxic, biological, or radioactive properties associated with them.

Common hazardous materials include petroleum products, heavy metals, pesticides, fertilizers, solvents, compressed gases, and batteries. These materials may be present in larger quantities at industrial and commercial properties and on agricultural lands. The Washington State Department of Ecology regulates their storage, use, and disposal. Because Skagit County is largely rural and agricultural, hazardous materials are commonly associated with agricultural activities, particularly fertilizer use.

Historical and current industrial, commercial, agricultural, and transportation-related activities involving hazardous materials, both intended and accidental, have over time resulted in land contamination throughout the United States. Many sites, particularly the largest and most severely contaminated, are tracked at a national level, but many others are tracked only at state or local levels.[126] The US EPA categorizes contaminated lands often based on the level and type of contamination. The primary categories of contaminated lands include:

- **Superfund Sites:** Seriously contaminated and include industrial facilities, waste management sites, mining and sediment sites, and federal facilities such as abandoned mines; nuclear, biological, chemical, and traditional weapons production plants; and military base industrial sites.
- **Brownfields:** Real property where expansion, redevelopment, or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

[126] U.S. Environmental Protection Agency, "Contaminated Land, Report on the Environment," n.d., https://www.epa.gov/report-environment/contaminated-land

- **Underground Storage Tanks (UST)/Leaking UST (LUST):** Businesses, industrial operations, gas stations, and various institutions store petroleum and hazardous substances in large underground storage tanks that may fail due to faulty materials, installation, operating procedures, or maintenance systems, causing contamination of soil and ground water.
- **Resource Conservation and Recovery Act (RCRA) cleanup facilities:** Facilities subject to cleanup under RCRA due to past or current treatment, storage, or disposal of hazardous wastes and have historical releases of contamination.

The Washington Department of Ecology (ECY) maintains information on current and former contaminated sites through its Cleanup and Tank Search and related site cleanup databases. Sites are generally sorted into categories including sites awaiting cleanup, clean up started, monitoring clean up progress, and clean up complete.

The environmental health factors analyzed in this section include:

- Hazardous materials
- Health and safety risks
- Contaminated sites
- Noise and vibration

11.2. Existing Conditions

The study area for this section encompasses all of Skagit County, Washington. Surrounding areas were considered when applicable. The affected environment represents existing conditions at the time this study was prepared.

11.2.1. Hazardous Materials

As discussed in the **Land Use** Section, agriculture is a prominent industry and land use type in Skagit County, particularly in the Skagit Valley. Agricultural properties often use and store fertilizers, pesticides, herbicides, fuels, lubricants, and other chemicals needed for crop production and equipment operation. In the more developed parts of the county, particularly around major transportation corridors such as Interstate 5 (I-5), the Mount Vernon and Burlington Area, Anacortes, March Point, and other port and industrial properties, a broader range of hazardous materials may be present due to manufacturing, petroleum storage and handling, transportation, marine activities, utilities, vehicle service, and commercial operations. The presence of hazardous materials at a regulated facility does not automatically indicate contamination, as many facilities are authorized to store or use these materials subject to federal, state, and local requirements.

The Washington State Department of Ecology regulates and tracks facilities that generate, store, use, transport, treat, or dispose of hazardous materials and dangerous wastes. Federal and state programs also establish requirements for hazardous waste management, spill prevention and response, transportation of hazardous

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materials, chemical reporting, worker protection, and cleanup of contaminated properties. These efforts are funded and directed by the Washington State Model Toxics Control Act (MTCA).[127]

11.2.2. Health and Safety Risks

Hazardous materials and facility-related activities could pose risks to workers and emergency responders at the energy facilities evaluated in the CESP EIS. During construction, operation, and decommissioning, potential hazards and accidents may involve hazardous materials, electrical components, structures and wiring, and nuclear fusion waste.

Because much of Skagit County is rural, travel time and access constraints can affect emergency response to incidents in remote areas, including the eastern side of the county, forested and mountainous terrains, and locations served by limited access roads. Emergency response services and their capacity to respond to energy-facility related incidents are discussed in the **Public Services and Utilities** section.

Environmental health and safety risks are not always experienced equally across all communities. Factors including existing environmental conditions, socioeconomic characteristics, health conditions and statuses, and access to resources can influence a community's vulnerability to adverse environmental and health effects. Potential disproportionate impacts on these communities are discussed in the **Impacts on Overburdened Communities** section.

11.2.3. Contaminated Sites

Across Skagit County there are approximately 329 contaminated sites as recorded by Ecology's Toxics Cleanup Program. 174 of these sites are under the "No Further Action" site status, while 40 sites are awaiting cleanup, and 109 sites have clean up started.[128] Of all sites, 52 have a moderate to highest risk level assessment. As shown in **Figure 43** below, the largest concentrations of identified contaminated sites are in the Mount Vernon and Anacortes areas.

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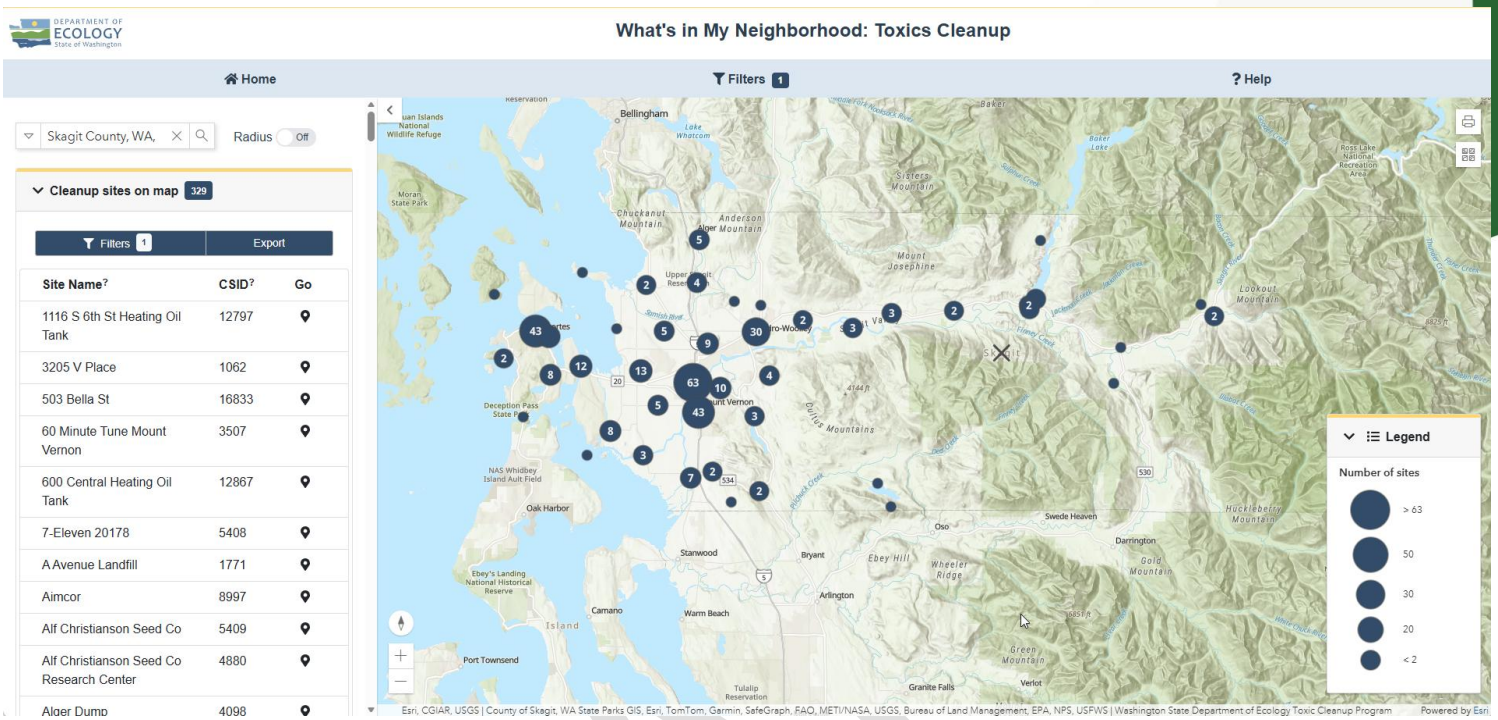
[127] Washington State Department of Ecology, "Programmatic Environmental Impact on Utility-Scale Solar Energy Facilities in Washington State: Appendix I: Environmental Health and Safety Technical Resource Report", updated June 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf
[128] Washington State Department of Health, "Washington State Environmental Justice Mapping Tool," n.d., https://doh.wa.gov/data-and-statistical-reports/washington-tracking-network-wtn

Figure 43: Toxic Clean Up Program Sites



Source: Washington Department of Ecology, What's in My Neighborhood, n.d., https://apps.ecology.wa.gov/neighborhood/?lat=47.500000&lon=-121.000000&zoom=7&radius=false

According to the ECY Toxic Clean Up database, there are no brownfields in Skagit County.

If a future proposal involves the use of property that is within or near an area-wide contamination zone, then testing may be necessary of all contaminated media (soil, air, or groundwater) in order to demonstrate that the suspected contaminants are below cleanup levels.

11.2.4. Noise and Vibration

Noise

Noise levels across a county vary depending on land uses, population densities, and temporary increases from construction or events. Generally, noise levels in Skagit County are higher around transportation corridors such as I-5, airports, and industrial facilities. Temporary increases in noise levels can occur during construction activities near project sites.

Densely populated areas have ambient noise levels between 45 and 55 A-weighted decibels while sparsely populated areas are less than 35 dBA.[129] The energy uses selected within the CESP EIS would typically be located in less developed areas with lower population densities. Noise may infrequently be elevated depending on roadway noise, human activity, and general construction and maintenance. Existing sources of noise across Skagit

[129] Washington State Department of Ecology, "Programmatic Environmental Impact on Utility-Scale Solar Energy Facilities in Washington State," updated June 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf

County could include motor vehicle traffic, aircraft flyovers, equipment use, and natural noises such as wildlife and livestock calls.

Some land uses are more sensitive to noise than others depending on noise exposure and types of activities in the area. In Washington State, the maximum permissible environmental noise levels are established under WAC 173-60 as it relates to their environmental designations for noise abatement (EDNA) class, shown in **Table 17** and described further below.

Table 17: Noise Abatement Classes

EDNA of Noise Source	EDNA of Receiving Property		
	Class A	**Class B**	**Class C**
Class A	55 dBA	57 dBA	60 dBA
Class B	57 dBA	60 dBA	65 dBA
Class C	60 dBA	65 dBA	70 dBA

Source: WAC 173-60-040

Class A EDNA are more sensitive areas where human beings reside and sleep. These uses include:

- Residential, including multi-family
- Camping facilities, parks, and resorts
- Hospitals and healthcare facilities
- Correctional facilities

Class B EDNA are lands involving uses requiring protection against noise interference with speech. These uses include:

- Commercial services
- Motor vehicle services
- Theaters, stadiums, and fairgrounds
- Schools, religious, governmental, and cultural facilities

Class C EDNA are lands involving economic activities of such a nature that higher noise levels than experienced in other areas is normally to be anticipated. People working in these areas are normally covered by noise control regulations of the department of labor and industries. These uses include:

- Storage, warehouse, and distribution facilities
- Industrial uses
- Agricultural uses

In Skagit County, noise generated by any use in any zone must comply with the standards set forth in SCC Chapter 9.50 and EDNA classifications as they correspond to County zoning are as follows:

Table 18: EDNA Classifications to Zoning

EDNA	Zones
Class A	Residential zones RI, RVR, RRv, R, URR
Class B	Commercial zones RVC, RC, RFS, SRT, SSB, RB, BR-LI, AVR, URC-I; Open Space zones OSRSI and URP-OS;
Class C	Industrial zones NRI, RMI, BR-HI; Forestry zones IF-NRL, SF-NRL, RRc-NRL; Agricultural zone Ag-NRL

Source: SCC Table 14.20.060-1 EDNA Classifications to Zone Mapping

Vibration

Sources of vibration are often related to human and construction activities. These can include trains, loaded haul-trucks, blasting, and operation of heavy equipment and machinery. Effects of vibration can include rattling or rumbling depending on the proximity to the source of the vibration and the built environment impacted. People in residential areas can be sensitive to vibration effects. Across most of Skagit County, normal background vibration is expected to be below the threshold of human perception, except near an active source. Under SCC 14.20.030, uses and equipment, excluding vehicles, must be operated so that inherently or recurrently generated ground vibration is not perceptible without instruments at or beyond the boundary of the zoning district in which the use is located.

11.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative evaluates the potential significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

11.3.1. Impacts Applicable to All Energy Facilities

Construction

Future energy facilities could be constructed on or near contaminated properties. If a facility were proposed within or near an area-wide contamination zone, potential impacts could be compounded for the surrounding communities.

Environmental health and safety risks may be greater at remote locations because of travel time, limited access roads, challenging terrain, and other access constraints that could affect the timeliness and level of emergency response. Potential effects could also be experienced disproportionately based on existing environmental conditions, health status, socioeconomic factors, and access to emergency and health resources. Emergency response capacity is addressed in the **Public Services and Utilities** section, while disproportionate effects are addressed in the **Impacts on Overburdened Communities** section.

The use of construction equipment, pile installation, loaded haul trucks, and other heavy machinery would temporarily increase noise and vibration. These effects would be most noticeable in rural portions of Skagit County where existing ambient noise levels are relatively low. Additionally, a greater level of effect is experienced by sensitive receptor groups, including residences, camping areas, parks, hospitals, health care facilities, schools, cultural facilities, and religious institutions.

Operation

Operational resource demands are generally lower than construction demands and primarily involve facility maintenance, routine operations, personnel activities, utility services, and equipment replacement.

Hazardous materials used during facility operation would generally be similar to those used during construction but may be smaller quantities because operations can require fewer workers, vehicles, and pieces of equipment. Potential sources of risk could include transformer oils, dielectric fluids, vehicle fuels, lubricants, cleaning products, herbicides, and hazardous components within photovoltaic modules and electrical equipment.

Operational activities may also present health and safety risks to workers, emergency responders, and, in some circumstances, nearby members of the public. Potential hazards include electrical shock, fire, explosion, equipment malfunction, structural failure, hazardous material exposure, and exposure to hazardous air emissions.

Because much of Skagit County is rural, emergency response times may be longer in remote areas served by limited transportation infrastructure. Depending on the location and nature of an incident, emergency responders could face additional risks associated with hazardous materials, fires, explosions, or specialized equipment requiring unique response procedures.

Decommissioning

Decommissioning activities would typically involve facility shutdown, equipment removal, demolition of structures, transportation of materials, waste management, site restoration, and long-term monitoring where required.

Environmental health and safety impacts during decommissioning would generally be similar to construction activities and could include worker exposure to hazardous materials, electrical hazards, demolition hazards, noise, vibration, traffic, and ignition risks. Decommissioning may also involve handling degraded infrastructure, aging equipment, batteries, chemicals, fuels, or other fragile or contaminated materials, which could increase the potential for accidental releases compared to routine operations.

Depending on facility type, decommissioning may generate substantial quantities of solid waste, recyclable materials, and hazardous waste requiring specialized handling, transportation, treatment, recycling, or disposal. Improper management of these materials could result in environmental contamination or human health risks.

Mitigation Measures

Regulatory Framework

Numerous existing Federal, State, and local legislation regulating environmental health and safety will require mitigation for future energy projects. A more comprehensive list of federal, state, and local level regulations that govern environmental health and safety is as follows:

Federal Regulations

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Superfund Amendments and Reauthorization Act (SARA)
- Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. § 11001 et seq.)
- Resource Conservation and Recovery Act (RCRA)
- Toxic Substances Control Act (TSCA)
- Clean Air Act (CAA)
- Federal Highway Administration (FHWA) Noise Standards

State Regulations

- Model Toxics Control Act (MTCA) (Chapter 70A.305 RCW)
- Dangerous Waste Regulations (Chapter 173-303 WAC)
- Environmental Cleanup Regulations (Chapter 173-340 WAC)
- Hazardous Waste Management Act provisions under Chapter 70A RCW
- Energy Facility Site Evaluation Council (EFSEC) regulations for applicable energy facilities (Chapter 80.50 RCW)
- Environmental Noise Control Act (Chapter 70A.20 RCW)
- Noise Standards (Chapter 173-60 WAC)
- Washington Industrial Safety and Health Act (WISHA)
- Photovoltaic Module Stewardship and Takeback Program (70A.510.010 RCW)

Local Regulations

- Skagit County Shoreline Master Program (SMP)
- Skagit County Comprehensive Plan
- Skagit County Critical Areas Ordinance (CAO) (Skagit County Code Chapter 14.24)
- Skagit County Code 9.50.040 Noise Control Ordinance
- Skagit County Code 14.20 General Performance Standards
- Skagit County Code 16.32 Water Pollution

Required Measures

Federal

- Obtain applicable stormwater, waste-discharge, construction, development, electrical, land use, and right-of-way approvals.
- Prepare and implement a Spill Prevention, Control, and Countermeasure (SPCC) Plan when federal applicability thresholds are met.
- Prepare a Hazardous Materials and Waste Management Plan covering material selection, transportation, storage, use, spill response, and disposal during construction, operation, and decommissioning.
- Prepare a Health and Safety Plan to inform employees and others on site about what to do in case of emergencies, including rapid shutdown procedures, the locations of fire extinguishers and nearby hospitals, telephone numbers for emergency responders, first aid techniques, and readily accessible Material Safety Data Sheets for all on-site hazardous materials.

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- Include other Occupational Safety and Health Administration (OSHA) measures to address issues such as crane and hoist safety, electrical safety, fall prevention, lockout/tagout, heat/cold stress, and personal protective equipment.
- Comply with worker safety requirements under WISHA and applicable OSHA standards.

State

- Prepare an Emergency Response Plan and Fire Prevention and Response Plan in coordination with local emergency-service providers. The plans must meet applicable laws/codes, such as the following:
  - Washington Administrative Code (WAC) 463-60-352(2) through 463-60-352(4), which address fire and explosion, hazardous materials release, and safety standards compliance
  - WAC 463-60-352(6), which describes emergency plans to ensure public safety and environmental protection
  - International Fire Code

Local

- Adherence with the Skagit County Shoreline Master Program where facilities are located near shoreline recreation areas, boat launches, beaches, trails, or recreation areas providing water access.
- Adherence with the Skagit County Unified Development Code, including zoning, critical areas, , and permit review requirements that may affect recreation resources or public access.
- Project-level SEPA environmental review.

Recommended Measures for Siting and Design

- Facilities should be located outside of frequently flooded areas, geologically hazardous areas, tsunami inundation zones, and areas susceptible to wildfire hazards where feasible.
- Restrict the siting of hazardous material storage areas within critical aquifer recharge areas or near drinking water sources.
- Conduct environmental due diligence before site selection, including review of cleanup records and site-specific investigation where contamination may be present.
- Avoid contaminated properties where construction would mobilize pollutants that cannot be effectively contained or remediated.
- Locate fuel storage, hazardous material storage, refueling, and maintenance areas away from wetlands, surface waters, wells, drainage features, and flood-prone areas.
- Require that facility design includes secondary containment and impervious surfaces where fuels, oils, or hazardous liquid materials would be stored or transferred.
- Evaluate wildfire and flood risk, vegetation, terrain, emergency access, water supply, nearby development, and response capability during site selection.
- Establish appropriate setbacks and defensible space around structures, electrical equipment, project fencing, and adjacent combustible vegetation.
- Require inverters, transformers, substations, access roads, and other noise-generating equipment be located in areas such that cumulative noise at sensitive receiving properties is minimized.

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- Request project-level evaluation of existing ambient noise and model simultaneous equipment operations where multiple stationary sources could affect the same receiver, especially when sited in close proximity of sensitive uses.
- Encourage the minimization of operational noise and vibration through equipment selection, building placement, and acoustical treatments.
- Prepare a Vegetation Management Plan addressing wildfire fuel loads, prevention of non-native invasive species, emergency access, and vegetation beneath transmission lines and along roads.
- Prepare a Noise and Vibration Management Plan where sensitive receptors or structures could be affected.
- Implement site-specific procedures for encountering contaminated soil, groundwater, tanks, drums, stained soil, odors, or other evidence of contamination.

Recommended Measures for Construction and Decommissioning

- Fuels and hazardous materials should be stored in labeled containers with appropriate containment.
- Equipment should be inspected for damage and failed components be promptly removed or repaired.
- Require the use of trained personnel and permitted transporters and disposal facilities for hazardous waste.
- Equip vehicles with appropriate safety equipment, including fire extinguishers, spark arrestors, and heat shields.
- Prohibit vehicle idling and high-temperature work in dry vegetation.
- Require the applicant to coordinate with fire authorities concerning emergency access, firefighting water, facility shutdown, and responder training.
- Restrict construction and decommissioning to appropriate hours and use quieter equipment, temporary barriers, equipment enclosures, mufflers, and other feasible noise-control measures.
- Require inspection and testing of sites following decommissioning and complete remediation where releases or residual contamination are identified.
- Require the inspection and testing of sites following decommissioning. If releases or residual contamination are identified, require complete remediation measures.
- Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration

Recommended Measures for Operation

- Fueling and maintenance should be conducted in designated areas equipped with spill-response materials.
- Operators should monitor wildfire conditions and modify or suspend high-risk work when warranted.
- Operators should monitor potential flood and storm conditions and modify or suspend high-risk work when warranted.
- Require the maintenance of lightning-protection, grounding, fault-detection, and transformer oil-level monitoring systems.
- Routine inspections of equipment can identify degradation, leaks, overheating, or fire hazards.
- Require ongoing vegetation maintenance and management programs to reduce wildfire risk while minimizing exposure to pesticides and herbicides.

- Require coordination with local fire districts regarding site access and emergency response protocols.
- Require emergency response plans to be maintained and periodically updated throughout facility operations.

Mitigation Measures for Potential Significant Impacts

- Relocate or reconfiguration of inverters, transformers, substations, battery enclosures, cooling systems, pumps, compressors, ventilation systems, process equipment, loading areas, access roads, and other noise-generating components to increase separation from residences, schools, health care facilities, cultural facilities, historic structures, and other sensitive receptors.
- Require a project-specific noise and vibration study based on measured ambient conditions and the final facility design. The study should model the cumulative sound generated by equipment that could reasonably operate simultaneously, including tonal, intermittent, impulsive, and nighttime noise where applicable.
- Require that equipment complies with applicable property noise limits and any more protective project-specific limits established through environmental review and additional studies.
- Increase separation between credible hazard sources and residences, schools, health care facilities, public roads, neighboring businesses, cultural facilities, community facilities, and other sensitive uses.
- Reduce facility capacity, hazardous material inventories, battery storage capacity, process-unit size, or the number of interconnected hazard sources where necessary to reduce the consequences of a credible incident.
- Request technology-specific hazard analyses addressing electrical hazards, fire, explosion, thermal runaway, toxic or flammable gases, pressurized or cryogenic systems, process upsets, loss of cooling, loss of power, equipment failure, transportation incidents, and other credible emergencies.
- Install redundant monitoring, alarms, fault detection, automatic isolation, emergency shutdown, grounding, lightning protection, temperature controls, pressure relief, ventilation, gas detection, smoke detection, and fire-protection systems appropriate to the facility technology.
- Relocate ground-disturbing activities away from contaminated areas where avoidance is feasible and would not transfer impacts to another sensitive location.
- Complete a Phase I environmental site assessment and, when recognized environmental conditions or other evidence of contamination are identified, require appropriate subsurface investigation before construction.
- Request applicants characterize potentially affected soil, groundwater, sediment, soil gas, structures, tanks, pipelines, and other environmental media sufficiently to define the nature and extent of contamination within the disturbance area.
- Require applicants to coordinate investigation, cleanup, containment, and reuse requirements with Ecology and other agencies and Tribes having jurisdiction.
- Require the substitution of less toxic, flammable, reactive, corrosive, persistent, or otherwise hazardous materials where a technically feasible alternative would provide an equivalent operational function.
- Limit on-site hazardous material inventories to the minimum quantities necessary for construction, operation, maintenance, and decommissioning.

- Require relocation of tanks, batteries, transformers, chemical-storage areas, process units, waste areas, fueling facilities, and loading areas away from wells, groundwater-recharge areas, wetlands, surface waters, marine waters, flood-prone areas, and other sensitive receptors.

11.3.2. Solar Facilities

Construction

Construction of solar facilities would involve site preparation, grading, trenching, foundation or pile installation, electrical work, equipment delivery, roadway construction, and installation of photovoltaic modules, and associated infrastructure. Hazardous materials used during these activities could include vehicle fuels, lubricants, coolants, compressed gases, solvents, cleaning agents, coatings, sealants, adhesives, herbicides, pesticides, battery electrolytes, and dielectric fluids.

Accidents, equipment failure, improper fueling, or damage to construction materials could result in spills or releases. Such incidents would generally involve limited quantities that could be contained, assessed, and remediated under applicable hazardous material and waste-management requirements. The potential impact would be greater if a spill made its way into a drainage, wetland, waterway, or area of permeable soil, or if construction disturbed an existing contaminated site.

Operation

While routine facility operations are unlikely to release hazardous substances, there is always the risk of accidental spills and leaks. Additionally, weather exposure, equipment degradation, electrical faults, severe storms, or wildfire damage could break or damage transformers and other equipment. Inspection and maintenance would identify damaged components, while spill containment and cleanup requirements would reduce the potential for persistent contamination.

Operational health and safety hazards could include both facility-caused and facility-associated, e.g. electrical shock and fire, as well as falls, vehicle accidents, and exposure to extreme weather. Operational staffing and activity levels would also be lower than during construction, reducing the frequency of potential worker exposure.

Decommissioning

Decommissioning would involve disconnecting electrical systems, dismantling and removing modules and support structures, removing or abandoning underground infrastructure where authorized, demolishing foundations, transporting materials, managing waste, and restoring disturbed areas. These activities would create occupational hazards and spills, noise, vibration, dust, traffic, and ignition risk similar to construction.

The potential for hazardous material release could be somewhat greater during decommissioning because modules, transformers, wiring, batteries, and other infrastructure may have degraded during facility operation. Decommissioning would also generate more solid waste than routine operation. Project components such as steel, aluminum, glass, copper, and plastic may be recyclable, but damaged equipment or materials containing hazardous components would require appropriate handling, transportation, recycling, or disposal.

Mitigation Measures

Recommended Measures for Siting and Design

- Select low-noise transformers, inverters, cooling systems, and other equipment where commercially available.
- Locate inverters, transformers, substations, operations buildings, and other noise-generating equipment as far as practicable from sensitive noise receptors.
- Where possible, avoid siting in locations with known contaminated soils where extensive excavation may mobilize pollutants.
- Design should maximize separation of inverter stations and transformer locations from nearby residential areas and other sensitive receptors if feasible.
- Require facility design to include firebreaks and vegetation management for wildfire prevention.
- Stormwater system design should prevent mobilization of contaminants from panel maintenance activities.

Recommended Measures for Construction and Decommissioning

- Locate construction staging areas, temporary generators, and material processing activities away from sensitive receptors.
- Where possible, implement restrictions for heavy equipment idling near sensitive receptors.
- Encourage the development of decommissioning plans that include recovery and recycling of photovoltaic panels.
- Require that damaged panels and associated electrical components be properly characterized and disposed of.

Recommended Measures for Operation

- Ongoing inspection and maintenance of transformers, inverters, trackers, and cooling equipment should be conducted to minimize excess noise from wear or malfunction.
- Ongoing inspection of equipment regularly should check for leaks and potential fire hazards.
- Request updates, as warranted, to emergency response procedures addressing electrical hazards and fire suppression.

11.3.3. Battery Energy Storage Systems (BESS)

Construction

Construction of standalone or co-located BESS facilities would involve hazards, including fuels, equipment fluids, electrical work, heavy equipment, noise, vibration, and possible disturbance of contaminated soil. Additional hazardous materials could include battery electrolytes and dielectric fluids. Battery makeup would determine the specific hazardous components and associated handling and emergency response requirements.

Battery units would not ordinarily be charged during most construction activities, reducing the potential for overheating or thermal runaway relative to operation. Damage during delivery or installation could nevertheless cause electrolyte leakage, electrical hazards, or release of toxic or flammable gases. Construction workers would also face risks from heavy lifts, energized equipment during construction, and exposure to battery chemicals.

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Operation

Operation would present a risk of battery failure, electrolyte release, electrical shock, fire, explosion, and thermal runaway. A lithium-ion thermal-runaway event can occur if batteries overheat because of damage or battery-management-system failure, causing a cascading chain reaction. A damaged or overheated battery may release gases that are toxic, corrosive, or flammable, creating risks for workers and emergency responders in the vicinity. The Department of Ecology solar PEIS identifies additional possible hazards that include explosions, flammable gases, toxic fumes, electrical shock, corrosives, and chemical burns.

Non-lithium battery systems, such as zinc-hybrid or flow batteries, could present different emergency health and safety hazards depending on their chemistry. These could include electrolyte leaks and generation or release of hydrogen, oxygen, or toxic or corrosive gases. Additionally, a battery incident could also result in contaminated water runoff. As such, operational risks may vary based on the battery technology proposed rather than applying to all BESS facilities.

Cooling and ventilation equipment, inverters, transformers, and other auxiliary systems could operate continuously or intermittently and create long-term noise effects. Co-located BESS facilities would result in an even greater level of noise production and should be modeled cumulatively where they could operate at the same time for accurate analysis. Tonal or intermittent characteristics should also be considered relevant to the applicable noise standard.

Decommissioning

Decommissioning would involve disconnecting, removing, packaging, and transporting battery modules and related electrical equipment. Degraded, damaged, or partially energized batteries could increase the risk of electrical shock, fire, or hazardous material release. Battery replacement may also occur one or more times during the facility's operating life, generating an end-of-life waste stream before final facility decommissioning.

Batteries would need to be evaluated for reuse, recycling, or disposal under applicable hazardous material, dangerous waste, transportation, and battery-specific requirements. Improper packaging, temporary storage, or transport could cause a release or fire. The Department of Ecology solar PEIS notes that while large-battery end-of-life systems were still developing, regulatory handling, storage, and transportation requirements would reduce release risks whether batteries were recycled or disposed of as hazardous waste.

Mitigation Measures

Recommended Measures for Siting and Design

- Request facility design to incorporate acoustic enclosures, sound barriers, and vibration isolation measures into facility design where necessary.
- Design should incorporate isolation features between battery units in case of battery failure or thermal runaway.
- Create adequate separation distances between battery containers and adjacent sensitive receptors through buffers, setbacks, and site design.
- Request facilities include gas detection, temperature monitoring, and fire detection systems.

Required Measures

- Require fire protection, prevention, and detection measures and design features in accordance with National Fire Protection Association (NFPA) 855, including requirements for providing redundant separate methods of BESS failure detection.
- Implement a Emergency Response Plan specific to BESS operations to mitigate the consequences of potential damage or failure of battery management systems, and include protocols for containment, cleanup, and remediation in the event of soil contamination or environmental incidents.
- A hazard mitigation analysis may be required as part of NFPA 855 to evaluate any potential adverse interaction between the various energy systems and technologies.
    - NFPA 855 requires an operations and maintenance manual to be provided to both the BESS owner (or the authorized agent) and the system operator before the system is put into operation and specifies what is to be included in the manual.
    - This includes requirements for system maintenance, training programs, and safety protocols for personnel involved in BESS operations and maintenance. Routine maintenance can help detect issues early, prevent failures, and minimize the risk of environmental contamination.
- Comply with Noise Standards under Chapter 173-60 WAC and Skagit County Code.

Recommended Measures for Construction and Decommissioning

- Procedures for safe transportation, storage, and handling of battery components during construction and decommissioning activities.
- Battery systems inspections for damage before installation.

Recommended Measures for Operation

- Conduct ongoing routine inspection and maintenance of battery cooling systems, transformers, inverters, and ventilation equipment to minimize excess noise.
- Require timely repairs of malfunctioning fans, HVAC systems, and electrical equipment that may generate abnormal noise or vibration.
- Facilities should provide ongoing monitoring for battery temperature, voltage, and gas generation.
- In case of emergency, require automatic shutdown systems capable of isolating malfunctioning battery systems.
- Request periodic emergency response training with local fire districts, depending on facility scale and potential risks.
- Require applicants to maintain battery manufacturer safety documentation onsite.
- For facilities near sensitive receptors, request project-level quantitative fire and explosion risk analyses.
- Require facility-specific evaluation and notification procedures.

Mitigation Measures for Potential Significant Impacts

- Comply with applicable fire and safety requirements, with the mitigation measures identified above, to reduce the potential for BESS fires, thermal runaway, hazardous material releases, and associated risks to workers, emergency responders, nearby communities, and the environment.

- Coordinate training initiatives and emergency response procedures with the local fire marshal, emergency management staff, Tribes, and state agencies to increase preparedness for potential hazards and protocols related to BESS facilities.

11.3.4. Fusion Small Modular Reactors (Fusion SMRs)

Construction

Construction of fusion SMR facilities could involve excavation, large concrete and steel structures, heavy equipment and hazardous materials delivery, electrical systems, cooling infrastructure, and a comparatively large or specialized workforce. Fusion SMRs may include components that are manufactured elsewhere and transported to the site by truck or rail. Hazards could include heavy-equipment accidents, falls, electrical exposure, and hazardous material handling.

Blasting, pile installation, excavation, and movement of heavy components could generate substantial short-term noise and vibration. Project level analysis should evaluate cumulative construction sources and potential effects on residences, health care facilities, schools, historic structures, and other sensitive receptors. Construction on or near a contaminated site could exacerbate existing pollutants and require investigation and remediation.

Operation

Fusion reactions require specific conditions to remain sustained and naturally stop if such conditions are disrupted. Operational hazards could include high-voltage electrical equipment, high-temperature, vacuum, compression, and temperature-control systems, industrial chemicals, and radioactive materials. Supporting safety systems may include radiation monitoring, automatic shutdown mechanisms, fire protection, controlled site entrances, emergency access, and perimeter security. The nature and magnitude of these hazards would vary based on facility size, technology, and design.

Radioactive materials and waste generated would require appropriate handling, storage, transportation, and disposal. Waste management would require coordination with the Washington State Department of Health and Washington State Department of Ecology, as well as compliance with applicable transportation requirements. Tritium, a radioactive isotope of hydrogen, may be used as fuel in fusion SMRs. Tritium emits weak beta radiation that cannot penetrate human skin and generally presents limited external exposure risk; however, it can pose health risks if inhaled, ingested, or absorbed as tritiated water.

Operation could also produce continuous noise from cooling systems, pumps, transformers, ventilation equipment, compressors, and electrical infrastructure. The facility's combined stationary sources would need to be modeled against existing ambient conditions and applicable receiving-property limits.

Decommissioning

Decommissioning could involve dismantling large industrial structures, decontaminating equipment, managing activated or otherwise hazardous materials, removing hazardous chemicals, transporting waste, and conducting long-term site restoration or monitoring. Activities that dismantle equipment containing radioactive or hazardous materials could create worker exposure and materials-handling hazards requiring appropriate waste management controls.

The volume, classification, treatment, transportation, and disposal requirements for decommissioning materials would be technology specific. Radioactive waste would require handling, storage, transportation, and disposal in accordance with applicable regulatory requirements.

Mitigation Measures

Recommended Measures for Siting and Design

- Require technology-specific safety and environmental risk information based on the final facility design and material inventory during project-level SEPA review.
- Require project-level process-hazard, accident, fire, explosion, seismic, flooding, and emergency-response analyses.
- Avoid facility siting where natural hazards, existing contamination, limited access, or inadequate response capacity would materially increase risk.
- Establish substantial safety and security setbacks from occupied areas and other sensitive receptors.
- Facilities should be designed with multiple levels of containment, passive safety systems, and redundant cooling, electrical, and monitoring systems.

Required Measures

- Obtain and maintain all applicable federal and state licenses and approvals for the possession, use, production, storage, release, transfer, transportation, and disposal of radioactive materials associated with fusion facility construction, operation, and decommissioning.
- Implement radiation protection and monitoring measures consistent with applicable regulatory requirements to limit worker and public exposure to radiation and radioactive materials.
- Implement and maintain monitoring and control systems to detect and minimize accidental releases of radioactive materials into the environment.
- Develop and implement facility specific emergency response measures, including procedures for notification, response, containment, and coordination with applicable state and local emergency response agencies.
- Provide appropriate environmental health and safety training for personnel who handle or may be exposed to radioactive materials.

Recommended Measures for Construction and Decommissioning

- Establish enforceable decommissioning, waste-disposition, site-restoration, monitoring, and financial-assurance requirements before operation.
- Request facility-specific emergency, fire, hazardous-material, waste-management, security, and public-notification plans.
- Provide worker training regarding radiological protection and hazard communication.

Recommended Measures for Operation

- Incorporate multiple physical and operational barriers, redundant monitoring, automatic shutdown, leak detection, ventilation, fire protection, containment, and backup power appropriate to the selected design.
- Require ongoing environmental monitoring appropriate to potential release pathways.

- Conduct baseline and operational noise monitoring and implement equipment enclosures, silencers, barriers, setbacks, and operational controls.
- Request periodic emergency training exercises involving local, county, and state responders.
- Implement long-term inspection, maintenance, and monitoring programs.
- Maintain continuous monitoring of radiation, containment systems, and critical facility functions.

Mitigation Measures for Potential Significant Impacts

- Coordinate emergency planning, training, equipment needs, access, and water supply with local, state, federal, and Tribal authorities, as applicable.

11.3.5. Renewable Fuel Facilities

Construction

Construction could involve grading, excavation, tanks, loading areas, utility connections, and truck or rail infrastructure. Associated hazardous materials could include fuels, lubricants, solvents, coatings, compressed gases, welding gases, adhesives, and cleaning chemicals. Construction on industrial or port properties could disturb contaminated soil or groundwater associated with prior uses.

Health and safety risks could include heavy-equipment accidents, falls, electrical hazards, fire, and exposure to hazardous materials. Construction noise and vibration could affect nearby residences, businesses, wildlife habitat, and other sensitive receptors.

Operation

Renewable fuels facilities could store and process combustible or flammable feedstocks, intermediates, finished fuels, compressed gases, catalysts, treatment chemicals, and wastes. Potential hazards could include spills, leaks, vapor releases, fire, explosion, incompatible material reactions, overpressure, and transportation incidents. The nature of these hazards would depend on the renewable fuel facility type and scale.

Recurring feedstock and product transportation could increase the frequency of hazardous material movement and associated spill or collision risk. Operational equipment such as pumps, compressors, cooling systems, material-handling equipment, truck loading, and rail activity could also create continuous or intermittent noise.

A facility-related operational accident could affect workers, responders, nearby land uses, soil, groundwater, wetlands, surface water, or marine waters. Risks could be elevated at sites near waterways, flood-prone areas, existing contamination, residences, or locations with restricted emergency access.

Decommissioning

The closure of renewable fuel facilities would involve the removal or cleaning of tanks, vessels, piping, process equipment, and chemical-storage systems. Residual fuels, feedstocks, sludges, catalysts, and wastes could present fire, explosion, toxicity, or environmental-release hazards. Demolition could also expose previously unidentified contamination beneath process and loading areas.

Mitigation Measures

Recommended Measures for Siting and Design

- Require storage tanks and process areas to be sited outside flood-prone areas where feasible.
- Request applicant provide a process-specific hazard analysis before final design.
- Where possible, avoid siting facilities where spills or firefighting water could readily reach wetlands, surface water, groundwater, or marine waters.
- Require facility-specific prevention, emergency response, fire protection, hazardous material, waste management, and closure plans.

Required Measures

- Comply with applicable federal, state, and local requirements for the storage, handling, use, and transportation of fuels.
- Implement appropriate containment, spill prevention, and leak detection measures for fuels, feedstocks, chemicals, and other hazardous materials used or stored onsite.
- Develop and implement facility-specific emergency response procedures addressing fires, explosions, spills, leaks, and other accidental releases, including notification and coordination with local emergency responders and applicable agencies.
- Implement appropriate fire prevention, detection, suppression, and emergency shutdown systems based on the fuels and processes used at the facility.

Recommended Measures for Construction and Decommissioning

- Use compatible materials, secondary containment, leak detection, overfill protection, pressure relief, emergency isolation, ventilation, gas detection, and fire-suppression systems.
- Require implementation of soil and groundwater protection measures during fuel storage and transfer activities.

Recommended Measures for Operation

- Truck and rail loading areas should be designed to contain releases.
- Require secondary containment around tanks, processing equipment, and loading facilities.
- Leak detection systems for storage and transfer infrastructure.
- Ongoing routine inspections of tanks, piping, pumps, and transfer facilities.

Mitigation Measures for Potential Significant Impacts

- Require facility-specific risk analyses for fire, explosion, or accidental release scenarios.
- Require community notification procedures proactively in the event of significant releases.

11.4. No Action Alternative Analysis

Under the No Action Alternative, Skagit County would retain its existing development regulations and the selected energy facilities would continue to be reviewed and permitted under current, local, state, and federal regulatory frameworks as described in the **Energy Permitting** section. Depending on the type and characteristics, proposed facilities could be reviewed either through Skagit County's existing minor and major utility development processes

or through the Washington State Energy Facility Evaluation Council (EFSEC) process where certification is required or voluntarily elected by the applicant.

11.4.1. Impacts from Construction, Operation, and Decommissioning Under Current Process

For projects reviewed through local government and the EFSEC under the current code, construction and decommissioning activities would continue to have environmental health and safety impacts due to the accidental spills or releases of hazardous materials, disturbance or mobilization of existing contamination, worker and public safety hazards, fire and explosion safety risks, and noise and vibration effects on nearby sensitive receptors. The type, magnitude, and duration of these impacts would vary based on facility type, technology, site conditions, proximity to contaminated properties and sensitive receptors, emergency access, and response capability. For further analysis of the specific energy facilities, refer to the impacts analyzed under the **Alternatives Analysis** section.

11.4.2. Mitigation Measures

Projects reviewed through the County permitting process would continue to subject to applicable federal, state, and local hazardous material, waste cleanup, worker safety, building, fire, electrical, stormwater, noise, transportation, and land use requirements, as well as project-specific environmental review and permit conditions.

Facilities subject to EFSEC jurisdiction would be required to comply with applicable federal, state, and local environmental health and safety related regulations, including the evaluation of hazardous materials, contaminated sites, noise and vibration, and waste management, among other elements. EFSEC may also impose project specific avoidance, minimization, mitigation, monitoring, emergency planning, and decommissioning requirements through a Site Certification Agreement.

Additional mitigation and minimization measures applicable to the No Action Alternative are provided in the measures applicable to all energy facilities and facility-specific mitigation sections.

11.4.3. Significant Unavoidable Adverse Impacts

While the No Action Alternative would continue to address impacts though existing federal, state, and local regulations, the alternative does not provide opportunities to reduce, standardize, or proactively manage those impacts. As a result, opportunities to reduce construction, operation, and decommissioning-related impacts may be implemented inconsistently on a project-by-project basis. Projects continue to be required to comply with applicable identification, contamination, containment, and remediation regulations, but the County would have less ability to establish standardized requirements tailored to local conditions and potential resource concerns.

12. Impacts on Overburdened Communities

12.1. Overview

The Overburdened Communities section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures associated with the overburdened communities within Skagit County.

Under the Health Environment for All (HEAL) Act and the Climate Commitment Act (CCA), an **overburdened community** is defined as a geographic area where vulnerable populations experience disproportionately high and adverse cumulative environmental health impacts resulting from the combined effects of environmental pollution, socioeconomic stressors, and existing health inequities.[130]

RCW 70A.02.010 defines **vulnerable populations** as groups that are more likely to be at higher risk of negative outcomes in response to environmental harms, due to adverse socioeconomic factors (e.g. unemployment, high housing and transportation costs relative to income, limited access to nutritious food and adequate health care, and linguistic isolation) and sensitivity factor (e.g. low birth weight and higher rates of hospitalization).[131]

In 2017, the Tax Cuts and Jobs Act of 2017 established Opportunity Zones. Opportunity Zones are federally designated census tracts created to encourage long-term private investment in economically distressed communities.[132] Opportunity zones are generally characterized by lower household incomes, higher poverty rates, and reduced access to economic opportunities compared to surrounding areas.

As part of comprehensive planning efforts, the Washington State Growth Management Act (GMA) requires jurisdictions to identify areas that may be at higher risk of displacement from market forces and establish anti-displacement policies. A household is considered displaced if its place of residence is disrupted due to forces outside of its control and it is unable to find suitable replacement housing in the neighborhood.[133] The displacement risk score provides a first look at areas that may have experienced demographic and market change (possible displacement) or may have a higher risk of displacement than other parts of the jurisdiction.

The conditions analyzed in this section include:

- Overburdened Communities
- Vulnerable Populations
- Communities Located Near Existing Energy Facilities
- Environmental Health Disparities

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[130] Washington State Office of Financial Management, "Identifying Overburdened Communities," n.d., https://ofm.wa.gov/spending/environmental-justice-heal-act/identifying-overburdened-communities/
[131] Washington State Legislature, Revised Code of Washington, "Environmental Justice Definitions," n.d., https://app.leg.wa.gov/rcw/default.aspx?cite=70A.02.010
[132] U.S. Department of Housing and Urban Development, "Opportunity Zones," accessed August 25, 2026, https://www.hud.gov/opportunity-zones.
[133] Bates, L. K., "Gentrification and Displacement Study: implementing an equitable inclusive development strategy in the context of gentrification," updated May 18, 2013, https://www.portland.gov/sites/default/files/2020-01/2-gentrification-and-displacement-study-05.18.13.pdf

- Opportunity Zones
- Displacement Risk

Impacts of the alternatives would be considered significant if they result in:

- Disproportionate adverse impacts on overburdened communities or vulnerable populations.
- Worsening of existing environmental health disparities.
- Displacement of residents, businesses, or community-serving resources.

12.2. Existing Conditions

The study area for this section encompasses all of Skagit County, Washington. The affected environment represents existing conditions at the time this study was prepared.

12.2.1. Overburdened Communities

Skagit County contains a diverse mix of rural, agricultural, urban, Tribal, and resource-dependent communities. Overburdened communities within the county are generally associated with locations where environmental exposures overlap with socioeconomic vulnerabilities, including limited access to services, transportation challenges, housing affordability concerns, and health disparities.

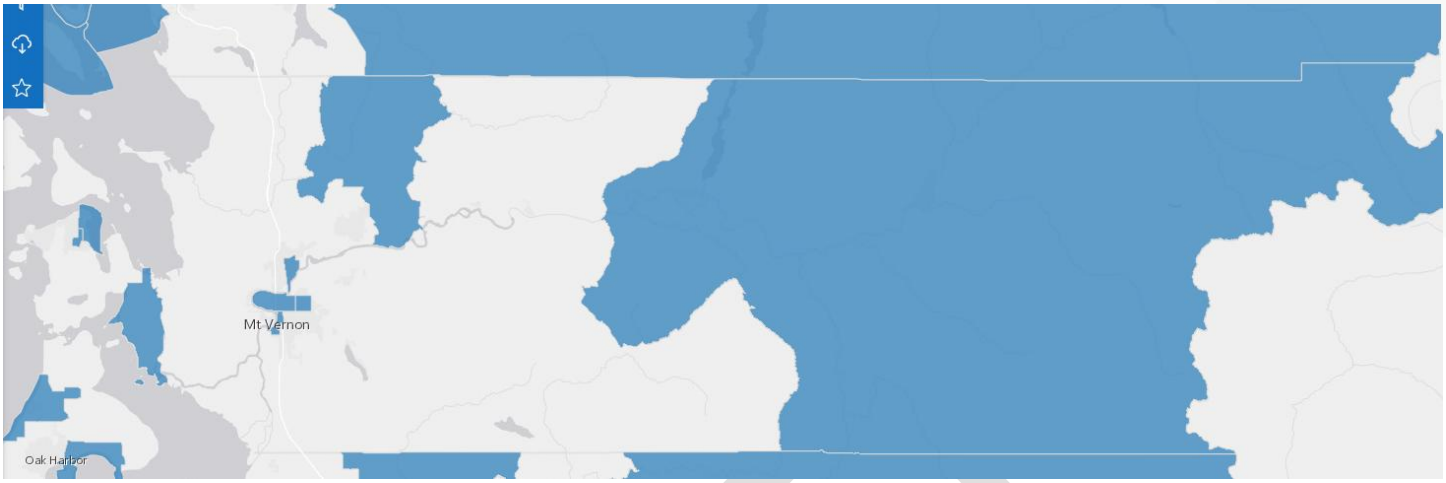
These communities may experience disproportionate impacts from flooding, poor air quality associated with transportation corridors or industrial activities, exposure to agricultural chemicals, climate-related hazard, and economic barriers that reduce community resilience. Housing affordability, childcare availability, access to infrastructure, and broadband connectivity have also been identified as challenges affecting portions of the county.

Several Tribal communities are located within or adjacent to Skagit County, including the Swinomish Indian Tribal Community, Samish Indian Nation, Upper Skagit Indian Tribe and Sauk-Suiattle Indian Tribe.[134] Tribal communities possess unique cultural, economic, and treaty-protected relationships with natural resources and may face disproportionate impacts from environmental degradation affecting their traditional fishing, hunting, gathering, and cultural practices. Consistent with state environmental justice guidance, Tribal lands and Tribal communities are considered important components of overburdened community analyses. For further discussion surrounding potential impacts to Tribal rights, resources, and interests, see **Tribal Rights, Interests, and Resources**.

The Washington State Overburdened Communities dataset indicates that designated overburdened census tracts occur throughout both urban and rural regions of Washington (see **Figure 44**).[135]

[134] Economic Development Alliance of Skagit County, "Other Communities," n.d., published 2026, https://www.skagit.org/why-skagit/communities-and-ports/other-communities.
[135] Washington State Office of Financial Management, "Overburdened Communities of Washington State," n.d., https://geo.wa.gov/datasets/wa-ofm::overburdened-communities-of-washington-state/explore?location=48.427881%2C-121.733127%2C10.

Figure 44: Overburdened Communities Map



Source: Washington State Office of Financial Management, Overburdened Communities of Washington State, 2024, https://geo.wa.gov/datasets/e0074300efda47efa6b01e6236bcfe48_0/explore?location=48.480587%2C-121.893664%2C10

In Skagit County, areas with elevated environmental health disparities are generally concentrated near population centers, transportation corridors, industrial and agricultural activity areas, and certain Tribal communities. Environmental burdens contributing to elevated rankings may include exposure to air pollution, proximity to contaminated sites, flood risk, and socioeconomic stressors such as poverty, linguistic isolation, and housing cost burden.

12.2.2. Vulnerable Populations

Vulnerable populations commonly include low-income households, communities of color, immigrant and refugee populations, Tribal communities, seniors, children, individuals with disabilities, and residents with limited English proficiency.[136] These populations may be less able to avoid, respond to, or recover from environmental hazards and may face barriers to meaningful participation in planning and decision-making processes.

Within Skagit County, vulnerable populations are distributed throughout incorporated cities, towns, Tribal communities, and rural unincorporated areas. Agricultural workers, seasonal farm laborers, low-income households, and residents living in flood-prone areas may be particularly sensitive to environmental and climate related impacts. Populations with greater vulnerability during extreme weather events, wildfires, flooding, utility disruptions, and other environmental incidents are also at an increased risk of disproportionate impacts.

12.2.3. Communities Located Near Existing Energy Facilities

Communities located near existing energy infrastructure in Skagit County include residents and businesses near electrical substations, transmission corridors, natural gas infrastructure, and utility-scale energy generation

[136] Skagit County, "Skagit County Comprehensive Plan 2025-2045," n.d., https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf

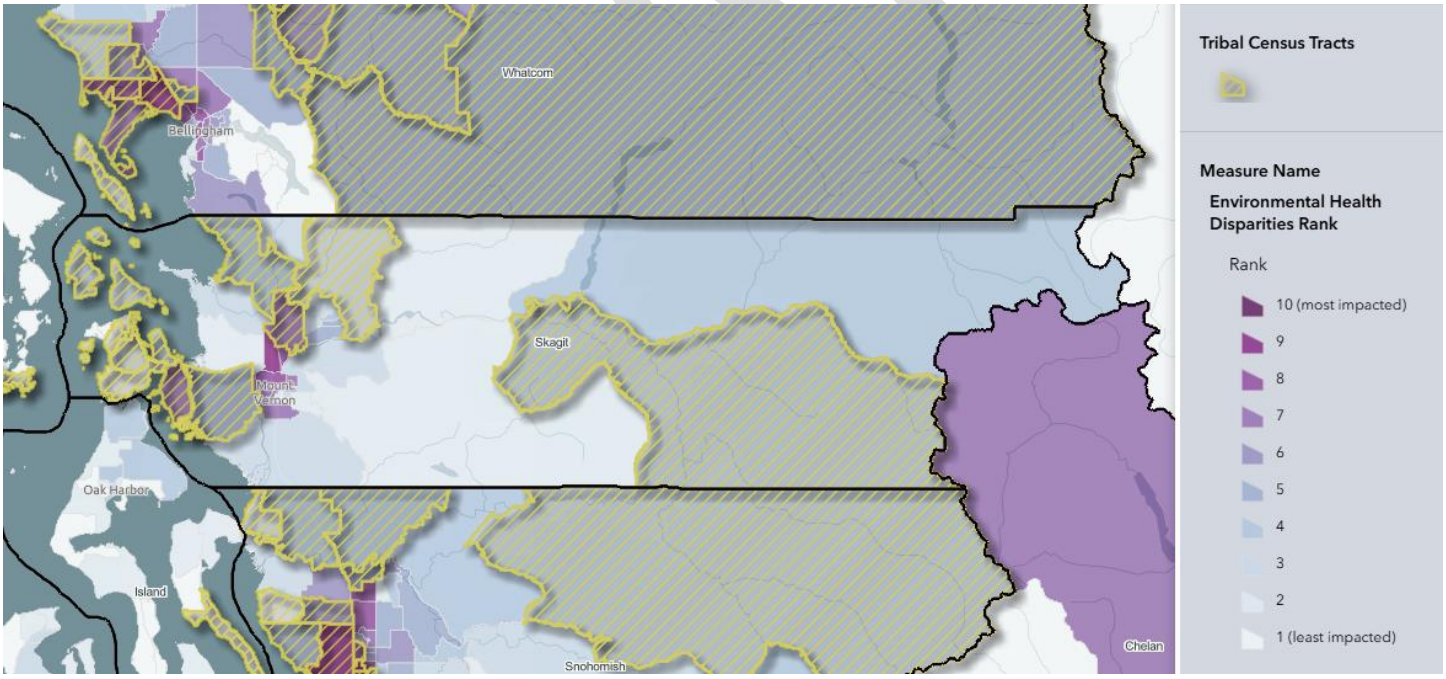
facilities both within and adjacent to the county. Historically, energy infrastructure has often been located in industrial, agricultural, transportation, or utility-designated areas where land use conflicts are minimized.

In some cases, these existing facility locations may occur near vulnerable populations, Tribal communities, agricultural worker housing, or lower-income communities. Several Tribal Nations maintain treaty-protected interests, cultural resources, and traditional use areas throughout Skagit County. Existing and future energy facilities near Tribal lands and other overburdened communities have implications including cumulative exposure to additional environmental, visual, noise, traffic, and land use impacts.

12.2.4. Environmental Health Disparities

Environmental health disparities occur when communities experience unequal environmental exposures and associated health outcomes. The Washington Environmental Health Disparities (EHD) Map evaluates cumulative impacts using indicators related to environmental exposures, environmental effects, sensitive populations, and socioeconomic factors (see **Figure 45**). The EHD map combines multiple environmental demographic indicators to rank census tracts across the state based on cumulative burden.[137] EHD ranks range from 1 to 10, with 10 being the most impacted. This rank is calculated by averaging the ranks for 25 different topics, including data on pollution, socioeconomic factors, and health. Communities receiving the highest rankings are considered to face the greatest combined environmental and socioeconomic challenges.

Figure 45: Environmental Health Disparities Rank Map

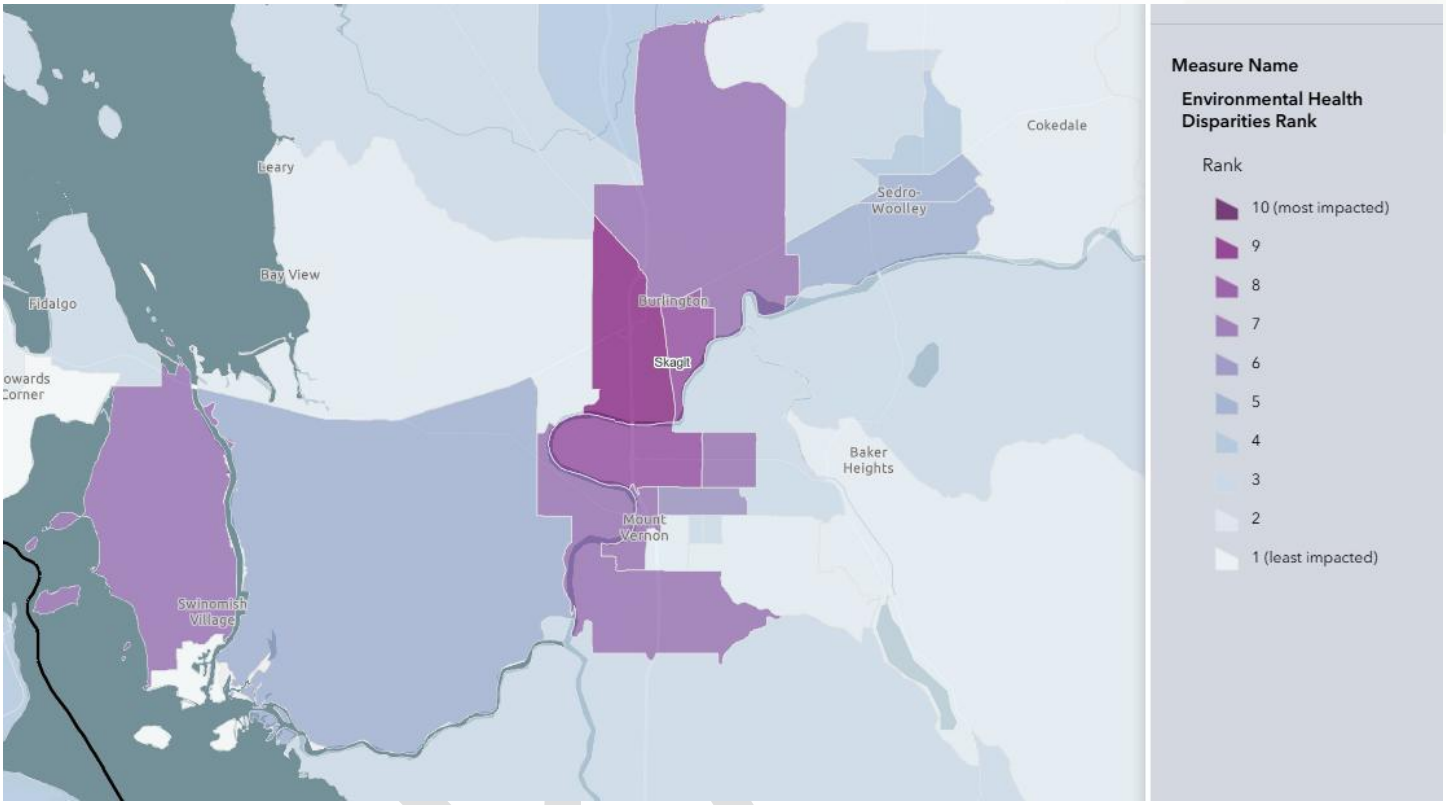


Source: Washington State Department of Health, Environmental Health Disparities Map, n.d., https://experience.arcgis.com/experience/d133fa97a3854f8eac905ec152f16b05/page/Measures

[137] Washington State Department of Health, Environmental Health Disparities Map, accessed August 27, 2026.

Census tracts near Mount Vernon, Burlington, and the Swinomish Reservation area are experiencing ranks of 7 or higher, as shown below in **Figure 46**.

Figure 46: Environmental Health Disparities Rank Map, Central Skagit County area



Source: Washington State Department of Health, Environmental Health Disparities Map, n.d., https://experience.arcgis.com/experience/d133fa97a3854f8eac905ec152f16b05/page/Measures

Environmental health disparities relevant to Skagit County may include exposure to agricultural pesticides, traffic-related air pollution, flooding hazards, drinking water concerns, wildfire smoke, climate-related risks, and limitations in access to healthcare and economic opportunities. Flood-prone communities located within the Skagit River floodplain may face repeated disruptions to housing, transportation, and essential services. Climate change impacts may exacerbate many existing environmental health disparities through increased flood frequency and/or severity, wildfire smoke exposure, extreme heat events, and impacts on public health and infrastructure.

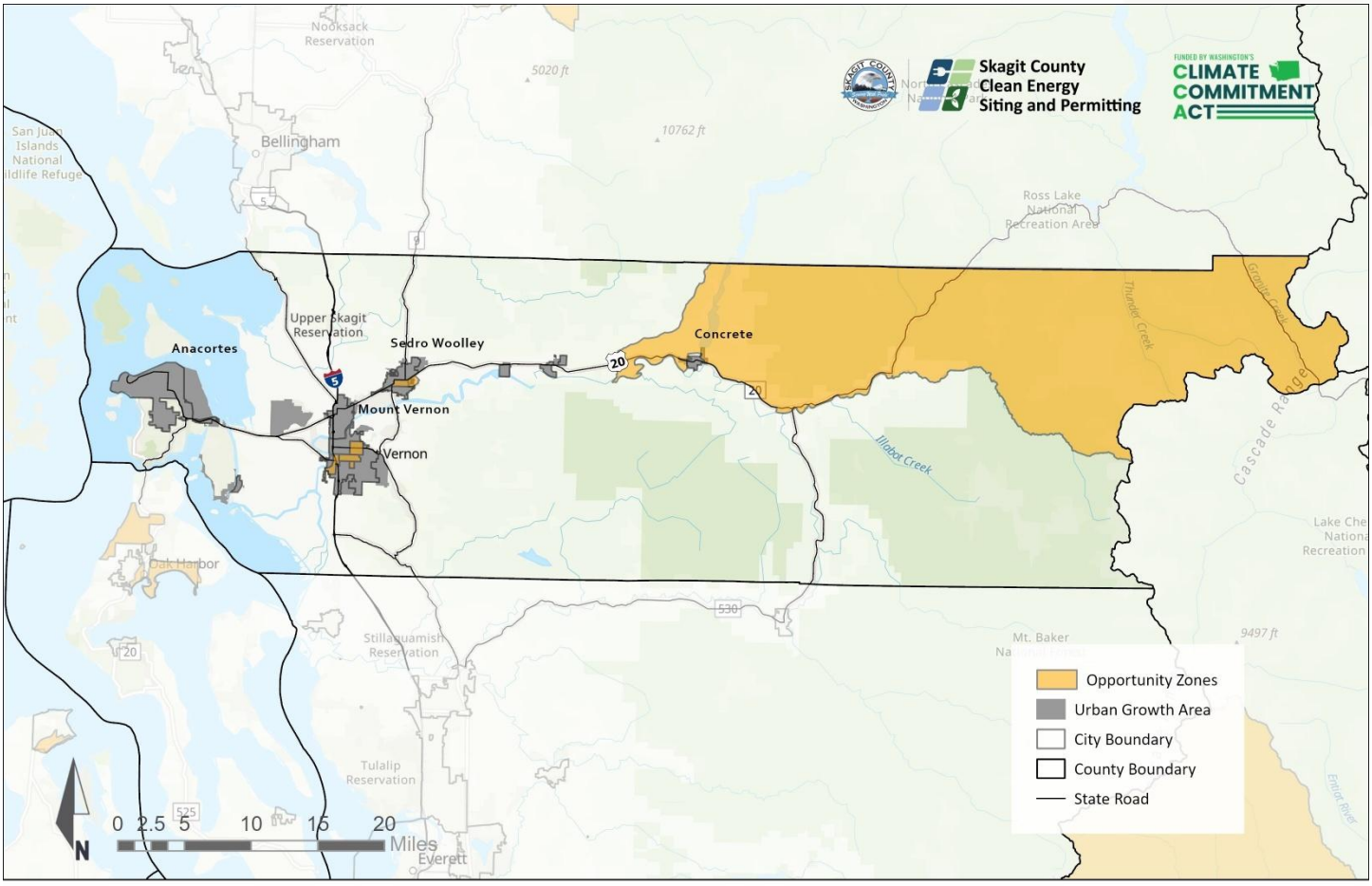
12.2.5. Opportunity Zones

Several census tracts within Skagit County have been designated as Opportunity Zones, primarily within and adjacent to established communities and economic centers, like Mount Vernon (see **Figure 47**).[138] These areas

[138] Washington State Department of Health, "Environmental Health Disparities Map: All Census Tracts," n.d., https://doh.wa.gov/data-and-statistical-reports/washington-tracking-network-wtn/washington-environmental-health-disparities-map

may be more likely to experience future targeted development and investment, including infrastructure improvements, commercial growth and energy-related projects.

Figure 47: Opportunity Zone Map



Source: Kimley-Horn, 2026, using data from Washington Department of Commerce, Opportunity Zone Eligibility Details, https://experience.arcgis.com/experience/035ad15299ae4a25ac7585d4d23ec309/page/All-Census-Tract

Opportunity Zones are considered in conjunction with overburdened community designations, vulnerable populations, and environmental health disparities to evaluate whether future energy facility development could provide economic benefits, such as job creation and tax revenue, or contribute to disproportionate adverse impacts on communities already facing socioeconomic challenges. Opportunity Zone designations also help identify areas where equitable distribution of project benefits may be an important consideration during future project-level review and permitting decisions.

12.2.6. Displacement Risk

Displacement risk refers to the potential for residents, businesses, or community-serving institutions to be involuntary displaced as a result of economic, physical, or environmental changes. Displacement can occur directly or indirectly through rising housing costs, redevelopment pressures, loss of employment, land acquisition, infrastructure development, cultural shifts, or environmental hazards. Recent planning documents have identified housing affordability and housing availability as ongoing challenges throughout the county.[139] Displacement risk is evaluated as a consideration because future energy facility development could alter land use patterns, increase temporary workforce demand, affect property values or result in the conversion of agricultural, residential, commercial, or community-serving lands.

Communities experiencing high displacement risk often include vulnerable populations such as lower-income households, renters, seniors, communities of color, Tribal communities, people with disabilities, and other populations with limited resources to absorb increased costs or relocation.

Within Skagit County, displacement pressures vary geographically and are influenced by factors including housing affordability, population growth, economic development patterns, tourism demand, and access to transportation and public services. Displacement risk scores are assigned to census tracts based on the matrix below.

Table 19: Displacement Risk Scores

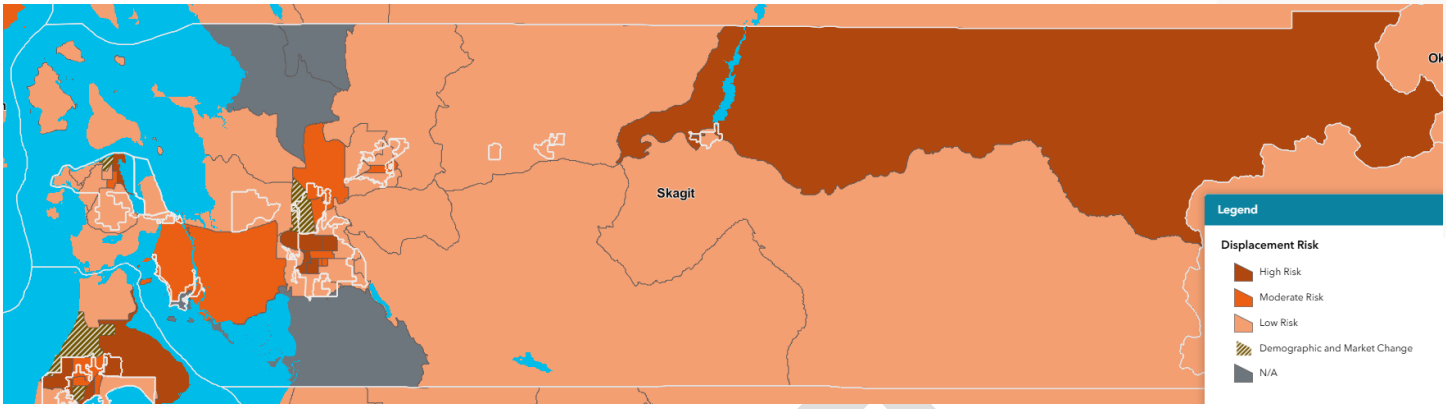
Displacement Risk	Social Vulnerability	Demographic Change	Market Trend
High	Yes	Gentrification	Accelerating or Stable
	Yes	No	Accelerating
	No	Gentrification	Accelerating
Moderate	Yes	No	Accelerating or Stable
	Yes	Disinvestment	Accelerating
Low	Yes	Disinvestment	Accelerating or Stable
	No	Gentrification	Stable
	No	No or Disinvestment	Appreciated, Accelerating, or Stable
Demographic & Market Change	Yes or No	Gentrification	Appreciated

Source: Washington State Department of Commerce, DRAFT Displacement Risk Map, 2026

While most of the county census tracts fall into the low-risk category, there are several that have been identified as moderate to high risk (see **Figure 48**).[140]

[139] Skagit County, "Skagit County Comprehensive Plan 2025-2045," n.d., https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf
[140] Washington State Department of Commerce, "DRAFT Displacement Risk Map," n.d., https://experience.arcgis.com/experience/d26f4383cab3411cb45f39ddfc666b74/page/Page#data_s=id%3A83713d4b3ea34743bed49d3d61be4fb3-187dd75e9f2-layer-27-187dcfb6357-layer-4%3A499

Figure 48: Displacement Risk Map



Source: Washington State Department of Commerce, DRAFT Displacement Risk Map, n.d., https://experience.arcgis.com/experience/d26f4383cab3411cb45f39ddfc666b74

Many of the moderate and high displacement risk areas in **Figure 48** above include areas of social vulnerability including areas around Swinomish, Anacortes, Burlington, and Mount Vernon. While the area around Concrete is not identified as a socially vulnerable area, the high risk of displacement stems from gentrification, changing demographics and an accelerating market trend. As shown in **Figure 47**, the area around Concrete is also designated as an opportunity zone, the area around Concrete is also designated as an opportunity zone, which may contribute to investment and changing market conditions in the area.[141]

12.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative evaluates the potential significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuel facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

12.3.1. Impacts Applicable to All Energy Facilities

Construction, operation, and decommissioning of energy facilities in Skagit County could affect overburdened communities and vulnerable populations through changes in land use, increased noise, dust, traffic, and visual disturbances, as well as demands on public services and infrastructure. The type, magnitude, duration, and geographic distribution of these effects would depend on the facility, technology, site characteristics, proximity to residences and community resources, existing environmental burdens, and the effectiveness of project-level avoidance and mitigation measures.

[141] Washington State Department of Commerce, "DRAFT Displacement Risk Map," n.d., https://experience.arcgis.com/experience/d26f4383cab3411cb45f39ddfc666b74/page/Page#data_s=id%3A83713d4b3ea34743bed49d3d61be4fb3-187dd75e9f2-layer-27-187dcfb6357-layer-4%3A499

Overburdened communities in Skagit County are generally associated with areas where environmental exposures overlap with socioeconomic vulnerabilities, transportation or service-access limitations, housing affordability concerns, and existing health disparities. Future energy development in previously impacted areas could add to existing environmental and public health conditions and could reduce a community's capacity to avoid, respond to, or recover from the effects without appropriate mitigation.

The selected energy facilities may create economic opportunities for local communities, including those in opportunity zones; however, where specialized labor or training is not available locally, projects may draw workers from outside the county, potentially increasing housing demand, market pressures, and contribute to demographic changes or existing displacement pressures.

Mitigation Measures

Regulatory Framework

Washington State law recognizes that some communities experience disproportionate environmental and public health burdens due to the combined effects of environmental pollution, socioeconomic disadvantages, and historical inequities. A comprehensive list of federal, state, and local level regulations that relate to overburdened communities are as follows:

Federal Regulations

- Tax Cuts and Jobs Act
- ADA Title II

State Regulations

- Healthy Environment for All Act (HEAL) (Chapter 70A.02 RCW)
- Climate Commitment Act (CCA)
- Growth Management Act (GMA)
- Web Content Accessibility Guidelines (WCAG) 2.2 Level AA

Local Regulations

- Skagit County Countywide Planning Policies
- Skagit County Comprehensive Plan
- Skagit County Strategic Plan, 2022-2032

Required Mitigation Measures

Federal

- Conduct engagement and communications in accordance with Title VI and federal accessibility requirements, including ADA Title II, ensuring materials and outreach methods are culturally responsive, linguistically appropriate, and accessible to all participants.

State

- Conduct engagement and communications in accordance with the Web Content Accessibility Guidelines 2.2 Level AA.

Local

- Comply with the Skagit County Comprehensive Plan policies pertaining to overburdened communities.

Recommended Measures for Siting and Design

- Recommend applicants evaluate whether project impacts would be concentrated within an overburdened community or would contribute to existing environmental health disparities, and to demonstrate how facility siting and design avoid or minimize disproportionate adverse impacts.
- Applicants should identify overburdened communities, vulnerable populations, and Tribal communities that could be affected by a proposed facility using the best available demographic, environmental, health, and community resource information available at the time of project review.
- Suggest applicants to use available state and local environmental justice screening tools, demographic data, community knowledge, field verification, and any other relevant information to identify potentially affected communities and environmental justice concerns.
- Encourage applicants to prioritize previously disturbed or developed land and locations near existing compatible infrastructure where doing so would avoid introducing new or worsening impacts on overburdened communities.
- Proposed facilities should avoid or minimize displacement of residences, businesses, agricultural worker housing, and community-serving facilities.
- Require appropriate setbacks, vegetated screening, equipment placement, lighting controls, and access-road locations that reduce noise, glare, visual change, dust, emissions, and traffic exposure at nearby receptors.
- Encourage early and ongoing coordination with potentially affected communities, community service providers, and Tribes early enough for input to influence facility siting and design.

Required Measures

- Future projects would be required to identify potential housing and worker displacement impacts and mitigation during the project-level SEPA process.

Recommended Measures for Construction and Decommissioning

- Request proposals describe construction schedules, traffic changes, potentially disruptive activities, complaint procedures, emergency contacts, language-access accommodations, and methods for providing information to affected communities.
- Construction and decommissioning activities should be scheduled and managed to minimize noise, traffic congestion, access disruptions, and other temporary impacts affecting nearby communities.
- Adequate dust, idling, lighting, noise, erosion, spill-prevention, and traffic control measures should be implemented to reduce community exposure to temporary impacts.
- Require a restoration and decommissioning plan informing procedures for the restoration of disturbed land.
- Where substantial localized burdens would remain, require applicants to implement community benefit agreements, Tribal benefit agreements, targeted infrastructure improvements, workforce programs, or comparable measures developed with affected communities.

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- Require local hiring and workforce development opportunities where feasible and consistent with project requirements, including the creation and implementation of workforce development programs intended to connect residents to job opportunities created by the construction of proposed energy facilities.
- Provide a hotline phone or email for receiving, documenting, and responding to community concerns during construction and decommissioning activities.
- Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration.

Recommended Measures for Operation

- Maintain access to residences, farms, businesses, schools, health care, emergency services, and community-serving resources.
- Complaints and environmental conditions should be monitored and use adaptive management when impacts exceed anticipated levels.
- Encourage ongoing opportunities for communication between facility operators and nearby residents, Tribes, and local governments.
- Require the applicant establish emergency notification procedures for surrounding communities and provide periodic updates regarding facility operations and maintenance activities that may affect adjacent communities.
- Encourage community engagement when major facility modifications, expansions, permit renewals, or operational changes could alter previously evaluated impacts on overburdened communities.

Mitigation Measures for Potential Significant Impacts

- Request the development of Community Benefit Agreements, Tribal Benefit Agreements, community investments, or other agreements in coordination with potentially affected communities, overburdened communities, and Tribes to address potential disproportionate impacts. Agreement outcomes could include measures to support local labor or community facilities and services.

12.3.2. Solar Facilities

Construction

Construction of solar facilities could temporarily increase noise, vibration, dust, equipment exhaust, traffic and visual disturbance near the project site. Site preparation, grading, pile driving, trenching, road construction, equipment deliveries, and workforce travel could have impacts on nearby residences, agricultural operations, Tribal communities, businesses, schools and other community resources. Construction would also generally represent the period of greatest workforce demand for the lifecycle of a project. The Ecology PEIS identifies dust, noise, traffic, and visual changes as potential construction impacts on adjacent land uses and nearby people. It also notes that dust could settle on crops, construction noise could disturb livestock, and road users could experience temporary delays or detours. Where these effects occur near already vulnerable populations, they could result in disproportionate impacts.[142] The extent of these impacts would depend on the solar facility scale

[142] Washington State Department of Ecology, "Programmatic Environmental Impact on Utility-Scale Solar Energy Facilities in Washington State," updated June 2025, https://apps.ecology.wa.gov/publications/documents/2506002.pdf

and project location. The closer to the site communities are, the greater the exposure to potential environmental and health burdens.

Construction traffic or temporary road closures could also have greater consequences in rural areas with few alternate routes or for households dependent on a single route to reach employment, schools, health care, food, and other essential services. These impacts would generally be temporary but could be significant if they substantially limited access to community resources or added to an existing burden.

Operation

Operation of solar facility would generally produce less traffic, dust, and activity than during construction. However, long-term operation could alter rural character and visual quality, introduce security lighting and stationary equipment and noise, restrict access to land or resources, and convert agricultural or other natural resource lands for the operational life of the facility. Land conversion for solar facilities could disproportionately affect rural, agricultural, Tribal, or low-income communities if it reduced employment opportunities, disrupted agricultural operations, affected traditional resource access, or concentrated industrial-scale infrastructure in communities already experiencing land use and environmental pressures.

It is anticipated that solar facilities would require ongoing maintenance and panel replacement during their operational lifespan, though operational workforce demand would generally be limited. Solar facilities can provide economic and community impacts to overburdened communities, depending on project ownership, conditions and agreements made during the development process, and opportunities available to local residents. Property owners who lease land or rooftops for solar may receive an alternative source of income or reduce their electricity costs. Community ownership or shared solar models can provide similar impacts for renters, low-income households, or other groups who may not be able to install solar on their own properties.

Where solar facilities contributed to increased land values, speculation, or competition for developable land, project-level review should also consider whether the development could contribute to displacement pressures. The Existing Conditions analysis recognizes land acquisition, infrastructure development, rising costs, and redevelopment pressures as potential contributors to displacement.

Decommissioning

Decommissioning would temporarily reintroduce construction like impacts, including noise, dust, truck traffic, equipment exhaust, visual disturbance, and temporary restrictions on local roads. These effects could be disproportionate if concentrated near overburdened communities or if decommissioning occurred without adequate mitigation.

Removal of potential infrastructure and restoration of the site could reduce long-term visual and land use effects. However, incomplete restoration, residual foundations or roads, soil compaction, contamination, or unsuccessful revegetation could limit the return of agricultural or other productive uses. Those residual effects could be of particular concern where community livelihoods or cultural practices depend on the affected land and resources.

Mitigation Measures

Recommended Measures for Siting and Design

- Coordinate with local fire districts, emergency medical providers, public health agencies, law enforcement agencies, Tribes, and other organizations that may be impacted during project planning to identify and address potential impacts to overburdened communities.
- Avoid siting facilities in locations that would require residential displacement. If avoidance is not possible, require applicants to adhere to maximum setbacks and buffers to reduce potential facility impacts to communities.
- Encourage solar facilities and Distributed Energy Resources on existing development to avoid concentrating new land use changes in communities already experiencing environmental burdens.
- Substations, transformers, inverters, and other noise-generating equipment should be located outside of a safe radius from communities through setbacks or barriers to reduce potential impacts.
- Minimize the potential conversion of farmland or working lands that support local economies and community resilience.
- Require setbacks, vegetative buffering, and visual screening when facilities are located adjacent to residential areas, schools, childcare facilities, healthcare facilities, senior housing, community gathering spaces, and other sensitive receptors.
- Minimize glare and visual impacts to neighboring properties.
- Accessible public information and emergency notification procedures that are culturally appropriate and multilingual communications should be provided where warranted by community demographics and identified language access needs.

Required Measures

- Refer measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Encourage applicants conduct outreach regarding construction schedules, road closures, traffic disruptions, and temporary service interruptions using methods accessible to vulnerable populations.
- Minimize noise, lighting, dust, traffic, and other temporary disturbances affecting nearby communities.
- Suggest applicants to coordinate construction activities to minimize disruptions during school hours, community events, and periods of high pedestrian activity where feasible.
- Suggest local hiring and contracting opportunities for local businesses where feasible.
- Decommissioning plans should identify procedures for panel recycling, material recovery, waste management, site restoration, and long-term stabilization of disturbed areas.

Recommended Measures for Operation

- Monitor operational conditions and implementation of corrective actions when actual impacts to overburdened communities exceed levels identified during environmental review.
- Maintain safe and reliable access to residences, farms, businesses, schools, and other community-serving uses.

- Incorporate native vegetation, pollinator habitat, or compatible agricultural uses where feasible to support local environmental and community benefits.
- Facility operators should monitor, maintain, and repair facility infrastructure to minimize operational noise, lighting, glare, and other public safety impacts affecting nearby communities.
- Request maintenance of emergency notification procedures and coordination protocols that provide timely communication to potentially affected communities regarding incidents, emergencies, significant maintenance activities, or operational changes.
- Vegetation management practices should minimize chemical use to reduce potential impacts to nearby communities.

Mitigation Measures for Potential Significant Impacts

- Refer measures applicable to all facilities.

12.3.3. Battery Energy Storage Systems (BESS)

Construction

Construction of a standalone or co-located BESS facility could result in temporary noise, vibration, dust, exhaust, traffic, and visual disturbance. Heavy equipment and battery deliveries could increase traffic on local roads and affect nearby residences and community facilities. Construction would generally represent the period of greatest workforce demand and depend on the scale of the project.

For a BESS co-located with solar generation, most construction and decommissioning effects would be similar to those of the solar facility. The Ecology PEIS identifies additional construction traffic and a potential perceived change in character from the industrial appearance of storage equipment.

Operation

Operational impacts could include noise from heating, ventilation, air conditioning, inverters, transformers, and other electrical equipment; security lighting; visual changes; periodic maintenance traffic; and emergency response risks. Operational workforce demand would generally be more limited than during construction. Operation of BESS facilities could provide increase energy resiliency and reliability for more remote communities with limited energy infrastructure or areas more prone to power outages during events such as high-wind events.

A battery fire, thermal event, or release requiring evacuation, sheltering, road closure, or specialized emergency response could have disproportionate consequences for populations with disabilities, limited English proficiency, inadequate transportation, existing health sensitivities, or limited access to timely emergency information. These effects could be more pronounced in rural areas with longer emergency-response distances or limited alternate travel routes.

Decommissioning

Decommissioning would generate temporary traffic, noise, equipment exhaust, and potential access disruptions. There could be a temporary increase in workforce demand, though would be dependent on the scale of the BESS facilities, phasing of decommissioning, and whether services are obtained locally. Battery removal, transportation, recycling, and disposal would need to be managed to avoid releases and prevent the transfer of environmental

burdens to other overburdened communities. Residual impacts could occur if damaged batteries, contaminated materials, foundations, or other infrastructure are not properly removed.

Mitigation Measures

Recommended Measures for Siting and Design

- Establish minimum setback requirements allowing adequate separation between facilities and adjacent sensitive receptors to limit impacts to overburdened communities, vulnerable populations, or Tribal communities.
- Provide adequate protection for residences, schools, healthcare facilities, parks, and other sensitive land uses through buffers and separations.
- Encourage coordination of facility design, access, emergency planning, and responder training with local fire, emergency medical, law enforcement, public health, and emergency-management agencies.
- Encourage accessible and multilingual emergency notification and public-information procedures based on the needs of the affected community.
- Notice communities before operation so residents understand normal facility conditions, alarms, emergency procedures, and points of contact.
- Minimize operational noise through equipment selection, enclosure design, sound attenuation systems, and strategic placement of equipment.
- Consider containment systems, fire breaks, thermal isolation zones, and other engineering controls that reduce the likelihood of impacts extending beyond the site boundary.
- Require battery containers, transformers, and other equipment to be located in areas that minimize potential exposure pathways to nearby communities in the event of equipment failure or fire.
- Avoid siting facilities in areas where climate-related hazards such as flooding, wildfire, or landslides could disproportionately increase risks to nearby vulnerable populations.
- As part of project-level environmental review, consider requesting evaluation of reasonable alternatives or design modifications to reduce potential impacts on overburdened communities when disproportionate effects are identified.

Required Measures

- Refer measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Consider strategic placement of equipment, temporary barriers, operational controls, screening, and other measures necessary to reduce noise and lighting impacts on nearby residences, schools, community centers, and other sensitive receptors.
- Encourage strategic placement of equipment, temporary barriers, setbacks, operational controls, and other measures necessary to reduce noise and lighting impacts on nearby sensitive receptors.
- Consider requesting information on battery transportation, damaged or defective battery management, recycling, disposal, and site restoration.

- Request information that identifies haul routes, traffic control measures, and scheduling practices intended to minimize impacts on nearby neighborhoods, schools, Tribal resources, community facilities, and emergency response routes.
- Recommend avoiding periods when such activities would create substantial disruptions to community access, school operations, emergency services, Tribal events, or other important community functions.

Recommended Measures for Operation

- Review proposed fire detection, suppression, and other safety systems for consistency with applicable codes and approved emergency response plans, including provisions for ongoing inspections and maintenance..
- Encourage ongoing monitoring, inspection, and maintenance of cooling, ventilation, battery management, and other facility systems to minimize operational noise and reduce potential impacts on nearby communities.
- Provide local emergency response agencies with current facility information, site plans, emergency contact information, battery chemistry information, emergency response procedures, and other information necessary to support emergency preparedness and response.
- Encourage ongoing communication and engagement with nearby communities, Tribes, and local governments throughout the operational life of the facility.

Mitigation Measures for Potential Significant Impacts

- Refer measures applicable to all facilities.

12.3.4. Fusion Small Modular Reactors (Fusion SMRs)

Construction

Construction of fusion SMR facilities could involve extensive excavation, major equipment deliveries, large workforces, new or upgraded utility infrastructure, and a longer disturbance period than less complex energy facilities. The magnitude and duration of these activities could vary considerably depending on facility design and scale. Modular components may be manufactured off-site and transported to the facility by truck or rail, while larger facilities may require supporting infrastructure such as operations buildings, electrical interconnection equipment, water systems, fire protection, security, and maintenance areas. Potential effects could include sustained noise, vibration, dust, exhaust, lighting, visual change, traffic congestion, temporary access restrictions, and increased demand for housing, emergency services, and public infrastructure.

Construction could also increase demands for temporary employment. While some elements of construction may draw on local workforce, the specialized nature of fusion facilities may require more specialized workers or training that are not available locally. This could mean additional workers from outside the county, potentially increasing traffic and demand for housing, services, and public infrastructure. These effects could disproportionately affect overburdened communities if construction traffic were routed through residential or Tribal areas, if temporary housing demand increased displacement pressure, or if public resources were diverted from existing community needs.

Operations

Fusion SMR operations could introduce industrial land uses, security infrastructure, lighting, water related infrastructure, electrical transmission facilities, operational traffic, and emergency-planning requirements. Such impacts are anticipated to scale with project size and technology used.

Operational employment would likely consist of longer-term positions requiring specialized skills or training. Given the emerging nature of fusion technology, local workforce capacity to meet these needs is uncertain. Facilities may need to draw specialized workers from outside the county, which could alter local market conditions, or provide training opportunities to develop the necessary skills within the local workforce.

Fusion SMR facilities could increase energy reliability and resiliency for overburdened communities, especially in remote communities. However, the extent to which such facilities provide energy to overburdened communities depends on the facility's intended end user. Energy may be directed to large, energy-intensive users, and cost or infrastructure barriers could limit opportunities for local utilities and communities to access the energy produced or use it to support local resiliency.

Additionally, the operations of a nuclear fusion facility could change rural or community character and could affect perceptions of community health and safety. Proximity to traditional nuclear fission facilities has been associated with increased public health disparities, such as increased rates of cancer mortality[143], and can be of significant concern for exposure and contamination risks when nuclear facilities are sited in or near overburdened communities. While nuclear fusion involves lower safety and environmental risks than traditional nuclear fission facilities, including different waste production, project-level communication would need to be distinguished clearly among normal operations, credible emergency scenarios, regulatory requirements, and community concerns without dismissing the lived experience or concerns of affected populations.

Decommissioning

Decommissioning of fusion SMR facilities could extend over a substantial period and involve demolition, equipment removal, waste management, heavy traffic, noise, dust, and long-term site controls. Most decommissioning impacts would likely be similar in nature to those occurring during construction.

Employment losses and reduced local revenue due to could also affect communities that could may become economically dependent on a facility. Decommissioning plans would need to address physical restoration, material and waste management, worker transition, site reuse, institutional controls, and continued communication with state agencies, affected communities, and Tribes.

Mitigation Measures

Recommended Measures for Siting and Design

- Encourage applicants to provide accessible technical information and opportunities for meaningful participation during project review, including mechanisms that help affected communities understand

[143] Nature Communications, "National Analysis of Cancer Mortality and Proximity to Nuclear Power Plants in the United States," published February 23, 2026, https://www.nature.com/articles/s41467-026-69285-4

fusion SMR facility operations, environmental review findings, emergency preparedness requirements, and potential project impacts.

- Consider the development and implementation of a community engagement plan that provides accessible, culturally appropriate, and multilingual information regarding facility operations, environmental and public health considerations, emergency procedures, and complaint resolution processes.
- Encourage multilingual emergency communication and notification procedures in coordination with affected communities, Tribes, local governments, and emergency response agencies.
- As part of project-level environmental review, consider evaluation of potential impacts to overburdened communities, including cumulative impacts, health risks, transportation, housing, and public services, to inform siting and design.
- Encourage early Tribal consultation and community engagement, before site selection and continue engagement through design, construction, operation, and decommissioning.
- Consider potential temporary workforce housing needs and measures to minimize displacement or increased pressure on community services as part of project-level review.

Required Measures

- Refer measures applicable to all facilities.
- Obtain and maintain applicable federal and state licenses and approvals for radioactive materials and radiation-producing equipment.
- Compliance with the containment, handling, inspection, transportation, and waste disposal measures as required under state and federal nuclear regulations.

Recommended Measures for Construction and Decommissioning

- Require enforceable decommissioning, financial assurance, waste management, site restoration, and long-term stewardship requirements sufficient to ensure that decommissioning obligations do not result in disproportionate environmental, economic, or public service burdens on future communities. Require decommissioning plans to identify procedures for the safe removal, transport, storage, recycling, or disposal of facility materials and equipment.
- Request transportation management plans for oversized equipment, reactor components, construction materials, and facility waste that identify designated transportation routes and measures to minimize disruptions to nearby communities, schools, Tribal resources, and other sensitive receptors.

Recommended Measures for Operation

- Encourage facilities provide periodic public reporting regarding facility technology and operations, environmental monitoring results, and safety performance necessary to support transparency and public awareness.
- Encourage maintenance of emergency notification systems and communication procedures that provide timely, accessible, and culturally appropriate information to potentially affected communities regarding incidents, emergencies, or other events that may affect public health or safety.
- Consider monitoring operational demands on transportation systems, public infrastructure, emergency services, and community facilities and implement mitigation measures when project-related impacts exceed levels identified during environmental review.

- Consider periodically re-evaluation of whether facility operations are contributing to disproportionate adverse impacts on overburdened communities, vulnerable populations, and Tribal communities and implement corrective actions where such impacts are identified.

Mitigation Measures for Potential Significant Impacts

- Refer measures applicable to all facilities.

12.3.5. Renewable Fuel Facilities

Construction

Construction of a renewable fuel facility could involve grading, foundations, process buildings, tanks, loading areas, pipelines, utility connections, access roads, and rail or truck infrastructure. The extent of construction would vary depending on whether development involves a new operation or modifications to an existing use to accommodate renewable fuel. Potential community effects could include noise, vibration, dust, construction emissions, lighting, visual change, and increased truck traffic. Because renewable fuel facilities may be located in industrial, port, agricultural, or transportation-oriented areas, construction could add to existing burdens for communities located in close proximity to and already affected by freight traffic, industrial noise, air emissions, or contaminated sites.

Construction-related demand for temporary workers could provide employment and local spending. Where development involves modification or conversion of existing operations, effects may be limited. Conversely, a substantial temporary workforce could increase demand for housing and services. In an area already experiencing housing affordability or availability constraints, increased demand could contribute to displacement pressure unless addressed through project-specific workforce and housing planning. The Skagit County existing conditions framework identifies housing affordability and availability as ongoing concerns and recognizes that energy development could affect land use, temporary workforce demand, and displacement risk.

Operation

Renewable fuel facilities could generate recurring truck or rail traffic associated with feedstock delivery, product shipment, waste removal, and employee travel. Operations could also produce noise, odors, lighting, criteria pollutant emissions, greenhouse gas emissions, and risks associated with the storage and handling of fuels, feedstocks, chemicals, or process materials. Where an existing facility transitions to renewable fuel production, some operational activities may continue, while changes in fuel sources, feedstocks, or production processes could alter associated transportation, emissions, or other community impacts. The magnitude and distribution of these effects would depend on the selected technology, feedstock, production process, transportation mode, facility scale, and site.

Where a facility would be located near an overburdened community, recurring freight traffic and operational emissions could worsen existing exposure to transportation-related air pollution, industrial activity, noise, or traffic safety hazards. For existing facilities transitioning to renewable fuels, changes in operations could reduce some current impacts on communities while introducing or increasing others. Odors or visible emissions could also interfere with residents' use and enjoyment of homes and outdoor spaces even where applicable regulatory

standards were met. Access disruptions or increased heavy-truck traffic could be particularly consequential for communities with limited transportation alternatives.

Operational employment, tax revenue, demand for local goods and services, and infrastructure investments could benefit nearby communities. Where existing facilities transition to renewable fuels, employment effects may involve retaining or transitioning existing workers rather than creating demand for a specialized workforce, although new technologies or processes could create different educational and training needs. These benefits would be most equitable where local workers can access employment, training, contracting opportunities, and other project benefits without bearing a disproportionate share of environmental or health burdens.

Decommissioning

Decommissioning could result in demolition noise, dust, equipment exhaust, traffic, waste generation, and possible disturbance of contaminated materials. Closure could also result in the loss of employment and local revenue. If a facility were abandoned or inadequately remediated, residual contamination or blight could worsen existing environmental health disparities or constrain future community development.

Mitigation Measures

Recommended Measures for Siting and Design

- As part of project-level environmental review, consider existing environmental burdens, industrial activities, transportation corridors, brownfield sites, and other sources of cumulative impacts affecting nearby communities when evaluating proposed facility locations.
- Consider alternative sites, facility layouts, or infrastructure locations when project development may contribute to disproportionate impacts on overburdened communities.
- Encourage facility siting and design that minimizes community exposure to operational emissions, odors, freight traffic, and accident risks, particularly in areas where project development would materially worsen an existing environmental health disparity.
- Consider appropriate separation of fuel storage tanks, process equipment, and other potentially hazardous operations from sensitive receptors, based on site conditions, facility design, and applicable safety requirements.
- Encourage the preparation of multilingual and accessible notification and response procedures for spills, fires, releases, odors, and other incidents.

Required Measures

- Refer measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Consider appropriate closure, demolition, waste management, remediation, and financial assurance provisions to reduce the potential that future decommissioning obligations disproportionate environmental, economic, or public service burdens on affected communities.
- Minimize heavy truck traffic through residential areas and sensitive community receptors.
- Provide methods for receiving, documenting, and responding to community concerns throughout construction and decommissioning activities.

Recommended Measures for Operation

- Encourage the implementation of process controls, enclosed handling systems, leak detection, vapor and odor controls, and appropriate setbacks to minimize off-site exposure.
- Maintain spill prevention, leak detection, containment, and fire suppression systems in operational condition.
- Monitor and maintain equipment to minimize odor generation, fugitive emissions, excessive noise, and operational safety risks affecting nearby overburdened communities.
- Monitor operational noise, odor, and other conditions and implement corrective measures where community impacts exceed levels identified during environmental review or permit approvals.
- Maintain accessible complaint response procedures and document investigation and resolution of community concerns regarding odors, traffic, emissions, noise, public safety, or other operational impacts.

Mitigation Measures for Potential Significant Impacts

- Refer measures applicable to all facilities.

12.4. No Action Alternative Analysis

Under the No Action Alternative, Skagit County would retain its existing development regulations and the selected energy facilities would continue to be reviewed and permitted under current, local, and federal regulatory frameworks as described in the in the **Energy Permitting** section. Depending on the type and characteristics, proposed facilities could be reviewed either through Skagit County's existing minor and major utility development processes or through the Washington State Energy Facility Evaluation Council (EFSEC) process where certification is required or voluntarily elected by the applicant.

12.4.1. Impacts from Construction, Operation, and Decommissioning Under Current Processes

For overburdened communities, the primary impacts of concern under the No Action Alternative would be subjecting vulnerable populations to disproportionate exposure to construction and operational noise, dust, emissions, traffic, visual change, health and safety risks, displacement risks, access disruptions, and demands on housing, public services, and infrastructure. Other concerns would include worsening existing environmental health disparities, effects on Tribal rights, interests, traditional use areas, and community relationships. The type, magnitude, duration, and distribution of impacts would vary based on facility type and technology, location, proximity to vulnerable populations and community resource, as well as existing cumulative burdens. For further analysis of the selected energy facilities, refer to the impacts analyzed under the **Alternatives Analysis** section.

12.4.2. Mitigation Measures

Projects reviewed through the County permitting process would continue to be subject to applicable federal and state processes, and SEPA environmental review, including applicable comprehensive plan and zoning provisions addressing displacement, rural character, and community health.

Projects subject to EFSEC certification would undergo environmental review through the EFSEC process, including a review of similar subjects and public processes, e.g. environmental justice, cumulative impacts, Tribal interest,

etc., to the County review process. However, EFSEC could impose project-specific avoidance, minimization, mitigation, monitoring, engagement, emergency planning, and decommissioning requirements through a Site Certification Agreement. EFSEC may preempt local land use plans, zoning ordinances, and development regulations as part of the certification process when approved by the Governor. Consequently, some future energy facilities could be approved even where County-specific development standards would otherwise apply. Additional mitigation and minimization measures applicable to the No Action Alternative are provided in the mitigation measures applicable to all energy facilities and facility-specific mitigation sections.

12.4.3. Significant Unavoidable Adverse Impacts

Because measures addressing environmental justice and community impacts would continue to be implemented through existing local regulations, state and federal requirements, environmental review, and project-specific conditions imposed by permitting agencies, impacts under the No Action Alternative would generally be similar to those identified for the representative facility types analyzed in this PEIS and could be reduced through compliance with applicable requirements. However, significant unavoidable adverse impacts could occur where a facility permanently displaced residents or community-serving resources, converted lands important to community livelihoods, materially worsened an existing environmental health disparity, or substantially limit access to essential services or evacuation routes. Whether those impacts could be reduced below significance would depend on the affected population, project location and design, emergency response and transportation conditions, and the effectiveness of mitigation and benefit distribution measures.

The No Action Alternative would also lack the additional consistency, predictability, and energy facility specific environmental justice standards that could be established through updated County code and energy permitting regulations. Where siting and permitting are primarily guided by broader state requirements, project-specific conditions may not reflect locally identified concerns, priorities, or community needs to the same extent as County-developed standards. This could limit opportunities to address specific overburdened community considerations through siting, design, mitigation, and community benefit measures.

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13. Tribal Rights, Interests, and Resources

13.1. Overview

Skagit County is located on the traditional lands and accustomed areas of four distinct federally recognized sovereign tribal nations of Coast Salish Peoples who have inhabited and stewarded this region since time immemorial - the Swinomish Indian Tribal Community, Samish Indian Nation, Upper Skagit Indian Tribe, and Sauk-Suiattle Indian Tribe.

During the scoping comment period, Skagit County received comments from the Swinomish Indian Tribal Community regarding the energy uses under study. These comments were reviewed and considered in developing the CESP scope. A summary of comments is provided in **Appendix B**. While the comments provide input from the Swinomish Indian Tribal Community, they represent the views of the Swinomish Indian Tribal Community and are not to be interpreted as reflecting the perspectives of all Tribes with interests in the planning area.

As part of engagement efforts, a member of the Skagit County Board of County Commissioners met individually with each tribal nation's governing body to hand deliver a request for formal government-to-government consultation regarding the CESP planning effort. As of the writing of the Draft EIS, the County is awaiting responses and recognizes and appreciates that government-to-government consultation may occur on a separate timeline with respect to each tribal nations' sovereignty and consultation protocols.

The following Tribal Rights, Interests, and Resources section supports the government-to-government consultation outreach by providing additional discussion and feedback opportunities to understand how potential energy facilities under the selected alternatives may affect Tribal rights and interests in Skagit County.

Tribal rights, interests, and resources are governed by Indigenous laws and are respected and upheld through federal and state laws, including treaties, executive orders, and precedents established through case law. A descriptive list of federal and state regulations can be found in **Appendix A**.

Tribal resources include, but are not limited to cultural lands, archaeological and sacred sites, fisheries, and other rights and interests in Tribal lands or areas where Tribes hold rights reserved or protected by federal treaty, statute, or executive order. These resources may also include plants, wildlife, or fish used for commercial, subsistence, or ceremonial purposes. As part of this section, Tribal rights, interests, and resources include, but are not limited to:

- Treaty rights, access to usual and accustomed areas, and protections reserved or established by federal treaty, statute, or executive order.
- Resources associated with Tribal lands, cultural landscapes, archaeological and sacred sites, fisheries, and other places where Tribes hold protected rights or interests.
- Associated resources such as plants, wildlife, and fish used for commercial, subsistence, or ceremonial purposes.

Although Tribal rights, interests, and resources may overlap between Tribes, it is understood that the specifics of each are distinct and should not be treated as interchangeable or grouped rights and interests.

13.2. Existing Conditions

Natural, cultural, and built resources within the study area relate to Tribal rights, interests, and traditional cultural practices. Resources of interest to Tribes may include plants, animals, water resources, natural settings, landforms, cultural landscapes, and other places important to Tribal history, traditions, and cultural identity. Resources may be used for food, medicine, recreation, subsistence, commercial activities, spiritual practices, ceremonies, or other traditional purposes.

The range of resources considered for the affected environment under Tribal rights, resources, and interests includes overlap with existing conditions and findings located in other sections of the CESP EIS such as biological resources, cultural and historic resources, environmental justice, water resources, recreation resources, environmental health and safety, noise and vibration, visual quality, transportation, air quality, and cumulative impacts. For further discussion on these sections and related findings, please visit the sections linked below:

- **Earth Resources**
- **Water Resources**
- **Biological Resources**
- **Historic and Cultural Resources**
- **Impacts on Overburdened Communities**

13.2.1. Natural Environment

Plants, animals, habitats, waterways, and natural settings may be tied to Tribal rights, interests, and resources. They can include landforms that have an important role in oral histories or the traditional use of a given landscape. Culturally significant plants may be used for medicine, food, clothing, basketry, structures, and/or ceremonial purposes. Plants and animals within the study area may provide subsistence, commercial, ceremonial, and medicinal resources.

Waterways can play an important role in Tribal histories, oral traditions, cultural practices, and treaty-reserved activities. As such, waterways, shorelines, fish and wildlife habitat, and other natural features may support commercial, subsistence, ceremonial, and recreational uses.

13.2.2. Access and Use

Tribal rights can include access to traditional hunting, fishing, gathering, and recreation areas, as well as access to locations where cultural, ceremonial, or other traditional practices occur. Elements of the built environment, including transportation systems, noise conditions, visual quality, and policies may influence access to culturally significant places and the ability to exercise Tribal rights and traditional practices. Public access to, or disclosure of, the location of culturally sensitive places may increase the risk of disturbance and diminish the integrity of those resources.

13.2.3. Archeological Sensitivity

The Washington State Department of Archaeology and Historic Preservation (DAHP) maintains a predictive model that classifies areas according to their relative likelihood of containing archaeological resources. The model is

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intended to assist in identifying areas where archaeological resources may be present; however, only a small portion of the state has been surveyed for cultural resources.

It should not be assumed that areas within Skagit County without recorded archaeological sites have been extensively surveyed or are free of cultural resources. Existing surveys may not identify all cultural resources that may be present in a particular location. Future projects may require site-specific cultural resource investigations to identify and evaluate archaeological resources that may occur within a project area.

Ethnographic studies, archaeological studies, and environmental studies have the potential to help communicate and identify the potential for impacts as part of the review process. The methodologies for surveying and evaluation of resources for significance should be done with input and meaningful consultation of Tribal communities to reduce the risk of potential significant adverse impacts.

For more information on archeological resources, potential impacts, and mitigation measures, see the **Historic and Cultural Resources** section.

13.3. Impact Analysis

Unlike other affected environment sections, the Tribal Rights, Interests, and Resources section does not evaluate the impacts of the selected alternatives directly. The natural, built, and social environments are analyzed in other sections to determine whether energy facilities have the potential for significant impacts from a non-Tribal perspective and whether those impacts may be mitigated below a significant threshold. For impacts to Tribal rights, interests, and resources, any determinations of significance or non-significance would be done as part of engagement and in consultation with each potentially affected Tribe individually at the project level. This would be done through the SEPA process or the federal National Historic Preservation Act Section 106 process.

The impacts evaluation below discusses potentially affected environments from associated activities at a high-level. These subject matters are identified to aid the County, the community, potential applicants, and local Tribes in future project-level communications after the CESP EIS.

13.3.1. Impacts From Construction and Decommissioning

Impacts from construction and decommissioning would vary depending on the type, location, and design of an energy facility and the resources present within future project areas.

Activities such as clearing, grading, excavation, infrastructure installation, and site restoration could affect Tribal resources through ground disturbance, restricted access, and changes to the visual character of the landscape. These activities could adversely affect archaeological sites, sacred sites, cultural properties, burial sites, and culturally significant landscapes. Construction-related noise, human activity, and land disturbance could also disrupt Tribal spiritual practices and other cultural uses associated with these areas. In some locations, the introduction of energy facilities or associated infrastructure could create land use compatibility conflicts where facility operations or site characteristics are not compatible with the cultural, spiritual, or traditional uses of an area.

Construction and decommissioning could affect Tribal access to traditional gathering, hunting, fishing, and food harvesting areas. Temporary access restrictions may occur during construction, while permanent changes to land

use or habitat conditions could reduce the availability of areas used for cultural practices and the collection of medicinal plants, traditional foods, and other culturally important resources.

Impacts on habitats and species could result from vegetation removal, habitat fragmentation, soil compaction, changes in water chemistry, introduction of invasive species, and wildlife mortality associated with construction activities, vehicle traffic, and decommissioning efforts. These changes could alter migration patterns, reduce biodiversity, and affect plants and wildlife that are culturally important to Tribes, including species recognized as traditional first foods. In comments received, it was stated that new development should not result in new impacts to Endangered Species Act-listed species and their habitats across the Skagit River watershed.

Additional effects could result from noise, dust generation, erosion, air quality degradation, and visual changes associated with land disturbance and construction activities. New infrastructure corridors and access routes could increase human presence in previously undisturbed areas, resulting in additional disturbance to cultural and natural resources. Disturbed ground and newly constructed facilities could create visual contrasts that persist until vegetation is reestablished. Following decommissioning, restoration of vegetation and visual conditions to pre-facility conditions could require an extended period of time depending on site conditions and the extent of disturbance.

13.3.2. Impacts from Operation

During operation, impacts to Tribal resources may be less extensive than during construction because activities would typically be limited to facility operation, maintenance, vegetation management, and use of established access roads and facility areas. However, ongoing maintenance activities, vehicle and equipment use, and vegetation management could result in erosion, soil compaction, trampling, or exposure of Tribal resources. In some cases, maintenance-related ground disturbance could reveal previously unidentified cultural resources, including archaeological sites. Soil compaction also has the potential to impact buried archaeological resources including belongings (archeological objects) and ancestors (human remains).

Long-term operation could also affect habitats, species, and ecological communities through continued vegetation management, habitat alteration, barriers to wildlife movement, and other operational activities. These effects could degrade fisheries, alter migration patterns, reduce biodiversity, and affect plants and wildlife that are culturally important to Tribes, including traditional first foods and resources relied upon for cultural and subsistence practices.

Operational impacts may also result from ongoing noise, vehicle emissions, waste, spillage or contamination, dust generation, visual changes, lighting, and other facility features. Facility security measures, fencing, and restricted-access areas could limit access to locations used for hunting, fishing, gathering, and cultural or spiritual practices. These ongoing effects could reduce the use and availability of Tribal resources throughout the operational life of a facility.

13.3.3. Variation in Impacts by Facility Type

While many potential impacts on Tribal rights, interests, and resources are shared across energy facility types and project phases, the nature and extent of impacts may vary depending on facility type.

The following themes are not intended to represent a comprehensive list of potential impacts; rather, they provide an initial framework for understanding and discussing impacts related to future energy development projects for continued discussions with Tribal governments.

Solar Facilities: Potential impacts may be associated with the siting of facilities and associated infrastructure within culturally sensitive areas. Rooftop facilities are anticipated to have minimal impacts that would fall below a significant threshold.

BESS: Future BESS projects may have increased risk for potential impacts outside of urban growth areas[144] and should engage with affected Tribes to identify and evaluate potential impacts based on project-specific characteristics, location, and Tribal concerns.

Renewable Fuels: Impacts related to renewable fuel facilities would vary based on feedstock type, facility size, water demands, location, and whether the project involves the conversion of an existing fossil fuel facility or construction of a new renewable fuel facility. New facility construction would have the greatest potential to affect Tribal rights, resources, and interests due to land disturbance and infrastructure development, whereas the conversion of an existing facility would generally be expected to result in fewer impacts.

Fusion Small Modular Reactors (SMRs): Potential impacts from fusion SMRs would vary depending on facility size, design, cooling requirements, water source, and waste management practices. Facilities with substantial water demands could affect water withdrawals, instream flows, water quality, and temperature conditions, with potential effects on federally protected species and fish bearing streams important to Tribal treaty rights. Impacts could also vary based on the generation and management of radioactive materials and wastes during operation and decommissioning, as well as the facility's proximity to Tribal communities, cultural resources, and areas used for treaty-protected activities. Because fusion technologies remain under development, uncertainty exists regarding the magnitude and nature of these potential impacts.

13.3.4. Mitigation Measures

Mitigation measures would be developed during future permitting and project-level reviews for new energy facilities. Early discussions and consultation with potentially affected federally recognized Tribes provide a starting point in understanding what mitigation measures may be warranted for individual sites and potentially significant impacts. Mitigation for specific energy projects may be developed with affected Tribes as part of the project-level SEPA process.

Required Measures

There are no specific permit requirements that pertain to Tribal rights, interests, and resources. Future projects would still be required to identify potential impacts to other resources during the project-level SEPA process, which provides an opportunity for identification of potential significant impacts to Tribal rights, interests, and resources.

Required mitigation measures for other resources such as cultural and historic resources, biological resources, water resources, and land use, have the potential to relate to mitigation for Tribal rights, interests, and resources,

[144] Swinomish Indian Tribal Community, "Energy Siting and Permitting EIS Scoping Comment," submitted June 2026, received electronically via email during scoping comment period.

but should not be assumed and project-specific mitigation actions would be determined through engagement and consultation with Tribes.

Recommendations for Siting and Design

- Site and design projects to avoid potential impacts to Tribal rights, interests, and resources, taking into consideration the extent as to what rights, interests, and resources may include.
  - Do not site projects within or adjacent to fish and wildlife habitat conservation areas.[145]
- Requests for sensitive site identification should be treated as a case-specific matter during project review processes and not be seen as a general overarching identification.
- Contact potentially affected Tribes early in the siting process, ideally before land is acquired for a project or before permit applications are developed.
- Offer information relevant to Tribal technical staff to help identify potential impacts to Tribes.

Recommended Measures for Construction, Operation, and Decommissioning

Maintain Tribal access to culturally important sites and resources throughout all phases of project development. Consider the timing of construction, operation, maintenance, and decommissioning activities to avoid or minimize disruptions to Tribal access, traditional resource use, and cultural practices.

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[145] Swinomish Indian Tribal Community, "Energy Siting and Permitting EIS Scoping Comment," submitted June 2026, received electronically via email during scoping comment period.

14. Land Use

14.1. Overview

The Land Use section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures, associated with land uses within Skagit County.

Land use refers to how land is developed or preserved for human uses or natural purposes. Skagit County groups multiple land use types into four overarching categories:

- Urban Growth Areas (UGAs)
- Rural Areas
- Natural Resource Lands (NRLs)
- Open Space

These land use categories are distinguished from each other through land use designations with a corresponding zoning district. Each zoning district contains the specific development standards for land use activities in that zone.

Per Skagit County's Countywide Planning Policy 1.2, 80 percent of the county's 20-year population projection should be accommodated in cities, towns, and their associated urban growth areas, as well as non-municipal urban growth areas.[146] The remaining 20 percent is limited to unincorporated rural areas to prevent urban sprawl and protect natural resources.

The land use conditions analyzed in this section include:

- Population
- Land Ownership
- Land Use Designations
- Zoning Districts
- Sensitive Land Uses
- Agricultural Uses
- Industrial Lands
- Airports
- Refineries
- Military Use Areas

Impacts of the alternatives would be considered significant if they result in:

[146] Skagit County, "Skagit County Comprehensive Plan 2025-2045," n.d., https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf

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- Conversion of land from an existing low-intensity use (rural, agricultural, or other resource uses) to a new energy use, including the following:
    - Conversion of designated prime farmland or farmland of statewide importance to non-agricultural land uses and effects on the viability of resource uses in rural areas including agriculture, rangeland, and forestry uses
- Potential for land use conflicts with rural character or use of open space
- Potential for co-location of other land uses with energy facilities
- Potential conflicts with aviation or military operations
- Effects on existing or future land uses resulting from off-site changes in road networks, views, and increased noise, traffic, or water use
- Inconsistency with local, state, or federal land use plans, policies, or regulations

14.2. Existing Conditions

The study area for this section encompasses all of Skagit County, Washington, including its incorporated cities, unincorporated areas, and natural resource lands. The affected environment provides identification and alternatives analysis of the existing conditions at the time the CESP EIS was prepared.

14.2.1. Population

Skagit County has an estimated population of approximately 132,975 people as of 2025.[147] This represents an increase of 2.7 percent since 2020. According to the 2025 Skagit County Comprehensive Plan population forecast, the county is projected to accommodate 160,830 residents by 2045. The county's population is heavily concentrated around the I-5 corridor, particularly the cities of Mount Vernon, Anacortes, Sedro-Woolley, and Burlington.

- **Mount Vernon**: Mount Vernon has the highest population of any city in Skagit County, with an approximate 2026 estimate of 35,174 residents. The city serves as the county seat and a commercial center.
- **Anacortes**: Located at the northern tip of Fidalgo Island, Anacortes is a major industrial, refinery, and ferry hub and is the second largest city in Skagit County, with a population of 18,179 residents per 2026 estimates.
- **Sedro-Woolley**: The third largest city by population, with 13,480 residents per 2026 estimates. Sedro-Woolley serves as the primary gateway to the North Cascades, and its economy is driven by advanced manufacturing, construction, and clean technology.
- **Burlington**: Located just west of Sedro-Woolley along the SR-20 corridor, Burlington is Skagit County's retail and commercial hub and has an approximate population of 11,256.[148]

[147] U.S. Census Bureau, "QuickFacts: Skagit County, Washington," n.d., https://www.census.gov/quickfacts/fact/table/skagitcountywashington,WA#
[148] U.S. Census Bureau, "QuickFacts: Burlington City, Washington," n.d., https://www.census.gov/quickfacts/fact/table/burlingtoncitywashington/PST045225

The population density of Skagit County is 77 people per square mile. In comparison to neighboring counties, Snohomish County to the south has a density of 417 people per square mile, Whatcom County to the north has a density of 410 people per square mile, and Okanogan County to the east has a density of 9 people per square mile.[149]

14.2.2. Land Ownership

There are approximately one million acres of land in Skagit County. The land ownership within Skagit County is mixed, with public, private, federal, state, and Tribal land ownership represented.

There are four federally recognized Tribal governments in the Skagit County area including the Swinomish Indian Tribal Community, the Samish Indian Nation, the Upper Skagit Indian Tribe, and the Sauk-Suiattle Indian Tribe. Each Tribe has a unique history and relationship with the land, reservations, allotment, and current land ownership. Tribal owned lands are not included within the geographic scope of study, but proximity to Tribal Lands and potential impacts from energy uses are kept in mind within the Overburdened Communities, Cultural Resources, and Tribal Rights, Interests, and Resources sections of the CESP EIS.

Table 20 and **Figure 49** below show the distribution of land ownership within Skagit County. Larger areas of federal land ownership are in the eastern portion of the county in the Cascade Mountains and include lands owned by the U.S. Forest Service, the National Park Service, and the Natural Resource Conservation Service.

Table 20: Skagit County Land Ownership

Ownership	Agency	Acreage
Federal		500,740
State	State Parks	3,690
	WDFW	6,700
	WA DNR Uplands	133,310
	WA DNR Aquatics	93,870
Subtotal		**237,570**
Local	City and County	3,880

Source: WA RCO Public Lands Inventory, 2019

[149] Ibid.

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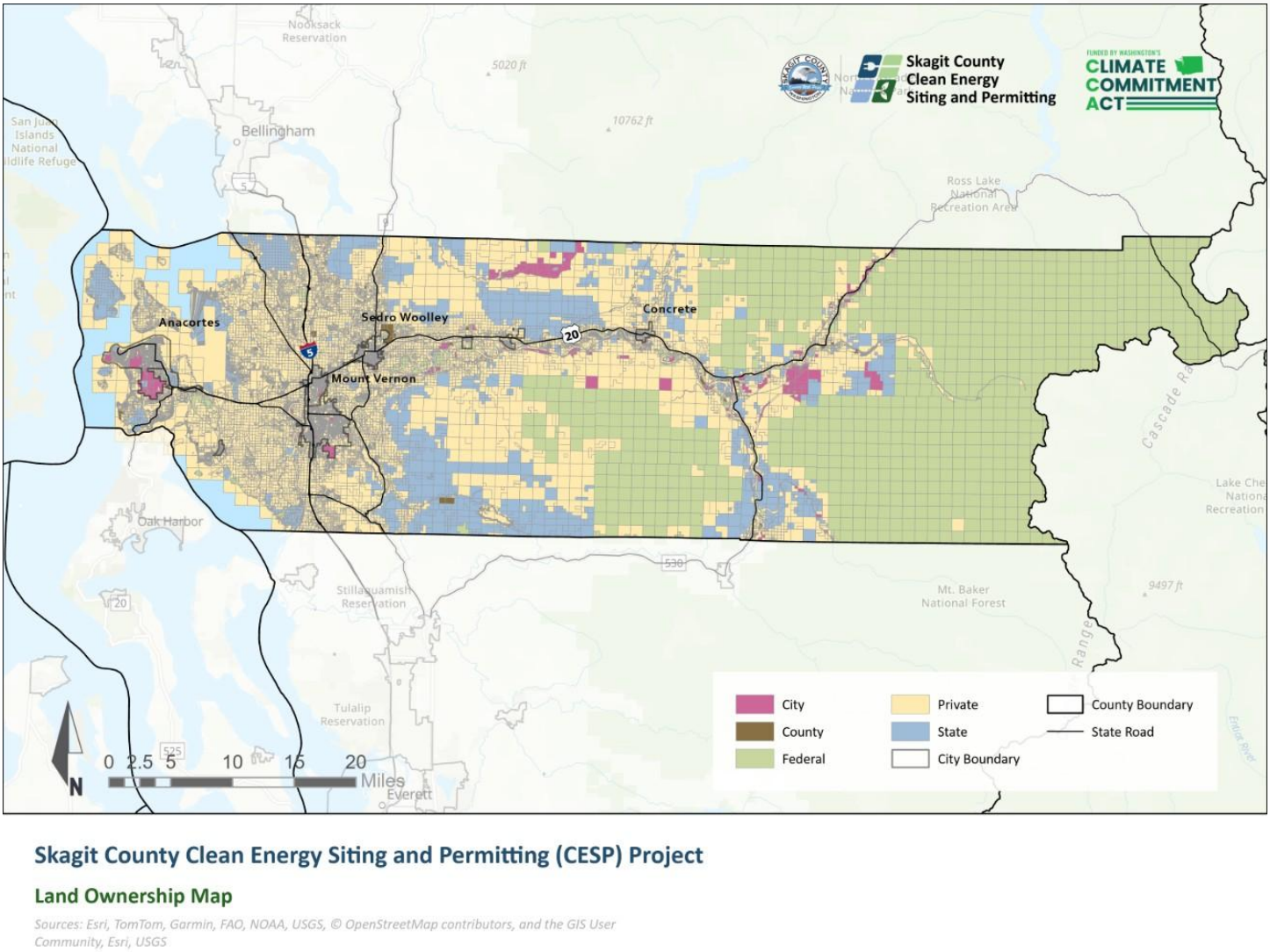
Figure 49. Map of Skagit County Land Ownership



Source: Kimley-Horn, 2026 using Skagit County, Skagit County iMap "Tax Parcels", n.d., https://classic.skagitcountywa.gov/Maps/iMap/?mapid=2b61bc759ac34c8596b266e75f7857e7

14.2.3. Land Use Designations

Skagit County encompasses varied land uses, which present unique considerations and potential for impacts associated with new development. There are five general land use categories in Skagit County: Public Open Space of Regional/Statewide Importance (OSRSI), Natural Resource Lands (NRLs), Rural Lands, Commercial/Industrial Lands, and Urban Growth Areas (UGAs). These land use categories encompass multiple land use designations. Each land use designation has a corresponding zoning district specifying development standards for land use activities in the implementing zone.

Table 21: Land Use Designations

Land Use Designation	Acreage
Public Open Space of Regional/Statewide Importance (OSRSI)	
National Forest	282,812
National Park and Recreation Areas	130,848
Wilderness	83,530
State Parks and Recreation Areas	5,425
Other	16,727
Subtotal	**519,342**
Natural Resource Lands (NRL)	
Secondary Forest – Natural Resource Lands (SF-NRL)	37,300
Industrial Forest – Natural Resource Lands (IF-NRL)	321,410
Rural Resource – Natural Resource Lands (RRc-NRL)	26,522
Agricultural – Natural Resource Lands (Ag-NRL)	88,506
Subtotal	**473,738**
Mineral Resource Overlay (MRO)	[61,492]
Rural Lands	
Rural Village Residential (RVR)	2,717
Rural Intermediate (RI)	8,043
Rural Reserve (RRv)	70,126
Subtotal	**80,886**
Commercial/Industrial Lands	
Rural Business (RB)	184
Rural Freeway Service (RFS)	46
Rural Village Commercial (RVC)	25
Natural Resource Industrial (NRI)	183
Small-Scale Recreation and Tourism (SRT)	90
Rural Center (RC)	19
Rural Marine Industrial (RMI)	53
Small-Scale Business (SSB)	31
Master Planned Resort (MPR)	113
Subtotal	**744**

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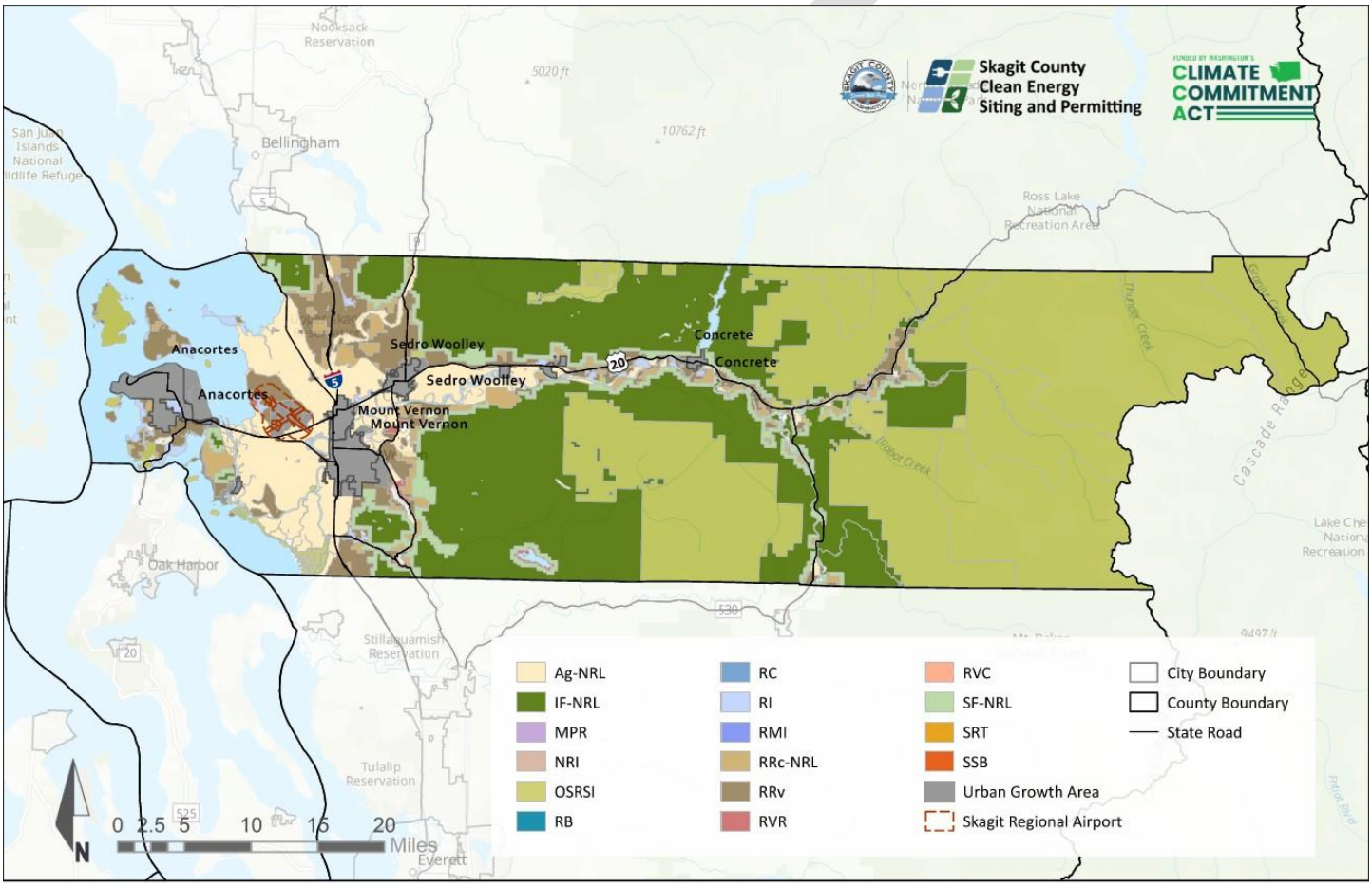
Land Use Designation	Acreage
Urban Growth Areas (UGA)	
Incorporated UGA Areas (not including incorporated water areas)	25,558
Unincorporated UGA Areas	12,447
Subtotal	**38,005**
Total	**1,112,715**

Source: Skagit County Comprehensive Plan, 2025

Figure 50: Skagit County Land Use Map



Source: Kimley-Horn, 2026 using Skagit County, Skagit County iMap "Comprehensive Plan Map", n.d., https://classic.skagitcountywa.gov/Maps/iMap/?mapid=a6cf480ed7fa449bac7dc6086ecfdf49

Open Space

Skagit County contains several types of open space, including public open space, Public Open Space of Regional/Statewide Importance (OSRSI), and private open space. Open space areas may include greenbelt corridors within and between urban growth areas; greenbelts connecting critical areas; lands receiving open space tax incentives; resource lands; conservation easements; rural open space; parks; and lands with significant historic, archaeological, scenic, or cultural value.

The Skagit Countywide UGA Open Space Concept Plan identifies and prioritizes open space corridors and greenbelts within and between urban growth areas. These lands may support recreation, wildlife habitat, trails, connections among critical areas, and working farms and forests.

Public Open Space of Regional/Statewide Importance (OSRSI)

OSRSI areas are designated due to their recreational, environmental, scenic, cultural, and other open space benefits extending beyond the local area to be regional or statewide in significance. These areas within Skagit County are shown in the map below.

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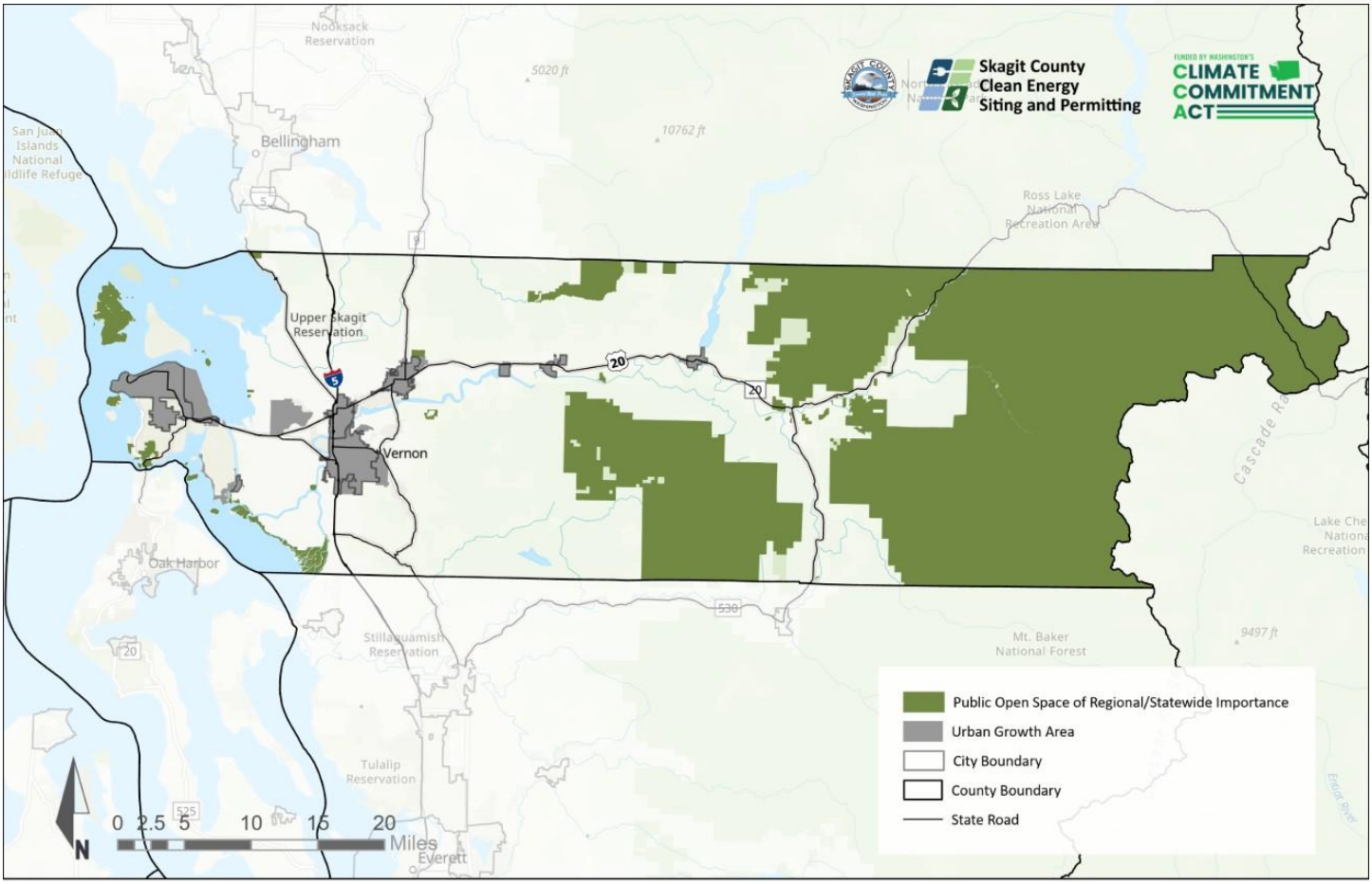
Figure 51: Skagit County Public Open Space of Regional/Statewide Importance Map



Source: Kimley-Horn, 2026

Natural Resource Lands

Natural Resource Lands (NRLs) encompass agricultural, forestry, rural, and mineral resource lands. NRLs were developed to protect and preserve long-term resource extraction and production industries and prevent incompatible development. Where development is allowed on NRLs, Skagit County has developed regulations that aim to minimize both the amount of land converted to non-resource uses and the associated impacts to long-term natural resource management. Long-term commercial uses, in addition to support services and businesses that are compatible with these uses, are supported by Skagit County's Comprehensive Plan and development regulations.

- **Agricultural - Natural Resource Lands (Ag-NRL)**: These lands, concentrated in the floodplain of the Skagit River by its entrance to the Puget Sound, have long-term commercial significance for farming. The Ag-NRL

zone promotes preservation of the agricultural land base and reduction of land use conflicts. Skagit County has designated approximately 89,000 acres as agricultural land.

- **Forest Resource Lands (IF-NRL, SF-NRL)**: Concentrated in the eastern and northeastern portions of Skagit County, forest resource lands include much of the North Cascades foothills and upper watershed areas. These lands are designated primarily as Industrial Forest – Natural Resource Lands (IF-NRL) and Secondary Forest – Natural Resource Lands (SF-NRL), which are intended to support long-term commercial forestry and timber production while limiting incompatible development. Secondary Forest NRLs have a 20-acre minimum lot size, and Industrial Forest NRLs have an 80-acre minimum lot size. There are approximately 321,410 acres of designated IF-NRL land and 37,300 acres of SF-NRL land within Skagit County.[150]
- **Rural Resource – Natural Resource Lands (RRc-NRL)**: Rural Resource – Natural Resource Lands are typically areas with the combined land use characteristics of long-term agricultural, forest, or mineral lands, and have the potential for multiple use or smaller scale resource management. Rural Resource – Natural Resource Lands allow for a range of uses that are complementary to NRL preservation. Skagit County has designated approximately 26,522 acres of land as RRc-NRL.[151]
- **Mineral Resource Overlay (MRO)**: Mineral resource lands are present throughout Skagit County in areas containing commercially significant aggregate resources such as sand, gravel, and crushed stone deposits. These areas are included within the county's NRL framework and are protected to support long-term resource extraction. A primary concern facing mineral resource lands is the conflict with neighboring uses, particularly residential. Approximately 61,492 acres of land have been designated as MRO within Skagit County.[152]

Rural Lands

Approximately 80,000 acres in Skagit County are classified as rural lands, which encompass a range of low-density residential and resource areas. Rural lands are designated as Rural Village Residential (RVR), consisting of 2,717 acres; Rural Intermediate (RI), consisting of 8,043 acres; and Rural Reserve (RRv) consisting of 70,126 acres.[153]

- **Rural Village Residential (RVR)**: Intended for historic rural communities and villages that were already developed at relatively higher densities and are designated as Limited Areas of More Intensive Rural Development (LAMIRDs). The designation is intended to preserve the character of these established communities while accommodating limited future growth through infill development within existing village boundaries. RVR allows the highest residential densities in the rural area, typically around one dwelling per acre.
- **Rural Intermediate (RI)**: Applies to established rural residential areas where existing development patterns are already dense, generally averaging one parcel per 2.5 acres or greater. RI is a LAMIRD

[150] Skagit County, "Skagit County Comprehensive Plan 2025-2045," 2025, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf
[151] Ibid.
[152] Ibid.
[153] Ibid.

designation and is intended to balance the preservation of existing development patterns to limit rural sprawl and focus growth in urban areas, providing for moderate-density rural development.

- **Rural Reserve (RRv)**: Includes most rural lands that are outside UGAs, resource lands, and designated RVR or RI areas. The designation is intended to preserve the county's open space character and natural resource lands and includes areas that were not previously developed at higher densities. RRv allows for low-density development, generally one dwelling per ten acres.

Commercial/Industrial Lands

Industrial land uses in Skagit County are concentrated around significant transportation and commercial hubs, particularly near Anacortes, Skagit Regional Airport, and other established industrial areas like the Bayview Ridge area. Two major refineries, HF Sinclair Refinery and Marathon Anacortes Refinery, are located near Anacortes. The HF Sinclair and Marathon Anacortes refineries support associated industrial uses like fuel storage, marine terminals, pipelines, and freight transportation utilities. These existing refineries in Skagit County are zoned as Anacortes Urban-Development (A-UD) district and are recognized as Heavy Manufacturing (HM) within the Anacortes Comprehensive Plan and future land use map. Within HM zoning regulations, buffers and setbacks providing adequate shielding from noise, light, and other pollution and nuisance types are required to protect adjacent land uses.

Advanced manufacturing is another of the county's leading industries, including aerospace manufacturing, truck engineering and testing, advanced composite materials, and solar panel manufacturing. Skagit County also maintains a substantial agricultural and forest products sector. These uses support the county's natural resource, agricultural, and transportation economies and are designated through a combination of commercial and industrial land use classifications, including Natural Resource Industrial (NRI) areas that accommodate processing and support services associated with agricultural, forestry, and aquatic resource industries.

Urban Growth Areas

Urban Growth Areas (UGAs) are areas within which new growth is encouraged and include both the incorporated cities and towns and the unincorporated land surrounding these areas that the county has determined to be necessary and appropriate for urban growth. The UGA designation recognizes historic urban development patterns and accounts for present and future urban land needs. UGAs provide for an efficient transition from low-intensity land use to urban land use over time, considering population and growth projections and the protection of critical areas and NRLs.

There are two non-municipal unincorporated UGAs in Skagit County, the Bayview Ridge UGA and the Swinomish UGA. Subarea plans and development regulations for the Bayview Ridge UGA were adopted and subsequently updated in 2013 and 2014, expanding the area within the UGA available for industrial development and removing lands previously intended for new residential development. The Bayview Ridge subarea includes industrial and business uses, airport and aviation uses, pastureland, and residential uses.

The Swinomish UGA is located within a portion of the Swinomish Indian Reservation. Planning and land use management of this region is directed by Federal and case law. Within the exterior boundary of the Swinomish Indian Reservation, the interests of the Tribe extend to all lands regardless of ownership, while the county's regulatory authority extends only to non-trust and non-tribal fee-simple lands. As such, the county's regulatory

authority is put into practice by adopting the Residential District (R) land use designation for the non-trust and non-tribal fee simple lands within the Swinomish UGA, with the exception of the Hope Island Inn, which is designated Commercial (C).[154]

14.2.4. Zoning Districts

The land use designations are implemented through zoning and applicable development standards. The full list of zoning designations in the County and their related intent can be found in **Table 22**.

Table 22: Skagit County Zoning Designations

Zone Acronym	Zoning Designation Name	Zoning Intent
Ag-NRL	Agricultural-Natural Resource Lands	Preserves productive farmland, protects agricultural activities as the primary land use, and limits incompatible nonagricultural development
IF-NRL	Industrial Forest-Natural Resource Lands	Conserves commercially significant forest lands and supports long-term timber production and forest industry viability
MPR	Master Planned Resort	Allows for self-contained planned unit developments in settings of significant natural amenities providing short-term visitor accommodations
MRO	Mineral Resource Overlay	Protects identified mineral deposits and ensures continued access to economically significant mineral resources
NRI	Natural Resource Industrial	Permits industrial activities that support or process natural resource products such as agriculture, forestry, and related industries
OSRSI	Public Open Space of Regional/Statewide Importance	Provides for lands in public ownership that are dedicated or reserved for public purposes or enjoyment for recreation, scenic amenities, or the protection of environmentally sensitive areas
RB	Rural Business	Provides locations for rural-serving commercial, service, and employment uses that do not require urban infrastructure
RC	Rural Center	Supports small clusters of retail and service businesses serving rural populations at established rural crossroads
RFS	Rural Freeway Service	Accommodates traveler-oriented commercial services near freeway interchanges
RI	Rural Intermediate	Provides low-density rural residential development while maintaining the county's rural character

[154] Skagit County, "Skagit County Comprehensive Plan 2025-2045," n.d., https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf

Zone Acronym	Zoning Designation Name	Zoning Intent
RMI	Rural Marine Industrial	Accommodates water-dependent and marine-related industrial uses associated with shoreline and maritime activities
RRc-NRL	Rural Resource-Natural Resource Land	Protects rural resource land uses for agriculture, forestry, and other resource-based activities while allowing limited rural uses
RRv	Rural Reserve	Preserves large-lot rural residential character and limits urban-style development in rural areas
RVR	Rural Village Residential	Supports residential development within designated Rural Villages at densities higher than surrounding rural lands
RVC	Rural Village Commercial	Serves as the commercial and community activity center within Rural Villages
SF-NRL	Secondary Forest-Natural Resource Lands	Provides a transitional forest area between industrial forest lands and rural residential areas while maintaining forestry uses
SRT	Small-Scale Recreation & Tourism	Supports recreation and tourism activities that rely on Skagit County's natural, scenic, and rural character
SSB	Small-Scale Business	Allows small-scale commercial or industrial activities involving the provision of services or production of goods

Source: Skagit County Comprehensive Plan, 2025

14.2.5. Subarea Plans

Subarea or community plans apply community vision statements, goals, objectives, and policies in the Skagit County Comprehensive Plan to detailed and specific conditions in each community. Proposed subarea plans must be consistent with the policies detailed in the Comprehensive Plan. There are four subarea plans adopted in Skagit County. These include the:

- Alger Community Plan
- Bayview Ridge Subarea Plan
- Guemes Island Subarea Plan
- Hamilton Subarea Plan

The **Alger Community Plan** was adopted by Ordinance 20080015 on December 23, 2008, and aims to maintain the rural character of the area, maintain and enhance open space areas, minimize the impact of large-scale special uses, and increase opportunities for small-scale businesses in the Alger Rural Village.

The **Bayview Ridge Subarea Plan**, most recently amended by O20140005 on November 17, 2014, expanded the area within the UGA available of industrial development, rezoned or removed land previously intended for new urban residential development, and adopted measures to ensure compatibility with continued development of the Skagit Regional Airport.

Skagit County Clean Energy Siting and Permitting

The **Guemes Island Subarea Plan**, adopted by O20110001 on January 18, 2011, aims to protect the sole-source aquifer, shoreline environs, open space and natural resource lands, and transportation through recommendations proposed for implementation through code.

The primary aim of the **Hamilton Subarea Plan**, adopted by O20080010 on August 12, 2018, was to relocate the town outside of the Skagit River floodway. Skagit County approved the subarea plan along with an expansion of the town's UGA to relocate the old town commercial center and residential areas outside of the floodway, add acreage for construction of a manufacturing facility, and designate additional acreage to the UGA as "Hamilton Urban Reserve."

14.2.6. Agricultural Uses

An estimated 88,506 acres in Skagit County are agricultural farmland, most of which is located in the Skagit River Valley floodplain. The county has implemented extensive farmland preservation measures, including Agricultural-Natural Resource Lands zoning, 40-acre minimum lot sizes, agricultural conservation easements, and the Farmland Legacy Program, to protect these lands from conversion to non-agricultural uses and protect the county's agricultural productivity and character.

Primary crops and agricultural products in Skagit County include:

- Apples
- Berries
- Floriculture and sod
- Potatoes
- Peas
- Vegetable seeds
- Dairy
- Ornamental nursery stock

Primary livestock in Skagit County includes:

- Poultry
- Cattle and calves
- Hogs and pigs
- Sheep
- Goats

According to the 2022 USDA Census of Agriculture, Skagit County contained 882 farms with an average farm size of 113 acres. Agricultural producers generated approximately $366.9 million in market value of agricultural products sold in 2022, including approximately $268.5 million in crop production and $98.4 million in livestock, poultry, and dairy products. Skagit County's annual Tulip Festival brings in over $60 million in economic activity, contributing to

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the over $300 million in gross farm income annually.[155] The percent change in market value of agricultural products sold in the county increased by 28% between 2017 and 2022.[156]

Agricultural production is highly concentrated in row crops, specialty vegetable seed production, and dairy operations. Approximately 19,874 acres of vegetables, 16,311 acres of forage crops, 13,223 acres of potatoes, 8,373 acres of corn silage, and 4,521 acres of barley production were reported in the 2022 Census of Agriculture.

14.2.7. Airports

The Skagit Regional Airport serves as the primary airport for the county and is owned and operated by the Port of Skagit. It is located outside city limits in unincorporated Skagit County, adjacent to the Bayview Business and Industrial Park west of Burlington. The airport is used for general aviation and provides a charter service for passengers travelling to the San Juan Islands.

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[155] Skagit County, "Skagit County Comprehensive Plan 2025-2045," n.d., https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf
[156] Washington State University Skagit County Extension, "Skagit County Agriculture Statistics 2024," published September 12, 2025, https://extension.wsu.edu/skagit/skagit-county-agriculture-statistics-2024/

Figure 52: Regional Airports Map



Source: Skagit County iMap, Comprehensive Plan Map "Airport Environs Overlay (AEO)", n.d., https://classic.skagitcountywa.gov/Maps/iMap/?mapid=a6cf480ed7fa449bac7dc6086ecfdf49

The Airport Environs Overlay (AEO), SCC 14.14.100, centers the Skagit Regional Airport to protect the long-term viability of the airport and promote compatible land uses within the AEO. Development within the AEO must be reviewed for building height and land use per Skagit County Code. The land use management and planning around this facility is handled by city zoning designations and plans.

Development around airports can reduce property available for operations and safety areas, create obstructions to the airspace needed for aircraft to safely approach and depart the runway, reduce clear airspace needed to support advanced technologies, and create barriers for existing and future airport activities. RCW 36.70.547 and

WAC 365-196-455 requires that jurisdictions containing a general aviation airport must discourage the siting of incompatible uses adjacent to the airport.

14.2.8. Military Use Areas

There are two military department facilities located in Skagit County, one in Anacortes and one in Sedro-Woolley. The county also contains military training routes in the southern portion of the county, ranging from 200-foot to 1000-foot elevations. Additional military uses include nearby Naval Air Station Whidbey Island (NASWI) in Island County. Per the GMA, the areas around military installations must be protected from development that could compromise the ability of military personnel to fulfill their mission requirements.

14.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative evaluates the potential significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuels facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

14.3.1. Impacts Applicable to All Energy Facilities

Construction

Construction activities for future facilities may generate temporary dust, noise, lighting, and visual disturbances that impact nearby sensitive land uses such as residential, agricultural, open space, and recreational land uses as well as disrupt wildlife habitats and pose safety concerns if located near schools. People working, learning, recreating, or living near the construction area are more likely to notice and be impacted by such activities. Potential disturbance impacts would depend on the activities, site conditions, and adjacent land uses. Impacts may be less impactful in uninhabited areas and greater in more populated areas, along the county's primary transportation corridors, or near view areas that are considered important to local communities.

Sensitive land uses may experience more intense impacts from construction if they are in rural areas, where such disturbances may be less common or travel over longer distances. Construction traffic, workforce activity, and equipment staging may temporarily disrupt existing land use patterns. Temporary structures, such as cranes and other equipment, could create compatibility concerns near airports and military training routes.

Depending on project location and scale, construction may also require temporary or permanent conversion of existing land uses. This could rise to a potentially significant adverse impact if natural resource lands of long-term commercial significance are converted.

Operation

The energy facility types analyzed may create potential conflicts with rural character if the infrastructure, buildings, or equipment associated with these facilities alter the visual character of the area, including blocking scenic views, disrupting wildlife habitat, or are visible to nearby residential uses. These impacts will require project level evaluation for consistency with comprehensive plans, future land use designations, shoreline and natural resource land protections, and applicable state or federal land management requirements. There may also be potential land

use compatibility challenges if future projects are sited near existing airports, military installations, or within low level military training airspace due to potential lighting, glare, structure height, or communication interference. Potential impacts and compatibility considerations depend on facility location, surrounding land uses, and consistency with federal, state, and local planning and regulatory frameworks.

Decommissioning

Decommissioning of all the selected energy facilities discussed that are adjacent to land use that is not zoned or suitable for industrial facilities could result in impacts to the existing character of the built environment, particularly in Skagit County's rural areas. Decommissioning of these facilities has the potential to create impacts such as increased dust, noise, and changes to the visual landscape of the area that could affect adjacent land uses, particularly agricultural, residential, and other sensitive land uses.

Mitigation Measures

Regulatory Framework

Numerous existing Federal, State, and local legislation regulating land use will require mitigation for future energy projects.A more comprehensive list of federal, state, and local level regulations that govern land uses are as follows:

Federal Regulations

- National Environmental Protection Act (NEPA)
- Federal Land Policy and Management Act (43 USC 35)
- Clean Water Act
- U.S. Forest Service Northwest Forest Plan
- Coastal Zone Management Act
- National Historic Preservation Act (NHPA)
- National Flood Insurance Act (33 USC 15, USC 50)
- Tribal case law and treaty obligations

State Regulations

- Growth Management Act (GMA)
- Shoreline Management Act (SMA)
- Forest Practices Act

Local Regulations

- Skagit County Countywide Planning Policies (CPPs)
- Skagit County Comprehensive Plan and Policies
- Skagit County Shoreline Master Program (SMP)
- Local Subarea Plans
- Skagit County Unified Development Code (Title 14)
- Skagit County Critical Areas Ordinance (Chapter 14.24)

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Required Mitigation Measures

Federal

- Section 4(f) review (U.S. Department of Transportation)
- DoD Clearance for Radar Interference
- Right-of-way or lease, when located on federal lands or involving federal agencies
- Obtain applicable federal permits and comply with permit conditions

State

- Utility Accommodation Permits and Franchises (Washington State Department of Transportation)
- Compliance with the Growth Management Act (GMA)
- Washington State Environmental Policy Act (SEPA) review
- Forest practices permit, if applicable (DNR)

Local

- Compliance with the Skagit County Comprehensive Plan
- Compliance with the Skagit County Unified Development Code
- Compliance with the Shoreline Master Program, when projects are located within shoreline jurisdiction
- Skagit County Critical Areas Review, if applicable
- Floodplain Development Review, if applicable
- Land Evaluation and Site Assessment
- Development permits (e.g. road access, grading, building, mechanical, lights, signage)
- Forest Practices permit, if applicable
- Utility Accommodation Permits and Franchises

Recommended Measures for Siting and Design

- Require applicants to evaluate the following when siting a project:
  - Existing land uses and potentially sensitive users
  - Land ownership and existing leases
  - Local comprehensive plans and zoning designations
  - Designated flood zones, shorelines, natural resource lands, conservation lands, priority habitats, and other critical areas and lands prioritized for resource protection
  - State-designated harbors
  - Air quality nonattainment areas
- Require applicants to design project sites and layouts to avoid or minimize disturbance and avoid potential impacts to resources, including:
  - Minimizing the need for extensive grading and excavation and reducing soil disturbance, potential erosion, compaction, and waterlogging by considering soil characteristics
  - Minimizing facility footprint and land disturbances, including limited clearing and alterations to natural topography and landforms and maintaining existing vegetation

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  - Minimizing the number of structures required and co-locate to share pads, fences, access roads, lighting, etc.

- Recommend applicants to utilize the Compatible Energy Siting Assessment (CESA) Tool to preliminarily determine if a site is within military training airspace and submit plans to DoD for review if so.
  - After reviewing CESA, if warranted, suggest applicants coordinate with DoD to determine potential impacts to military training routes, military bases, or training areas to identify any potential impacts.
- Encourage applicants to consult resources such as the Airport and Compatible Land Use Program Guidebook, developed by WSDOT Aviation, to aid in proactively preventing incompatible development.
- Consult with the Department of Defense when adopting or amending plans and regulations affecting lands near military facilities to help ensure that future development remains compatible with military uses
- Require coordination with FAA to determine potential impacts to aviation and if mitigation may be required to protect military or civil aviation use. Plans must be submitted to FAA for proposed construction of facilities over 200 feet or that are located in proximity to airports for review and evaluation.
- Avoid conversion of designated agricultural resource lands, forest resource lands, and other long-term commercial resource lands.
- Where feasible, encourage applicants to concentrate development on disturbed lands or near existing utility corridors, substations, pipelines, transportation corridors to limit fragmentation of rural lands.
- Cluster development where possible to reduce the total disturbed footprint.
- Encourage applicants to utilize Skagit County, Washington state, and federal agricultural land maps to avoid siting facilities in areas identified as having agricultural land values.
- Coordinate with federal, state, and local agencies; Tribes; property owners; and other interested parties as soon as possible to identify potential land use conflicts.
- Encourage use of DNR's Clean Energy Parcel Screening Tool if siting on DNR-managed lands to determine lands that may be good candidates for development. Contact DNR to discuss requirements for siting clean energy projects on state lands.
- Include appropriate signage, fencing, and livestock protections such as cattle guards.
- Conduct surveys early in the process and at the appropriate time of year to gather data that will inform siting and design, including geotechnical, habitat, vegetation, cultural resource, and wetland delineation studies.

Recommended Measures for Construction and Decommissioning

- Consider a Site Restoration Plan for interim reclamation following temporary construction and operations disturbance, and a Decommissioning Plan for site reclamation at the end of a project, to address:
  - Documentation of pre-construction conditions and as-built construction drawings
  - Measures to salvage topsoil and revegetate disturbed areas with native pollinator-supporting plants
  - Management of hazardous and solid waste
  - Timelines for restoration and decommissioning actions
  - Monitoring of restoration actions

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    - Adaptive management measures

- Adhere to best management practices for impacts such as dust, noise, lighting control during construction and decommissioning.
- Maintain access to existing residences, agricultural operations, businesses, parks, and other infrastructure throughout construction and decommissioning activities.
- Encourage coordination of construction and decommissioning schedules with adjacent property owners, agricultural operators, utility providers, and local jurisdictions to minimize temporary disruptions to ongoing land uses.
- Use screening of temporary construction facilities, stockpiles, staging areas, and equipment storage areas from adjacent residences, public roads, parks, trails, and other sensitive land uses where feasible.
- Recommend removal of temporary roads, work areas, and support facilities that are no longer necessary following construction or decommissioning and restore the land to compatible uses.
- Disturbed areas should be regraded to blend with surrounding topography and avoid creating landforms that are inconsistent with the surrounding landscape or intended future uses.
- Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration.

Recommended Measures for Operation

- Maintain screening and buffers during operation to protect adjacent land uses from disturbances related to operation.
- Limit lighting to the minimum necessary for operational safety and security and utilize shielding, directional fixtures, and other design measures to minimize light spill onto adjacent properties.

14.3.2. Solar Facilities

Construction

For solar facilities, construction and decommissioning of solar facilities has the potential to result in impacts such as increased dust, noise, traffic, and visual changes. Such impacts could affect adjacent land uses and are more likely to be noticed if living, residing, or working near the project site. Sensitive land uses such as hospitals, schools, and care facilities may be impacted by increased noise or temporary construction traffic, such impacts could cause delays or auditory irritation. Dust from construction could settle on crops, reducing agricultural productivity and/or noise levels could irritate livestock and nearby wildlife.

Visual changes from solar facilities may cause glare from panels depending on the technology utilized. Although glare from modern solar facilities is generally limited and subject to project-specific review, siting near aviation facilities or military operations may require additional evaluation to ensure compatibility with existing aviation and defense activities.

Operation

Operational impacts of solar facilities on land use would vary depending on facility size, configuration, and location. Smaller-scale and distributed generation facilities are often incorporated into existing developed areas, rooftops, parking facilities, or other dual-use applications and would generally be compatible with surrounding

land uses. In contrast, larger ground-mounted facilities may occupy more land and have greater potential to affect existing land use patterns, particularly where they are located near residential areas, airports, military operations, transportation corridors, or other sensitive land uses. Compatibility concerns would depend on site-specific factors, including facility footprint, visual characteristics, fencing, lighting, and the extent to which the facility may interfere with existing activities or future planned land uses. Where appropriately sited and designed, solar facilities would be unlikely to result in substantial land use conflicts.

Decommissioning

Removal of solar infrastructure may result in temporary disturbances to surrounding land uses from increased noise, dust, construction traffic, and human activity. However, decommissioning would also remove facility-related land use constraints and may allow affected properties to return to usual production, development, or other uses consistent with surrounding land use.

Mitigation Measures

Recommended Measures for Siting and Design

- Encourage use of non-reflective PV panels and materials, landscape screening, and low-profile equipment where feasible to reduce visual impacts on rural communities and scenic corridors.
- Where feasible, require applicants to site solar facilities on lands with compatible conditions such as already developed sites, rooftops, parking lot structures, or areas where co-benefits could occur.
- For solar facilities intended for dual use, require project elements (roads, PV panel height, panel spacing, tracking system) to be designed to accommodate appropriate heights, existing equipment needs, and user access.
- Avoid the conversion of designated agricultural resource lands, forest resource lands, and other long-term commercial natural resource lands where feasible. If siting on DNR-managed lands, require applicants to utilize the DNR Clean Energy Parcel Screening Tool to see lands that may be good candidates for project development. Applicants must demonstrate coordination with DNR to review the process and requirements for siting clean energy projects on state lands.

Required Measures

- Refer measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Evaluate potential glare, lighting, height, and other compatibility concerns near airports, military training routes, and military airspace through FAA coordination and the CESA Tool.
- Encourage coordination of construction schedules to avoid interference with seasonal activities or busy periods of times when more conflicts may occur.
- Promote best management practices for dust control during construction and decommissioning, including the prevention of dust accumulation on adjacent properties, particularly sensitive uses such as agricultural or residential areas.

Recommended Measures for Operation

- Maintain screening and buffer features during operations to preserve compatibility with and reduce impacts to adjacent land uses.

Mitigation Measures for Significant Unavoidable Impacts

- Refer measures applicable to all facilities.

14.3.3. Battery Energy Storage Systems (BESS)

Construction

Construction of BESS facilities may result in temporary land use disruptions associated with site grading, installation of battery containers, electrical equipment, security infrastructure, and access improvements. Because larger BESS facilities are typically located near existing substations, transmission infrastructure, or other utility facilities, it would be anticipated that construction would occur in areas already characterized by utility or industrial uses. Depending on facility size and location, adjacent properties may be acquired or converted to accommodate facility infrastructure and associated operational requirements, subject to applicable zoning, comprehensive plans, and future land use designations.

Operation

Battery energy storage systems can be deployed at a variety of scales, including residential, commercial, EV charging, and utility-scale applications. Smaller-scale installations are generally compatible with existing developed land uses and would be less likely to result in land use conflicts. While the physical footprint of utility-scale BESS facilities is relatively small, their industrial appearance may create perceived compatibility concerns when located near residential areas, designated rural areas, scenic resources, or other sensitive land uses. These concerns may be more pronounced in areas where utility-scale infrastructure contrasts with the existing character or intended future land use pattern.

Thermal runaway events, while uncommon, can result in fires that are difficult to extinguish and may require emergency response actions, temporary road closures, evacuations, or other protective measures. As a result, project-level siting, design, and emergency response planning are important considerations for maintaining compatibility with surrounding land uses, particularly in areas near residences, public facilities, or other sensitive receptors.

Decommissioning

Removal of battery containers, foundations, electrical equipment, and associated infrastructure may result in a temporary increase in dust, noise, and changes to the visual landscape for adjacent land uses due to decommissioning activities.

Mitigation Measures

Recommended Measures For Siting And Design

- Consider whether areas are adequately served by fire emergency response in case of emergency.
- Review screening and setback requirements to limit potential perception of land use incompatibility.

- Avoid siting BESS facilities within FEMA-mapped floodways or frequently flooded areas. Where development in flood-prone areas cannot be avoided, elevate equipment where feasible and incorporate stormwater and drainage controls to maintain existing flood storage and conveyance functions.
- Require utility-scale BESS facilities be located in areas designated for industrial, utility, or similar intensive uses whenever feasible. Encourage co-location with existing substations, transmission infrastructure, or utility corridors to reduce the introduction of new industrial land uses into undeveloped areas.
- Consider additional setbacks between BESS facilities and residential uses, schools, parks, healthcare facilities, and other sensitive receptors sufficient to maintain land use compatibility, reduce visual and noise impacts, and accommodate emergency access and response activities.
- Incorporate landscape buffers, vegetative screening, berms, fencing, and other visual mitigation measures along facility perimeters adjacent to residential, recreational, or scenic areas to reduce the visual prominence of battery containers and other facility infrastructure.
- Locate noise-generating equipment away practicable from residences and other noise-sensitive land uses. Incorporate acoustic attenuation measures, sound barriers, enclosure design, and strategic equipment placement to maintain compatibility with surrounding land uses.
- Incorporate acoustic attenuation measures, sound barriers, enclosure design, and strategic equipment placement and locate potential noise-generating equipment away from residences and other noise-sensitive land uses, to maintain compatibility with surrounding land uses.

Required Measures

- Refer measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Request applicants demonstrate coordination efforts with county fire districts and fire departments to ensure that adequate response will be provided in case of fire upon installation.
- Minimization of temporary disturbance by limiting construction staging, laydown yards, stockpile areas, and equipment parking to previously disturbed portions of the site where feasible.
- Coordination of construction and decommissioning schedules to reduce disruptions to adjacent land uses, agricultural activities, community events, recreational uses, and emergency access routes.
- Encourage temporary construction facilities and material storage areas be located away from residential areas and visually sensitive locations where feasible.

Recommended Measures for Operation

- Maintain setbacks, vegetative screening, and landscape buffers throughout the operational life of the facility to provide long-term separation from residential areas, parks, schools, trails, and other sensitive land uses.
- To ensure continued visual buffering and compatibility with surrounding land uses, maintain and periodically replace of landscape screening vegetation.
- Battery containers and other facility equipment should be located and maintained in a manner that minimizes operational noise and visual impacts on adjacent properties.

- Emergency access routes should be maintained while minimizing conflicts with adjacent agricultural, recreational, residential, and commercial land uses.

14.3.4. Fusion Small Modular Reactors (Fusion SMRs)

Construction

Fusion SMR facilities may require relatively large sites to accommodate reactor facilities, cooling systems, transmission interconnections, security setbacks, access roads, and ancillary support infrastructure. As a result, construction of fusion SMR facilities may require the conversion of existing land uses and could affect future growth patterns within the surrounding area. Siting and compatibility concerns may be greater where facilities are located near airports, military operations, residential areas, or other sensitive land uses due to facility scale, lighting requirements, security considerations, and potential effects on existing or planned land use activities.

Operation

Fusion SMR facilities would represent a long-term industrial or utility use characterized by reactor facilities, cooling systems, security infrastructure, support buildings, and associated electrical infrastructure. The scale and operational requirements of these facilities may result in land use compatibility concerns when located adjacent to residential areas, designated rural areas, airports, military operations, or other sensitive land uses.

Depending on final technology design, fusion SMR facilities utilize regulated radioactive materials, which may include tritium, and as such could require specialized handling, storage, monitoring, and waste management procedures. While radioactive waste volumes are expected to be lower than those associated with conventional nuclear fission technologies, the presence of regulated radioactive materials may influence facility siting, operational requirements, emergency planning, and compatibility with nearby land uses.

Decommissioning

Decommissioning would involve the removal of reactor facilities, support buildings, electrical infrastructure, and associated site improvements. Due to the potential presence of regulated radioactive materials, decommissioning may require site characterization, remediation, monitoring, and regulatory clearance before the property can be redeveloped for other uses. Following successful decommissioning and restoration, sites may become available for future development consistent with applicable land use plans and regulations.

Mitigation Measures

Recommended Measures for Siting and Design

- Discourage siting facilities near residential areas, schools, parks, and other sensitive land uses. If avoidance is not possible, require the implementation of setbacks and buffers to reduce potential impacts on sensitive land uses.
- Assess potential compatibility concerns (particularly regarding facility height and lighting) near airports, communication structures, military training routes, and military airspace through FAA and FCC coordination and early use of the CESA Tool.
- Consider siting fusion SMR facilities within existing industrial areas, major utility corridors, brownfields, or other locations already characterized by industrial development where feasible to minimize conflicts with surrounding land uses.

- Encourage facilities be sited adjacent to existing high-voltage transmission infrastructure, substations, transportation facilities, and utility services where feasible to reduce the need for new utility corridors and associated land conversion.
- Suggest layout concentrates reaction facilities, cooling systems, and other infrastructure within a compact footprint to minimize permanent land disturbance.

Required Measures

- Obtain Radioactive Materials License from the Washington State Department of Health (DOH).
- Obtain Radioactive Air Emissions License from the Washington State Department of Health (DOH).
- Require disposal of potential radioactive facility components/materials following applicable state and federal protocol in approved radioactive waste management facilities (RCW 70A.384.005, Nuclear Waste Policy Act) for decommissioning.

Recommended Measures for Construction and Decommissioning

- Screening of temporary construction facilities, equipment storage areas, and stockpiles from residences, public roadways, parks, and other sensitive receptors where feasible.
- Minimize temporary occupation and disturbance of agricultural, forestry, open space, and recreational lands during construction and decommissioning activities.

Recommended Measures for Operation

- Setbacks, landscaping, screening vegetation, and security buffers be maintained throughout the life of the facility to maintain compatibility with surrounding land uses.
- Visual screening be maintained around major facility components, including reactor buildings and other infrastructure.
- Encourage the management of operational traffic, deliveries, and maintenance activities to minimize conflicts with nearby residential, agricultural, recreational, and commercial land uses.
- To reduce potential land use concerns associated with facility operation, support coordination of emergency response planning and public communication efforts with local jurisdictions and emergency service providers.

14.3.5. Renewable Fuels Facilities

Construction

Renewable fuel facilities may require processing buildings, storage areas, utility connections, transportation infrastructure, and supporting facilities that result in the conversion of existing land uses. Because renewable fuel facilities often rely on the transportation and storage of feedstocks, facilities may be located near agricultural areas, industrial centers, transportation corridors, ports, rail facilities, or other infrastructure necessary to support facility operations. Construction of these facilities may introduce temporary land use compatibility concerns where industrial-scale development occurs adjacent to residential, agricultural, or other sensitive land uses.

Operation

Renewable fuel facilities are generally long-term industrial uses that include processing equipment, feedstock storage areas, utility infrastructure, transportation improvements, and supporting facilities. Operation of these

facilities may result in the long-term conversion of land to industrial or utility uses and may influence future development patterns in surrounding areas. Feedstock delivery, storage, handling, and processing activities may create land use compatibility concerns where facilities are located near residential neighborhoods, designated rural areas, or other sensitive land uses. Because renewable fuel facilities often depend on access to transportation networks and feedstock sources, operation may also encourage the development of associated infrastructure or supporting industrial activities in proximity to the facility.

Decommissioning

Decommissioning would involve the removal of processing equipment, storage facilities, utility infrastructure, and associated site improvements. Following facility removal, sites may become available for redevelopment or other uses consistent with applicable land use plans and regulations. The extent to which a site can support future uses would depend on the effectiveness of site restoration, remediation requirements, and future development objectives.

Mitigation Measures

Recommended Measures For Siting And Design

- Encourage facilities be located within existing industrial or designated industrial, rail-served, or heavy commercial areas where feasible.
- Consider appropriate setback distances from residences, schools, parks, and other sensitive receptors
- Encourage renewable fuels facilities to be located near existing feedstock sources, fuel distribution infrastructure, rail corridors, pipeline infrastructure, or industrial utility providers to reduce the need for new transportation corridors or land use conversion.
- Consider consolidating process equipment, feedstock storage areas, and other infrastructure within a compact industrial footprint to minimize permanent land conversion.
- Consider facility truck unloading areas, rail spurs, and fuel transfer facilities to be located away from residential neighborhoods and community gathering places to minimize land use conflicts related to industrial traffic.
- Suggest landscape buffers or architectural treatments around processing equipment, fuel storage tanks, and loading facilities where visible from adjacent properties or public roadways.
- Request that applicants proposing agricultural or forestry feedstocks assess whether projected feedstock demand assists ongoing operations or could induce land conversion, increase cultivation, displacement of existing agricultural or forestry production, or other significant indirect land use effects.

Required Measures

- Refer measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Encourage coordination of construction activities with nearby agricultural operations, industrial uses, rail operators, and freight-dependent businesses to minimize disruptions to existing economic activities.
- Consider methods to maintain access to adjacent farms, commercial areas, and industrial facilities throughout construction and decommissioning activities.

- Evaluate opportunities to retain utility infrastructure, rail access, or industrial transportation improvements that could support future compatible industrial redevelopment.

Recommended Measures for Operation

- Consider creation of designated truck routes and freight access plans that minimize heavy vehicle traffic through residential neighborhoods, school zones, recreational areas, and community gathering places.
- Encourage coordination of feedstock deliveries and fuel shipments to reduce conflicts with peak commuter, school, agricultural, and recreational traffic periods where feasible.
- Request maintenance of landscape screening and visual buffers around fuel storage tanks, loading facilities, feedstock storage areas, and process equipment throughout facility operation.
- Suggest implementation of facility management practices that minimize odor-related land use conflicts associated with feedstock handling, storage, processing, and waste management activities.
- Consider coordination with local agricultural producers, freight operators, rail providers, and utility providers regarding operational changes that could impact surrounding land uses.
- If recurrent land use conflicts are identified, monitor operational traffic patterns and adjust delivery schedules, routing, or staging procedures.

14.4. No Action Alternative Analysis

Under the No Action Alternative, agencies would continue to conduct environmental review and permitting for the energy facility types discussed in the CESP EIS under existing Skagit County development regulations and permitting processes as described in the **Energy Permitting** section. Skagit County code allows energy uses under the definition of major and minor utility developments. While major regional utility developments are prohibited in all zones in the county, major and minor utility developments are allowed in all zones, with limitations for these development types in natural resource zones and the Hamilton Urban Reserve. Any uses not permitted by the county under existing regulations could be permitted through processes established by the Washington State Energy Facility Site Evaluation Council (EFSEC) where certification is required or voluntarily elected by the applicant.

14.4.1. Impacts from Construction, Operation, and Decommissioning Under Current Processes

In regard to land use, primary impacts of concern include land use compatibility, conversion of land from existing uses, and consistency in the application of siting, design, and compatibility requirements for new energy facilities. The degree and scale of impacts would vary based on facility type, size, location, and operational characteristics. For further analysis of individual energy facility types, refer to the **Alternatives Analysis** section.

Under current County regulations, energy facilities would continue to be reviewed through existing utility development provisions under SCC 18.14.870, project-level SEPA review, and applicable state and federal permitting requirements. Existing regulations contain general requirements related to setbacks, landscaping, screening, and compatibility with surrounding uses; however, the current code does not include comprehensive siting and compatibility standards tailored to the energy facility types evaluated in this EIS. Due to the limited

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criteria for major and minor utility provisions, this could result in the alteration of the county's visual landscapes and perception of land use compatibility.

Major regional utility developments are prohibited in all County zoning districts. As a result, future projects meeting the County's definition of a major regional utility development may seek certification through EFSEC. While projects reviewed through EFSEC would continue to be subject to environmental review, public comment opportunities, and agency review, EFSEC has authority to preempt local land use plans, zoning ordinances, and development regulations as part of the certification process. Consequently, land use compatibility outcomes for energy projects may differ from those permitted under local County regulations and have the potential for significant adverse land use impacts, especially given the larger scale of major regional utility developments.

Although existing processes include environmental review and opportunities for public participation, future energy projects of a similar use and scale may be subject to different siting requirements, mitigation measures, design standards, and compatibility requirements depending on the applicable permitting pathway and project-specific review. As a result, there may be less predictability regarding future energy facility siting and development outcomes. This may contribute to uncertainty for property owners, Tribes, residents, project applicants, and other interested parties regarding where projects may be approved, what mitigation measures may be required, and how compatibility with surrounding land uses may be addressed.

14.4.2. Mitigation Measures

Projects reviewed through the county permitting process would continue to be subject to the existing comprehensive plan, land use designations, implementing zoning requirements, critical areas regulations, project-level SEPA review, as well as applicable state and federal regulations. Projects subject to ESFEC certification would undergo land use consistency and adjudicative hearings, along with environmental review. Potential incompatibilities with adjacent land uses or land use designations would likely be identified during project-level SEPA review. Specific mitigation measures would vary and likely take place as part of special use applications on the local level or ESFEC may impose project-specific avoidance, minimization, and mitigation, for land use conflicts through a Site Certification Agreement.

14.4.3. Significant Unavoidable Adverse Impacts

Under the No Action Alternative, the potential for significant adverse land use impacts would remain. This potential is particularly applicable to larger-scale facilities that may seek EFSEC certification and be approved through a process that may preempt local land use regulations. While project-level environmental review and mitigation would continue to occur, conflicts with adjacent agricultural, residential, or natural resource lands and inconsistencies in the application of mitigation measures and compatibility requirements may not be fully avoided. As a result, significant adverse land use impacts could occur and may remain unavoidable under the No Action Alternative.

15. Visual Quality

15.1. Overview

The Visual Quality section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures associated with visual and scenic features within Skagit County. Visual quality describes the scenic appeal of an area based on its natural and built elements, including landforms and waterbodies. These elements may enhance or detract from the landscape depending on their visual contrast and factors such as the viewer's experience, weather, season, and time of day.

The visual areas analyzed in this section include:

- Area locally defined in comprehensive plans and land use policies as scenic or as designated/protected for its rural character
- Designated scenic vistas and corridors, including roadways, trails, rivers, and streams (including federally designated Wild and Scenic Rivers)
- Areas sensitive to light and/or glare, including areas potentially affecting aircraft
- Designated viewsheds, ridgelines, other elevated natural features
- Publicly accessible vantage points with moderate to high visual or rural character and quality, that are well traveled and populated

The conditions analyzed in this section include:

- Rural Character
- Scenic Byways
- Scenic Viewsheds and Viewpoints
- Agricultural Scenic Corridor
- Wild and Scenic Rivers and Streams
- Public Open Space of Regional/Statewide Importance

In this study area, the following resources could have impacts that overlap with impacts on Visual Quality. Impacts on these resources are reported in their respective sections:

- Tribal resources may be affected by visual changes in some areas, and sensitive viewers could include members of local Tribes. Refer to the **Tribal Rights, Interests, and Resources** for more information.
- Historic and cultural resources that may be impacted by potential visual changes are discussed in the **Historic and Cultural Resources** section.
- Potential impacts of light and glare on terrestrial and aquatic species and habitats are discussed in the **Biological Resources** section.
- Potential impacts on rural areas are discussed in the **Land Use** section. Specific impacts on land use, including rural character, resulting from visual changes are discussed in this section.

- Potential impacts on parks and recreation resources are discussed in the **Parks and Recreation** section. Impacts to parks and recreation that result from visual changes are discussed in this section.

15.2. Existing Conditions

The study area includes physically diverse regions within Skagit County such as the Skagit River Valley, the Cascade Range, and marine shorelines. Landscape types encompassed within the study area vary widely based on topography, geology, climate, soil type, hydrology, and land use. The central part of the county is dominated by the Skagit River and its tributaries. Large parcels of federally owned National Park and National Forest lands extend through the eastern portion of the county. There is an approximately 9,000-foot elevation difference from the lowest coastal areas to the highest mountain peak in Skagit County, with a minimum elevation of 10 feet below sea level in La Conner in western Skagit County and a maximum elevation of 9,099 feet above sea level at Mount Buckner in eastern Skagit County.

The eastern portion of Skagit County is less developed than the central and western portions, as it features federally owned land such as the North Cascades National Park and the Mount Baker-Snoqualmie National Forest. In these mountainous areas where development is limited, there are few obstructing structures, high air quality, low humidity, and minimal light pollution, allowing for extended viewsheds and dark night skies. Cities like Concrete, Rockport, and Marblemount are located in this area. The surrounding land uses fall primarily under the Open Space of Regional/Statewide Importance (OSRSI) and Rural Area zoning designations, which limits urbanization and intense development.

Central Skagit County features the foothills of the Cascade Range and is generally flat in the agricultural lowlands surrounding the Skagit River valley. Development in this portion of the county is generally concentrated around Interstate 5 (I-5), which bisects the county from east to west. The cities of Mount Vernon, Burlington, and Sedro-Woolley make up this region.

To the west, Skagit County is comprised of coastland, marshland, and estuarian environments near or at sea level. Development in these areas can often be found near the shoreline in areas such as the coastal cities of La Conner and Anacortes.

Extensive scenic resources are located within Skagit County, which may include federally owned land. Tourism in these areas is a major contributor to the regional economy. Of particular importance is the viewshed from major roadways, particularly I-5 and SR-20. Scenic resources in the study area include:

- The Salish Sea, Skagit Bay, and Bellingham Bay
- The Cascade mountain range
- National and state parks, monuments, and recreation areas
- Historic sites, parks, memorials, and landmarks
- National historic trails, scenic highways, undeveloped open plains or rolling hills
- National wildlife refuges
- Designated National Wild and Scenic Rivers, including the Sauk River, Suiattle River, Cascade River, and Illabot Creek
- Skagit Agricultural Scenic Corridor

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- Other designated scenic resources

Figure 53: Skagit County Terrain Map



Source: Google Maps, 2026

15.2.1. Rural Character

In rural areas, views can extend for long distances when vegetation and other objects do not obstruct the line of sight. In urban areas, buildings and other structures often limit visibility. Skagit County features a variety of natural landscapes including:

- Alpine mountains of the Cascade Mountain Range in the eastern section of the county
- Conifer forests, the Skagit River valley, agricultural lowlands
- Coastlines, islands, and estuaries to the west

The Skagit County rural landscape is characterized by relatively low-intensity land development, with dispersed residential uses, working agricultural and forest lands, resource-based industries, small, unincorporated communities, pockets of rural commercial and industrial developments, and regionally important recreation areas.

Rural areas are intended to provide a variety of living environments at lower densities than urban areas to be compatible with farming, fishing, and timber management, while also preserving historic and cultural structures and landscapes, retaining open spaces, protecting designated Natural Resource Lands (NRLs) and identified critical areas, and minimizing service demands and costs on county government.

Approximately 80,000 acres in Skagit County belong to one of the rural designations, which lie outside of the Urban Growth Areas (UGAs) and NRLs. Rural designations allow for a variety of residential densities and rural- and natural resource-related businesses while preserving rural character. These rural land use designations and their associated acreages are shown in **Table 23** below.

Table 23: Skagit County Rural Lands by Acreage[157]

Rural Lands	Rural Land Use Designation	Acreage
	Rural Village Residential (RVR)	2,717
	Rural Intermediate (RI)	8,043
	Rural Reserve (RRv)	70,126
	Subtotal	**80,886**
Rural Commercial/Industrial Lands	Rural Business (RB)	184
	Rural Freeway Service (RFS)	46
	Rural Village Commercial (RVC)	25
	Natural Resource Industrial (NRI)	183
	Small-Scale Recreation & Tourism (SRT)	90
	Rural Center (RC)	19
	Rural Marine Industrial (RMI)	53
	Small- Scale Business (SSB)	31
	Master Planned Resort (MPR)	113
	Subtotal	**744**
Total		**81,630**

Source: Skagit County, Comprehensive Plan, 2025, https://skagitcounty.net/PlanningAndPermit/Documents/compplan2025/CompPlan2025_WholeDocumentCLEAN_3.0.pdf

15.2.2. Designated Scenic Landscapes and Corridors

Scenic Byways

There are multiple scenic byways in Skagit County. A portion of the Cascade Loop National Scenic Byway runs through the county, following State Route 20 (SR-20) within county boundaries. The North Cascade Scenic Highway and Whidbey Scenic Isle Way are both part of the Cascade Loop National Scenic Byway. Whidbey Scenic Isle Way begins at Deception Pass Bridge and runs the length of Whidbey Island's coastline. Chuckanut Drive (State Route 11, SR-11) spans 21 miles, beginning in Burlington and ending in Whatcom County.

[157]Skagit County, "Skagit County Comprehensive Plan 2025-2045," n.d., https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf

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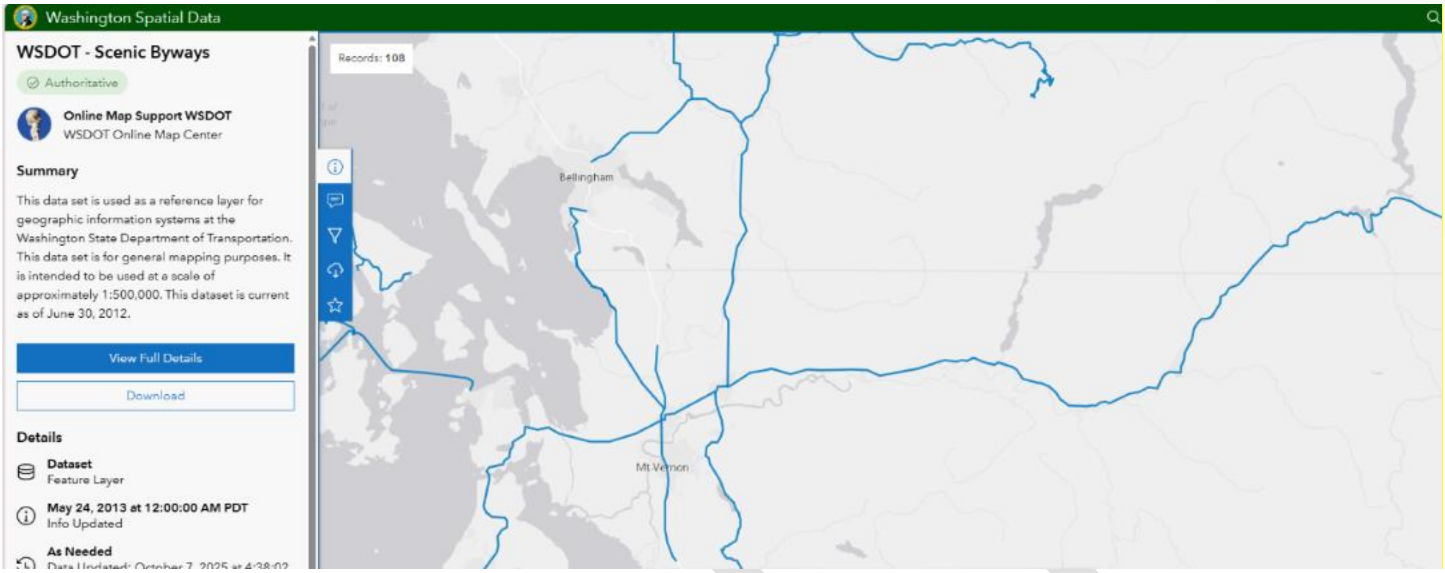
Figure 54: Map of Skagit County Scenic Byways



Source: Washington State Department of Transportation, WSDOT Scenic Byways, 2017, https://geo.wa.gov/datasets/WSDOT::wsdot-scenic-byways/explore?location=46.024903%2C-120.716743%2C8

Agricultural Scenic Corridor

Skagit County features Washington's only designated Agricultural Scenic Corridor, offering views of the county's farmland from Interstate 5 (I-5) between Conway and Bow Hills. The corridor is lined by approximately eight miles of farmland, and more than 2,200 acres within a quarter mile of the corridor are permanently protected by Skagit County Farmland Legacy easements.[158] The corridor is intended to showcase the county's historical agricultural area and promote the maintenance and enhancement of agricultural areas. The Agricultural Scenic Corridor also provides views of the county's 55 registered historic barns.[159]

Scenic Viewsheds and Viewpoints

There are multiple scenic viewsheds and viewpoints in Skagit County:

- **Diablo Lake Vista Point**: Located along SR-20 in eastern Skagit County and offers views of Diablo Lake and the Ross Lake Recreation Area.
- **Hidden Lake Lookout**: Located in the North Cascades in eastern Skagit County and offers high-elevation mountain and wilderness views.
- **Little Mountain Overlook**: Located near Mount Vernon in central Skagit County and offers views of the Skagit Valley, Mount Vernon, and adjacent agricultural lands.
- **Lookout Mountain**: Located in northwestern Skagit County and offers views of Skagit Valley and the Cascade foothills.

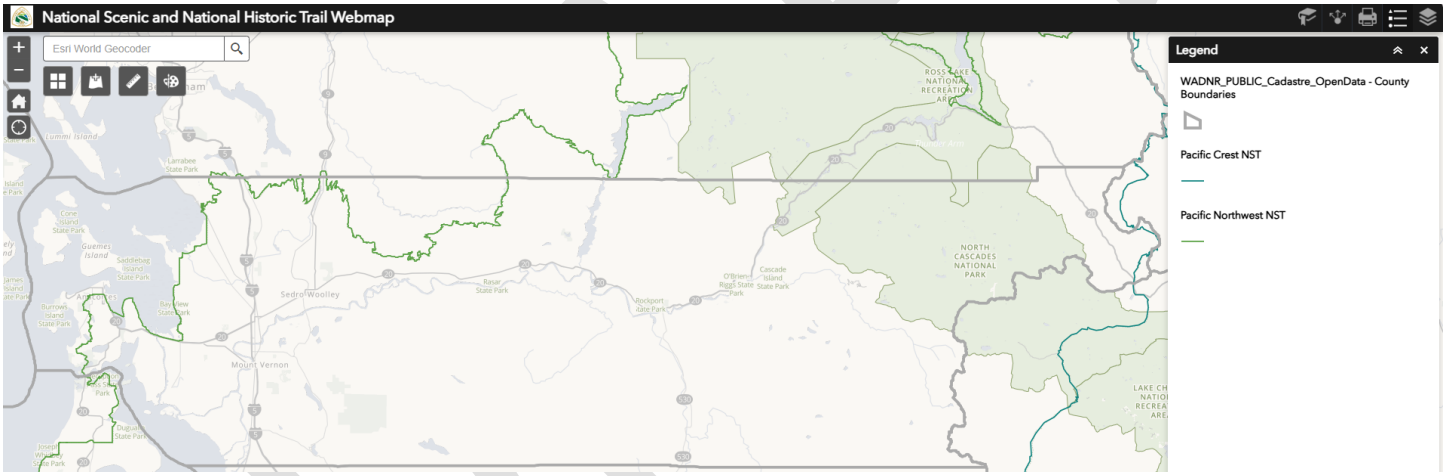
[158] Skagit County, "Skagit County Farm Property on Agricultural Scenic Corridor Protected," published July 25, 2024, https://classic.skagitcountywa.gov/Press/072524.htm
[159] Skagit County, "Skagit County Comprehensive Plan 2025-2045," n.d., https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf

- **Oyster Dome**: Located in Blanchard State Forest in southwest Skagit County and offers views of the Salish Sea, the San Juan Islands, and Samish Bay.
- **Pickering Viewpoint**: Overlooking the lowland agricultural flats and seasonal tulip fields.
- **Samish Overlook**: Located in Blanchard State Forest and provides expansive views over the Skagit Valley and San Juan Islands.
- **Sauk Mountain**: Located north of Rockport in eastern Skagit County and provides views of the upper Skagit Valley, the Sauk River Valley, and the North Cascades.
- **Washington Pass Scenic Viewpoint**: Located in eastern Skagit County along SR-20 and offers views of the North Cascades peaks and wilderness.

National Historic and Scenic Trails

National Historic and National Scenic Trails are identified by the National Trails System and designate trails of particular historic significance or natural resources. One National Scenic Trail, the Pacific Northwest Trail, bisects Skagit County from east to west. A small portion of the Pacific Crest Trail can be found in the eastern portion of the county. There are no National Historic Trails in Skagit County.

Figure 55: National Scenic and National Historic Trail in Skagit County



Source: Natural Trails System, National Scenic and National Historic Trail Webmap, n.d., https://nps.maps.arcgis.com/apps/webappviewer/index.html?id=d89951079a374f28ab4a3b9fc41025dd

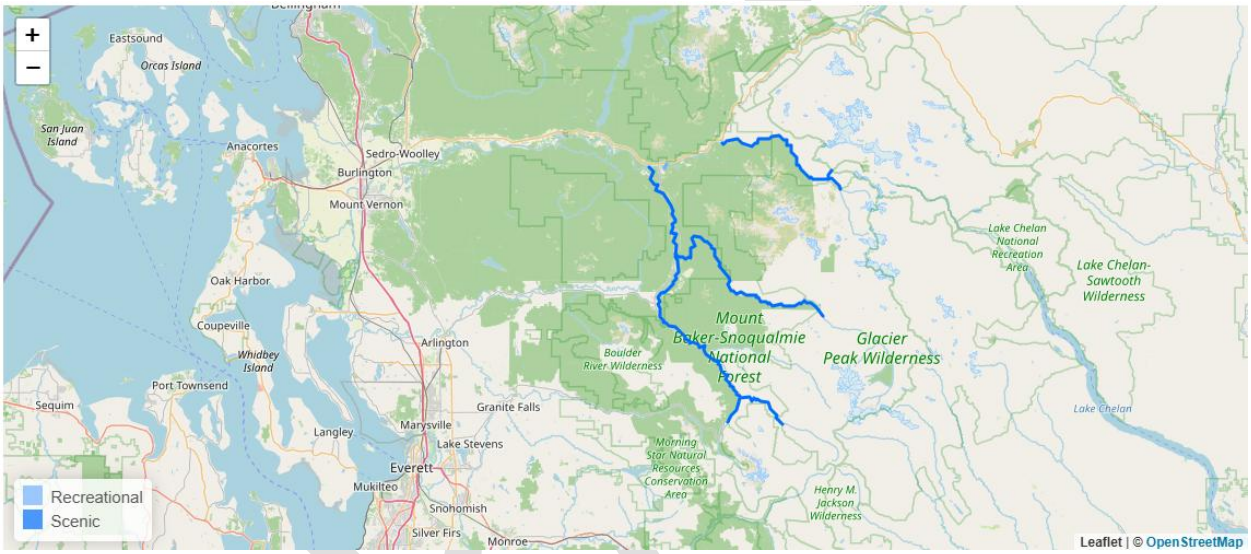
Wild and Scenic Rivers and Streams

The National Wild and Scenic Rivers System was created by the Wild and Scenic Rivers Act, passed in 1968. The National Wild and Scenic designation aims to preserve select rivers with natural, cultural, and recreational value and classifies rivers into three categories: Wild, Scenic, or Recreational. The rivers in Skagit County with National Wild and Scenic designations are below:

- **Sauk River**: A tributary of the Skagit River, running from its mouth to its junction with Elliot Creek. The river is located partly in Skagit County and partly in Snohomish County and is classified as Scenic.

- **Suitattle River**: A tributary of the Skagit River running from its mouth to the Glacier Peak Wilderness boundary at Milk Creek. The river is located partly in Skagit County and partly in Snohomish County and is classified as Scenic.
- **Cascade River**: A tributary of the Skagit River running from the South Fork at the Glacier Peak Wilderness Boundary to the confluence with the Skagit River. The Cascade River tributary is fully within Skagit County boundaries and is classified as Scenic.
- **Illabot Creek**: A wild and scenic creek over 14 miles long that drains into the Skagit River near Rockport. The river is designated Recreational and Scenic.

Figure 56: Map of Wild and Scenic Rivers



Source: National Wild and Scenic Rivers System, Skagit River, n.d., https://www.fws.gov/rivers/map?river=skagit

15.2.3. Public Open Space of Regional/Statewide Importance (OSRSI)

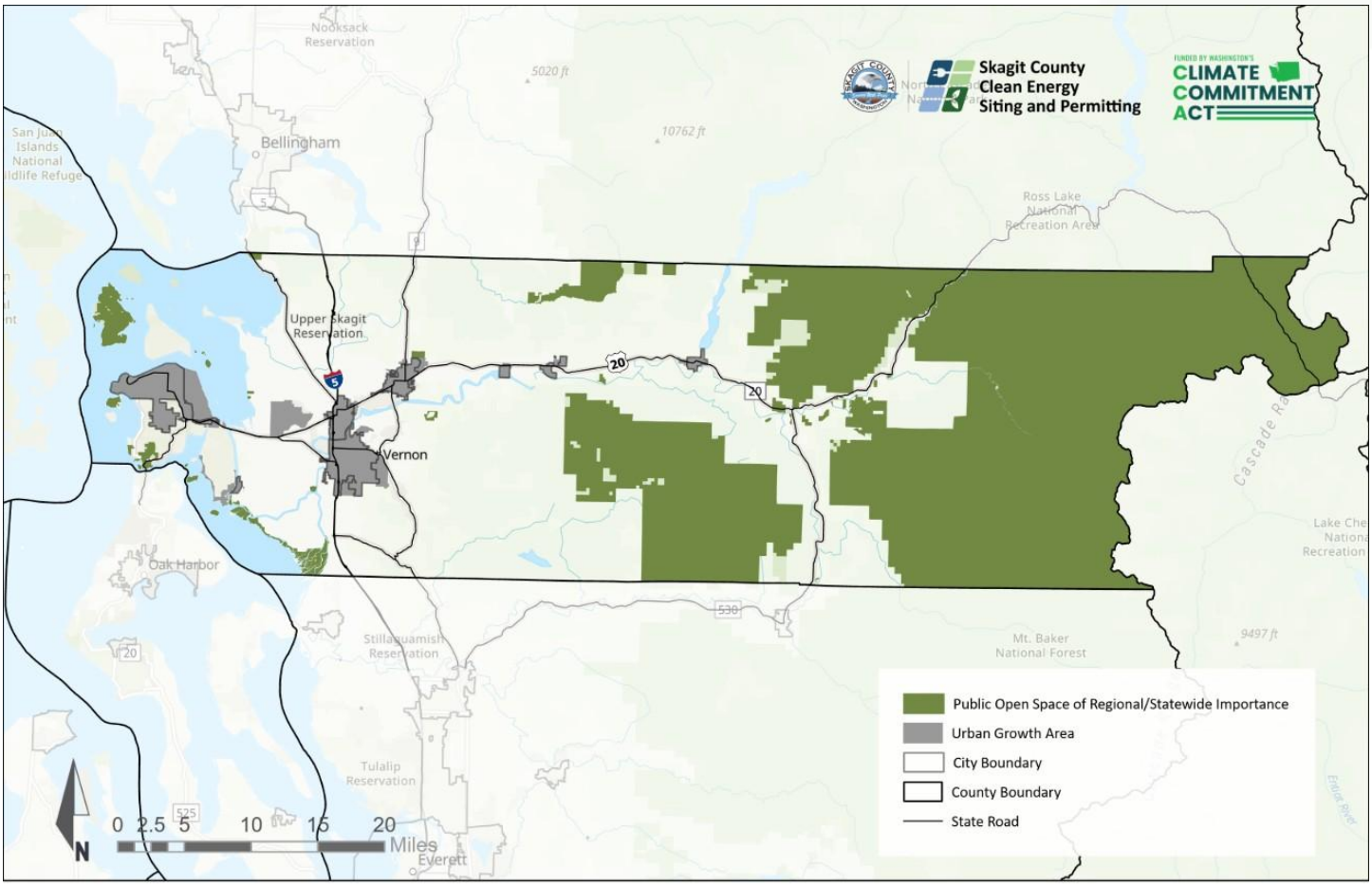
Public open space areas include publicly owned lands that are dedicated for public use or enjoyment for recreation, scenic amenities, natural resource land management, or for the protection of environmentally sensitive areas. Skagit County has designated certain public open space areas as Public Open Space of Regional/Statewide Importance (OSRSI) as their recreational, environmental, scenic, or cultural benefits extend beyond the local area to be regional or statewide in significance.[160]

Approximately 519,342 acres of land in Skagit County are designated as OSRSI, including national forest, national park and recreation areas, wilderness, and state parks and recreation areas. These lands include many of Skagit County's prominent landscapes, including the North Cascades, Deception Pass, the Skagit River corridor, prominent viewpoints, and other areas with scenic character. OSRSI lands play a central role in preserving visual quality throughout the county by maintaining natural vistas, limiting development-related visual intrusion, protecting rural character, and providing publicly accessible locations from which residents and visitors can

[160] Skagit County, "Skagit County Comprehensive Plan 2025-2045," n.d., https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf

experience Skagit County's scenic areas. OSRSI lands in Skagit County are among the most visually sensitive areas in the county because they are specifically managed for recreation, scenery, conservation, and public enjoyment. Visual changes associated with new development may be more easily observed by visitors using parks, trails, and public viewing areas located adjacent to these lands.

Figure 57: Map of Open Space of Regional/Statewide Importance



Source: Kimley-Horn, 2026

15.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative Evaluates the potential significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuels facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization

measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

15.3.1. Impacts Applicable to All Energy Facilities

Construction

Construction activities for future facilities may generate temporary dust, noise, lighting, and visual disturbances that may impact visual quality. Construction activities may introduce visually prominent industrial features into landscapes that are currently agricultural, forested, rural residential, or open space. Construction lighting associated with morning, nighttime, or winter construction activities could increase visibility of project sites and alter nighttime visual conditions. Dust generated by earthmoving, grading, and vehicle traffic may temporarily reduce visibility, affect scenic vistas, and diminish views of nearby mountains, waterways, agricultural landscapes, or other valued visual resources. The extent of impacts would depend on project size, duration, topography, vegetation, and proximity to residences, recreation areas, scenic corridors, and other visually sensitive areas.

Operation

Operation of energy facilities could result in long-term changes to visual character through the introduction of industrial or utility-scale infrastructure into the landscape. Potential visual changes may include the presence of buildings, equipment yards, fencing, substations, access roads, transmission infrastructure, storage facilities, or lighting.

Operational lighting may increase skyglow and nighttime visibility, particularly in rural areas that currently experience relatively dark nighttime conditions. Facilities visible from parks, recreation areas, scenic byways, scenic viewpoints or outlooks, shorelines, agricultural landscapes, or residential areas could affect viewer perceptions of visual quality and scenic character. The magnitude of impacts would depend on the scale, height, color, reflectivity, design, and visibility of facility components, as well as the sensitivity of surrounding visual resources.

Decommissioning

Decommissioning activities typically result in impacts similar to construction, including temporary vegetation removal, ground disturbance, increased noise, truck traffic, and human activity associated with dismantling infrastructure and restoring disturbed areas. Demolition activities may temporarily increase visual clutter and introduce manmade features generally perceived as incompatible into the landscape. Fugitive dust emissions from decommissioning activities could reduce visibility in the area.

Mitigation Measures

Regulatory Framework

Numerous existing Federal, State, and local legislation regulating visual quality will require mitigation for future energy projects. A more comprehensive list of federal, state, and local level regulations that govern visual quality is as follows:

Federal Regulations

- U.S. Department of Transportation Federal Highway Administration National Scenic Byways and All American Roads Program

- Federal Aviation Administration (FAA) Advisory Circular 70/74601M, Obstruction Marking and Lighting
- FAA Interim Policy 78 Federal Register 63276 (regarding glare)
- U.S. Forest Service (USFS) Forest Service Manual 2800 – Chapter 2380: Landscape Management and USFS Handbook 279 Landscape Aesthetics: A Handbook for Scenery Management
- Bureau of Land Management Manual 8400 – Visual Resource Management and associated handbooks and technical standards
- U.S. Wild and Scenic Rivers Act of 1968
- National Scenic Byways Program (23 U.S.C. § 162)
- Federal Land Policy and Management Act (FLPMA) (43 U.S.C. §§ 1701-1787)

State Regulations

- Scenic and Recreational Highway Act of 1967, RCW 47.39
- State of Washington Heritage Corridors Program
- Growth Management Act, RCW 36.70A

Local Regulations

- The following Skagit County Code (SCC) sections:
  - SCC 14.18.407 - Agritourism
  - SCC 14.20.040 - Heat, Glare, and Steam
  - SCC 14.25 - Landscaping
  - SCC 14.28 - Setbacks
- Skagit County Comprehensive Plan

Recommended Measures for Siting and Design

- Restrict siting facilities within or adjacent to designated scenic resource areas, trails, roadways, and other sensitive receptors.
- Restrict siting facilities where the landscape setting observed from national historic sites, national trails, and cultural resources may be a part of the historic or cultural context contributing to its significance.
- Prepare a detailed visual resource analysis during project siting to identify and map landscape characteristics, key observation points, and key viewsheds; prominent scenic, Tribal, and cultural landmarks; and other visually sensitive areas near the project location.
- Consult with the applicant, appropriate land management agencies, planning entities, Tribes, and the local public early to provide input on the identification of important visual resources near a project site and on the siting and design process.
- Encourage the use of geographic information systems (GIS) and visual impact simulations for conducting visual analyses (including mapping), analyzing the visual characteristics of landscapes, visualizing the potential impacts of facility siting and design, and fostering communication.
- Restrict projects siting inside the viewsheds of key observation points, highly sensitive viewing locations, and/or areas with limited visual absorption capability and/or high scenic integrity. If projects must be sited

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within view of key observation points, require that they be sited further away or screening measures be incorporated to reduce potential disturbance.

- Where possible, use topography and vegetation as screening devices to restrict views of the project from visually sensitive areas. Where screening topography and vegetation are absent, encourage the use of natural-looking earthwork berms and vegetative or architectural screening to minimize visual impacts.
- In forested areas or shrublands, use linear facilities to follow the edges of clearings rather than pass through their center. Locate openings in vegetation for facilities, structures, and roads to mimic the size, shape, and characteristics of naturally occurring openings. Include the feathering of cleared edge areas (i.e., the progressive and selective thinning of trees from the edge of the clearing inward) combined with the mixing of tree heights from the edge in the vegetation-clearing design in forested areas.
- When designing interconnector and gen-tie line right-of-way crossings of roads, trails, streams, and other linear features, avoid key observation points viewsheds and other visually sensitive areas and to minimize disturbance to vegetation and landforms. Locate rights-of-way such that they cross linear features at right angles whenever possible to minimize the viewing area and duration.
- Set limitations on the use of overhead gen-tie lines and collector lines, unless underground gen-tie and collector lines are not feasible due to environmental conditions (e.g., topography, soil conductivity) or cultural or Tribal resource concerns.
- Facility designs should prevent visual impacts by:
    - Avoiding siting near prominent landscape features.
    - Avoiding siting linear facilities (interconnector and gen-tie lines and roads) where they would bisect ridge tops, run down the center of valley bottoms, or are located on side slopes.
    - Avoiding siting facilities on ridgelines, summits, or other locations where they would be silhouetted against the sky from important viewing locations.
    - Siting linear features to follow natural land contours rather than straight lines, particularly up slopes, and avoiding fall-line cuts. Facility siting and design should take advantage of natural topographic breaks to the maximum extent practicable.
    - Avoiding installation of gravel and pavement where possible to reduce color and texture contrasts with the existing landscape.
    - Choosing low-profile structures where possible to reduce their visibility from scenic viewsheds, roads, trails, or parks and recreation lands.
    - Preserving existing rocks, vegetation, and drainage patterns and vary slopes to preserve trees and nonhazardous rock outcroppings.
    - Siting facility components to minimize cut and fill and reduce potential changes in form, line, color, and texture visible from nearby viewsheds.

Required Measures

- Comply with applicable federal, state, and local visual resource protection requirements:
    - Facilities proposed on or near federal lands, designated scenic byways, Wild and Scenic Rivers, or other federally recognized scenic resources, applicants may be required to evaluate visual impacts and demonstrate consistency with applicable federal visual resource management objectives.

Compliance generally includes minimizing visual contrast, protecting scenic and recreational values, avoiding unnecessary intrusion into important viewsheds and viewpoints, addressing potential glare and lighting impacts per Federal Aviation Administration (FAA) requirements, and incorporating siting, screening, landscaping, color treatment, or other design measures necessary to preserve scenic qualities.

- Where facilities are proposed within or visible from designated scenic highways, scenic byways, heritage corridors, Wild and Scenic Rivers, parks, trails, or other protected scenic resources, applicants shall evaluate visual impacts and incorporate siting, design, screening, landscaping, or other measures put forth by the state of Washington to avoid substantial degradation of the scenic values for which the resource was designated.

- Facilities shall comply with applicable provisions of Skagit County Code related to landscaping, screening, buffering, setbacks, and glare control, and shall demonstrate consistency with the visual resource, rural character, agricultural character, and scenic preservation policies of the Skagit County Comprehensive Plan and the Shoreline Master Program. Applicants may be required to incorporate vegetative screening, increase setbacks from visually sensitive land uses, utilize non-reflective materials, limit visual contrasts with surrounding development, and implement other site design measures necessary to maintain compatibility with surrounding rural, agricultural, shoreline, or developed landscapes. Where identified visual impacts cannot be avoided, projects may be required to incorporate design modifications to reduce adverse effects on scenic and visual character.
- Project-level environmental review should identify and evaluate potential impacts to scenic vistas, viewsheds, ridgelines, agricultural landscapes, recreation areas, shorelines, trails, parks, and other visually sensitive locations, including potential effects related to visual contrast, view obstruction, vegetation removal, lighting, and glare.
- Comply with local level permit requirements, land use development ordinances that determine appropriate building characteristics.

Recommended Measures for Construction and Decommissioning

- Recommend mulching and spreading slash from vegetation removal to cover fresh soil disturbances or bury it in previously disturbed areas. Segregate topsoil from cut/fill activities and spread on freshly disturbed areas to reduce color contrast and aid rapid revegetation. Do not leave piles in sensitive viewing areas.
- Restrict use of signage. The reverse sides of signage should be painted or coated to reduce color contrasts with the existing landscape.
- Ensure structures are painted before or immediately after installation. Use materials and surface treatments that repeat and/or blend with the existing landscape.
- Use non-reflective materials or non-specular finishes and coatings on facilities to prevent glare.
- Stage construction materials away from public roads and scenic viewpoints.
- Restrict light pollution through the use of motion-activated security lights, the use of full-cutoff designs that minimize upward light scattering and use, and the avoidance of steady-burn high intensity lights for

construction lighting. Applicants should refer to Dark Sky International's Five Principles for Responsible Outdoor Lighting to design outdoor lighting.

- During decommissioning activities, require the removal visual evidence of development to the extent practicable.
- Prepare a project-level viewshed analyses or visual impact assessments for projects visible from adjacent agricultural, residential, rural, or open space areas. Viewshed mapping, line-of-sight analysis, and photographic simulations from representative public viewpoints, parks, roadways, and other sensitive viewsheds should be included. Facility layout should be modified where feasible to reduce visual prominence identified by the assessment.
- Encourage the use of existing topography, vegetation, forest edges, landforms, and developed features to naturally screen facilities from public viewpoints.
- Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration.

Recommended Measures for Operation

- Minimize light pollution through measures including the use of motion-activated security lights, the use of full-cutoff designs that minimize upward light scattering and use, and the avoidance of steady-burn high intensity lights. Applicants should refer to Dark Sky International's Five Principles for Responsible Outdoor Lighting to design outdoor lighting.
- Restore and revegetate disturbed soils and temporary work areas as soon as practicable.
- Remove temporary laydown areas, fencing, and construction trailers immediately upon site work completion.
- Maintain screening vegetation and the replace dead or damaged plantings to preserve long-term visual effectiveness.
- Maintain non-reflective finishes on buildings and equipment and periodically replace weathered materials that increase glare or visual contrast.
- Where facilities remain visible from parks, recreation areas, roads, trails, or other sensitive receptors, use additional visual treatments such as berms, enhanced landscaping, architectural screening, or facade treatments to reduce perceived facility mass and contrast.

Recommended Measures for Potential Significant Unavoidable Impacts

- Consult with county and applicable agencies to develop visual mitigation strategies, which may include measures identified above and other actions to align with local plans.

15.3.2. Solar Facilities

Construction

Construction of solar facilities would involve a range of activities associated with potential visual impacts. Construction impacts of building-mounted solar would be less significant than those of ground-mounted solar facilities, which could include establishing site access, vegetation clearing and grading, constructing internal service roads, constructing foundation posts to support solar arrays and foundations for inverter and transformer pads, and other associated construction measures. Additional site characterization measures may be necessary

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at remote locations or larger ground-mounted solar facilities, which may include the construction of temporary offices or sanitary facilities. Construction visual impacts would vary in frequency and duration throughout the course of construction depending on levels of activity and intensity of work.

Operation

The operation of solar facilities would primarily impact visual quality through the introduction of photovoltaic (PV) panel arrays and inverter equipment for building-mounted solar facilities. Ground-mounted solar array facilities are likely to result in more significant potential visual impacts due to site features like fencing, substations, and access roads, and large arrays of solar panels. Solar facilities are generally low in profile and therefore may affect near- or mid-range views rather than distant viewsheds. While modern panels are designed to minimize reflectivity, glare may occasionally be visible from certain viewpoints depending on panel orientation, topography, and lighting conditions. Visual impacts are likely to be most significant where facilities are visible from scenic roadways, residential areas, recreation sites, or other visually sensitive areas.

Decommissioning

Removal of solar infrastructure may result in temporary visual disturbances due to dust, construction equipment, traffic, and site restoration activities. However, decommissioning would also remove facility-related visual and aesthetic disturbances to the surrounding landscape and could restore viewsheds to conditions more consistent with the visual quality experienced pre-project. Following decommissioning, disturbed areas would be revegetated to the former or an approved future land use. This would allow for the site to gradually reestablish visual continuity with the surrounding landscape.

Mitigation Measures

Recommended Measures for Siting and Design

- Consider setbacks for ground-mounted solar panel arrays from linear public features, such as roadways, railways, and trails, to avoid a visual tunneling effect.
- Encourage the use of solar array trackers and other ancillary facilities with visual uniformity in shape, color, and size.
- Encourage that ground-mounted solar panel layouts follow natural contours and reduce visual contrast.
- Require that solar facilities be designed to ensure that glint and glare do not have significant impacts on roadway users, nearby residences, commercial areas, or other sensitive receptors.
- If a facility is sited on existing development within agricultural lands, consider appropriate screening, buffers, and landscape treatments to reduce visual impacts while maintaining the agricultural character and function of the site.

Required Measures

- Comply with applicable Skagit County landscaping, screening, setback, building height, lighting, glare, shoreline, and land use requirements.
- Refer to required measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Encourage minimization for extensive grading and excavation and reduce soil disturbance where feasible to limit fugitive dust emissions.
- Adhere to best management practices for dust control during construction and decommissioning to prevent dust pluming that may obstruct views and limit visibility.
- Consider siting large stockpiles and staging areas visible from highways and recreation areas and retain perimeter vegetation around the site.
- Use of color-treated and non-reflective solar collectors and support structures to limit contrasts that may be visible from sensitive viewing locations.
- Where possible, restrict the complete removal of vegetation beneath ground-mounted solar collector arrays to limit color and contrasts associated with exposed soils.

Recommended Measures for Operation

- Assess and quantify glint and glare effects during SEPA project-level review and determine the potential health, safety, and visual impacts associated with glint and glare. Require applicants to modify panel orientation, setbacks, or screening and buffering measures if glare impacts are identified.
- Encourage ongoing to maintenance for vegetative cover beneath and around ground-mounted panels to reduce visual disturbance and improve compatibility with surrounding landscapes.
- Provide a phone number to be provided for the public to report complaints related to glare from solar panels. If a complaint is received regarding glare from panels, the county should investigate to determine whether the complaint is legitimate and whether the facility is the source of the glare. If it is determined that the facility is the source of glare and it is causing human health or safety hazards (e.g., road or air travel concerns), require the facility implement measures to reduce the glare.
- Separate among large visual masses, particularly for ground-mounted solar facilities, through vegetation corridors and preservation of existing landscape features.
- Require ongoing maintenance for vegetative screening throughout operation.
- Maintain color-treated surfaces of solar collectors, if applicable, to limit glint or glare affects caused by fading or flaking throughout operation.

15.3.3. Battery Energy Storage Systems (BESS)

Specific site characteristics and the scale of BESS facilities would influence the potential impacts BESS facilities have throughout a project phase. It would be anticipated that larger BESS facilities would have greater impacts than smaller BESS facilities but would still depend on the site location and proximity to adjacent land uses.

Construction

Construction of BESS facilities may result in temporary visual impacts associated with site grading, installation of battery containers, and vegetation clearing. These impacts may include temporary fugitive dust emissions, construction site lighting, noise impacts, and vegetation loss. Because larger BESS facilities are typically located near existing substations, transmission infrastructure, or other utility facilities, it would be anticipated that construction would occur in areas already characterized by utility or industrial uses.

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Operation

Normal operation of BESS facilities would result in operational visual features such as battery containers, transformers, switchgears, substations, security fencing, cameras, lighting, and other support infrastructure. The industrial appearance of these facilities may contrast with surrounding landscapes, particularly in rural areas where development is sparse or near residential areas. While BESS facilities would generate minimal light pollution because they are typically unmanned and do not require illumination to function, security requirements often necessitate lighting and monitoring infrastructure that may degrade dark sky conditions.

Decommissioning

BESS decommissioning would generate temporary noise, lighting, and vibrations associated with dismantling battery modules, removal of electrical equipment, transportation of batteries for recycling or disposal, and site restoration activities. Fugitive dust emissions would occur during truck traffic and land disturbance activities, which could impact visual quality along nearby scenic corridors or adjacent land uses.

Mitigation Measures

Recommended Measures for Siting and Design

- Consider locating facilities outside primary view corridors from residences, parks, trails, roads, and other sensitive receptors.
- Where possible, encourage BESS facilities be sited adjacent to existing substations, utility corridors, industrial uses, or transmission infrastructure where feasible to reduce impacts on rural, agricultural, or open space areas.
- Where possible, reduce visual clutter by consolidating battery containers, electrical equipment, and support facilities within a compact development area.
- Where practicable, encourage design to follow existing landforms and avoid unnecessary grading, elevated pads, or prominent visual breaks in the landscape.
- Use landscape buffers around facility perimeters using native trees, shrubs, and other vegetation appropriate to the surrounding landscape character.
- Require non-reflective finishes in natural colors for battery containers, transformers, fencing, and ancillary structures.

Required Measures

- Comply with applicable Skagit County landscaping, screening, setback, building height, lighting, glare, shoreline, and land use requirements.

Recommended Measures for Construction and Decommissioning

- Encourage larger landscape setbacks where necessary to preserve visual quality.
- Minimize lighting impacts during construction and decommissioning activities, including the use of motion-activated security lights, the use of full-cutoff designs that minimize upward light scattering and use, and the avoidance of steady-burn high intensity lights.
- Limit vegetation clearing to the minimum area necessary for construction or removal activities.
- Where practicable, preserve existing mature vegetation and tree stands that provide visual screening wherever practicable.

- Stabilize and revegetate disturbed areas following construction and decommissioning activities to restore visual character as quickly as possible.
- Require the implementation of dust control measures, including watering disturbed soils, covering haul trucks, limiting vehicle speeds on unpaved roads, and stabilizing exposed soils, to limit fugitive dust emissions impacts on adjacent parks or recreation areas.
- Where practicable, require the minimization of light pollution during construction and decommissioning activities. Facilities should be lighted in areas only as required for safety and security of construction and decommissioning activities in accordance with Occupational Health and Safety Administration (OSHA) standards.
- Require the size and duration of disturbed areas to be limited, using phased construction and decommissioning strategies so only areas under active work remain exposed at a given time.

Recommended Measures for Operation

- Where practicable, encourage architectural treatments, color palettes, and screening to reduce the industrial appearance of a facility.
- Screen containers, substations, and security fencing with appropriate barriers and maintain throughout facility operation.
- Recommend periodic vegetation monitoring and management in a manner that preserves visual screening while maintaining fire safety and operational requirements.
- Use non-reflective finishes on containers and equipment.
- Require minimization measures for light pollution, including the use of motion-activated security lights, the use of full-cutoff designs that minimize upward light scattering and use, and the avoidance of steady-burn high intensity lights for construction lighting. Applicants should refer to Dark Sky International's Five Principles for Responsible Outdoor Lighting to design outdoor lighting.
- Recommend ongoing inspection and maintenance of fencing, walls, buildings, and landscape features to prevent visual deterioration. Graffiti, damaged screening materials, and deteriorated equipment should be removed promptly.
- Request consistent architectural and color treatments on replacement equipment and battery modules installed during facility upgrades.

15.3.4. Fusion Small Modular Reactors (Fusion SMRs)

Construction

Fusion SMR facilities may require greater land area to accommodate reactor facilities, cooling systems, transmission interconnections, security setbacks, access roads, and ancillary support infrastructure. As a result, the visual impact of fusion SMR facilities may be especially great if sited in areas characterized by rural or scenic lands. Construction activities could result in noise, fugitive dust emissions, or visual disturbances due to excavation, grading, concrete placement, utility installation, building construction, and extensive vegetation clearing.

Dust generated by ground-disturbing activities may temporarily reduce visibility and diminish views of surrounding mountains, waterways, agricultural landscapes, and other scenic resources. Construction lighting associated with

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early morning, nighttime, or winter construction activities may alter nighttime visual conditions of the surrounding areas. Earthmoving activities may alter existing landforms and remove natural visual screening. Large cranes, temporary construction structures, stockpiled materials, equipment staging areas, and construction vehicles could become visually prominent features within the landscape for extended periods as construction is ongoing.

Depending on facility design and location, construction activities may be visible from nearby residences, parks, recreation areas, roadways, agricultural lands, and scenic viewpoints. Because fusion SMRs may require significant supporting infrastructure and lengthy construction periods, these temporary visual impacts could persist for longer periods of time.

Fusion SMR facilities can be co-located with other industrial facilities, which are generally located in already industrialized areas and therefore may have a less significant impact on visual quality

Operation

Operation of fusion SMR facilities may introduce a long-term industrial presence that may substantially alter visual character and scenic quality within the surrounding area. Operational facilities may include reactor buildings, cooling systems, substations, transmission infrastructure, security fencing, and support structures. Due to the early stage of nuclear fusion development, fusion SMR facility designs are likely to vary. Depending on final design, certain vertical structures could be visible from considerable distances and may protrude above existing vegetation or surrounding development. The scale, mass, and industrial appearance of these structures could contrast with the predominantly agricultural, rural, forested, or natural landscapes that characterize much of the county. Depending on site-specific design, fusion SMR cooling systems could produce visible steam plumes. These emissions would be more visible during winter months and could contribute to the perceived industrialization of the area.

Security requirements may necessitate perimeter lighting that may degrade dark sky conditions and increase light pollution in surrounding areas. Where visible from scenic corridors, agricultural areas, parks or recreational areas, shorelines, or other visually sensitive viewpoints, a fusion SMR facility could reduce perceived scenic quality, alter viewsheds, and change perceptions of rural character and landscape integrity.

Decommissioning

Decommissioning of fusion SMR facilities would involve the removal of reactor facilities, support buildings, electrical infrastructure, and associated site infrastructure. Heavy equipment, cranes, demolition activities, temporary waste storage areas, and construction vehicles could create short-term visual disturbance similar to construction activities. Site clearing and demolition may temporarily increase visual clutter and expose previously screened portions of the facility. Dust generated during demolition activities could also temporarily affect visibility and scenic views. Due to the potential presence of regulated radioactive materials, decommissioning may require site characterization, remediation, monitoring, and regulatory clearance.

Decommissioning would ultimately reduce long-term visual effects by removing industrial structures, lighting, and other facility components from the landscape. As a result, decommissioning impacts would be temporary and may result in long-term improvement in visual quality.

Mitigation Measures

Recommended Measures for Siting and Design

- Where possible, require facilities be sited in or adjacent to existing industrial, manufacturing, energy generation, or other developed utility corridors where the visual character is already influenced by large-scale infrastructure, thereby reducing visual contrast with surrounding land uses.
- Where possible, site facilities outside of scenic and visually important corridors.
- Where possible, require buildings, cooling infrastructure, substations, maintenance facilities, and support structures to be clustered to minimize the overall visual footprint.
- Site buildings and other facility components, including cooling and containment infrastructure, where surrounding topography, forested ridges, or existing industrial structures can obscure them from key viewpoints.
- Where possible, consolidate buildings and other facility components into a single visual focal area rather than dispersing across the project site to reduce visual clutter and fragmentation.
- Establish vegetated screening guidelines to reduce perceived incompatibility with adjacent rural, agricultural, or open space areas. Screen cooling systems, substations, transformers, and other facility components with native vegetation compatible with local ecological conditions and visual character.
- Establish building height and bulk restrictions, where feasible.
- Suggest the use of architectural treatments to break up large building facades.
- Recommend the use of earth-tone colors and non-reflective finishes.

Required Measures

- Comply with applicable Skagit County landscaping, screening, setback, building height, lighting, glare, shoreline, and land use requirements.
- Obtain and maintain applicable federal and state licenses and approvals for radioactive materials and radiation-producing equipment.
- Compliance with the containment, handling, inspection, transportation, and waste disposal measures as required under state and federal nuclear regulations.

Recommended Measures for Construction and Decommissioning

- Limit the size of disturbed areas and duration of disturbance through phased construction and phased decommissioning activities so only areas under active work remain exposed at a given time.
- To minimize lighting impacts during construction and decommissioning activities, require the use of motion-activated security lights and full-cutoff designs that minimize upward light scattering and use. Steady-burn high intensity lights should be avoided.
- Implement dust control measures to prevent degradation of scenic views and visual quality from fugitive dust associated with grading, demolition, and heavy equipment operations.
- Restore disturbed areas as soon as practicable following construction or demolition through grading, revegetation, and removal of temporary facilities.

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Recommended Measures for Operation

- Use ongoing architectural and color treatments on replacement equipment installed during facility upgrades.
- Recommend ongoing maintenance of non-reflective finishes on buildings and equipment and the periodic replacement of weathered materials that increase visual contrast.
- Minimize lighting to the extent consistent with operational and safety requirements through the use of shielded lighting fixtures designed to limit light pollution and visibility from adjacent areas.

Recommended Measures for Potential Significant Unavoidable Impacts

- Coordinate with Washington Department of Health (DOH) and Washington State Department of Ecology (Ecology) and obtain all applicable permits, particularly those related to radiation, stormwater, and facility waste.

15.3.5. Renewable Fuel Facilities

Construction

Construction activities for renewable fuel facilities would be similar to those for other industrial facilities and would involve a range of activities associated with potential aesthetics and visual quality impacts. Construction activities may include vegetation clearing, grading, excavation, foundation installation, utility construction, equipment staging, and the assembly of large industrial structures. Temporary visual impacts could result from the presence of construction equipment, including cranes and vehicles; stockpiled materials; staging areas; temporary fencing; or construction trailers. Depending on facility design, earthwork may alter existing landforms and remove vegetation that currently provides visual screening. Construction traffic, dust generation, and nighttime construction lighting may temporarily reduce scenic quality and affect views from adjacent properties. Because renewable fuels facilities may contain interconnected processing components, piping networks, tanks, and other infrastructure, construction activities could remain visible over an extended period and may introduce a prominent industrial character into areas that currently exhibit rural, agricultural, or otherwise natural visual conditions.

Operation

Renewable fuel facilities may require processing buildings, storage areas, utility connections, transportation infrastructure, and supporting facilities. Depending on the feedstock, production process, and facility design, operational components may include processing buildings, storage tanks, silos, piping systems, cooling equipment, or substations. These features may introduce visual mass, industrial forms, or vertical elements that may contrast with surrounding landscapes, particularly in rural, agricultural, or open space areas. Large tanks, towers, stacks, or other vertical structures may be visible from considerable distance and degrade the perception of rural quality in the county.

Operational lighting may increase nighttime visibility and contribute to light pollution. Depending on facility design, visible vapor plumes, steam emissions, or other operational byproducts may further affect visual conditions and alter viewsheds. When renewable fuels facilities are visible from scenic roadways, recreational, agricultural, or residential lands, or other visually sensitive receptors, the perceived scenic quality and character may be reduced, and there may be a greater sense of industrialization in the area.

Decommissioning

Decommissioning would involve the removal of processing equipment, storage facilities, utility infrastructure, and associated site improvements, which could create short-term visual disturbances comparable to those experienced during initial construction activities. Dust associated with demolition and soil disturbance may temporarily impact visibility and scenic views, and light associated with decommissioning activities may contribute to a temporary degradation in dark sky conditions.

Decommissioning activities would progressively reduce the visual prominence of renewable fuels facilities by removing industrial structures, lighting systems, and other visually conspicuous features. Following infrastructure removal and demolition, site restoration, revegetation, or conversion to other land uses could improve visual quality and reduce contrasts between the project site and surrounding landscapes. These impacts would be temporary and may result in a long-term improvement in visual conditions.

Mitigation Measures

Recommended Measures for Siting and Design

- Recommend siting renewable fuels facilities outside of designated scenic corridors, prominent ridgelines, shoreline environments, and other visually sensitive landscapes. Applicants should utilize previously disturbed, industrial, or commercially developed areas whenever practicable to minimize introduction of industrial features into undeveloped landscapes.
- Suggest finishes and colors for facility buildings and equipment that are appropriate to their location and context and help blend features with the surrounding area, taking into consideration seasonal usage and seasonal colors.
- Request a project-level visual impact assessment that includes viewshed mapping, line-of-sight analysis, and photographic simulations, scenic corridors, parks, trails, shorelines, residences, and other sensitive viewing locations, when warranted with location or project characteristics.
- If siting a renewable fuels facility near agricultural uses for feedstock access, require siting on agricultural lands not visible from the Skagit County Agricultural Scenic Corridor or planting vegetated buffers to preserve the visual character of the area.
- Where practicable, request architectural treatments that reduce the visual mass of large structures, including variation in building facades and rooflines, use of non-reflective materials, use of muted colors, screening of rooftop mechanical equipment, and orienting buildings such that visibility from sensitive viewpoints is minimized.
- Where practicable, utilize co-location of utility corridors, pipelines, roadways, and transmission connections with existing infrastructure corridors to the extent feasible to reduce fragmentation and visual intrusion into previously undeveloped areas.

Required Measures

- Comply with applicable Skagit County landscaping, screening, setback, building height, lighting, glare, shoreline, and land use requirements.

Recommended Measures for Construction and Decommissioning

- Limit the size of disturbed areas and duration of disturbance activities through phased construction and phased decommissioning activities so only areas under active work remain exposed at a given time.
- Require nighttime construction lighting to be limited to the minimum necessary for safety and security purposes. Temporary lighting may be shielded, downward-directed, and positioned to minimize visibility from adjacent properties, parks, trails, and roadways.
- Require landscape screening to be installed at the earliest feasible stage of construction to allow vegetation to mature before facility operation begins.
- During decommissioning activities, require applicants to restore disturbed areas to contours compatible with surrounding topography and revegetate using species appropriate to the site's future land use and surrounding character.
- Require implementation of dust control measures to prevent degradation of scenic views and visual quality from fugitive dust associated with grading, demolition, and heavy equipment operations.

Recommended Measures for Operation

- Require the preparation and implementation of a lighting management plan that utilizes full-cutoff fixtures, directs light downward, minimizes light spill beyond facility boundaries, and limits lighting intensity to operational and safety requirements.
- Maintain buildings, tanks, equipment, fencing, and other visible infrastructure using non-reflective coatings and colors selected to minimize visual contrast with surrounding conditions.
- To minimize visual contrast with surrounding conditions, request buildings, tanks, equipment, fencing, and other visible infrastructure to be maintained using non-reflective coatings and colors.
- Require the inspection and maintenance of visual screening vegetation throughout the operational life of the facility. Dead or diseased vegetation should be replaced to maintain intended screening effectiveness.
- Limit facility signage to that necessary for safety, security, identification, and regulatory compliance.

Recommended Measures for Potential Significant Unavoidable Impacts

- Coordinate with the project applicant, property owner, and nearby property owners, residents, and sensitive user groups to inform them of potential impacts. Identify potential concerns or considerations so that mitigation measures can be incorporated into siting, design, construction, and operation.
- As impacts persist during operation, coordinate regularly with local stakeholders to determine potential additional mitigation measures or solutions if impacts are deemed significant.

15.4. No Action Alternative Analysis

Under the No Action Alternative, Skagit County would retain its existing development regulations and the selected energy facilities would continue to be reviewed and permitted under current local, state, and federal regulatory frameworks as described in the **Energy Permitting** section. Depending on the type and characteristics, proposed facilities could be reviewed either through Skagit County's existing processes as minor or major utility developments or through the Washington State Energy Facility Site Evaluation Council (EFSEC) process where certification is required or voluntarily elected by the applicant.

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15.4.1. Impacts from Construction, Operation, and Decommissioning Under Current Processes

In regard to visual quality, primary impacts of concern due to the construction, operation, and decommissioning of energy facilities are long-term changes to visual quality and character that would affect sensitive land uses, as well as the creation of a new significant source of light or glare. The degree and scale of impacts would vary based on facility size, location, design, and construction methods.

Under the No Action Alternative, impacts on visual quality would generally be similar to those under the Action Alternative. For projects reviewed through local government and the EFSEC under the current code, construction and decommissioning activities would continue to pose potential visual impacts due to construction equipment, earthmoving activities, vegetation clearing, and temporary dust, noise, and lighting. Impacts due to operations would vary depending on facility type and scale but could result in long-term changes to visual character through the introduction of industrial or utility-scale infrastructure into the landscape and an increase in skyglow due to operational lighting. However, under the No Action Alternative, the County would not adopt the proposed code updates that could establish or strengthen standards related to screening, facility height, design, landscaping, and other measures intended to reduce visual impacts.

15.4.2. Mitigation Measures

Under the No Action Alternative, the County would not establish new or strengthened development standards addressing visual compatibility for locally permitted energy facilities, though would still proceed through SEPA review to identify if project-level impacts have the potential for adverse impacts on visual quality. Facilities subject to EFSEC jurisdiction would be required to comply with applicable federal and state regulations regarding scenic corridors and byways, glare and aviation impacts, and undergo a project-level SEPA review. Visual impact analysis may consider whether a proposed energy facility would alter scenic views, landscape character, or sensitive visual resources, and mitigation measures such as project siting, screening, and facility design modifications may be considered where significant impacts are identified.

Because EFSEC can preempt local land use plans, zoning ordinances, and development regulations as part of the state certification process, some future energy facilities could be approved under EFSEC certification rather than county development regulations, with visual quality protections implemented through EFSEC conditions and existing state and federal regulatory programs and legislation.

15.4.3. Significant Unavoidable Adverse Impacts

Under the No Action Alternative, the potential for significant adverse impacts to visual quality would remain. These impacts would generally be similar to those identified for the representative facility types analyzed in the CESP EIS and could be reduced through compliance with applicable regulatory requirements and standards set forth in the Skagit County Comprehensive Plan and Skagit County Code. However, while the No Action Alternative would continue to address impacts through existing federal, state, and local regulations, the alternative does not provide opportunities to reduce or proactively manage impacts or standardize mitigation measures. Measures to limit impacts on visual quality may be implemented inconsistently across future energy facility developments due to limited county oversight. Projects would continue to be required to comply with applicable regulations regarding

Skagit County Clean Energy Siting and Permitting

visual quality, but the county would have less ability to establish standardized requirements tailored to local conditions.

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16. Transportation

16.1. Overview

The Transportation section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures, associated with transportation systems within Skagit County.

The conditions analyzed in this section include:

- Road Infrastructure, Traffic, and Truck Freight Volumes
    - Road Infrastructure
    - Sensitive Transportation Corridors
    - Roadway Volume Characteristics
    - Truck Freight Volumes
    - Active Transportation Facilities
- Rail Freight System and Infrastructure
- Maritime Freight System and Infrastructure
- Ferry System and Infrastructure
- Airports and Airspace

Impacts of the alternatives would be considered significant if they result in:

- Permanent, significant impacts on traffic patterns, volumes, hazards, or risks to other users, including commercial and military aircraft
- Long-term road closures or interruptions to traffic patterns or volumes, causing the movement of people and goods to be impacted in the long term
- Substantial damage to roadways or related infrastructure (e.g., culverts or bridges) that could not be safely used without major repairs or replacement to return to pre-impact conditions
- Substantial damage or change to transit, rail, air, or water transportation that could not be safely used without major repairs or replacement to return to pre-impact conditions

16.2. Existing Conditions

The study area for this section encompasses the roadway, rail, air, and maritime freight and passenger transportation infrastructure that lie within Skagit County limits. The affected environment represents existing conditions at the time this study was prepared.

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16.2.1. Road Infrastructure, Traffic, and Truck Freight Volumes

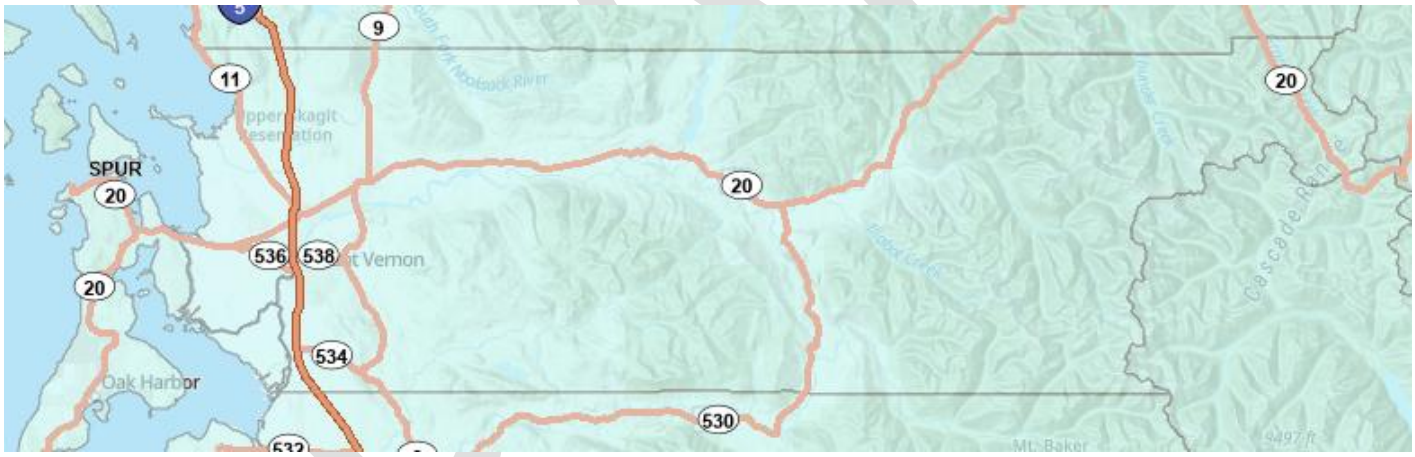
Road Infrastructure

There are approximately 800 miles of roadway in Skagit County, comprised of a federal interstate, state highways, county road network, private roads, and roads managed by cities.[161]

Skagit County is bisected from north to south by Interstate 5 (I-5), a primary interstate in Washington. I-5 runs approximately 25 miles through the county, from Nulle Road near the Whatcom County line in the north to Starbird Road in the south. It is the only interstate serving Skagit County. Where I-5 runs north to south, State Route 20 provides an east to west connection, linking Anacortes, Burlington, and eastern Skagit County. The other state highways in the county include:

- State Route 9
- State Route 11
- State Route 20
- State Route 530
- State Route 534
- State Route 536
- State Route 538

Figure 58: Skagit County State Routes



Source: Washington State Department of Transportation, WSDOT State Routes, 2026, https://www.arcgis.com/apps/mapviewer/index.html?layers=9bb8291584784d1798018af06b7230e0

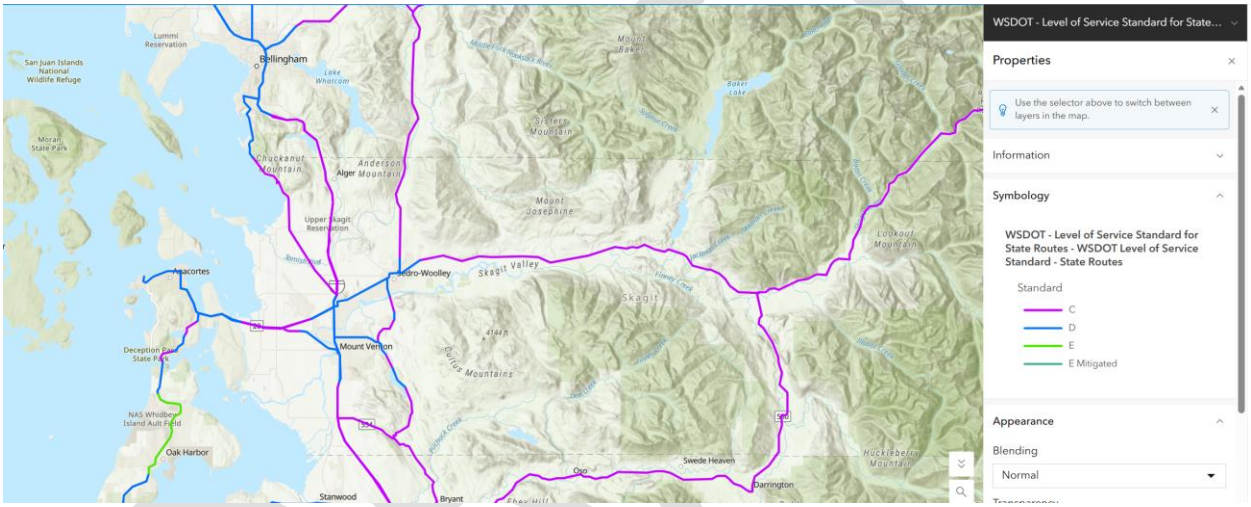
Level of service (LOS) standards evaluate the effectiveness of roadway networks by assessing peak-hour traffic volumes relative to roadway capacity. LOS assigns a rank (A - F) to road sections based on traffic flow and corresponding safe driving conditions. The Highway Capacity Manual and AASHTO Geometric Design of Highways and Streets ("Green Book") list the following levels of service:

[161] Skagit County, "Skagit County Comprehensive Plan 2025-2045," 2025, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf

- A = Free flow,
- B = Reasonably free flow,
- C = Stable flow,
- D = Approaching unstable flow,
- E = Unstable flow,
- E Mitigated = Congestion should be mitigated (such as transit) when p.m. peak hour LOS falls below LOS "E",
- F = Forced or breakdown flow

As shown in **Figure 59** below, level of service standards for state routes largely fall in the LOS C and LOS D standards. Those with LOS D are located near Mount Vernon and along SR 20 near Anacortes.

Figure 59: WSDOT Level of Service Standard for State Routes

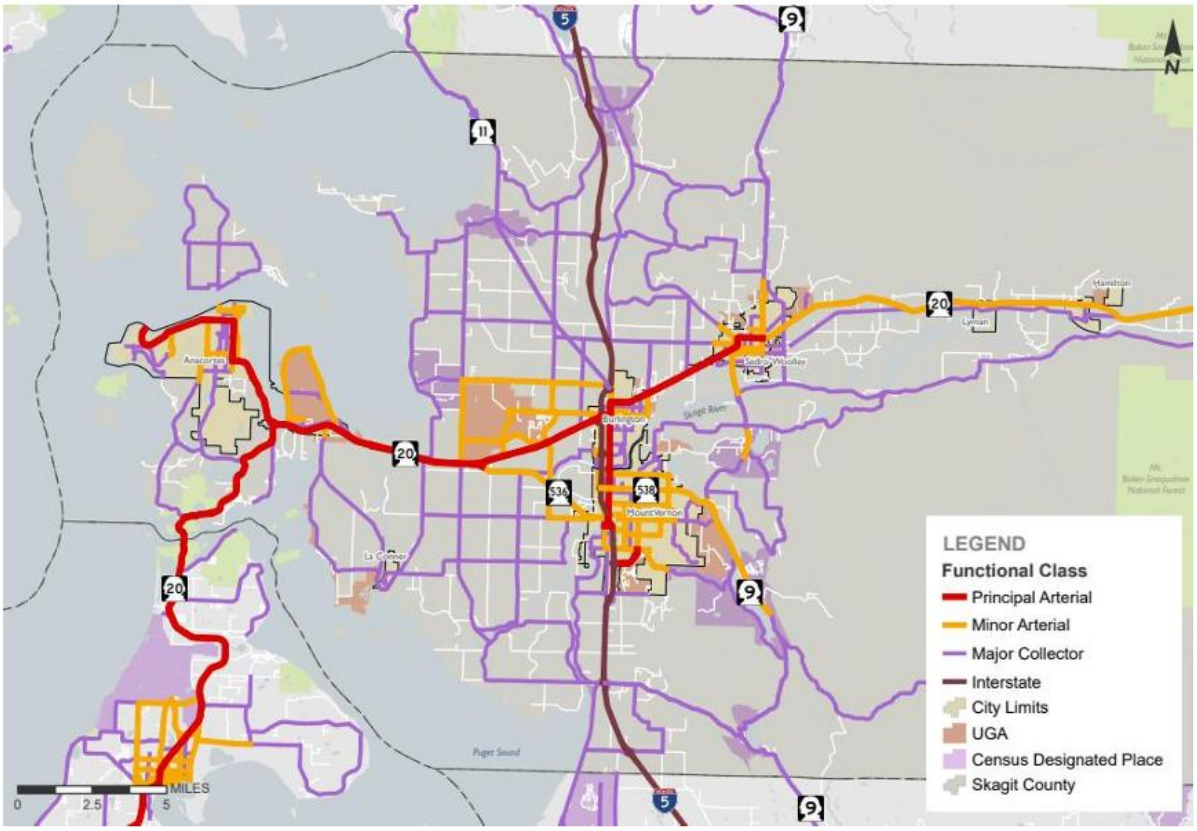


Source: Washington State Department of Transportation, WSDOT – Level of Service Standard for State Routes, 2024, https://www.arcgis.com/apps/mapviewer/index.html?layers=3f840aeeb1ba481c905270ca103cd1db

On the county level, approximately 157 miles of roadways are rural major collectors, 153 miles are rural minor collectors, 372 miles are rural local roads, and 108 miles are composed of several different urban classifications. The majority of roadways in Skagit County are rural local access roads, making up 47 percent of the county's total roadway miles.

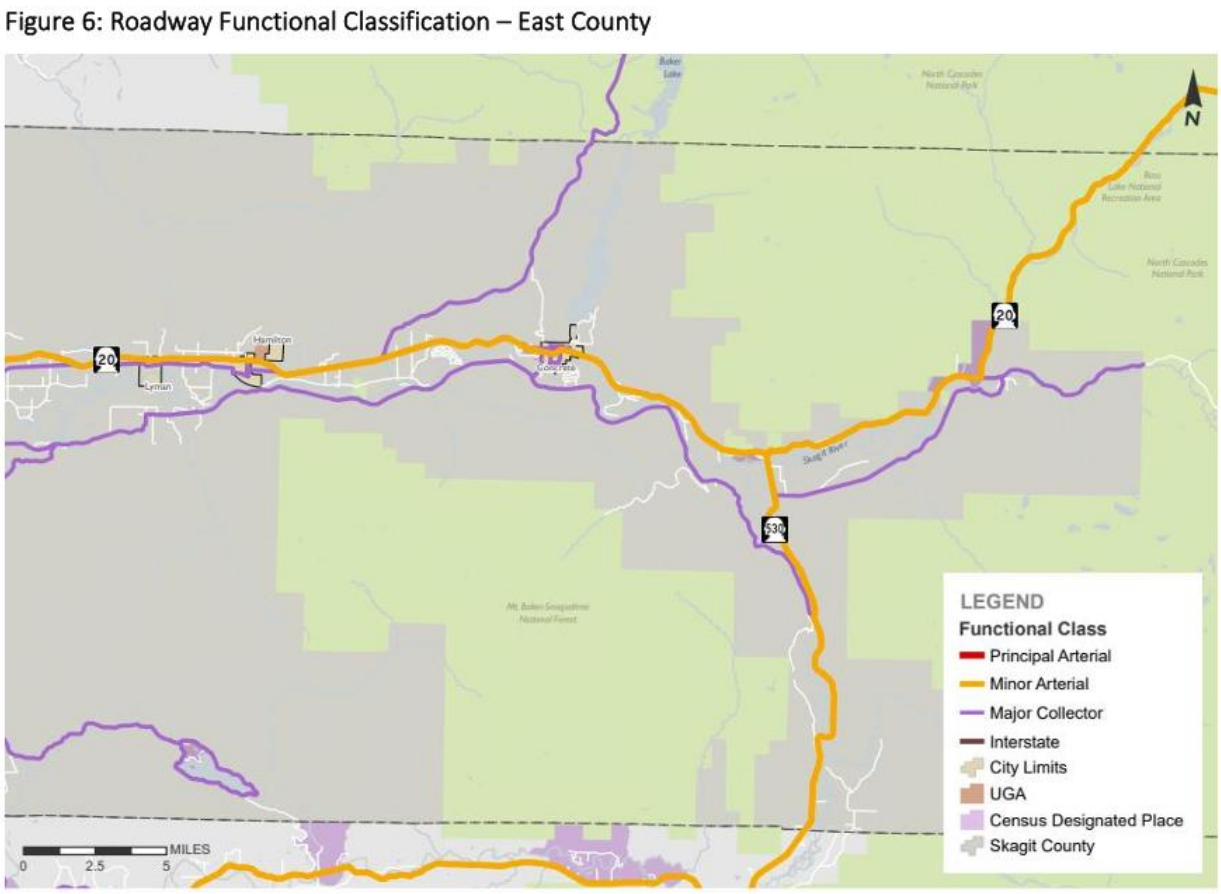
Figure 60: Roadway Functional Classification – West Skagit County

Figure 5: Roadway Functional Classification – West County



Source: Skagit County, Skagit County Comprehensive Plan "Roadway Functional Classification – West County", 2025, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/CompPlan2025_WholeDocumentCLEAN_3.0.pdf

Figure 61: Roadway Functional Classification – East Skagit County



Source: Skagit County, Skagit County Comprehensive Plan "Roadway Functional Classification – East County", 2025, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/CompPlan2025_WholeDocumentCLEAN_3.0.pdf

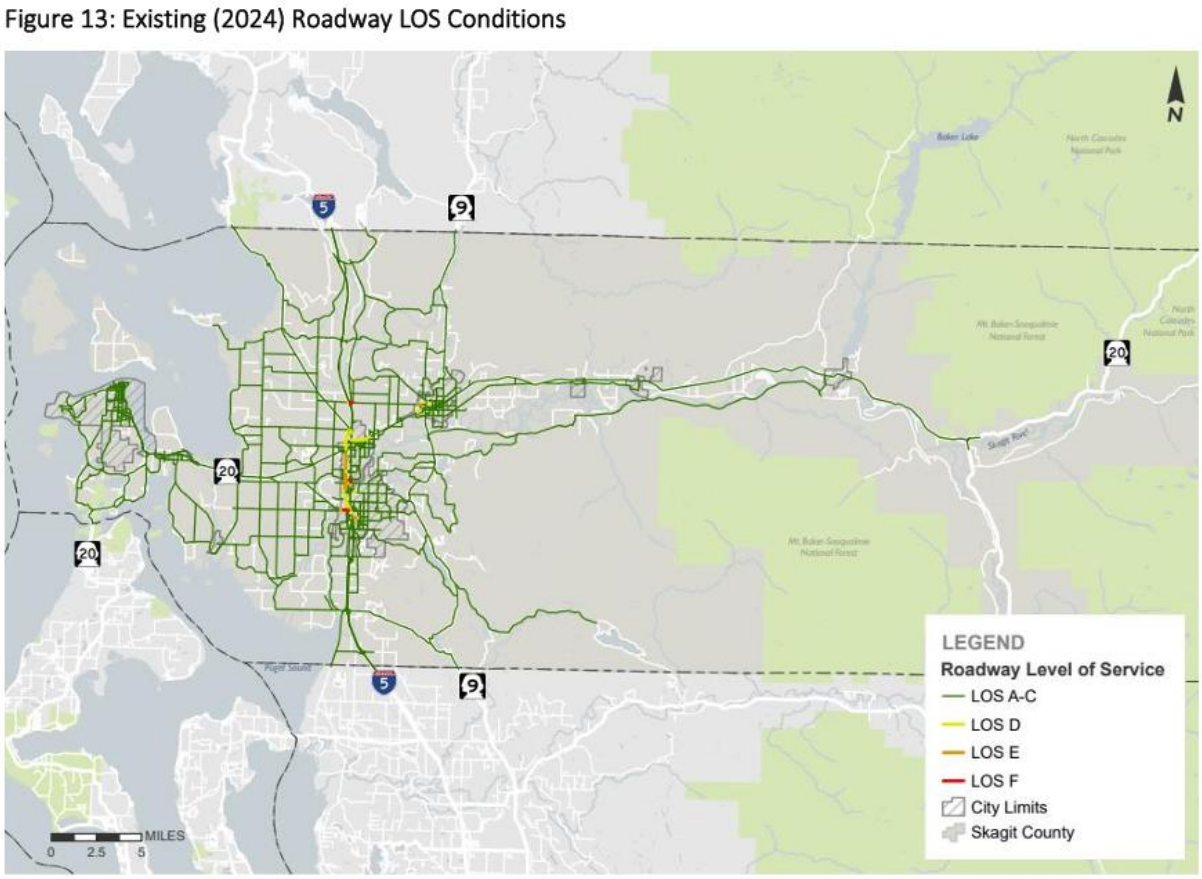
The level of service (LOS) standard for county roads is LOS C. An LOS D is acceptable in the county for all road segments that:

- Have Annualized Average Daily Traffic (AADT) greater than 7,000 vehicles; and
- Are NOT federally functionally classified as a 09-Local Access Road; and
- Are designated as a County Freight and Goods Transportation Systems Route (FGTS).

The LOS standard for county road intersections is LOS D. Roads must be constructed consistent with latest County Roads Standards.[162]

[162] Skagit County, "Skagit County Comprehensive Plan 2025-2045," n.d., https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf

Figure 62: 2024 Roadway Level of Service Conditions in Skagit County



Source: Skagit County, Skagit County Comprehensive Plan "Existing (2024) Roadway LOS Conditions", 2025, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/CompPlan2025_WholeDocumentCLEAN_3.0.pdf

Truck Freight Volumes

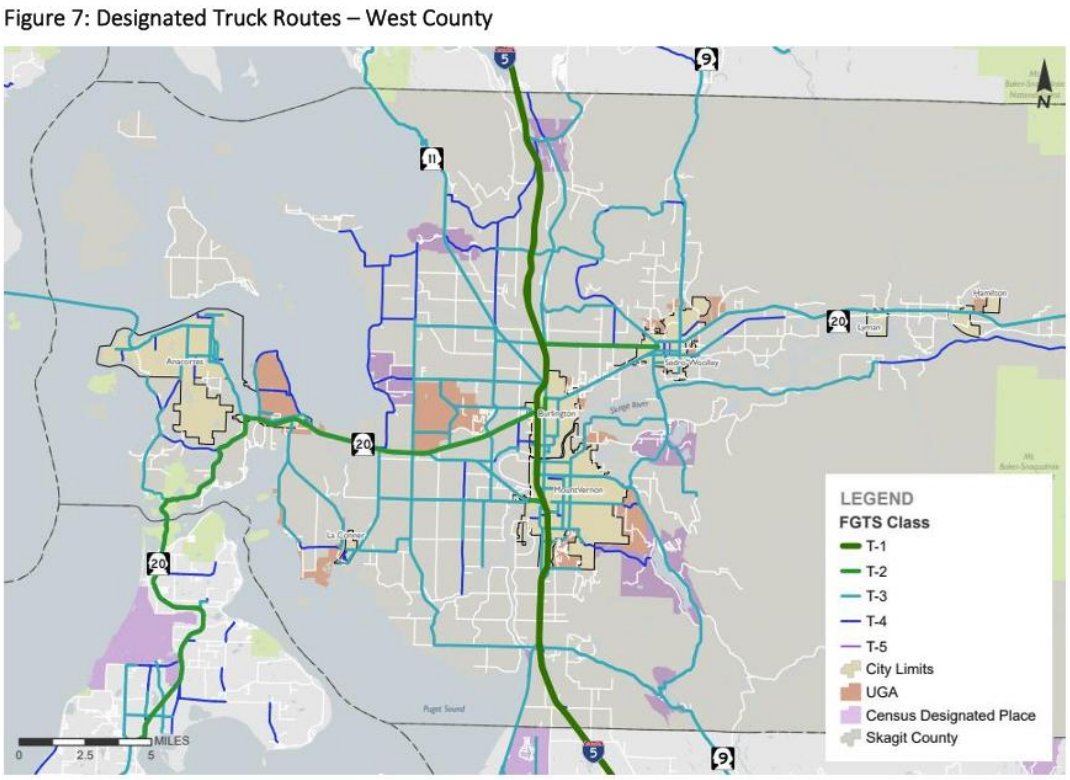
The Freight and Goods Transportation System (FGTS), which is a distinct classification system for multimodal freight corridors, identifies five classes of designated freight corridors[163]:

- T-1: More than 10 million gross truck tons per year
- T-2: Between 4 million and 10 million gross truck tons per year
- T-3: Between 300,000 and 4 million gross truck tons per year
- T-4: Between 100,000 and 300,000 gross truck tons per year
- T-5: At least 20,000 tons in 60 days and less than 100,000 gross truck tons per year

[163] Washington State Department of Transportation, "2025 WSDOT Freight and Goods Transportation Report: Washington State Freight and Goods Transportation System (FGTS) 2025 Update" updated December 2025, https://wsdot.wa.gov/sites/default/files/2025-12/FGTS-2025-Report.pdf

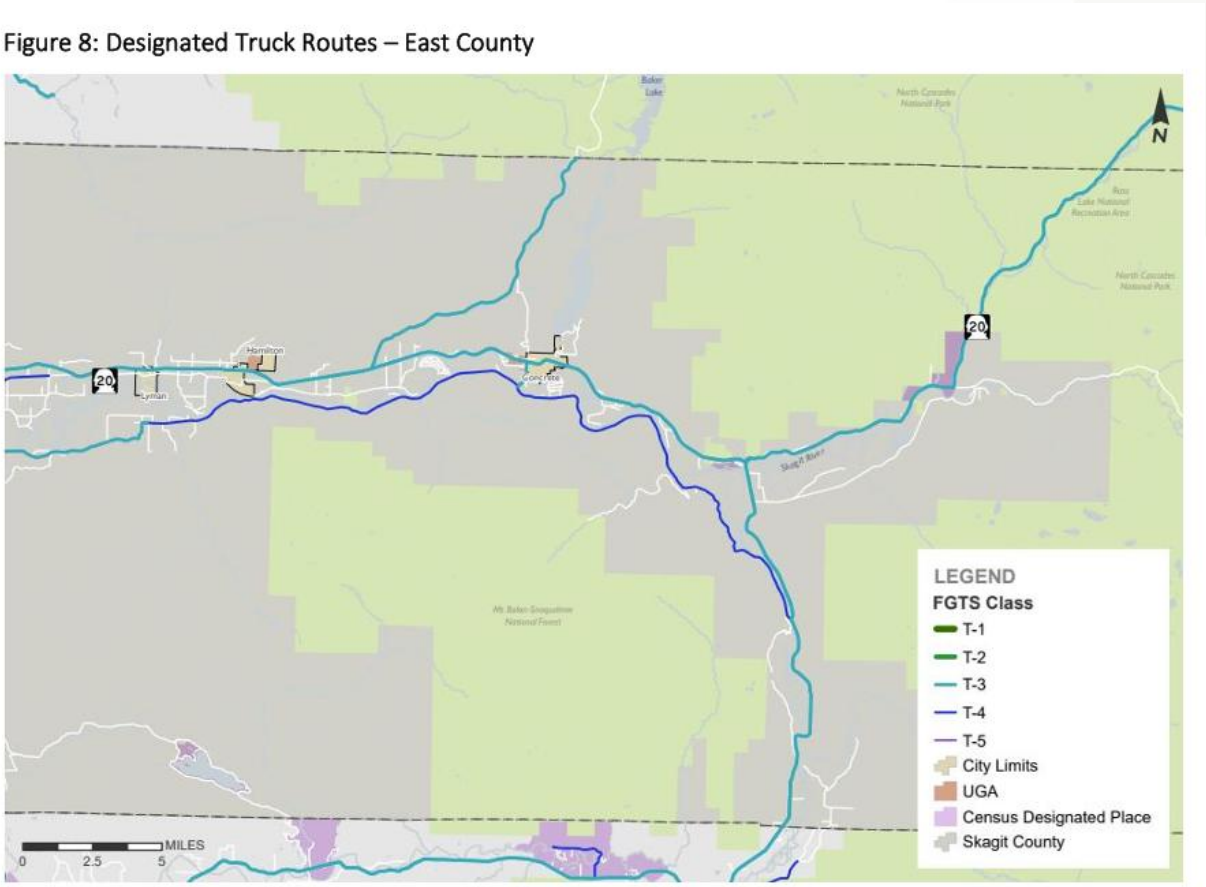
Three of these classes of freight corridors exist in Skagit County: T-1, T-2, and T-3. I-5 is designated as a T-1 corridor, as it serves as the primary strategic freight and through-truck corridor across the county. State Route 20 (SR-20), a T-2 corridor, is a primary regional connector that carries major industrial and refinery-related traffic. Secondary routes, such as SR-11 and SR-530, are designated as T-3 corridors.

Figure 63: Designated Truck Routes – West Skagit County



Source: Skagit County, Skagit County Comprehensive Plan "Designated Truck Routes – West County", 2025, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/CompPlan2025_WholeDocumentCLEAN_3.0.pdf

Figure 64: Designated Truck Routes – East Skagit County



Source: Skagit County, Skagit County Comprehensive Plan "Designated Truck Routes – East County", 2025, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/CompPlan2025_WholeDocumentCLEAN_3.0.pdf

Sensitive Transportation Corridors

There are several officially designated scenic byways in Skagit County. A portion of the Cascade Loop National Scenic Byway runs through the county, following SR-20 within county boundaries. The North Cascade Scenic Highway and Whidbey Scenic Isle Way are both part of the Cascade Loop National Scenic Byway. Chuckanut Drive (SR-11) spans 21 miles, beginning in Burlington and ending in Whatcom County.[164]

- **Skagit County Agricultural Scenic Corridor:** The only designated agricultural scenic highway in Washington State. It stretches along I-5 from Starbird Road in the south to Bow Hill in the north.
- **SR-20/Commercial Avenue:** For a portion of SR-20, running north-south through Anacortes, the state route operates as Commercial Avenue, one of the most utilized corridors on Fidalgo Island. SR-20 also runs through Burlington, Sedro-Woolley, and Concrete, and carries refinery and industrial traffic as Skagit County's primary east-west corridor.

[164] Skagit Valley Chamber of Commerce, "Scenic Drives," n.d., https://www.skagitvalleychamber.com/scenic-drives/

- **Burlington Boulevard:** Burlington Boulevard serves as the central commercial spine between I-5, SR-20, and local destinations, running north-south through Burlington's center.
- **Fairhaven Avenue:** Connects residential, commercial, and municipal uses, running east-west through Burlington.
- **First Street and Kincaid Street:** First Street and Kincaid Street run through Mount Vernon's commercial center. Surrounding these streets are the highest concentration of businesses, civic uses, and pedestrian activity in Skagit County. The Skagit County Superior Court, Tulip Festival Headquarters, Mount Vernon Library Commons, and Mount Vernon City Hall are all located directly on or adjacent to West Kincaid Street, and it provides direct access to active transportation amenities along the Skagit River. East First Street is a primary access route running east-west across Mount Vernon, connecting the Skagit River shoreline with eastern suburbs.

Potential impacts on scenic byways are also discussed in the **Visual Quality** section.

Roadway Volume Characteristics

Existing traffic in Skagit County is generally concentrated along the I-5 and SR-20 corridors and around the Burlington-Mount Vernon urban area, where the highest traffic volumes and congestion levels occur. The average annual daily traffic (AADT) on I-5 at Mount Vernon was approximately 75,000 vehicles per day from 2025 traffic counts.[165] By comparison, nearly half of the county roads carry fewer than 250 vehicle trips per day on average; fewer than 2 percent carry more than 5,000 average vehicle trips per day.[166]

Active Transportation Facilities

Skagit County has an active transportation network that includes facilities for walking, biking, and rolling. While the county does have dedicated bike and pedestrian trails, the primary facilities that accommodate multimodal transportation uses are county roads. Active transportation facilities are concentrated within the Burlington-Mount Vernon urban area, Anacortes, and Sedro-Woolley, where higher population densities support walking and biking. Regionally significant facilities include the Cascade Trail, a 22.5-mile trail connecting Sedro-Woolley and Concrete; the Tommy Thompson Trail in Anacortes, which links downtown Anacortes with March's Point via a paved active transportation trail; and the Centennial Trail, a half-mile section of which runs through Skagit County and ends at the Snohomish County line. Additional important bicycle corridors include the Coast to Salish Route, Coast to Cascades Route, and Coast Millenium Route, as well as local multimodal corridors like Edison Road, Whitney Road, McClean Road, and West Big Lake Boulevard.

The Multimodal LOS (MMLOS) standard for walkway and bikeway segments on the Active Transportation Network is the degree of network completeness (as a percent of the overall network). The degree of Active Transportation Network completeness is a Category C MMLOS standard.

[165] Washington State Department of Transportation, "Traffic Count Data System (TCDS)", n.d., https://wsdot.wa.gov/about/transportation-data/travel-data/traffic-count-data
[166] Skagit County, "Skagit County Comprehensive Plan 2025-2045," 2025, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf

16.2.2. Rail Freight System and Infrastructure

The Burlington Northern Santa Fe (BNSF) Railroad is the primary railroad serving Skagit County. Within County limits, the railroad consists of one mainline, two branch lines, multiple active spurs, and the main BNSF Railroad switching yards located in Burlington. The north/south BNSF Railroad parallels I-5, connecting Seattle and Vancouver; the segment of this railroad that runs from Burlington to Everett is classified as an R1 freight railway, which at more than 5 million tons per year carries the highest volumes of freight in the county. This segment is expected to be at full capacity by 2035. There are several east/west branch lines, including one that parallels SR-20 and connects the March's Point refineries to the Burlington mainline and one that parallels SR-20 from Sedro-Woolley to Burlington before turning north and parallelling SR-9 to the Whatcom County line.

Skagit County's sole passenger rail station is Skagit Station in downtown Mount Vernon, which serves as the hub for rail and local and regional buses. Amtrak Cascades service operates through WSDOT over the BNSF Railway's north-south main line, parallelling Interstate 5 through Skagit County, and provides intercity service within the Pacific Northwest, connecting Mount Vernon to Vancouver, British Columbia; Seattle; Portland; and Eugene, Oregon. Corridor-wide ridership of the Amtrak Cascades reached approximately 993,000 passengers in 2024 and 916,000 passengers in 2025.[167]

Transit Service

There are multiple types of transit service available in Skagit County, including fixed route, paratransit, rideshare, and park-and-rides. Skagit Transit operates 19 fixed routes, including 11 local routes, four commuter routes (to Alger/Bellingham, Everett, Anacortes, and Concrete), and three rural routes. Paratransit services are available for eligible riders who are unable to use a fixed route bus and operate within the same geographic range and hours as Skagit Transit's local fixed routes. The Skagit Transit Rideshare Program provides vanpool service for commuters travelling to common destinations under a monthly fee. 70 percent of riders participating in the Rideshare Program are travelling to the Boeing facility in Snohomish County. Skagit County also operates five park-and-ride facilities at the following locations:

- Chuckanut (near I-5 exit 231)
- March's Point (Highway 20 at Christianson Road)
- South Mount Vernon (I-5 and Old Highway 99)
- Sedro-Woolley (Cook Road and Highway 20)

16.2.3. Maritime Freight System and Infrastructure

The marine ports in Skagit County include 15 commercial piers, wharfs, and docks located along Guemes Channel, Swinomish Channel, March's Point, and the western shore of Fidalgo Bay. The Port of Anacortes and March's Point are the primary port facilities in Skagit County, serving as vital intermodal transportation, economic,

[167] Washington State Department of Transportation, "Amtrak Cascades: 2024 Performance Data Report", published 2024, https://wsdot.wa.gov/sites/default/files/2025-04/2024-Amtrak-Cascades-Annual-Performance-Report.pdf

and recreational centers. These ports serve multiple industrial and commercial uses, including refineries, which are the area's largest employers.

- **Port of Anacortes:** Curtis Wharf provides periodic moorage for a variety of commercial, private, and government vessels. Pier 2 is used primarily for short-term moorage for barges and for exports of dry bulk cargo.
- **March's Point:** Two petroleum refineries are located at March's Point, the HF Sinclair Puget Sound Refinery and the Marathon-Anacortes Refinery. Both have deep water terminals capable of accommodating oil tankers.

16.2.4. Airports and Airspace

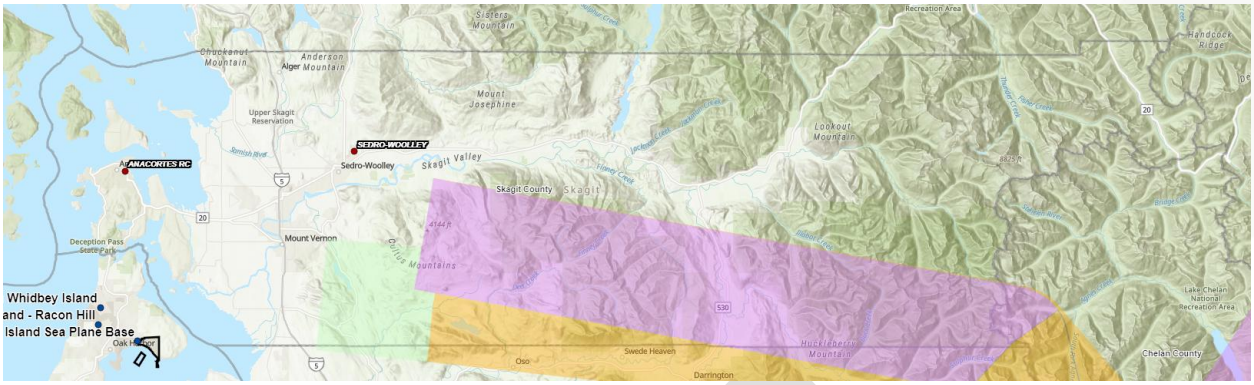
As discussed in the **Land Use** section, Skagit Regional Airport serves as the primary airport for the county. There are two additional airports in Skagit County: the Anacortes Airport, and the Concrete Airport (Mears Field). The locations of these airports are discussed below.

- **Skagit Regional Airport**: Situated west of Burlington and operated by the Port of Skagit County.
- **Anacortes Airport**: The Anacortes Airport is operated by the Port of Anacortes and serves Bellingham and the San Juan Islands. It also operates charter flights, primarily for business travelers and commuters, to SeaTac Airport and Boeing Field.
- **Concrete Airport**: Also known as Mears Field, the Concrete Airport is a general aviation facility serving the eastern part of Skagit County. It also operates a charter service for business and tourist travel.

Skagit County also has designated military training airspace located in the southern part of the county, ranging from 200-foot to 1000-foot elevations. The Compatible Energy Siting Assessment tool (CESA) can be used by developers to determine the potential compatibility of renewable energy development with land adjacent to the county's military facilities or within military airspace bounds. Washington State law requires local governments to protect military installations, training areas, and associated operational airspace from incompatible development.[168]

[168] Washington State Compatible Energy Siting Assessment (CESA), "About: CESA Site Consultation Map Tool Prototype," n.d., https://cesa-timmons-group.hub.arcgis.com/pages/about The page describes the prototype as a consultation platform intended to support early and ongoing civilian and military coordination related to energy siting in Washington State.

Figure 65: Compatible Energy Siting Assessment Map Tool



Source: Washington State Department of Commerce, CESA Map Tool, n.d., https://fortress.wa.gov/com/cesa/

16.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative evaluates the potential significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuels facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

16.3.1. Impacts Applicable to All Energy Facilities

Construction

Construction activity specifically pertaining to electrical interconnections, transmission line construction, and the movement of oversized loads may require temporary lane or shoulder closures, flagging operations, reduced operating speeds, or special routing to maintain safe roadway operations. Large equipment and construction vehicles may result in deterioration of the county's roadways. Impacts would be anticipated to be temporary and largely localized to future project sites. Site specific traffic impacts would be assessed at a project level.

Operation

Operational activities for future facilities may result in an increase in traffic due to maintenance, inspections, component replacement, or materials deliveries. Traffic generation resulting from operational activities is specific to the energy facility type analyzed. Impacts from operations would be anticipated to be minimal due to limited staffing. Site specific traffic impacts would be assessed at a project level.

Decommissioning

Decommissioning of the energy facilities discussed in the CESP EIS may result in an increase in trip generation due to removal and transportation off-site of heavy equipment, construction and demolition waste, and facility infrastructure. Increased trip generation may have traffic demand impacts on I-5, state and county roadways, and rural local roads, depending on the facility location. During decommissioning, an increase in traffic impacts may be observed both at the facility location and where waste is transported, potentially impacting multiple segments of Skagit County's roadway network. This traffic demand may contribute to accelerated roadway wear and

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deterioration, particularly on county and local rural roads with low average daily traffic volumes, increasing facility maintenance burdens on roadway operators. Impacts would be anticipated to be temporary and largely localized to future project sites. Site specific traffic impacts would be assessed at a project level.

Mitigation Measures

Regulatory Framework

Numerous existing Federal, State, and local legislation regulating transportation will require mitigation for future energy projects. A more comprehensive list of federal, state, and local level regulations that govern transportation are as follows:

Federal Regulations

- Title 23, United States Code (U.S.C) - Highways
- Infrastructure Investment and Jobs Act (IIJA)
- Federal Highway Administration Design Standards (23 CFR Part 625)
- Federal Railroad Administration (FRA)
- Interstate Commerce Commission Termination Act (ICCTA)
- Federal Aviation Act
- Federal Aviation Administration
- Objects Affecting Navigable Airspace (14 CFR Part 77)

State Regulations

- RCW Title 47 (Public Highways and Transportation)
- RCW 36.75 (County Roads and Bridges)
- RCW Title 81 (Transportation)
- RCW 47.60 (Washington State Ferries)
- Growth Management Act (GMA)
- Washington State Rail Plan
- Washington Aviation System Plan
- Washington Transportation Plan
- Freight and Goods Transportation System (FGTS)

Local Regulations

- Regional Transportation Plan: Move Skagit 2050
- Skagit County Comprehensive Plan Transportation Element
- Guemes Island Ferry planning and capital facilities policies
- The following Skagit County Code (SCC) sections:
  - SCC 11.04 - Establishment of County Roads
  - SCC 11.08 - Vacation of Skagit County Roads
  - SCC 11.12 - County Rights-of-Way
  - SCC 11.16 - Unopened Rights-of-Way and Roads
  - SCC 11.20 - Road Closures and Restrictions

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- SCC 11.24 - Standard Specifications
- SCC 11.28 - County Road Signs
- SCC 11.30 - Primitive Roads
- SCC 11.32 - Street Name Changes
- SCC 14.62 - Concurrency
- SCC 14.66 - Public Works Standards

Required Mitigation Measures

Federal

- Determination of FAA No Hazard to Air Navigation Form 7460-1, Notice of Proposed Construction or Alteration
- Obtain U.S. Department of Transportation Section 4(f) Review

State

- Obtain WSDOT Access Connection Permit and General Permit
- Obtain WSDOT oversized/overweight load permits
- Obtain WSDOT haul route agreements and mitigation of wear agreements
- Obtain WSDOT interagency agreements per RCW 39.34.040
- Submit temporary traffic control plans to WSDOT and implement during construction operations
- Submit DNR Forest Practices Application/Notification (FPA/N) (RCW 76.09) application, if applicable
- NPDES Construction Stormwater General Permit (Ecology), as applicable.
- Implement Transportation Management Plan in coordination with WSDOT and Skagit County

Local

- Adhere to Skagit County Code regarding road standards and restoration
- Adhere to Skagit County Road Standards and other applicable engineering and design standards
- Obtain Skagit County Access Permit for connections to county roads
- Obtain Skagit County or city construction and development permits for road access, grading, lighting, signage
- Obtain Skagit County oversize/overweight load permits
- Submit temporary traffic control plans to Skagit County Public Works and implement during construction operations
- If applicable, obtain Skagit County Shoreline Substantial Development Permit or Shoreline variance approval for transportation-related construction
- Prepare a project-level transportation analysis to demonstrate that site access can safely accommodate anticipated traffic volumes, including oversized or overweight loads, without creating significant impacts to the transportation network. The analysis should also consider major traffic routes, peak-hour traffic volumes, and applicable regional transportation plans when evaluating site access and potential impacts to the transportation network.

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Recommended Measures for Siting and Design

- Require proposed energy facilities demonstrate consistency with transportation and utility infrastructure planning by prioritizing locations proximate to existing major transportation corridors, including I-5, SR-9, SR-20, and SR-536, and existing utility infrastructure, reducing the need for roadway improvements or extensions of public infrastructure.
- Encourage consolidation of site access points to public roadways where practicable to maintain roadway function and safety.
- Identify where potential project-level transportation impacts may conflict with existing freight, agricultural, commercial, public transit, school bus, or emergency response routes, conditions of approval may require access modifications, alternative routing, construction traffic restrictions, or other measures to maintain transportation system function and avoid or minimize disruptions to existing users. Measures may call for coordination with the following parties and documents:
    - Consult Skagit Council of Governments Regional Transportation Plan (Move Skagit 2050) to assess potential transportation impacts
    - Coordinate with Skagit County Public Works, Emergency Management, city emergency response, and impacted Fire Districts to ensure emergency response routes will not be disrupted during operation
    - Coordinate with transit providers and school districts regarding public transit routes and stops and school bus routes and stops
- If a facility is sited in a location that would require substantial use of narrow rural local roads, structurally constrained bridges, or transportation facilities with limited capacity to accommodate construction, operation, or decommissioning traffic, conditions of approval may require alternative routes, roadway or bridge improvements, or other measures necessary to increase capacity of address identified transportation impacts.
- If a facility is located near a designated scenic byway, a Visual Impact Assessment may be needed, as appropriate, to evaluate potential project-level visual impacts from scenic roadways and inform appropriate siting, setback, screening, or design requirements to avoid or minimize impacts to protected scenic resources and viewsheds.
- Where potential conflicts with civilian or military aviation or airspace are identified through review of the Compatible Energy Siting Assessment (CESA) tool and/or coordination with FAA or DoD, require project siting, height, lighting, or design measures necessary to avoid or minimize those conflicts.

Recommended Measures for Construction and Decommissioning

- Identify and coordinate haul routes, oversized load deliveries, and temporary traffic control measures with affected transportation agencies.
- Maintain adequate emergency vehicle access and avoid disruption of designated emergency response routes during construction and decommissioning.
- Require repair of roadway damage attributable to project construction or decommissioning activities, as required by applicable permits and agreements.

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- Where activities may result in substantial heavy-vehicle traffic on public roadways, conditions could include pre-construction roadway condition surveys on roads to establish baseline conditions and support identification of project-related roadway impacts.
- Where activities would involve rail crossings, rail deliveries, or work adjacent to railroad facilities, coordinate with railroad operators for applicable crossing, access, and safety requirements.
- Where oversized loads or major equipment deliveries could conflict with peak traffic periods or other roadway users, conditions of approval may establish delivery routes, hours, or other transportation restrictions to minimize traffic disruptions.
- Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration.

Recommended Measures for Operation

- Maintain site access roads and access points in a condition that supports safe operations and emergency response access.
- Monitor transportation access and operational traffic levels to identify potential safety concerns or infrastructure impacts associated with facility operations.
- Coordinate with transportation agencies if operational conditions substantially change traffic patterns, access needs, or roadway demands.

16.3.2. Solar Facilities

Construction

Construction impacts for solar facilities analyzed in the CESP EIS are largely included in the Overall Impacts section above and potentially include a temporary increase in traffic demand due to the transport of heavy equipment, solar panels, racking systems, inverters, transformers, and substation components. An increase in traffic demand may result in roadway deterioration, increased traffic safety concerns for motorists, cyclists, and pedestrians, and the potential for temporary lane and shoulder closures for electrical grid and transmission line interconnections. Impacts would be anticipated to be temporary and largely localized to future project sites. Site specific traffic impacts would be assessed at a project level.

Operation

Operations impacts for the energy facility types analyzed in the CESP EIS have been discussed in the Overall Impacts section above. An increase in limited operational traffic may occur due to solar panel maintenance, inspections, replacement, and vegetation management. Impacts from operations would be anticipated to be minimal due to limited staffing. Site specific traffic impacts would be assessed at a project-level.

Decommissioning

Decommissioning impacts for solar facilities analyzed in the CESP EIS are largely included in the Overall Impacts section above and potentially include a temporary increase in traffic demand due to the removal and transportation off-site of decommissioned solar panels, racks, and associated infrastructure. This increased traffic demand may result in roadway deterioration due to the transport of heavy equipment, construction and demolition waste, and decommissioned facility infrastructure, particularly on rural local and county roads that experience small average daily vehicle loads. An increase in traffic may occur both at the facility site and where waste is

transported, resulting in safety concerns for other motorists, cyclists, and pedestrians and a potential increase in traffic delays on commuter and commercial corridors. Impacts would be anticipated to be temporary and largely localized to future project sites. Site specific traffic impacts would be assessed at a project level.

Mitigation Measures

The site design, mitigation measures, and significant unavoidable impacts identified in the Overall Impacts section would be applicable. Additional mitigation measures or unavoidable impacts are not anticipated for solar facilities.

16.3.3. Battery Energy Storage Systems (BESS)

Construction

Construction activity impacts for future facilities are largely included in the Overall Impacts section above. These impacts will be relative to the size of the site and may potentially include an increase in traffic demand due to construction workforce commutes; large material deliveries, such as prefabricated battery storage units, transformers, inverters, switchgears, gravel, and concrete; and heavy construction equipment transport. This increased trip generation may result in road degradation, primarily on rural local roads and county roads that do not typically experience heavy vehicle loads or frequent daily vehicle trips. An increase in traffic safety concerns for motorists, cyclists, and pedestrians may occur due to increased traffic demand, particularly on local rural roads that serve as multimodal corridors. Additionally, temporary lane and shoulder closures may be expected for electrical grid and transmission line interconnections. Impacts would be anticipated to be temporary and largely localized to future project sites. Site specific traffic impacts would be assessed at a project level.

Operation

Operations impacts for BESS facilities analyzed in the CESP EIS are largely included in the Overall Impacts section above and potentially include a limited increase in operational traffic due to maintenance, inspections, and BESS component replacement. Impacts from operations would be anticipated to be minimal due to limited staffing. In the event of a battery fire or other emergency, temporary increases in traffic could occur from emergency response personnel and equipment. Site-specific traffic impacts, including emergency access and response considerations, would be evaluated at the project level.

Decommissioning

Decommissioning impacts for BESS facilities analyzed in the CESP EIS are largely included in the Overall Impacts section above and potentially include a temporary increase in traffic demand due to the removal and transportation off-site of construction and demolition waste, decommissioned battery storage units, power conversion equipment, inverters, and associated infrastructure. The impacts will be relative to the size of the site. This increased traffic demand may result in roadway deterioration due to the transport of heavy equipment, construction and demolition waste, and decommissioned facility infrastructure, particularly on rural local and county roads that experience small average daily vehicle loads. An increase in traffic may occur both at the facility site and at the waste management facility, resulting in safety concerns for other motorists, cyclists, and pedestrians and a potential increase in traffic delays on commuter and commercial corridors. Impacts would be anticipated to be temporary and largely localized to future project sites. Site specific traffic impacts would be assessed at a project level.

Mitigation Measures

The majority of site design, mitigation measures, and significant unavoidable impacts identified in the Overall Impacts section would be applicable to BESS facilities. Additional siting and design considerations for BESS facilities include:

Recommended Measures for Siting and Design

- Promote sites with direct access to state highways, major collectors, or other transportation routes capable of accommodating oversized and overweight loads
- Site design shall include access roads, turning radii, gates, and staging areas to accommodate delivery and replacement of battery containers, transformers, and other large equipment
- Restrict locations that require frequent transport of oversized loads on narrow rural roads, weight-restricted bridges, or other constrained transportation facilities
- Restrict siting facilities where primary access would occur through agricultural road networks serving active agricultural operations, specifically during planting/harvesting

Required Measures

- Refer to measures applicable to all facilities.

Recommended Measures for Construction and Decommissioning

- Prepare a haul route plan for delivery and removal of oversized equipment
- Coordinate with WSDOT, Skagit County, railroad operators, and other affected transportation agencies as applicable for oversized and overweight equipment deliveries
- Provide transportation schedules of battery containers, transformers, and other major equipment to minimize conflicts with peak traffic periods where feasible
- Survey roadway condition of transportation facilities expected to accommodate significant construction-related traffic

Recommended Measures for Operation

- Maintain site access roads and points to support routine maintenance activities and emergency response
- Coordinate the transportation of replacement battery units and other large equipment to minimize impacts on local transportation facilities
- Monitor operational access needs and implement corrective measures if recurring transportation or access issues are identified

Significant Unavoidable Impacts

Significant unavoidable transportation impacts are not anticipated where facilities are sited on transportation corridors capable of accommodating anticipated construction, operation, and decommissioning traffic.

16.3.4. Fusion Small Modular Reactors (Fusion SMRs)

Construction

General construction impacts for fusion SMRs have been discussed in the Overall Impacts section above. Traffic demand may increase due to the transport of heavy equipment, prefabricated SMR components, and daily

construction worker commutes. The potential for road degradation and an increase in traffic safety concerns for motorists, cyclists, and pedestrians may result from increased trip generation due to construction.

Operation

Operations impacts for fusion SMRs may include comparatively higher operational traffic volumes than other energy facilities due to regular staffing needs for site maintenance and security. This sustained increase in traffic volume may result in the degradation of roads and roadway infrastructure, particularly on county and rural local roads that experience low average daily traffic counts.

Secure highway and rail networks are necessary for transportation of nuclear fuel. Highway access to the fusion SMR site, as well as dedicated access roads on-site, are necessary for emergency response access.

Decommissioning

Decommissioning impacts for the fusion SMR facilities analyzed in the CESP EIS are largely included in the Impacts Applicable to All Energy Facilities section above and potentially include a temporary increase in traffic demand due to the removal and transportation off-site of construction and radioactive demolition waste, decommissioned modular SMR chambers, shielding and structural materials, and associated infrastructure. This increased traffic demand may result in roadway deterioration due to the transport of heavy equipment, construction and demolition waste, and decommissioned facility infrastructure, particularly on rural local and county roads that experience small average daily vehicle loads. An increase in traffic may occur both at the facility site and at the waste management facility, resulting in safety concerns for other motorists, cyclists, and pedestrians and a potential increase in traffic delays on commuter and commercial corridors. The transportation of nuclear waste may occur upon decommissioning of a fusion SMR facility. Depending on site location, this radioactive waste may need to be transported by highway or rail on sensitive corridors or adjacent to sensitive land uses.

Mitigation Measures

The majority of site design, mitigation measures, and significant unavoidable impacts identified in the Impacts Applicable to All Energy Facilities section would be applicable to fusion SMR facilities. Additional siting and design considerations for fusion SMR facilities include:

Recommended Measures for Siting and Design

- Require siting facilities with access to transportation corridors capable of accommodating oversized and overweight construction equipment, reactor components, and long-term operational needs
- Require siting with proximity to existing state highways, freight rail infrastructure, industrial transportation corridors, and utility infrastructure during site selection
- Require site design to include access roads, turning radii, bridges, intersections, gates, and staging areas to accommodate oversized loads and specialized transportation equipment
- Restrict locations where transportation access would require substantial upgrades to constrained roadways, bridges, or intersections
- Require project-level evaluation of transportation access requirements during siting to full lifecycle activities, including potential emergencies

- Restrict siting facilities where primary access would occur through agricultural road networks serving active agricultural operations, specifically during planting/harvesting

Required Measures

- Obtain and maintain applicable federal and state licenses and approvals for radioactive materials and radiation-producing equipment.
- Compliance with the containment, handling, inspection, transportation, and waste disposal measures as required under state and federal nuclear regulations.

Recommended Measures for Construction and Decommissioning

- Require a haul route plan for delivery and removal of oversized equipment
- Require project-level pre-construction roadway condition surveys on transportation facilities expected to experience substantial project-related traffic
- Require temporary traffic control measures, road closures, and oversized equipment deliveries to minimize disruption to public transportation facilities
- Require coordination of transportation and disposal logistics for activated, radioactive, hazardous, or other specialized materials generated during decommissioning, consistent with applicable federal and state requirements

Recommended Measures for Operation

- Require ongoing coordination for transportation of replacement equipment and specialized materials to minimize impacts on public transportation infrastructure.
- Require ongoing maintenance of highway or rail access necessary to support facility operations and long-term maintenance requirements.

Significant Unavoidable Impacts

Despite implementation of mitigation measures, transportation impacts may remain where future facilities require substantial roadways, bridges, intersections, rails, or freight infrastructure improvements to accommodate construction, operation, or decommissioning activities. Transportation impacts may also remain where movement of specialized, hazardous, or radioactive materials requires dedicated transportation controls, routing restrictions, or infrastructure upgrades. The significance of impacts would depend on facility size, location, transportation access requirements, and the scale of equipment and materials requiring transport.

16.3.5. Renewable Fuel Facilities

Construction

General construction impacts for renewable fuel facilities have been discussed in the Overall Impacts section above. Traffic demand may increase due to the transport of heavy equipment, inverters, substations, transformers, and daily construction worker commutes. The potential for road degradation and an increase in traffic safety concerns for motorists, cyclists, and pedestrians may result from increased trip generation due to construction.

Impacts would be anticipated to be temporary and largely localized to future project sites. Site specific traffic impacts would be assessed at a project level.

Operation

Renewable fuel facilities typically require a continuous flow of feedstock and chemical inputs, which may generate ongoing truck, rail, and potentially maritime freight movements throughout Skagit County. These facilities also generally require a workforce presence to be maintained on-site, resulting in increased employee commute traffic and routine vehicle trips associated with fuel deliveries, inspections, and maintenance activities. Impacts from operations would could require improvements, depending on the site, location, and operations. Site specific traffic impacts would be assessed at a project-level.

Decommissioning

Decommissioning impacts for the renewable fuel facilities analyzed in the CESP EIS are largely included in the Overall Impacts section above and potentially include a temporary increase in traffic demand due to the removal and transportation off-site of construction and demolition waste and associated infrastructure. This increased traffic demand may result in roadway deterioration due to the transport of heavy equipment, construction and demolition waste, and decommissioned facility infrastructure, particularly on rural local and county roads that experience small average daily vehicle counts. An increase in traffic may occur both at the facility site and at the waste management facility, resulting in safety concerns for other motorists, cyclists, and pedestrians and a potential increase in traffic delays on commuter and commercial corridors. Impacts would be anticipated to be temporary and largely localized to future project sies. Site specific traffic impacts would be assessed at a project level.

Mitigation Measures

The majority of site design, mitigation measures, and significant unavoidable impacts identified in the Overall Impacts section would be applicable to renewable energy facilities. Mitigation measures resulting from operational impacts could include roadway improvements. The need for roadway improvements will depend on the size, location, and operational specifics of each site. Impacts and mitigation, if needed, will be evaluated at the project level. Significant unavoidable impacts are not anticipated.

16.4. No Action Alternative Analysis

Under the No Action Alternative, agencies would continue to conduct environmental review and permitting for the energy facility types discussed in the CESP EIS under existing Skagit County development regulations and permitting processes as described in the **Energy Permitting** section. Skagit County code allows energy uses under the definition of major and minor utility developments. While major regional utility developments are prohibited in all zones in the county, major and minor utility developments are allowed in all zones, with limitations for these development types in certain zones. Any uses not permitted by the county under existing regulations could be permitted through processes established by the Washington State Energy Facility Site Evaluation Council (EFSEC) where certification is required or voluntarily elected by the applicant.

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16.4.1. Impacts from construction, operation, and decommissioning under current processes

Primary impacts of concern are deterioration of roadway infrastructure and an increase in traffic and traffic hazards due to the construction, operation, and decommissioning of energy facilities including solar facilities, BESS, fusion SMRs, and renewable energy facilities.

Major regional utility developments are prohibited in all zones in the county; consequently, proposed energy facilities classified by the county as a major regional utility development may voluntarily elect EFSEC review for the certification of a project, including potential for preemption of local regulations, further limiting Skagit County's control over transportation infrastructure design requirements and traffic impact mitigation measures for proposed energy developments. As a result, transportation mitigation measures and roadway improvement requirements could vary between different projects of the same energy type.

Future development could place localized pressure on rural transportation infrastructure, including roadways, intersections, bridges, and access routes serving agricultural and natural resource lands, while transportation improvements would continue to be identified reactively as projects are proposed. This could limit the county's ability to address cumulative transportation effects associated with future energy facility development.

16.4.2. Mitigation Measures

In regard to Skagit County's transportation infrastructure and network, projects reviewed through the county permitting process would continue to be subject to existing federal, state, and local design requirements. Transportation impacts associated with project construction, operation, and decommissioning would continue to be evaluated through individual permit reviews and environmental analyses. Projects will be required to undergo a SEPA review whether they are permitted through county or EFSEC pathways. In this review, applicants must identify public streets and highways serving the site and discuss potential safety, noise, dust, and maintenance concerns, including potential traffic hazards and an increase in road use.[169]

Because transportation infrastructure, design, and impacts would continue to be enforced by existing local, state, and federal regulations, transportation impacts under the No Action Alternative would generally be similar to those identified for the representative facility types analyzed as part of impacts applicable to all energy facilities and would likely be reduced through compliance with applicable, regulatory requirements. However, the No Action Alternative would not provide additional consistency, predictability, and energy facility-specific resource protections that could be established through adoption of updated county code and energy permitting regulations.

[169] Washington State Department of Ecology, "Environmental Elements - 14. Transportation," *SEPA Checklist Guidance, Section B: Transportation*, n.d., https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-14-transportation

17. Public Services and Utilities

17.1. Overview

The Public Services and Utilities section reviews the existing conditions, alternatives impact analysis, and mitigation measures including regulatory frameworks, siting and design recommendations, impact minimization measures, and other potential measures associated with public services such as police, fire, emergency medical response, and utilities including water, wastewater, solid waste, and electricity within Skagit County.

The public services analyzed in this section include:

- Law Enforcement
- Fire and Wildfire Prevention and Response
- Emergency Medical Services and Healthcare Facilities
- Emergency Management
- Public Schools

The utilities analyzed in this section include:

- Public Utility Districts
- Public Water
- Sanitary Sewer
- Surface Water Management
- Hazardous Material Waste Management Facilities
- Solid Waste
- Communications
- Electric
- Natural Gas

17.2. Existing Conditions

The study area for public services and utilities encompasses the overall Skagit County area and the various utility providers that offer service within the county, including the Skagit County Public Utility District (PUD).

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17.2.1. Public Services

Law Enforcement

In Skagit County, law enforcement is provided by the Skagit County Sheriff's Office. The Sheriff's Office serves unincorporated areas countywide. Washington State Patrol (District 7) oversees state highways and major interstates. The Skagit and Island County Multiple Agency Response Team (SMART) oversees both Skagit and Island counties and covers specialized major incidents and deadly-force investigations. The Skagit County Comprehensive Plan identifies law enforcement levels of service for both rural and urban development; one officer per 2,000 persons served is required for rural developments, and one officer per 1,000 persons served or 100 acres of developed commercial or industrial use is required for urban development.

Fire and Wildfire Prevention and Response

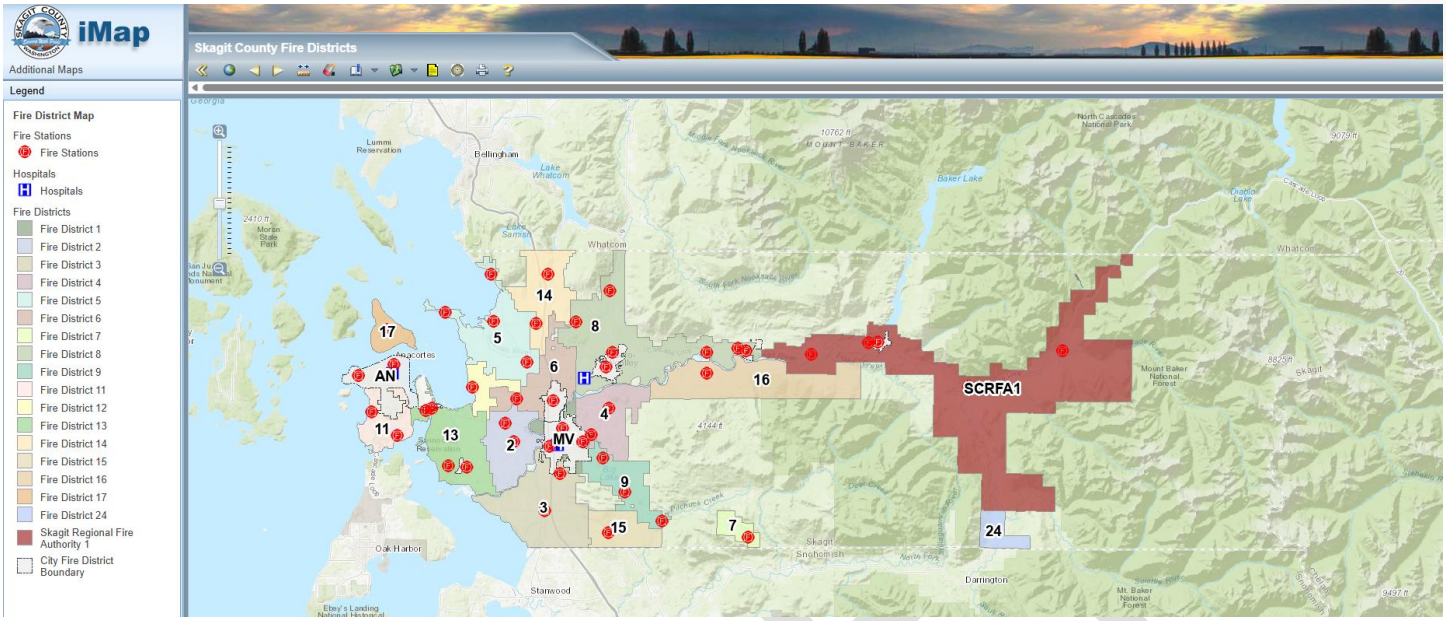
Skagit County is served by a network of municipal fire departments and 17 local fire protection districts (FPDs) that cover specific territories in the county.[170] In addition to these districts, the Skagit County Regional Fire Authority (SCRFA) formed via a merger of previous districts and serves the residents of east Skagit County. There are 154 fire trucks, aid cars, command vehicles, engines, and other apparatus across the county's fire districts. Many districts rely on volunteer firefighters and maintain relatively small staff.

The Skagit County Department of Emergency Management (DEM) develops and maintains emergency plans to guide preparation for and response to emergencies and disasters. The Skagit County Community Wildfire Plan, updated in 2019, identifies areas with wildfire susceptibility, guides forest health work, and facilitates resident preparedness and interagency coordination.[171] The Washington State Fire Services Mobilization Plan was created by the enaction of RCW 38.52 and formulates a tiered response plan for major emergency events that require resources beyond the scope of everyday emergencies. Skagit County belongs to the Northwest Region, along with Island, San Juan, Snohomish, and Whatcom counties. These counties have adopted a regional plan to coordinate fire services resources for major emergencies in the Northwest Region.

A level of service standard for fire response is not specified for unincorporated Skagit County, but urban growth areas (UGAs) must meet an LOS standard of a five or higher Insurance Services Office (ISO) grade. ISO ratings measure the level of fire service protection available within a fire district. The county must ensure that adequate fire and emergency medical service facilities are located or planned to accommodate current and future population per the Skagit County Comprehensive Plan.

[170] Esri, "Skagit County Fire Districts," n.d., https://www.arcgis.com/apps/mapviewer/index.html?webmap=95bc6f46f03248749dfa564d137f2cfb.
[171] Skagit County, Community Wildfire Plan. 2019, https://www.skagitcountywa.gov/public-safety/emergency-management/hazard-mitigation/#SkagitCountyComprehensiveEmergencyManagementPlan(CEMP)

Figure 66: Skagit County Fire Districts



Source: Skagit County iMap "Skagit County Fire Districts", n.d., https://classic.skagitcountywa.gov/Maps/iMap/?mapid=95bc6f46f03248749dfa564d137f2cfb

Emergency Medical Services and Healthcare Facilities

Emergency medical services are overseen by the Skagit County Emergency Medical Services (EMS) Department. They provide oversight, quality assurance, and support to residents and visitors of Skagit County through:

- Monitoring the performance of contracted county EMS providers,
- Facilitating a standardized countywide patient care reporting system, and
- Providing a standardized EMS ongoing training and evaluation program.

Three hospitals and nine walk-in clinics serve Skagit County. The three hospitals are Skagit Valley Hospital, located in Mount Vernon; United General Hospital, located in Sedro-Woolley; and Island Hospital, located in Anacortes. The walk-in clinics are located in Anacortes (3), Mount Vernon (5), and Burlington (1).[172]

Emergency Management

Emergency management in Skagit County is led by the Skagit County Department of Emergency Management (DEM), which coordinates preparedness, planning, response, and hazard mitigation activities countywide. The 2026 Hazard Mitigation Plan guides emergency management efforts by identifying resources, information, and strategies for reducing risk from natural hazards. The plan supports long-term resilience by guiding mitigation actions, improving public preparedness, and maintaining eligibility for federal disaster assistance and mitigation funding programs. The intent of the Hazard Mitigation Plan is to reduce risk for residents of and visitors to Skagit County by providing a planning framework for all potential natural hazards.

[172] Skagit County Public Health, Hospitals and Walkin Clinics, nd. https://www.skagitcounty.net/Departments/Health/hospitals.htm

Public Schools

There are eight public school districts in Skagit County:

- Concrete
- Burlington-Edison
- Sedro-Woolley
- Anacortes
- La Conner
- Conway
- Mount Vernon
- Darrington

These school districts vary in size, from rural districts serving low-density areas to larger districts with multiple schools serving more densely populated areas of the county. Most public schools in Skagit County are concentrated within incorporated cities such as Mount Vernon, Burlington, Sedro-Woolley, Anacortes, Concrete, and La Conner. However, several schools are located in unincorporated and rural areas and do not fall within city limits:

- Fidalgo Elementary School, Anacortes School District
- Allen Elementary School, Burlington-Edison School District
- Bay View Elementary School, Burlington-Edison School District
- Clear Lake Elementary School, Sedro-Woolley School District
- Big Lake Elementary School, Sedro-Woolley School District
- Samish Elementary School, Sedro-Woolley School District
- Lyman Elementary School, Sedro-Woolley School District
- Conway School, Conway School District

17.2.2. Utilities

Public Utility Districts

The Skagit County Public Utility District #1 (PUD), established in 1936, is a community-owned utility that provides municipal and regional water service to approximately 85,000 customers in the county's incorporated and unincorporated areas.[173] The PUD's primary responsibilities include producing, treating, and delivering potable water, in addition to managing and maintaining water treatment facilities, reservoirs, water transmission mains, and pump stations. It does not provide electricity, sanitary sewer, or telecommunications services.

Public Water

Public water in Skagit County is primarily operated by Skagit PUD and is supplemented by public municipal city systems, small community group wells, and private wells. The Department of Health and Ecology share

[173] Skagit Public Utility District, "Learn About Our Water Systems," n.d., https://www.skagitpud.org/customers/my-account/water-systems

responsibilities under Washington's Municipal Water Law, with the Department of Health focusing on ensuring safe and reliable drinking water and Ecology regulating water resource management in the state.

Figure 67: Skagit County Public Water Providers



Source: Skagit County, Skagit County Capital Facilities Plan 2026-2031, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/2025CFP/CFP%202026-2031%20CLEAN.pdf

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Table 24: Skagit County Public Water Providers Map Labels

Map Label	Skagit County Public Water Districts	Service Area
1	City of Anacortes	City and much of Fidalgo Island
2	Skagit PUD No. 1	Both incorporated and unincorporated Skagit County from Sedro-Woolley to the Swinomish Channel and six remote systems
3	Swinomish Tribal Community	Swinomish Reservation
4	Town of Concrete	Town of Concrete and UGA
5	Town of Hamilton	Town of Hamilton and UGA, Sections 11-14 in Township 35 North, Range 6
6	Town of La Conner	Town of La Conner north to Highway 20
7	Town of Lyman	Town of Lyman and outlying rural areas along the Town's existing distribution system
8	Upper Skagit Public Utility	Upper Skagit Reservation
9	Water District No. 1	Highway 20 near Birdsview, the Town of Concrete, and the Rasar State Park area

Long-term water supply planning is guided by the Skagit County Coordinated Water System Plan (CWSP) developed in July 2000, which presents a water demand forecast based on water use assumptions and a population forecast for the year 2050 and assesses the ability of existing water infrastructure to meet current and future water supply needs. Projections of future water demand determined in the CWSP are based on a population forecast of 155,257 persons in 2030, 157,741 persons in 2040, and 160,265 persons in 2050.[174] The Anacortes-Fidalgo Island Coordinated Water System Plan is integrated into the Skagit County CWSP and defines service limits for Anacortes and Fidalgo Island. For the year 2050, the CWSP determines a peak day requirement to be 122.7 million gallons per day (MGD).[175] The CWSP incorporates projected residential, commercial, and industrial growth into its long-term water demand forecasts based on current land use patterns.

Water availability within Skagit County is further constrained by state instream flow rule requirements and associated legal protections for the Skagit River Basin. Washington has prohibited new wells in most of the Skagit Basin through the Skagit Instream Flow Rule. Per the Skagit River Basin Instream Resources Protection Program Rule (WAC 173-503) and the court determination of Swinomish v. State, Washington Supreme Court Case No. 87672-0, the county is legally required to stop issuing building permits and subdivision approvals in the Skagit

[174] Skagit County, "2000 Countywide Water System Plan," 2000, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/CWSP2000/2000CWSP.pdf
[175] Ibid.

Basin that rely on new wells, unless Ecology approves a plan for mitigation or a plan for reliance on an alternative water source during times when the minimum instream flow requirements set in WAC 173-503 are not met.[176]

Development in potential seawater intrusion areas, including areas within one-half mile of a marine shoreline and the entirety of Guemes, Sinclair, Cypress, and Vendovi islands, must comply with the Skagit County Seawater Intrusion Code (SCC.14.24.380) unless proposing to use a public water system.[177]

Sanitary Sewer

Sanitary sewer service is available in Anacortes, Burlington, Big Lake, Concrete, Mount Vernon, and Sedro-Woolley. Within UGAs, sanitary sewer service is provided by the cities, towns, and the Skagit PUD. Level of service requirements for wastewater generally prohibit sewer service in rural areas. The Skagit County Health Department engages with rural communities to find solutions that utilize improved septic treatment. [178]

Surface Water Management

As required by Washington State, surface water must be managed by the county in compliance with the 2012 Stormwater Management Manual for Western Washington, as amended in 2024, and related federal water quality standards. Level of service requirements established in the Skagit County Comprehensive Plan require rural and urban surface water management systems to be constructed consistent with the stormwater management section of the Skagit County code (SCC 14.32).[179] The county manages its stormwater infrastructure under the Western Washington Phase II Municipal Stormwater Permit, which allows the county to release stormwater runoff into natural waterways. As of 2026, Skagit County has expanded its municipal stormwater permit area in accordance with Washington state stormwater management regulations to incorporate areas that have experienced dramatic growth and are now considered urban; as a result, new development, redevelopment, and construction sites in these areas must be controlled through the county's permitting process.[180]

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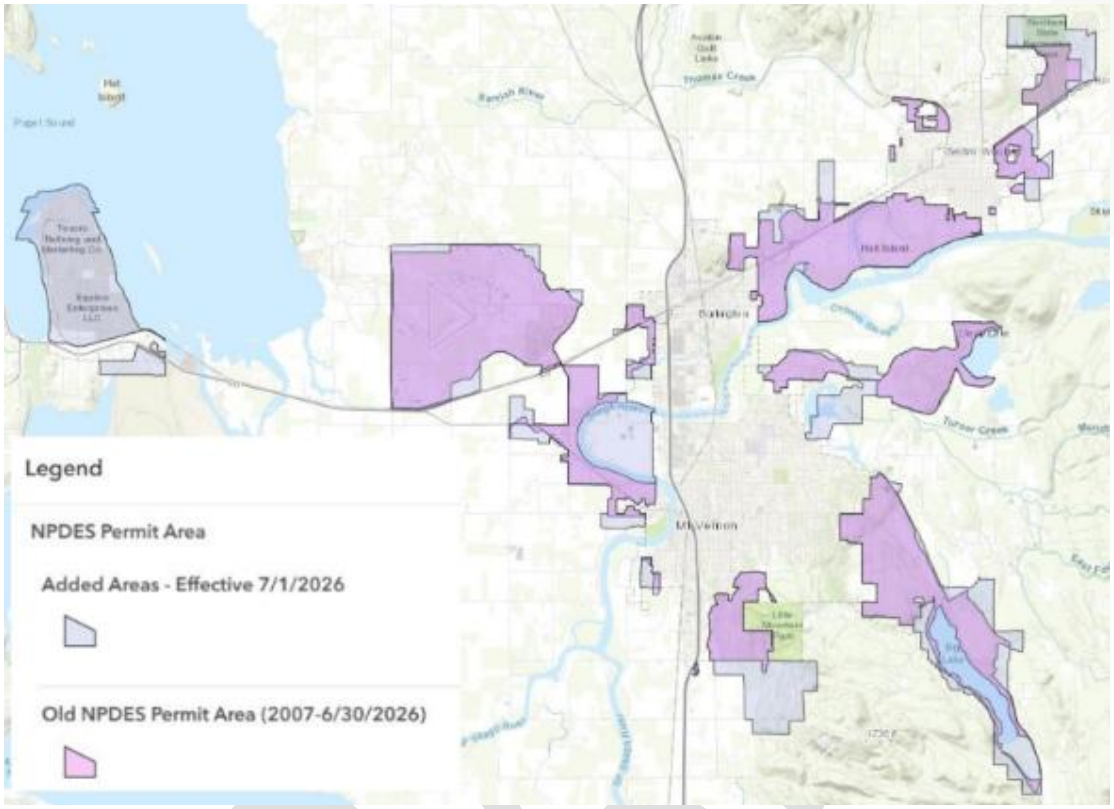
[176] Skagit County, "Skagit County Comprehensive Plan 2025-2045," 2025, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf
[177] Skagit County, County Code, "Seawater Intrusion Areas," n.d., https://ecode360.com/51648762#51649338
[178] Ibid.
[179] Skagit County, County Code, "Stormwater Management," n.d., https://ecode360.com/51650081?highlight=management&highlight=stormwater&searchId=56649402680025#51650081
[180] Skagit County, "Skagit County to Update Stormwater Management Area Boundaries," released June 12, 2026, https://classic.skagitcountywa.gov/Press/061226.htm

Figure 68: Skagit County NPDES Areas



Source: Skagit County, "Skagit County to update Stormwater Management Area Boundaries", 2026, https://classic.skagitcountywa.gov/Press/061226.htm

Solid Waste

Solid waste includes municipal solid waste and recyclables, organic materials, and construction and demolition debris. Skagit County's solid waste management system collects and delivers waste to transfer stations to ship these materials to landfills and processing centers. The system includes garbage collection and disposal, as well as programs for waste reduction, recycling, organics, and special wastes. The collection and disposal of solid waste in the county is regulated by the Solid Waste Management Plan, which provides a framework for waste reduction, recycling, waste collection, transfer, and disposal, administration and public education, and implementation. Solid waste generated in Skagit County is hauled by rail to Roosevelt Regional Landfill in Klickitat County. Between 2009 and 2013, 47.8 percent on average of all municipal solid waste generated in Skagit County was recycled.[181]

Hazardous Material Waste Management Facilities

Hazardous waste and materials are those that can cause harm to people and the environment, including ignitable, corrosive, reactive, and toxic wastes. Hazardous waste management in Skagit County is regulated through a combination of federal requirements, Washington State Dangerous Waste Regulations, and local implementation

[181] Skagit County, "Comprehensive Solid and Hazardous Waste Management Plan," 2021, https://www.skagitcountywa.gov/media/t22hifvr/skagit-county-swmp-with-crop.pdf

measures. Primary regulatory authority resides with the U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology under the Hazardous Waste Management Act (RCW.70A.300) and Dangerous Waste Regulations (WAC 173-303). Additional state regulation pertaining to hazardous waste and materials falls under the Hazardous Waste and Toxics Reduction (HWTR) Program through the Washington State Department of Ecology, which focuses on toxins reduction through pollution prevention, compliance with regulations, and permitting and corrective action at hazardous waste facilities.

On a local level, Skagit County generally does not provide an independent hazardous waste regulatory program separate from Washington State's Dangerous Waste Regulations. The Department of Ecology works to safely manage hazardous and nuclear wastes. The county does implement and supplement state requirements through Section 12.16 of the Skagit County Code, the Skagit County Comprehensive Solid Waste Management Plan, and operation of household hazardous waste collection programs.

For further discussion on hazardous materials and safety risks, see the Environmental Health and Safety section.

Communications

Telecommunications services in Skagit County, including internet, broadband, and cell phone services, are provided primarily by Frontier Communications Northwest. Verizon telephone service, Astound Broadband, and Comcast television are also available in the county. While most urban and suburban areas in Skagit County have access to wired and fiber internet access, the more rural communities continue to rely on fixed wireless or satellite options. In recent years, multiple state grants and public-private partnerships have expanded broadband infrastructure into underserved communities, including the Bow, Fir Island, and Sauk-Suiattle communities. The Washington Utilities and Transportation Commission regulates rates and services of telecommunications providers operating in Washington, but does not regulate cable, internet, wireless phones, or "voice over internet protocol." Skagit County coordinates provision of these services through the development permitting process.

Electric

Puget Sound Energy (PSE) is the main electric provider in Skagit County, with approximately 60,000 customers countywide. PSE's power delivery services consist of 1,400 miles of overhead facilities, 1,000 miles of underground cable, generating plants, and substations. Electricity provided to Skagit County by PSE is often produced with the Baker River Dams and is interconnected with the Northwest's regional transmission grid. PSE is regulated by the Washington Utilities and Transportation Commission (WUTC) and is thus required to provide an Integrated Resource Plan every two years to forecast demand and necessary resources. The current plan, filed in 2023, forecasted as a conservative estimate that electric growth demand is expected to increase by 1.2 percent, from 4,687 megawatts in 2022 to 6,159 megawatts by 2045, if no additional conservation savings are applied.[182]

There are approximately 426 miles of mapped transmission lines in Skagit County, ranging from under 100 kilovolts (kV) to 500 kV.[183] Puget Sound Energy is the primary owner of these transmission lines. The county also contains 43

[182] Puget Sound Energy, "2021 Integrated Resource Plan, chap. 6, Demand Forecasts," published April 2021, https://oohpseirp.blob.core.windows.net/media/Default/Reports/2021/Final/Appendix/11.%20IRP21_FINAL_%20Appendix%20A%20Complete%20033121R.pdf
[183] ESRI ArcGIS Online, "U.S. Electric Power Transmission Lines," n.d., https://www.arcgis.com/home/item.html?id=d4090758322c4d32a4cd002ffaa0aa12#overview

substations, the largest concentration of which is located near Mount Vernon (12). The highest substation voltage is 230 kV.[184] For more information regarding transmission facilities within Skagit County, see the **Energy and Natural Resources** section.

Natural Gas

Cascade Natural Gas is the primary natural gas provider in Skagit County, with a pipeline that extends from Anacortes in the west to Sedro-Woolley in the east. Cascade Natural Gas also provides renewable natural gas (RNG); some renewable fuel production methods may require RNG as feedstock. Refer to the **Energy Facilit** section for additional information. The Washington Utilities and Transportation Commission regulates private natural gas utilities in Washington.

17.3. Alternatives Analysis

The Skagit County CESP EIS Action Alternative evaluates the potential significant environmental impacts for solar energy facilities, BESS, fusion SMRs, and renewable fuels facilities. The impacts associated with these uses will be assessed to determine appropriate locations, zones, significant adverse impacts, and mitigation and minimization measures. Where deemed appropriate, county permitting processes may be modified to streamline the local permitting pathway and provide clear development standards with known mitigation measures.

17.3.1. Impacts Applicable to All Energy Facilities

Construction

Construction activities for future facilities may increase short-term water demand for dust suppression, concrete production, and equipment cleaning. These construction activities may generate construction waste that may temporarily increase demand on the county's waste management facilities. Additionally, construction may require upgrades or extensions to electric transmission and distribution infrastructure to support facility interconnection.

A temporary workforce would be employed for construction which may result in an increased demand for public services, including law enforcement and fire emergency response, due to jobsite incidents. Materials and equipment necessary for construction may increase the potential for theft, vandalism, trespass, or fire, which may increase the demand on emergency response services.

Construction may require coordination with public service providers regarding emergency access, traffic management, utility connections, temporary service extensions, and response planning. Depending on project location and scale, construction activities could require temporary upgrades to utility infrastructure or increased coordination with local fire districts, law enforcement, and emergency medical providers.

Operation

The energy facility types analyzed may increase demand for public services and utility infrastructure during operation. Potential impacts could include increased demand for emergency response planning, fire protection services, utility interconnections, water supply, wastewater treatment capacity, solid waste management, and electrical infrastructure. The degree of impact would vary based on facility type, technology, size, location, staffing

[184] Land Owl, "Skagit County, Washington Substation Map," n.d., https://www.landowl.com/skagit-county-washington-substation-map/

requirements, and operational characteristics. The energy facility types analyzed may require limited telecommunications infrastructure to support remote monitoring, control systems, and site security functions. Ongoing coordination with utility providers may be necessary to manage grid interconnection requirements, system reliability, and the integration of power generation or storage resources into the local or regional electric network.

Decommissioning

Decommissioning of the energy facilities discussed in the CESP EIS may increase both conventional and hazardous waste streams. Conventional waste may include demolition debris and decommissioned construction materials, while certain facility components may generate hazardous wastes that require specialized handling, transportation, and disposal. These temporary decommissioning waste streams may place additional burden on the county's waste management systems.

Additionally, decommissioning activities may employ a temporary workforce that could result in an increased demand for emergency response due to jobsite incidents.

Mitigation Measures

Regulatory Framework

While there are multiple federal regulations governing public services and utilities, primary regulatory authority resides at the state and local levels in Skagit County. A more comprehensive list of federal, state, and local level regulations that govern public services and utilities are as follows:

Federal Regulations

- Solid Waste Management Act (Chapter 70A.205 RCW)
- Resource Conservation and Recovery Act (RCRA)
- Environmental Protection Act (EPA)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, Superfund)
- Clean Water Act (CWA)
- Public Law 93-288 (The Disaster Relief Act of 1974)
- SARA Title III (Emergency Planning and Community Right-to-Know Act of 1986)

State Regulations

- Waste Reduction Act
- Pollution Prevention Plans (Chapter 173-307 WAC)
- Dangerous Waste Regulations (WAC 173-303)
- Hazardous Waste Management Act (RCW 70A.300)
- Washington Department of Ecology – Hazardous Waste and Toxins Reduction Program
- Growth Management Act (GMA) (RCW 36.70A)
- Washington Utilities and Transportation Commission (WUTC)
- Municipal Water Law (MWL)
- Washington State Solid and Hazardous Waste Plan
- Washington State Fire Services Resource Mobilization Plan

Local Regulations

- Comprehensive Solid Waste Management Plan (CSWMP)
- Skagit County Capital Facilities Plan
- Skagit County Comprehensive Plan
- Skagit County Comprehensive Emergency Management Plan (CEMP)
- Skagit County Community Wildfire Plan
- The following Skagit County Code (SCC) sections:
  - SCC 12.16.180 - Contaminated Soils
  - SCC 12.16.210 - Moderate Risk Waste, Used Oil, and Hazardous Substance Handling

Required Mitigation Measures

Federal

- Submit a Federal Communications Commission (FCC) filing
- Obtain right-of-way or lease if utility connections involve federal land

State

- Obtain electrical permits through Washington State Department of Labor and Industries (L&I)
- Obtain right-of-way or lease if utility connections involve state-owned land
- Obtain Water Right Authorization from Department of Ecology
- Obtain industrial wastewater discharge permits from Department of Ecology

Local

- Adhere to requirements set forth in the Skagit County Capital Facilities Plan
- Obtain local utility connection permits and approvals
- Obtain right-of-way or lease if utility connections involve county- or city-owned land
- Undergo Skagit County PUD Water Service Evaluation, if applicable
- Undergo Skagit County Water Review
- City water review and approval, if applicable
- Comply with local stormwater system design and installation requirements

Recommended Measures for Siting and Design

- Early coordination with affected utility providers, fire districts, emergency medical providers, law enforcement agencies, school districts, and emergency management personnel.
- Coordination with local fire districts, Skagit County Emergency Management, the United States Forest Service (USFS), or the Department of Natural Resources (DNR) to identify and address fire response needs if siting is proposed in or near areas of high fire risk.
- Review existing public service and utility capacity during project siting and design.
- Encourage siting in areas with sufficient existing water supply, wastewater treatment capacity, and electrical infrastructure, where feasible, to reduce the need for substantial new infrastructure or service expansions.

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- Avoid locating facilities next to schools, hospitals, daycare centers, senior housing, and other sensitive receptors where emergency response concerns may be elevated.
- Maintain adequate emergency access for fire suppression, medical response, and law enforcement activities.
- Demonstrate evaluation of water availability during siting to ensure withdrawals will not impact municipal supplies, agricultural uses, or groundwater resources.
- Coordinate with electrical utilities to assess transmission/interconnection requirements.
- Request capacity analyses with local or municipal wastewater providers to determine if anticipated facility flows are appropriate for treatment capacity.
- Provide adequate separation between facilities and schools, hospitals, and other community gathering places during siting. If avoidance is infeasible, require applicants to maintain appropriate setbacks and buffers between facilities and adjacent sensitive receptors.

Recommended Measures for Construction and Decommissioning

- Encourage appropriate job-site safety training to reduce potential emergency medical response demands.
- Encourage the preparation and implementation of emergency response procedures in coordination with affected fire districts, emergency medical services, law enforcement agencies, and emergency management personnel.
- Require the provision of site plans, emergency contact information, and facility-specific response information to emergency responders.
- Suggest early consultation with emergency response providers and fire districts early to ensure access to sites located in remote areas.
- Require emergency access routes to be maintained throughout construction and decommissioning activities.
- Request the development and implementation of a site-specific Fire Prevention and Response Plan for operations.
- During decommissioning activities, encourage facilities to follow Ecology's protocol for managing universal waste.
- Encourage applicants to fund or contribute to project-specific infrastructure improvements where construction activities would substantially affect public facilities or utility systems.
- Ensure that decommissioning financial assurance mechanisms, as required by applicable regulations, remain in place throughout facility operation to support future facility removal and land restoration.

Recommended Measures for Operation

- Conduct ongoing coordination with utility providers regarding operational capacity, maintenance activities, and infrastructure needs.
- Maintain operational communications systems capable of supporting emergency response and incident reporting
- Recommend adequate fencing, patrols, electronic monitoring systems (including security cameras), and other site security to prevent an increase in emergency response demand due to threat of theft, vandalism, or trespass.

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- Maintain water trucks and other firefighting equipment for construction during fire season, particularly in remote or rural areas.
- Provide ongoing responder training and periodic coordination with fire, law enforcement, EMS, and emergency management agencies

Mitigation Measures for Significant Unavoidable Impacts

- Require applicants to contribute to water, wastewater, and electrical infrastructure upgrades as necessary to maintain current levels of service, or build dedicated water, wastewater, and utility infrastructure to avoid burdening public systems.
- Impose operational limits tied to available utility capacity and current levels of service.
- Require applicants to coordinate with local providers, districts, and departments, Skagit County Emergency Management, and emergency medical service providers to ensure adopted levels of service are met with the proposed energy facility types.

17.3.2. Solar Facilities

Construction

General construction impacts for solar facilities are largely discussed in the Impacts Applicable to All Energy Facilities section above. Potential impacts may include a temporary increase in water demand for dust suppression and construction activities, temporary increases in construction waste, and coordination with utility providers for transmission and distribution system upgrades for local or regional interconnection. Depending on facility size and location, construction activities may also increase demand for emergency response services, and the extent of utility upgrades may vary. Impacts would generally be temporary and would be evaluated at the project level.

Operation

Operations impacts for solar facilities would generally be limited and would primarily involve routine maintenance, inspections, vegetation management, and electrical system operation. Such facilities potentially include a temporary increase in waste streams, including damaged panels, racks, and other equipment. This increase in waste generation may impact the county's waste management systems and facilities. Additionally, solar facilities may require limited telecommunications infrastructure to support remote monitoring, control systems, and site security functions. Ongoing coordination with utility providers may be necessary to manage grid interconnection requirements, system reliability, and the integration of power generation or storage resources into the local or regional electric network.

Decommissioning

Decommissioning impacts for solar facilities could temporarily increase conventional and hazardous waste streams. Solar panels can be considered hazardous waste when they break or are removed from service, depending on metals present in the panel. This potential increase in waste streams may place additional demand on the county's conventional and hazardous waste management facilities. The magnitude of impacts would depend on facility size, equipment types, recycling opportunities, and disposal requirements.

Mitigation Measures

Recommended Measures for Siting and Design

- Encourage co-location with existing development, rooftops, parking areas, previously disturbed sites, or other locations that avoid the need for new utility infrastructure extensions.
- Consider site layouts that maintain emergency access throughout the site.

Recommended Measures Construction and Decommissioning

- Encourage early coordination with utility providers regarding electrical interconnection construction and any required system upgrades.
- Consider construction schedules with public works departments and emergency service providers when temporary road closures or access restrictions may occur.

Recommended Measures for Operation

- Request that facility contact information and emergency response procedures to be maintained on-site for local emergency responders.
- Recommend coordination with utility providers regarding operational maintenance activities that could affect system reliability or interconnection infrastructure.
- Suggest applicants to develop panel recycling and end-of-life management strategies to minimize future demands on solid waste facilities.

17.3.3. Battery Energy Storage Systems (BESS)

Construction

General construction impacts for the energy facility types analyzed in the CESP EIS have been discussed in the Overall Impacts section above. Construction activities may require coordination with utility providers, fire districts, emergency responders, and local jurisdictions regarding utility connections, emergency access, and construction-related service demands. Potential impacts may include a short-term increase in water demand for construction processes, a temporary increase in construction waste, and transmission and distribution system upgrades for local or regional interconnection.

Operation

General operation impacts for BESS facilities have been discussed in the Impacts Applicable to All Energy Facilities section above. BESS facilities may increase demand for emergency response planning and specialized responder training due to the potential for battery failures, thermal runaway events, fires, or hazardous material incidents. Depending on battery chemistry, facility size, and location, local fire districts, emergency management agencies, and waste management providers may require additional coordination to maintain existing service levels.

Additionally, BESS operational impacts potentially include a temporary increase in waste streams, including replacement battery systems and mechanical components. This increase in waste generation may impact the county's waste management systems and facilities. Ongoing coordination with utility providers may be necessary to manage grid interconnection requirements, system reliability, and the integration of power generation or storage resources into the local or regional electric network.

There may be safety and compatibility concerns associated with BESS facilities located adjacent to or within 330 feet of a school. The EPA recommends establishing an isolation zone of at least 330 feet for large commercial BESS.[185] . In Skagit County, where schools commonly serve as community gathering places and emergency shelter locations, any potential fire, thermal runaway, or hazardous materials risks associated with battery storage systems may warrant additional setback, emergency response, and safety planning considerations.

Decommissioning

Decommissioning impacts for BESS facilities potentially include a temporary increase in solid and hazardous waste streams as battery systems, electrical equipment, foundations, and associated infrastructure are removed from service. Specialized transportation, recycling, treatment, or disposal facilities may be required depending on the battery technology used. Impacts would vary based on facility size and battery chemistry.

Mitigation Measures

Recommended Measures for Siting and Design

- Support coordination with local fire districts during site selection and facility design to identify emergency access, water supply, training, and equipment needs.
- Avoid siting facilities adjacent to schools, hospitals, emergency shelters, and other sensitive community gathering places where feasible. If avoidance is not possible, require applicants to maintain setbacks and buffers.
- Require facilities to be sited at least 330 feet from school buildings and facilities to establish an adequate isolation zone.
- Require facilities to be designed to provide sufficient emergency vehicle access around battery storage units and associated equipment.
- Request emergency communication systems and remote monitoring capabilities to be incorporated into site design.

Required Measures

- Adhere to U.S. codes for BESS
  - NFPA 1 (Fire Code)
  - International Fire Code (IFC)
  - NFPA 90 (National Electric Code)
  - NFPA 855 (Standard for the Installation of Stationary Energy Storage Systems)
- Adhere to North American qualification and safety standards for BESS
  - UL 9540 (Energy Storage Systems and Equipment)
  - UL 1741 (Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources)

[185] U.S. Environmental Protection Agency, "Battery Energy Storage Systems (BESS): Main Considerations for Safe Storage, Handling, and Use," n.d., https://www.epa.gov/electronics-batteries-management/battery-energy-storage-systems-main-considerations-safe.

  - UL 1973 (Batteries for Use in Stationary and Motive Auxiliary Power Applications)
  - UL 991 (Standard for Tests for Safety-Related Controls Employing Solid-State Devices)
  - UL 1998 (Software in Programmable Components)
- Adhere to BESS Fire Safety Codes and Explosion Control Codes
  - UL 9540 A (Thermal Runaway Test Method for BESS)
  - LSFT (Large Scale Fire Testing for BESS)
  - NFPA 72 (National Fire Alarm and Signaling Code)
  - NFPA 69 (Explosion Prevention Systems)
  - NFPA 68 (Standard on Explosion Protection by Deflagration Venting)

Recommended Measures Construction and Decommissioning

- Share facility plans and emergency contact information with local departments and responders prior to operation.
- Support coordination with fire districts regarding development of emergency response procedures for battery incidents.
- Require technology-specific considerations to be incorporated into the facility's Fire Prevention and Response Plan, including procedures appropriate to the battery technology and associated hazards.

Recommended Measures for Operation

- Encourage the maintenance of emergency response procedures and training for addressing battery failures, fires, hazardous material releases, and emergency notification procedures if one were to occur.
- Request facility equipment, communication systems, and site access be maintained consistent with applicable fire and safety requirements.
- Encourage coordination with operators and agencies regarding battery replacement, storage, transport, and end-of-life management.
- Request the provision of ongoing responder training and periodic coordination with fire, law enforcement, EMS, and emergency management agencies.

Mitigation Measures for Significant Unavoidable Impacts

- Adequate training, staffing, knowledge sharing, preparedness, and safety measures should reduce the potential for significant adverse impacts.

17.3.4. Fusion Small Modular Reactors (SMRs)

Construction

Construction of fusion SMR facilities may result in temporary increases in demand for public utilities due to workforce needs, emergency response planning, utility connections, water use, and construction-related waste generation. Depending on facility design and scale, utility infrastructure improvements or service upgrades may be required. In addition, safety and land use compatibility concerns could arise where facilities are proposed near schools, hospitals, emergency shelters, and other sensitive community gathering places, potentially necessitating additional emergency response, and community safety considerations.

Operation

Operation of fusion SMR facilities may increase demands on public services and utility infrastructure throughout the life of the facility, although these demands are generally expected to be more limited than those associated with conventional nuclear fission power generation. Depending on facility size, cooling requirements, and operational characteristics, fusion facilities may require upgrades or expansions to electrical infrastructure, water supply systems, and supporting utility networks. Depending on the cooling technology employed, operations could require ongoing water supplies that may increase demands on local water resources and distribution systems. Facility operations may also require coordination with local emergency management agencies, fire districts, and emergency medical service providers to address industrial safety concerns associated with electrical systems, cooling systems, specialized equipment, and hazardous materials used in facility operations. While fusion technologies do not present the same reactor meltdown risks associated with conventional fission reactors, some local agencies may require additional training, equipment, or emergency response planning to maintain existing service levels and effectively respond to potential facility-related incidents.

Decommissioning

Decommissioning of fusion SMR facilities may result in temporary increases in demand on public services and waste management infrastructure as facility components are dismantled and removed. Activities involving the handling, packaging, and transportation of activated or radioactive materials may require enhanced coordination with local fire, EMS, and emergency management agencies to support safe decommissioning operations. In addition, radioactive wastes generated during decommissioning would require transport to licensed treatment, storage, or disposal facilities, potentially increasing demands on existing waste management infrastructure in Washington State, including facilities associated with the Hanford Site. Decommissioning would also generate conventional demolition debris, resulting in temporary increases in solid waste streams and disposal needs.

Mitigation Measures

Recommended Measures for Siting and Design

- Facilities should be sited in areas with adequate utility infrastructure, transportation access, emergency response capacity, and available water supplies.
- Avoid siting facilities near schools, hospitals, and other sensitive community facilities where feasible. If avoidance is impossible, require adherence to established setback and buffer requirements.
- Encourage early coordination with emergency management agencies, fire districts, utility providers, and public works departments during facility design.

Required Measures

- Obtain applicable Dangerous Waste Permits under Washington's Dangerous Waste Regulations (WAC 173-303) for mixed radioactive-hazardous wastes generated on site.
- Comply with Washington's Dangerous Waste Regulations.
- Comply with Washington's Hazardous Waste Management Act (RCW 70A.300).

Recommended Measures Construction and Decommissioning

- Encourage the development of emergency response procedures in coordination with local and state response agencies.
- Request applicants to provide adequate training, facility information, and emergency planning materials to local departments and responders.
- Encourage the coordination of transportation, waste handling, and decommissioning activities with agencies and sites responsible for hazardous or radioactive materials management.
- Support management of universal waste generated consistent with applicable Washington State Department of Ecology requirements.

Recommended Measures for Operation

- Support the implementation and maintenance of a radiation protection and monitoring program.
- Encourage the maintenance of facility-specific emergency response, communication, and incident notification procedures.
- Request the provision of ongoing responder training and periodic coordination with fire, law enforcement, EMS, and emergency management agencies.
- Consider monitoring utility service demands and coordinate infrastructure improvements as necessary to maintain adequate service levels.
- Support the development of plans for management, storage, transportation, and disposal of radioactive or activated materials consistent with applicable regulations.

Mitigation Measures for Significant Unavoidable Impacts

- Utility infrastructure funding agreements or impact-fee programs can assist in project-related demands on public utilities, emergency services, and infrastructure are proportionately funded by the project applicant rather than the local ratepayers or taxpayers.
- Establish dedicated on-site water storage, backup power systems, and emergency infrastructure to reduce reliance on municipal utility systems during emergency conditions.

17.3.5. Renewable Fuel Facilities

Construction

General construction impacts for the energy facility types analyzed in the CESP EIS have been discussed in the Overall Impacts section above. Potential impacts of renewable fuel facilities may include a short-term increase in water demand for construction processes, a temporary increase in construction waste, and transmission and distribution system upgrades for local or regional interconnection.

Operation

Operation of renewable fuel facilities may increase demands on public services and utility infrastructure throughout the life of the facility. Depending on the feedstock type, production process, and facility scale, operations may require substantial water supplies for feedstock processing, pretreatment, and biological treatment systems, while also generating wastewater streams that may contain elevated levels of biological

oxygen demand (BOD), chemical oxygen demand (COD), fats, oils, and grease (FOG), potentially requiring specialized treatment and increasing demands on publicly owned wastewater treatment facilities.

Facility operations may also increase electrical demand associated with feedstock handling systems, process equipment, storage facilities, and other required facility infrastructure, which could require new utility connections or distribution and substation improvements depending on facility size and location. Some renewable fuel production pathways may also require natural gas or renewable natural gas for processes. Additionally, these facilities have the potential to generate hazardous waste streams, including spent catalysts, filters, oils, lubricants, process residues, and feedstock pretreatment byproducts that require specialized handling and disposal. The storage and processing of combustible fuels and chemicals may increase the need for fire, EMS, and hazardous materials response capabilities, while facilities located near schools, hospitals, emergency shelters, and other sensitive community gathering places may present additional safety and land use compatibility considerations. Telecommunications needs for operational monitoring and security systems are expected to be relatively minor.

Decommissioning

Decommissioning of renewable fuel facilities may result in temporary increases in demand on public services, utilities, and waste management infrastructure as processing equipment, storage tanks, pipelines, and supporting facilities are removed or dismantled. Water may be required for dust suppression, equipment cleaning, and site restoration activities. Decommissioning would also generate potentially substantial waste streams, including demolition debris, residual feedstocks, process residues, storage tank contents, and other facility materials, with the type and volume of wastes varying depending on the renewable fuel technology and feedstocks used. Removal of process equipment and associated electrical infrastructure may require modifications to existing grid interconnections and coordination with utility providers.

Mitigation Measures

Recommended Measures for Siting and Design

- Consider wastewater characteristics and how collection could be designed such that it can manage wastewater containing elevated BOD, COD, fats, oils, grease, or process chemicals.
- Avoid siting facilities adjacent to schools, hospitals, and other sensitive community facilities where feasible.

Required Measures

- Refer to required measures for all facility types.
- Compliance with all applicable federal, state, and local requirements related to utility infrastructure, fuel storage, hazardous materials management, wastewater discharge, and fire protection.
- For facilities generating industrial wastewater, comply with all applicable pretreatment, discharge, and wastewater permitting regulatory requirements on coordination with agencies.
- Fuel storage tanks, pipelines, transfer systems, spill prevention systems, and leak detection equipment will be required to be designed, operated, and maintained in accordance with applicable federal and state fuel storage requirements and fire codes.

Recommended Measures Construction and Decommissioning

- Encourage early coordination between applicants and utility providers regarding anticipated water, wastewater, electrical, and natural gas service demands.

Recommended Measures for Operation

- Consider monitoring water use, wastewater generation, and utility demands to ensure sufficient available capacity.
- Support the maintenance of spill prevention, emergency response, and hazardous materials management procedures on-site.
- Encourage periodic coordination with utility providers and emergency service agencies regarding operational changes that could affect service demands.
- Encourage the implementation of waste minimization, recycling, and materials management procedures to reduce demands on solid and hazardous waste facilities

17.4. No Action Alternative Analysis

Under the No Action Alternative, Skagit County would retain its existing development regulations and the selected energy facilities would continue to be reviewed and permitted under current local, state, and federal regulatory frameworks as described in the **Energy Permitting** section. Existing county regulations and permitting processes would continue to require project-specific coordination with affected service providers and utility agencies. Future projects would continue to obtain applicable utility, fire protection, emergency response, water supply, wastewater, and waste management approvals. Mitigation would continue to be developed on a project-by-project basis through local permitting processes and SEPA review. Depending on the type and characteristics, proposed facilities could be reviewed either through Skagit County's existing processes as minor or major utility developments or through the Washington State Energy Facility Site Evaluation Council (EFSEC) process where certification is required or voluntarily elected by the applicant. Existing review processes provide mechanisms to identify service demands and require infrastructure improvements, operational measures, or other mitigation necessary to maintain adequate levels of service.

17.4.1. Impacts from construction, operation, and decommissioning under current processes

In regard to public services and utilities, primary impacts of concern during the construction, operation, and decommissioning could include the potential strain on public services and utilities such as exceeding emergency response capabilities or increased demand for service beyond planned service capacity. Water availability is particularly constrained in portions of Skagit County due to instream flow rule requirements and restrictions on new wells within specific areas of the Skagit Basin.

The necessary operational capacity of public services may be strained or unavailable during construction, operations, and decommissioning activities of the proposed energy facilities. Future energy developments may increase demands for county fire districts, emergency medical providers, and emergency management staff, particularly if facilities are located in remote areas or require specialized training, equipment, or response procedures. Impacts on fire response capacity, solid and hazardous waste, and public water supply have the

potential for significant adverse impacts.

Under the No Action Alternative, infrastructure upgrade requirements would continue to be determined through existing permitting and utility review processes, which may reduce predictability for future applicants and limit the County's ability to plan for long term infrastructure improvements and public service provisions. The degree and scale of potential impacts would vary based on facility size, location, design, and construction methods. For further analysis of the selected energy facilities during the construction, operation, and decommissioning phases, refer to the impacts analyzed under the **Alternatives Analysis** section.

17.4.2. Mitigation Measures

Existing Skagit County Code regulates energy development projects through utility development provisions under SCC 14.18.870. While these provisions apply to energy facilities, they do not specifically address the unique characteristics, infrastructure needs, or public service demands associated with solar, BESS, fusion, SMR, or renewable fuels facilities.

Under the No Action Alternative, future energy facilities would continue to be reviewed individually under existing county regulations, processes, and project-level environmental review. It would be anticipated that potential public service and utility constraints would be identified during the project-level environmental review and related comment periods. Projects reviewed through the local government pathway would continue to be subject to existing utility infrastructure regulations and require coordination with utility providers for service connections, infrastructure improvements, and system upgrades. Through the special use permit process, applicants would be required to include information regarding water supply, wastewater disposal, fire flow requirements, and hazardous materials management. Review of minor and major utility developments would be reviewed to identify whether the proposed facility would be supported by adequate public facilities or services and will not adversely affect public services to the surrounding areas, or conditions can be established to mitigate adverse impacts on such facilities.

For projects seeking approval through EFSEC rather than local permitting pathway, public service and utility considerations would be evaluated through a state-level siting process. Potential utility service, infrastructure capacity, and emergency response issues would likely be identified through EFSEC's environmental review process, along with mitigation and minimization to reduce impacts below a significant level.

Because EFSEC certification may preempt certain local permitting requirements, future projects approved through the state siting process could reduce the extent to which Skagit County departments, Skagit County PUD, and other local service providers can adequately plan for local decisions regarding utility infrastructure planning, emergency response coordination, service upgrades, and the siting of energy facilities near sensitive land uses.

17.4.3. Significant Unavoidable Adverse Impacts

Because public services and utilities would continue to be enforced and coordinated by existing local, state, and federal regulations and governed by local utility and public service providers, public services and utility impacts under the No Action Alternative would generally be similar to those identified for the representative facility types analyzed Alternatives Analysis and would likely be reduced through compliance with applicable regulatory requirements. However, the No Action Alternative would not provide additional consistency, predictability, and

energy facility-specific resource protections that could be established through adoption of updated county code and energy permitting regulations.

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18. Cumulative Impacts

18.1. Overview

Cumulative impacts are impacts that result from the incremental effects of an action when added to the effects of past, present, and reasonably foreseeable future actions (RFFAs) affecting the same resource. These impacts may arise from individually minor actions that collectively and/or gradually become environmentally significant.

As part of the CESP EIS, potential cumulative impact considerations were identified to provide decision makers with a broader understanding of the environmental and planning context in which future energy development may occur. Stakeholder engagement and discussions with Tribal staff highlighted the importance of understanding how future projects could contribute to comprehensive, interconnected, long-term changes affecting environmental conditions, local communities, and Tribal rights and interests.

Due to the broad nature of the CESP EIS, this section does not evaluate cumulative impacts for specific developments. Specific locations, scales, timing, and designs of future energy facilities are to be identified at a project-level review. Instead, the CESP EIS identifies existing conditions, ongoing trends, and reasonably foreseeable future actions that may impact how the County may site and permit future energy projects under the studied alternatives.

The cumulative impact considerations identified in this section focus on:

- Reasonably foreseeable future actions identified by the Department of Ecology; and
- Local conditions, trends, and plans that may shape future environmental conditions within Skagit County.

18.2. Past, Present, and Reasonably Foreseeable Future Actions

To inform future cumulative impact considerations, the Department of Ecology's PEISs for utility-scale solar, utility-scale wind, and green hydrogen energy facilities identify RFFAs anticipated to occur in the next 50 years for their respected study areas.[186] The study area for the PEIS on utility-scale solar does not include Skagit County; however, the PEISs for utility-scale wind and green hydrogen energy facilities both include limited portions of the county.[187]

[186] The Department of Ecology Green Hydrogen Energy Facilities PEIS includes a defined timeframe of 75 years; however, the lesser of the PEIS timeframes was utilized in consolidation.
[187] The utility-scale wind PEIS was used as a reference for its cumulative impacts analysis and identification of RFFAs, rather than for analysis of wind energy facilities.

Table 25: Summary of Reasonably Foreseeable Future Actions

RFFA	Associated Activities	Trends Identified
Energy Projects including Clean Energy Developments and Changes to Existing Energy Systems	• Development of new energy generating facilities, including the energy facilities evaluated in this PEIS; transmission systems; and distribution networks • Modification of existing energy generation, transmission, and distribution infrastructure including those for electricity, natural gas, and petroleum products • Decommissioning, decontamination, and demolition of former coal-fired power plants and associated facilities	• State committed to reducing GHG emission by 95% below 1990 levels by 2050 • Increased development of clean energy sources to meet state goals
Urban, Commercial, and Industrial Activities and Development	• Local residential developments • Urban redevelopment projects • Utility infrastructure (e.g., water/sewer, electrical distribution, and communications) rehabilitation and expansion • Industrial development • Industrial facility decommissioning	• 28% increase in population by 2050 • 1.04% to 1.27% increase in workforce growth for nonfarm occupations over the next 10 years • Increased development to support population and workforce growth
Rural and Agricultural Activities and Development	• Changes in the types of crops farmed • Conversion of non-designated agricultural land • Irrigation system maintenance and upgrades • Livestock grazing development and expansion	• Overall decline in agricultural land use from 1997 to 2022 (1.9 million acres of farm converted to other uses) • Future conversion of higher valued agricultural land less likely due to Goal 8 of Growth Management Act • Increased changes in farming practices and improvements to rural and agricultural-based infrastructure • Changes in agricultural activities to adapt to climate change
Federal, State, Tribal, and Local Wildlife and Habitat Projects	• Growth management programs • Stream, riparian, and wetland habitat projects, including restoration and mitigation banks • Watershed planning and implementation	• Ongoing long-term strategies and activities that improve habitat and ecosystem functions, habitat connectivity, and species-specific conservation projects
Transportation Infrastructure	• Highway and road expansion and maintenance	• Ongoing activities that maintain, expand, and improve state road

RFFA	Associated Activities	Trends Identified
Development and Modification	• Rail transportation expansion and maintenance • Port and navigation channel expansion and maintenance • Airport and aviation support infrastructure expansion and maintenance • Mass transit projects • Multimodal transportation projects	and rail transportation systems and increase air and watercraft cargo shipping • Increased development and enhancement of multimodal (e.g., road, rail, waterway, bicycle, pedestrian) connections and choices
Timber and Forestry Management	• Expansion/reduction in forest management areas • Updates to the state's Forest Practices Rules • Timber harvests • Fire/fuel management projects • Fire suppression/firefighting activities	• Ongoing programs and activities to reduce fire risk in timber and forestry areas considering the effects of climate change
Contaminated Site Cleanup and Remediation	• Initial and remedial site investigations and feasibility studies • Site cleanup activities • Monitoring and maintenance activities	• Ongoing cleanup and remediation activities at known contaminated sites
Mining Operations	• Expansion of existing mining and processing facilities • Development of new mines and processing facilities • Changes in mining processes and procedures • Performance of reclamation activities	• Ongoing development expansion, operation, and reclamation of existing and newly permitted mining sites
Recreation Activities on Public Lands	• Management plans to continue and/or increase access to and use of hiking, biking, and equestrian trail systems; winter recreation areas; camping and RV sites; and areas for hunting, fishing, and off-road motor vehicle use	• Increased recreational use of public lands • Increased development and maintenance of public access points, trail systems, and other recreational use areas
Military Use	• Development or modification at military facilities • Changes in land use and management • Runway resurfacing, construction, rehabilitation, and maintenance projects, and expansion of exclusion areas • Changes to surface and air training, operations, and testing	• Ongoing assessments of civilian-military compatibility needs to ensure military use and safety of military personnel
Water Supply Development and	• Development and use of reservoirs, well fields, water distribution systems, water treatment	• Increased risk of drought and subsequent water shortages

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RFFA	Associated Activities	Trends Identified
Withdrawals for Municipal, Agricultural, Industrial, and Conservation Uses	plants, and pump stations for municipal, agricultural, and industrial uses • Implementation of projects designed to improve water conservation and encourage water storage and flood risk reduction • Implementation of projects that support streamflow for aquatic species • Changes in water rights policy and water availability • Dam removals	considering the effects of climate change • Ongoing activities related to the development, modification, and use of water supply systems to address future water supply issues

Source: Department of Ecology, Utility-Scale Solar PEIS, 2025; Department of Ecology, Utility-Scale Wind PEIS, 2025; Department of Ecology, Green Hydrogen Energy Facilities PEIS, 2025

18.2.1. Local County Considerations

In addition to RFFAs identified by the Department of Ecology, the following section identifies conditions, trends, and plans that may influence future environmental conditions and cumulative impacts. While some of these considerations are accounted for in **Table 25** above, the additional local context is provided to aid in the decision-making processes. These are factors over which Skagit County may have direct or indirect influence through planning, policy decisions, infrastructure investments, and service provision.

Population Growth

- Skagit County is projected to add approximately 29,581 residents by 2045, increasing the county's population to approximately 160,830.[188]
- Future population growth is expected to increase demand for housing, transportation facilities, utility infrastructure, public services, recreation opportunities, and employment centers throughout the county.
- Skagit County plans for 20-year growth projections under its county comprehensive plan and countywide planning policies.

Residential, Commercial, and Industrial Development

- Planned and future residential, commercial, and industrial development is likely to increase demands on land, infrastructure, public services, and natural resources.
- New development could contribute to the conversion of agricultural, forest, and undeveloped lands and increase demands on transportation, utility, and stormwater systems.
- Development associated with population growth may occur concurrently with future energy facility development, potentially affecting the same environmental resources.

[188] Skagit County, Skagit County Comprehensive Plan 2025-2045, https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf

- Skagit County plans for future growth and development through its comprehensive plan land use designations and implementing development code; however, development patterns are also influenced by market conditions, economic trends, demographic changes, and other external factors.

Energy Demand and Energy Transition

- State decarbonization goals and clean energy policies may influence future energy production, transmission, and storage demands within Skagit County.
- Population growth, economic activity, transportation electrification, and increased use of electric technologies in homes, businesses, and industry may increase local electricity demand.
- Energy technology, regulations, and market demands continue to improve energy efficiency, which may reduce energy consumption in some sectors and alter consumption patterns.
- Utilities and energy providers may expand or upgrade generation, transmission, distribution, and supporting grid infrastructure to meet changing energy demands and maintain system resilience both in and outside of the County.
- Emerging high-energy demand uses, such as data centers and other large-scale computing facilities, may increase demand for energy generation, transmission capacity, and supporting infrastructure. No projects have been proposed in Skagit County at the time of the preparation of the Draft EIS.

Local Transportation Systems

- Local transportation improvements identified in the County's Six-Year Transportation Improvement Program may result in roadway, bridge, intersection, and multimodal transportation projects throughout the county.
- Future transportation investments may occur concurrently with growth and development, contributing to changes in land use patterns, travel demand, and infrastructure needs.

Local Capital Facilities

- Capital projects identified through the County's Capital Facilities Plan and Capital Improvement Program may result in the construction, expansion, or replacement of public facilities and infrastructure.
- Future investments in utilities, public buildings, parks, public safety facilities, water systems, wastewater systems, and other community infrastructure may affect the same resources considered during project-level environmental review.

Climate Change and Related Environmental Conditions

The Skagit County Comprehensive Plan identifies several climate-related hazards that may influence future environmental conditions and project-level impacts, including:

- Drought
- Extreme Precipitation
- Flooding
- Reduced Snowpack

- Sea Level Rise[189]

These existing and projected hazards may influence future environmental conditions and contribute to cumulative impacts associated with future energy siting and permitting within Skagit County. They may also affect the extent and severity of impacts associated with future energy facility development.

For example:

- Drought events could increase dust generation during construction, operation, or decommissioning depending on the energy facility;
- Reduced snowpack could affect water availability for local communities and water-intensive energy uses; and
- Extreme precipitation events following periods of drought conditions can lead to intensified surface flooding events.
- Sea-level rise, extreme precipitation, and seasonal king tide events can compound exacerbating future flood risks to energy facilities depending on project siting.

The degree to which the studied energy facilities may be exposed or vulnerable to such hazards would depend on project-specific factors such as location, scale, design, operation characteristics, and implemented risk-reduction measures.

Long-term planning for such hazards and vulnerable assets occurs in the Skagit County Comprehensive Plan Climate Element, which continues to identify climate hazards and vulnerable assets and establishes goals, policies, and implementation measures intended to reduce climate risk and vulnerability to improve community resilience. Additional hazard mitigation measures are planned for in the Skagit County Hazard Mitigation Plan.

18.3. Earth Resources

All RFFAs in **Table 25** above could contribute to cumulative impacts on earth resources over time. Impacts on earth resources due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS would occur when activities are near or within streams, wetlands, and floodplains and could include the following:

- Disturbance to soils and geologic resources due to ground-disturbing activities associated with multiple energy facilities in the same area, including soil compaction, vegetation removal, or the alteration of natural landforms
- Loss of soil stability due to incremental increases in impervious surfaces, altered drainage patterns, and earth moving activities like grading
- An increase in risk of geologic hazards, such as landslides, particularly in areas with erosion-prone soils, steep slopes, or areas of existing seismic hazard

[189] Skagit County, "Skagit County Comprehensive Plan 2025-2045," n.d., https://classic.skagitcountywa.gov/PlanningAndPermit/Documents/compplan2025/SkagitCompPlan_BOCC5.4_withappendix.pdf

- Cumulative erosion and sediment transport could result from site grading, trenching, road construction, utility installation, foundation installation associated with multiple projects
- Renewable fuels/fusion SMR facilities may require more grading, excavation, foundation, impervious surfaces, etc. than the other facility types and thus may contribute to a greater cumulative alteration of earth resources
- Overlapping construction schedules for multiple projects in the same area could increase the magnitude of cumulative soil disturbance
- The incremental contamination of soils, particularly in areas with multiple energy facilities, due to spills or leaks
- Subsidence related to tapping or withdrawal of groundwater reserves
- An increase in demand for aggregate or other natural materials needed for the development of energy facilities and other developments, particularly if sited in the same geographic area, which may limit the availability of these materials for concurrent development
- A potential increase in the damage to infrastructure or energy facilities resulting from geologic hazards such as landslides, tsunamis, or earthquakes if facilities are co-located with other utility or industrial uses or sited in the same geographic area

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

- The potential for improved identification and avoidance of geologically sensitive areas through project-level geotechnical investigations and environmental review necessary for energy development siting
- A reduction in soil loss and erosion through implementation of erosion and sediment control measures, stabilization practices, and revegetation undertaken during the construction of energy facilities
- Improved soil stability due to site restoration or revegetation undertaken during decommissioning activities of energy facilities
- The potential restoration of disturbed soils and vegetative cover through reclamation and habitat restoration measures implemented as a part of future energy development projects, especially those sited in the same geographic area

18.4. Air Quality and Greenhouse Gas Emissions

Most RFFAs in **Table 25** above could contribute to cumulative impacts on air quality and greenhouse gas emissions over time. Impacts on air quality and greenhouse gas emissions due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- Temporary increase of localized dust concentrations (PM_{10} and $PM_{2.5}$), diesel exhaust, and greenhouse gas emissions due to simultaneous construction of multiple projects in the same area
- Long-term increases in energy consumption and air pollutant emissions due to population growth and associated development in the county
- An increase in greenhouse gas and other air pollutant emissions due to new development spurred by population growth

- An increase in particulate matter emissions due to a potential increase in the frequency and intensity of wildfires

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

- Supporting Skagit County's transition away from fossil fuel energy sources and contributing to long-term state greenhouse gas emission reduction goals.
- Improving grid reliability throughout the region with increased renewable energy generation and storage capacity
- Contributing to the retirement and replacement of fossil fuel facilities, which could limit countywide emissions
- The decrease of greenhouse gas emissions over time due to Washington regulatory requirements like CETA, the Climate Commitment Act, and the Clean Fuels Standard, the potential development of new clean energy sources, the retirement of coal power plants, an increase in the use of electric cars, and an increase in public transportation use

18.5. Water Resources

All RFFAs in **Table 25** above could contribute to cumulative impacts on water resources over time. Impacts on water resources due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- An increase in alterations to surface water flow and quality and groundwater recharge capabilities due to greater demand for water availability or water rights
- Potential encroachments on wetland boundaries and functions from the placement or removal of material to support energy development infrastructure, especially where energy developments are located in the same geographic area
- A potential reduction in water quality of surface waters resulting from stormwater discharges, accidental spills, or construction-related pollutants
- Potential alteration of groundwater recharge patterns associated with land cover changes and site grading activities necessitated by energy facility development
- Incremental degradation of aquatic habitats and water-dependent ecological functions in areas where energy facilities have been co-located with other utility or industrial sites, or where multiple energy facilities are sited in the same geographic area
- Potential degradation of water quality in wetlands and other surface waters due to increases in impervious surfaces and stormwater runoff, particularly if multiple energy developments are sited in the same geographic area

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

- The potential for improved protection of wetlands, streams, or riparian areas through project-level environmental review and permitting

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- Improved stormwater management due to the implementation of water quality treatment measures necessary for energy facility development
- Enhanced watershed conditions due to the restoration of disturbed areas, revegetation, and habitat enhancement measures, particularly during decommissioning activities of energy facility developments
- The potential for reduced greenhouse gas emissions and improved climate resilience due to the development of renewable, non-fossil fuel energy sources that can support long-term protection of water resources and aquatic ecosystems

18.6. Land Use

Most RFFAs in **Table 25** above could contribute to cumulative impacts on land use over time. Impacts on land use due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- The conversion of undeveloped rural lands or change of land use patterns that may result from the incremental development of multiple energy facilities, in tandem with industrial, utility, transportation, or residential development
- A change in agricultural viability or rural character due to the incremental conversion of undeveloped, rural, agricultural, or open space lands
- Perceived incompatibility and industrialization that the development of multiple facilities may contribute to, particularly when adjacent to agricultural lands, rural areas, open space lands, or recreational resources

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

- Support of the broader local and state clean energy goals due to the development of the energy facility types analyzed in the CESP EIS
- The decommissioning or retirement of existing coal-fired power plants may result in the availability of land to be converted to other uses, such as recreational or agricultural lands

18.7. Energy and Natural Resources

Most RFFAs in **Table 25** above could contribute to cumulative impacts on energy and natural resources over time. Impacts on energy and natural resources due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- An increase in available electricity resources, renewable energy generation capacity, and long-term regional energy supplies due to the development of multiple energy facilities
- An increase in demand for aggregate or other natural materials needed for the development of energy facilities and other developments, particularly if sited in the same geographic area, which may limit the availability of these materials for concurrent development
- An increase in demand for transmission infrastructure, substations, interconnection facilities, or grid modernization projects to support the continued development of energy facilities

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- A potential increase in the ability of the existing electrical grid to store energy or respond to fluctuations in countywide and regional energy demand
- The diversification of county and state energy resources due to an increase in the availability of alternative energy sources

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

- Improved resource efficiency and a reduction in the need for energy development in rural or undeveloped areas due to the co-location of energy facilities with existing infrastructure or existing or other existing or planned developments
- An overall reduction in greenhouse gas emissions due to the availability of other energy sources in the county

18.8. Environmental Health and Safety

All RFFAs in **Table 25** above could contribute to cumulative impacts on environmental health and safety over time. Impacts on environmental health and safety due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- An increased demand for emergency response providers due to potential construction or operational incidents at energy facilities or other developments in the same area
- A potential in worker exposure to construction- and operation-related hazards, including hazardous material exposure, electrical hazards, noise, or vibration.
- A potential increase in traffic accidents or material spills along transportation corridors in the county, particularly due to an increase in development in the same geographic area
- An increase in the storage, handling, and transportation of hazardous materials, though facilities would remain subject to applicable federal, state, and local safety regulations
- A potential incremental increase in fire risk, particularly in areas where industrial development is already ongoing or existing
- Adverse impacts on health of workers and developments adjacent to energy facilities if solid waste generated from decommissioned facilities is not disposed of appropriately
- A potential increase in public concern if energy facilities are sited in the same geographic area, or are sited in areas with existing residential uses, agricultural uses, or other sensitive uses

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

- The potential for an increase in public safety and resilience due to improvements in energy reliability and an increase in local power generation during emergencies that may impact countywide or regional energy supplies

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18.9. Historic and Cultural Resources

All RFFAs in **Table 25** above could contribute to cumulative impacts on historic and cultural resources over time. Impacts on historic and cultural resources due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- The potential for disturbance of historic and cultural resources resulting from ground disturbance, landscape modification, or changes to historic settings due to construction efforts for energy developments
- An increase in the likelihood of disturbance to previously unidentified archaeological resources, cultural materials, or human remains, particularly in areas that haven't been subject to archaeological investigation
- The gradual loss or fragmentation of cultural landscapes due to the development of multiple energy facilities
- The cumulative alteration of historic settings and viewsheds, especially when combined with other energy facility or industrial development in the same geographic area
- The alteration of the integrity and character of historic properties or heritage landscapes, particularly in rural or agricultural areas
- The degradation of or reduction in Tribal cultural resources, traditional use areas, or culturally significant areas, especially where development encroaches on or is adjacent to locations of known cultural importance

18.10. Overburdened Communities

All RFFAs in **Table 25** above could contribute to cumulative impacts on overburdened communities over time. Impacts on overburdened communities due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- An increase in dust, noise, traffic, or other impacts associated with construction, operation, or decommissioning activities that could disproportionately impact nearby overburdened communities, particularly for communities located near energy developments that are co-located with existing industrial or utility infrastructure
- The potential decrease in environmental quality, community character, and quality of life for overburdened communities without mitigation measures
- An increase in impacts in areas where residents already experience barriers related to income, housing, transportation, or other determinants of health that may affect a community's ability to respond to environmental changes
- The degradation of community cohesion, sense of place, or local perceptions regarding future development patterns due to multiple energy facilities being sited in the same geographic area in or adjacent to overburdened communities

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

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- The creation of jobs, workforce development opportunities, and economic investment due to energy facilities sited in or near overburdened communities if done so in coordination with communities with mitigation measures to reduce potential significant adverse impacts
- An increase in long-term community resilience due to increased energy generation and storage capacity, particularly for populations that are more vulnerable to energy disruptions and extreme weather events depending on end user connections
- An incremental increase in countywide air quality and climate benefits due to the replacement of fossil fuel energy sources that could positively impact communities that have historically experienced disproportionate environmental burdens

18.11. Parks and Recreation

Some RFFAs in **Table 25** above could contribute to cumulative impacts on parks and recreation resources over time. Impacts on parks and recreation resources due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- An increase in traffic, dust, noise, or visual disturbances due to construction, operation, and decommissioning of energy developments, which may be particularly noticeable from parks or recreation lands
- The incremental change in scenic quality and viewsheds due to multiple energy developments that may impact hiking, wildlife viewing, photography, and other outdoor activities occurring in recreation areas
- The fragmentation of open space areas used for formal or informal recreation due to the development of multiple energy facilities
- The perceived or actual alteration of the rural character contributing to recreation experiences in the county due to the establishment of multiple energy facilities, particularly in areas with larger concentrations of recreation areas and parkland

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

- A potential reduction in development pressure on informal or formal recreation lands if the concentration or co-location of energy developments are in or near existing infrastructure corridors or industrial areas
- An improvement in parks and recreation resources after future decommissioning activities undertaken for energy facilities, including habitat restoration, vegetation establishment, and other mitigation measures

18.12. Tribal Rights, Resources, and Interests

All RFFAs in **Table 25** above could contribute to cumulative impacts on Tribal rights, resources, and interests over time. Impacts on Tribal rights, resources, and interests due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- Incremental impacts to landscapes, natural resources, and areas that are culturally important to Tribes, including areas that support Tribal traditions, cultural practices, and land with Tribal significance

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- Increased cumulative risk of disturbance to previously unidentified archaeological resources, cultural materials, and areas of Tribal significance resulting from ground-disturbing activities associated with multiple development projects
- Cumulative impacts on fish and wildlife habitat, water resources, vegetation, and other ecological systems that support Tribal treaty rights, traditional gathering practices, and subsistence activities due to incremental environmental changes from multiple energy and non-energy developments
- Cumulative changes to viewsheds and landscape character that contribute to impacts on Tribal cultural landscapes, culturally significant places, and visual resources important to Tribal communities

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

- The identification, avoidance, minimization, and mitigation of impacts to culturally significant resources through project-level siting reviews, environmental reviews, and Tribal consultation processes
- Localized ecological benefits that support Tribal resources through habitat restoration, native vegetation establishment, wetland enhancement, and implementation of other mitigation measures associated with future projects
- An increase in climate resilience and long-term protection of natural systems and resources that are important to Tribal communities through expansion of renewable energy resources

18.13. Visual Quality

Most RFFAs in **Table 25** above could contribute to cumulative impacts on visual quality over time. Impacts on visual quality due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- Temporary increases in noise, dust, and visual impacts affecting nearby recreation areas, residential areas, and other sensitive receptors resulting from construction of multiple energy facilities over time
- Alteration of historic settings and viewsheds resulting from energy facility and infrastructure development in combination with other development throughout the county
- Increased visual presence of buildings, structures, and supporting infrastructure within rural, agricultural, and open space landscapes due to multiple energy developments within the same area
- Temporary visual impacts associated with vegetation clearing, grading, construction equipment, stockpiled materials, and other construction activities resulting from multiple development projects occurring within the same area
- Increased nighttime visual effects and light pollution resulting from security lighting, operational lighting, and vehicle activity associated with energy facilities, particularly in rural areas
- Increased visual contrast between energy facilities and surrounding land uses, particularly for fusion SMRs and renewable fuels facilities that may include large buildings, structures, or industrial features
- Impacts to transportation corridors, shared viewsheds, community identity, and scenic quality where multiple energy facilities are developed within the same visual landscape

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

- Reduced visual impacts to sensitive scenic resources, recreational areas, residential areas, and prominent viewsheds through strategic siting of future clean energy development
- Reduced encroachment of industrial features into undeveloped portions of the county through co-location with existing infrastructure corridors and industrial areas
- Improved landscape compatibility and visual integration through vegetative screening, habitat restoration, landscaping, and other mitigation measures

18.14. Biological Resources

All RFFAs in **Table 25** above could contribute to cumulative impacts on biological resources over time. Impacts on biological resources due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- Loss, degradation, and fragmentation of habitat within shared landscapes and ecological systems due to multiple energy facilities and other development activities
- Reduced habitat availability and connectivity for wildlife species resulting from vegetation removal associated with site clearing, maintenance activities, and other project-related disturbances, particularly in areas near habitat corridors, wildlife movement pathways, and conservation lands
- Impacts on wildlife movement patterns, breeding areas, and foraging habitats within shared watersheds and migration corridors
- Increased disturbance to wildlife species from noise, lighting, human activity, and traffic associated with construction and operation of energy facilities
- Impacts on wetlands, streams, riparian habitats, and other environmentally sensitive areas resulting from ground disturbance associated with infrastructure development and other construction activities
- Increased impacts to special-status species where multiple development projects affect the same habitat types or populations

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

- Improved identification and avoidance of impacts to environmentally sensitive areas through project-level environmental review and biological resource assessments
- Reduced development pressure on high-value habitats through concentration of development within already industrialized areas and along existing infrastructure corridors in areas with lower ecological sensitivity
- Supplemental habitat benefits through incorporation of pollinator-friendly vegetation, native groundcover establishment, and other habitat-enhancing design features
- Improved long-term environmental conditions for biological resources and ecosystems through reductions in greenhouse gas emissions and increased climate resilience associated with clean energy development

18.15. Transportation

Most RFFAs in **Table 25** above could contribute to cumulative impacts on transportation over time. Impacts on transportation due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- Increased construction worker trips, heavy truck traffic, oversized equipment deliveries, and material transport along local and regional transportation corridors
- Temporary traffic impacts associated with overlapping site preparation, equipment deliveries, construction traffic, and other concurrent construction activities along shared transportation corridors
- Increased demands on transportation infrastructure associated with transport of large equipment and materials, particularly for fusion SMRs and renewable fuels facilities
- Increased wear and deterioration of local roadways and transportation infrastructure in areas with multiple development projects
- Increased safety concerns for motorists, cyclists, pedestrians, agricultural equipment operators, and other roadway users due to higher traffic volumes associated with concurrent construction projects

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

- Reduced transportation impacts in undeveloped areas through concentration of energy facilities near existing transportation corridors
- Reduced need for new roadway construction through co-location of energy facilities with existing transportation infrastructure
- Localized transportation benefits through roadway improvements associated with future energy projects
- Improved roadway access, intersection operations, and overall transportation network performance through transportation infrastructure upgrades associated with future development

18.16. Public Services and Utilities

Some RFFAs in **Table 25** above could contribute to cumulative impacts on public services and utilities over time. Impacts on public services and utilities due to the construction, operation, and decommissioning of multiple energy facility developments discussed in the CESP EIS could include the following:

- Increased demand for emergency medical services and fire protection resulting from energy facility development in combination with other industrial, transportation, residential, and commercial development
- Increased demand for emergency preparedness planning, specialized responder training, and coordination among fire districts, emergency medical providers, and law enforcement agencies
- Increased demand for electrical transmission infrastructure, substations, distribution systems, and other utility infrastructure
- Increased demand on electrical, telecommunications, and other utility service providers, particularly for multiple energy facilities and concurrent development sited in the same geographic area

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- Increased demand on solid waste management and material recycling systems resulting from construction and decommissioning debris
- Increased demand on fire protection, emergency response, and public safety services, particularly where specialized training or equipment may be required for energy facilities
- Increased demand on water supply and wastewater service infrastructure, depending on facility type, scale, and location

Cumulative benefits resulting from development of multiple energy facilities of the types discussed in the CESP EIS could include the following:

- A potential increase in long-term energy supply and generation capacity to support growing county and regional electricity demand
- Enhanced utility infrastructure and system performance through project-related utility upgrades and investments
- Improved energy system resilience and reliability through local energy generation resources
- Increased community resilience during severe weather events, natural hazards, and other service disruptions through distributed and locally available energy resources

18.17. Mitigation Measures

The mitigation measures identified throughout the CESP EIS provide a framework for avoiding, minimizing, rectifying, and compensating for a project's contribution to cumulative impacts. The need for additional measures would depend on site-specific conditions, other existing or reasonably foreseeable development affecting the same resources, and the extent to which impacts could overlap geographically or temporally.

The following measures could be considered during future planning, siting, permitting, and environmental review to reduce cumulative impacts:

- Consider existing and proposed development known to the County at the time of project review when evaluating potential cumulative impacts.
- Use siting standards, overlays, setbacks, buffers, or other development standards to reduce the potential for concentration of impacts in environmentally sensitive or otherwise constrained areas.
- Consider proximity to existing energy facilities and other major development when determining appropriate setbacks, buffers, access, or other project conditions.
- Coordinate construction timing or access, where practicable, for projects under concurrent review to reduce overlapping traffic, noise, dust, or other construction impacts.
- Encourage shared use of existing access roads, utility corridors, transmission infrastructure, or other infrastructure where feasible and where doing so would reduce overall disturbance.
- Evaluate available infrastructure and public-service capacity during project review and require project-specific improvements where additional demand would exceed or adversely affect available capacity.
- Require additional avoidance, minimization, restoration, or compensatory mitigation where project-level review identifies impacts that would add to existing degradation or resource loss.

- Coordinate with affected agencies, Tribes, service providers, and neighboring jurisdictions, as applicable, when impacts may extend beyond the project site or County jurisdiction.
- Require monitoring or adaptive management for resources where project-level review identifies uncertainty regarding the effectiveness of mitigation or changing environmental conditions.

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Appendices

Appendix A: List of Potentially Applicable Regulations

Appendix B: Scoping Comment Summary

Appendix C: Distribution List

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Appendix A: List of Potentially Applicable Regulations

Appendix A starts on the next page.

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Skagit County CESP EIS Appendix A

Purpose

The purpose of this appendix item is to outline the federal and state regulations, statutes, guidelines, and plans that may be applicable to the studied energy uses and project-level conditions. The following tables were adapted from the list of regulations provided by Washington State Department of Ecology Programmatic EIS for Utility-Scale Solar released in 2025. The first table provides federal regulations while the second table provides state regulations.

Federal Regulations, Statutes, Guidelines

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
U.S. Department of Transportation Federal Highway Administration National Scenic Byways and All American Roads Program	This program designates National Scenic Roads that meet the criteria for at least one of six "intrinsic qualities": archeological, cultural, historic, natural, recreational, and scenic. The features contributing to the distinctive characteristics of the corridor's intrinsic quality are recognized throughout the region and are considered regionally significant. Designated All-American Roads meet two of these "intrinsic qualities." They are both considered in this analysis as designated scenic resources.	Aesthetics/Visual Quality
Federal Aviation Administration (FAA) Advisory Circular 70/74601M, Obstruction Marking and Lighting	The advisory circular describes FAA's standards for marking and lighting structures to promote aviation safety. These standards are considered in this analysis relative to impacts attributable to light.	Aesthetics/Visual Quality
FAA Interim Policy 78 Federal Register 63276 (regarding glare)	This interim FAA policy provides standards to measuring the ocular (i.e., glare) impact of solar energy systems.	Aesthetics/Visual Quality
U.S. Forest Service (USFS) Forest Service Manual 2800 – Chapter 2380: Landscape Management and USFS Handbook 279 Landscape Aesthetics: A Handbook for Scenery Management	Chapter 2380 states that it is USFS policy to: 1. Inventory, evaluate, manage, and, where necessary, restore scenery as a fully integrated part of the ecosystems of National Forest System lands and of the land and resource management and planning process. 2. Employ a systematic, interdisciplinary approach to scenery management to ensure the integrated use of the natural and social sciences and environmental design. 3. Ensure scenery is treated equally with other resources. 4. Apply scenery management principles routinely in all National Forest System activities. USFS's Scenery Management System provides an overall	Aesthetics/Visual Quality

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
	framework for inventory, analysis, and management of scenery on National Forest lands.	
Bureau of Land Management Manual 8400 – Visual Resource Management and associated handbooks and technical standards	The Visual Resource Management program provides a system for inventory, of scenic values, protection of present and future values through land use planning, and management of visual impacts from proposed projects through project planning and visual design principles.	Aesthetics/Visual Quality
42 United States Code 7401 et seq., Clean Air Act	The Clean Air Act is the law that defines the U.S. Environmental Protection Agency's (USEPA's) responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer.	Air Quality & GHGs
40 Code of Federal Regulations (CFR) 50, National Ambient Air Quality Standards (NAAQS)	National primary and secondary ambient air quality standards. The primary standards define levels of air quality that USEPA judges are necessary, with an adequate margin of safety, to protect public health. The secondary air quality standards define levels that USEPA judges necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.	Air Quality & GHGs
40 CFR 52.21, Prevention of Significant Deterioration (PSD) of Air Quality	If a facility would be a major source of air pollutant emissions, a PSD air permit would be required prior to construction. The Washington State Department of Ecology (Ecology) administers the PSD program in Washington, except for on Tribal lands or for sources under the jurisdiction of the Energy Facility Site Evaluation Council. Although this program is administered by Ecology, it requires coordination with federal partners such as USEPA.	Air Quality & GHGs

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
40 CFR 60, New Source Performance Standards (NSPS)	Federal emissions standards that apply to specific categories of stationary sources. The NSPS represent the minimum level of control that is required on a new or modified source. Generator engines or combustion heating equipment may be subject to the NSPS. Ecology and often local clean air agencies administer the NSPS.	Air Quality & GHGs
40 CFR 63, National Emissions Standards for Hazardous Air Pollutants (NESHAP)	Federal emissions standards for hazardous air pollutants from specific source categories. They generally specify the Maximum Achievable Control Technology (MACT) that must be applied for a given source category; therefore, they are also referred to as MACT standards. Generator engines or combustion heating equipment may be subject to NESHAP. Ecology and often local clean air agencies administer the NESHAP.	Air Quality & GHGs
40 CFR 98, Mandatory Greenhouse Gas (GHG) Reporting	The Greenhouse Gas Reporting Program (GHGRP) requires reporting of GHG data and other relevant information from large GHG emission sources. A total of 41 categories of emission sources are covered by the GHGRP. Facilities are generally required to submit annual reports under 40 CFR 98 under the following circumstances: 1) direct GHG emissions from covered sources exceed 25,000 metric tons of carbon dioxide equivalents (MT CO2e per year); 2) stationary fuel combustion units at the facility have a combined maximum rated heat input capacity of 30 million British thermal units per hour or greater; or 3) supply of certain products would result in over 25,000 MT CO2e of GHG emissions if those products were released, combusted, or oxidized.	Air Quality & GHGs
40 CFR 51(W) and 40 CFR 93, General Conformity Analysis	General Conformity requires that federal agencies not take actions that cause or contribute to violations of ambient air quality standards or interfere with goals outlined in a state or Tribal implementation plan for achieving attainment.	Air Quality & GHGs

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
United States Code (USC) 16.1531 et seq., Endangered Species Act	Provides for the conservation of species listed as threatened or endangered and the habitat upon which they depend. Section 7 requires consultation with USFWS and/or National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) when undertaking a federal action to ensure the conservation of any listed animal species and critical habitat so as not to jeopardize the continued existence of any listed species. NOAA Fisheries manages listed marine species while USFWS manages listed terrestrial and freshwater species.	Biological Resources
16 USC 1539, Endangered Species Act	Provides for non-federal entities to obtain a permit for the incidental take of listed species resulting from an otherwise lawful activity, provided they develop and implement a Habitat Conservation Plan that minimizes and mitigates impacts to the species and its habitat. USFWS and/or NOAA Fisheries review and approve the Habitat Conservation Plan and issue the permit. NOAA Fisheries manages listed marine species while USFWS manages listed terrestrial and freshwater species.	Biological Resources
16 USC 661, Fish and Wildlife Coordination Act	Requires equal consideration and coordination of wildlife conservation with other water resources development programs and provides authority to USFWS and NOAA Fisheries to evaluate impacts on fish and wildlife from federal actions that result in modifications to waterbodies.	Biological Resources
16 USC 668 to 668c, Bald and Golden Eagle Protection Act of 1940, as amended	Prohibits the taking of bald eagles, including their parts, nests, or eggs, without a permit issued by USFWS, and provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle... [or any golden eagle], alive or dead, or any part, nest, or egg thereof."	Biological Resources
16 USC 703 to 713, Migratory Bird Treaty Act of 1918, as amended	Makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to federal regulations. Under the regulatory authority of USFWS.	Biological Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
67 Code of Federal Regulations 2343, Magnuson-Stevens Fishery Conservation and Management Act Provisions; Essential Fish Habitat (EFH)	Governs marine fisheries management in U.S. federal waters; federal agencies are required to consult with NOAA Fisheries on activities that may affect EFH.	Biological Resources
16 USC 2901 et seq., Fish and Wildlife Conservation Act	The federal Fish and Wildlife Conservation Act of 1980 recognized that previous conservation acts focused on game fish and wildlife for commercial and recreational purposes. This act establishes a precedent for federal agencies to provide states with technical and financial assistance to create conservation plans for nongame fish and wildlife as well as those that are not listed species or marine mammals protected by the Marine Mammal Protection Act of 1972.	Biological Resources
33 USC 1251 et seq., Clean Water Act (CWA)	The federal Water Pollution Control Act of 1948 was the first major U.S. federal law to address water pollution. The law was amended in 1972 and became commonly known as the CWA. The CWA establishes the basic structure for regulating pollutant discharges into waters of the United States and makes it unlawful to discharge any pollutant from a point source into those waters without a permit.	Biological Resources
CWA Section 401 Water Quality Certification	Provides states with the authority to ensure that federal agencies do not issue permits or licenses that violate state water quality standards or other protections of the CWA. An applicant for a federal permit must obtain a Section 401 Water Quality Certification from the state in which the activity would occur. The Washington State Department of Ecology (Ecology), U.S. Environmental Protection Agency (USEPA), and some Tribes administer Section 401 of the CWA in Washington.	Biological Resources
16 USC 1271 to 1287, Wild and Scenic Rivers Act, 1968	This act establishes a National Wild and Scenic Rivers System for the protection of rivers that have important scenic, recreational, fish and wildlife, and other resources. The system protects the designated river and an adjacent corridor of land. Wild and scenic river corridors contain both private and public lands. Restrictions associated with the Wild and Scenic Rivers Act apply only to federal lands.	Biological Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
Federal Land Policy and Management Act (43 United States Code [USC] 1701)	Establishes management guidelines on public lands managed by Bureau of Land Management (BLM) and the U.S. Forest Service to protect, develop, and enhance public lands.	Earth Resources
Toxic Substances Control Act	Regulates the manufacture, distribution, use, and disposal of chemical substances in the United States. Its primary objective is to ensure that chemicals are safely managed to protect human health and the environment from unreasonable risks of injury.	Earth Resources
Clean Water Act (CWA) (33 USC 1251 et seq.)	The Federal Water Pollution Control Act of 1948 was the first major U.S. federal law to address water pollution. The law was amended in 1972 and became commonly known as the CWA. The CWA establishes the basic structure for regulating pollutant discharges into waters of the United States and makes it unlawful to discharge any pollutant from a point source into those waters without a permit.	Earth Resources
CWA Section 401 Water Quality Certification	Provides states with the authority to ensure that federal agencies do not issue permits or licenses that violate state water quality standards or other protections of the CWA. An applicant for a federal permit must obtain a Section 401 Water Quality Certification from the state in which the activity would occur. Washington State Department of Ecology (Ecology), USEPA, and some Tribes administer Section 401 of the CWA in Washington.	Earth Resources
CWA Section 402 (National Pollutant Discharge Elimination System [NPDES])	Establishes the NPDES program, requiring pollutant discharges to surface waters be authorized by a permit. USEPA issues NPDES permits for federally owned facilities and Tribal lands in Washington. Ecology administers the NPDES permitting program for other facilities and lands in Washington.	Earth Resources
Coastal Zone Management Act (16 USC 1451 et seq.)	The federal consistency provisions of the Coastal Zone Management Act require that federal actions, including federal activities and the issuance of federal licenses and permits, be consistent with the enforceable policies of the Washington Coastal Zone Management Program. This applies to federal actions in Washington's 15 coastal counties that could have reasonably foreseeable impacts on state coastal resources and uses. Administered by Ecology.	Earth Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
BLM 2016 Wind and Solar Rule	Governs the leasing and development of wind and solar energy projects on public lands managed by the BLM. It encourages development in areas with the highest generation potential and fewest resource conflicts through financial incentives. The rule establishes procedures and requirements for obtaining right-ofway grants for wind and solar energy development, including sitespecific environmental assessments and mitigation measures.	Earth Resources
Resource Conservation and Recovery Act (RCRA)	This act gives the U.S. Environmental Protection Agency (USEPA) the authority to control hazardous waste from cradle to grave. This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also establishes a framework for the management of non-hazardous solid wastes.	Earth Resources, Environmental Health & Safety
Executive Order 12898, Environmental Justice	Directs federal agencies to make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. Executive Order was rescinded as of January 2025.	EJ & Overburdened Communities
Executive Order 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All (Justice40)	Requires federal agencies to incorporate environmental justice into their missions and to examine impacts on overburdened community areas. Executive Order was rescinded as of January 2025.	EJ & Overburdened Communities
Title VI of the Civil Rights Act of 1964 (United States Code 42.2000d), as amended by the Civil Rights Restoration Act of 1987	Prohibits discrimination based on race, color, and national origin in programs and activities receiving federal financial assistance.	EJ & Overburdened Communities
Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency (LEP)	Requires federal agencies to examine the services they provide, identify any need for services to those with LEP, and develop and implement a system to provide those services so LEP persons can have meaningful access to them. Executive Order was rescinded as of January 2025.	EJ & Overburdened Communities

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
Comprehensive Environmental Response, Compensation, and Liability Act (as amended by the Superfund Amendments Reauthorization Act of 1986 and the Community Environmental Response Facilitation Act of 1992)	Provides a federal "Superfund" to clean up uncontrolled or abandoned hazardous waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment.	Environmental Health & Safety
Clean Water Act	Establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters.	Environmental Health & Safety
Safe Drinking Water Act	Protects public health by regulating the nation's public drinking water supply.	Environmental Health & Safety
Emergency Planning and Community Right-to-Know Act	Authorized by Title III of the Superfund Amendments and Reauthorization Act to help communities plan for chemical emergencies. It requires industry to report on the storage, use, and releases of certain chemicals to federal, state,Tribal, territorial, and/or local governments. It also requires these reports to be used to prepare for and protect their communities from potential risks.	Environmental Health & Safety
Hazardous Materials Transportation Act (HMTA) of 1975	Empowered the Secretary of Transportation to designate as hazardous material any "particular quantity or form" of a material that "may pose an unreasonable risk to health and safety or property." Hazardous materials regulations are subdivided by function into four basic areas: Procedures and/or Policies 49 Code of Federal Regulations (CFR) Parts 101, 106, and 107. Material Designations 49 CFR Part 172. Packaging Requirements 49 CFR Parts 173, 178, 179, and 180. Operational Rules 49 CFR Parts 171, 173, 174, 175, 176, and 177. The HMTA is enforced by use of compliance orders [49 United States Code (USC) 1808(a)], civil penalties [49 USC 1809(b)], and injunctive relief (49 USC 1810). The HMTA (Section 112, 40 USC 1811) preempts state and local governmental requirements that are inconsistent with the statute, unless that requirement affords an equal or greater level of protection to the public than the HMTA requirement.	Environmental Health & Safety

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and Federal Food, Drug, and Cosmetic Act	FIFRA provides for federal regulation of pesticide distribution, sale, and use. All pesticides distributed or sold in the United States must be registered (licensed) by USEPA. Before USEPA may register a pesticide under FIFRA, the applicant must show, among other things, that using the pesticide according to specifications "will not generally cause unreasonable adverse effects on the environment." FIFRA defines the term "unreasonable adverse effects on the environment" to mean: "(1) any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide, or (2) a human dietary risk from residues that result from a use of a pesticide in or on any food inconsistent with the standard under Section 408 of the Federal Food, Drug, and Cosmetic Act."	Environmental Health & Safety
49 CFR 173.185, which regulates the transportation of lithium-ion batteries	Regulations on how these types of batteries are classified and packaged.	Environmental Health & Safety
49 CFR 173.159, which regulates the transportation of lead-acid batteries	Regulations on how these types of batteries may be packaged and transported.	Environmental Health & Safety
29 CFR 1910.269, Electric Power Generation, Transmission, and Distribution standard	This section of the code covers the operation and maintenance of electric power generation, control, transformation, transmission, and distribution lines and equipment.	Environmental Health & Safety
Occupational Safety and Health Act of 1970	Ensures employers provide their workers a place of employment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions.	Environmental Health & Safety
2018 International WildlandUrban Interface Code	Establishes regulations to safeguard life and property from the intrusion of wildland fire and to prevent structure fires from spreading to wildland fuels. Regulates defensible space and provides ignition-resistant construction requirements to protect against fire exposure and resist ignition by burning embers. Provides standards for emergency access, water supply, and fire protection. Provides requirements for automatic fire suppression and safe storage practices.	Environmental Health & Safety

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
American National Standards Institute, design standards	Safety standards on construction sites and safe work environments; building and design standards that reduce expenses while raising quality.	Environmental Health & Safety
American Society of Mechanical Engineers, design standards	Standards that enhance public safety, health, and quality of life, as well as to facilitate innovation, trade, and competitiveness, including energy storage.	Environmental Health & Safety
Institute of Electrical and Electronics Engineering Guide for Substation Fire Protection (979-2012)	Guide developed to identify substation fire protection practices that generally have been accepted by industry.	Environmental Health & Safety
International Building Code	Code preserving public health and safety that provides safeguards from hazards associated with the built environment.	Environmental Health & Safety
International Fire Code	Establishes minimum requirements for fire prevention and fire protection systems using prescriptive and performance-related provisions.	Environmental Health & Safety
National Electric Safety Code	Sets the ground rules and guidelines for practical safeguarding of utility workers and the public during the installation, operation, and maintenance of electric supply, communications lines, and associated equipment.	Environmental Health & Safety
National Fire Protection Association (NFPA) Standards (NFPA 1141 Protection for Land Development, NFPA 1144 Reducing Structure Ignition Hazards)	Provides a methodology for assessing wildland fire ignition hazards around existing structures and provides requirements for new construction to reduce the potential of structure ignition from wildland fires.	Environmental Health & Safety
National Institute for Occupational Safety and Health	Research, programs, and publications addressing occupational health and safety problems for workers.	Environmental Health & Safety
United Facilities Criteria (UFC) for Fire Protection Engineering for Facilities (UFC 3-600-01)	This UFC must be used as the minimum standard for the planning and development of projects and design, construction, and commissioning documentation used for the procurement of facilities. It is the primary fire protection criteria reference document for services provided by architectural and engineering firms and consultants in the development of both design-bid-build and design-build contracts.	Environmental Health & Safety
NFPA 855 Standards for Installation of Energy Storage Systems	Applies to facilities with co-located battery energy storage systems.	Environmental Health & Safety

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
Antiquities Act of 1906 (54 United States Code [USC] 320301-320303, 18 USC 1866(b))	The Antiquities Act was enacted in 1906 and grants the President the authority to designate national monuments to protect significant natural, cultural, or scientific features. The goal of the act is to preserve public lands and cultural heritage, and it has played an important role in the formation of historic preservation policy. The act establishes a process of creating national monuments and protecting archaeological sites on federal land from looting and vandalism.	Historic & Cultural Resources
Preservation of American Antiquities (43 Code of Federal Regulations [CFR] 3)	These are implementing regulations for the Antiquities Act. The regulations establish the permitting process and the treatment of the archaeological objects collected as a result.	Historic & Cultural Resources
Archaeological and Historic Preservation Act (Moss-Bennett Act, Archaeological Recovery Act) (54 USC 312501-312508)	The act applies to all federal projects or federally assisted or licensed projects, activities, or programs. The act requires the preservation of significant scientific, precontact, historical, or archaeological data that would be irrevocably lost or destroyed by the activity. Then the federal agency must undertake the recovery, protection, and preservation of the data. This act can extend to private individuals, associations, or public entities if their project receives federal financial assistance.	Historic & Cultural Resources
Archaeological Resources Protection Act (ARPA) (16 USC 470aa–mm)	Enacted in 1979 to safeguard archaeological resources on public and Indian lands. Key provisions of ARPA emphasize its role in preventing the excavation, removal, or damage of cultural artifacts and archaeological sites. The act creates the requirement for permits for archaeological activities, penalties for violations, and the collaborative efforts between government agencies, Tribes, and the public to protect and preserve archaeological resources. It also establishes the prohibition of public disclosure of sensitive information, specifically the description and location of archaeological sites.	Historic & Cultural Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
Protection of Archaeological Resources (43 CFR 7)	Along with 43 CFR 3, these are the implementing regulations for ARPA. These regulations provide more detail regarding the permitting process, curation of archaeological objects, enforcement, and confidentiality of archaeological information. The regulations also establish the requirement to notify Tribes when a permit issued under the act may harm or destroy Indian Tribal religious or cultural sites on public lands and provides a definition of "sites of religious or cultural importance."	Historic & Cultural Resources
National Historic Preservation Act (NHPA) (54 USC 300101 et seq.)	The NHPA was signed into law on October 15, 1966, for the management and preservation of historical and archaeological sites. This act created the National Register of Historic Places (NRHP), National Historic Landmarks List, State Historic Preservation Office (SHPO), and Tribal Historic Preservation Office (THPO). Washington State's SHPO is the Washington State Department of Archaeology and Historic Preservation (DAHP), which is the state agency that administers NHPA compliance in Washington.	Historic & Cultural Resources
NRHP (54 USC 302101302108)	This section of the NHPA establishes the NRHP, the authority to establish procedures for listing in the NRHP, and the right of the owner of the potential property to object to the listing in the NRHP.	Historic & Cultural Resources
Section 106 of the NHPA (54 USC 306108)	The procedures for implementing the NHPA are detailed in the Protection of Historic Places regulations. Section 106 of the NHPA requires federal agencies to consider the effects of project undertakings, project approvals, or project funding on historic properties. This process requires consultation with the relevant THPO, Indian Tribes, and Native Hawaiian organizations.	Historic & Cultural Resources
Section 110 of the NHPA (54 USC 306101-306114)	This section of the NHPA requires each federal agency to assume responsibility for the preservation of historic properties that they own or control. Part of this responsibility is to identify, evaluate, and protect historic properties.	Historic & Cultural Resources
36 CFR 60	This section of the regulations establishes the procedural requirements for listing on the NRHP.	Historic & Cultural Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
36 CFR 61	This section of the regulations outlines the procedures and responsibilities for SHPOs, THPOs, and Certified Local Governments. This section also establishes the minimum professional qualifications for archaeology and historic preservation.	Historic & Cultural Resources
National Environmental Policy Act (NEPA) (42 USC 4321 et seq.)	NEPA requires that federal agencies assess the environmental impacts of proposed federal actions, including impacts on historic and cultural resources. The NEPA process is often completed alongside Section 106 of the NHPA.	Historic & Cultural Resources
Native American Graves Protection and Repatriation Act (NAGPRA) (25 USC 30013013)	Enacted on November 16, 1990, NAGPRA establishes rights for lineal descendants, Native Americans and Tribes, and Native Hawaiian organizations to repatriate their culturally affiliated items, including human remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony. NAGPRA includes provisions for unclaimed and culturally unidentifiable Native American cultural items and the intentional and inadvertent discovery of Native American cultural items on federal and Tribal lands only.	Historic & Cultural Resources
American Indian Religious Freedom Act (42 USC 1996)	Establishes the policy to protect and preserve Tribal religions. The act requires that federal agencies managing federal land accommodate access to and ceremonial use of Indian scared sites and avoid adverse effects on the physical integrity of the sites.	Historic & Cultural Resources
Protection and Enhancement of the Cultural Environment (Executive Order 11593)	The 1971 executive order establishes the policy that federal agencies should administer federal projects in a way that preserves, restores, and maintains historic and cultural resources for future generations.	Historic & Cultural Resources
Indian Sacred Sites (Executive Order 13007)	The 1996 executive order directs federal agencies to manage federal lands to accommodate access to and ceremonial use of Indian sacred sites and avoid adverse effects on those sites. The executive order also establishes the importance of maintaining confidentiality of sacred sites.	Historic & Cultural Resources
Consultation and Coordination with Indian Tribal Governments (Executive Order 13175)	The 2000 executive order establishes principles for Tribal consultation that include supporting Tribal sovereignty and selfdetermination and interacting on a government-to-government level.	Historic & Cultural Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
Preserve America (Executive Order 13287)	The 2003 executive order advances historic preservation policy by promoting the reuse of historic properties owned by the federal government and promoting intergovernmental cooperation regarding historic preservation.	Historic & Cultural Resources
Federal Aviation Administration (FAA) Interim Policy for Review of Solar Energy System Projects on Federally Obligated Airports (78 Federal Register 63276)	Policy for analyzing ocular (glint or glare) impacts when a solar energy system is proposed on a federally obligated towered airport (i.e., an airport that has accepted federal funding and has an air traffic control tower).	Land Use
Farmland Protection Policy Act (7 United States Code [USC] 73)	Requires a land evaluation and site assessment for projects that may irreversibly convert farmland (directly or indirectly) to nonagricultural use and that are completed by a federal agency or with assistance from a federal agency.	Land Use
Federal Land Policy and Management Act (43 USC 35)	Requires public lands to be managed in a manner that protects scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values while providing for outdoor recreation and human occupancy and use.	Land Use
Flood Control Act and National Flood Insurance Act (33 USC 15, 42 USC 50)	Allows property owners in participating communities to purchase flood insurance. Requires participating jurisdictions to implement floodplain management regulations that reduce future flood damage.	Land Use
National Forest Management Act (16 USC 1604)	Directs the development, amendment, and revision of land management plans for each national forest to provide for the multiple use and sustained yield of products including outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness.	Land Use
National Environmental Policy Act (43 USC 1638)	Requires environmental review for activities involving a federal permit, federal funding, or work on federally owned land.	Land Use
Obstruction to Navigation Federal Regulation, Finding of No Hazard to Air Navigation (49 Code of Federal Regulations [CFR] Part 77)	Describes requirements for project developers to notify FAA for activities either on or outside of airport property that meet specific criteria.	Land Use

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
Section 4(f) review (49 USC 303I and 23 CFR 774)	Applies to projects that receive funding from or require approval by an agency of the U.S. Department of Transportation. Projects must demonstrate that there is no prudent and feasible avoidance alternative to the use of and/or adverse impacts to publicly owned parks, recreation areas, and wildlife or waterfowl refuges, or any publicly or privately owned historic site listed or eligible for listing on the National Register of Historic Places.	Land Use
U.S. Forest Service Northwest Forest Plan	Addresses activities on 24.5 million acres of federally managed lands in western Oregon, Washington, and northwestern California within the range of the northern spotted owl. Delineates land use categories and an aquatic conservation strategy, each with associated standards and guidelines for management activities.	Land Use
Coastal Zone Management Act (16 USC 1451 et seq.)	The federal consistency provisions of the Coastal Zone Management Act require that federal actions, including federal activities and the issuance of federal licenses and permits, be consistent with the enforceable policies of the Washington Coastal Zone Management Program. This applies to federal actions of Washington's 15 coastal counties that could have reasonably foreseeable impacts on state coastal resources and uses. Administered by the Washington State Department of Ecology.	Land Use
Noise Control Act of 1972 (42 United States Code 4910)	Protects the health and welfare of U.S. citizens from the growing risk of noise pollution, primarily from transportation vehicles, machinery, and other commerce products. Increases coordination between federal researchers and noisecontrol activities; establishes noise emissions standards; and presents noise emissions and reduction information to the public.	Noise & Vibration
Federal Transit Administration Construction Noise Impact Criteria for General Assessment; Transit Noise and Vibration Impact Assessment Manual (FTA 2018)	This document provides procedures and guidance for analyzing the level of noise and vibration, assessing the resulting impacts, and determining possible mitigation for most federally funded transit projects.	Noise & Vibration

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
42 United States Code (USC) 6901 et seq., Solid Waste Disposal Act	Applicable to solid waste generated during construction, decommissioning, and operation and maintenance phases.	Public Services & Utilities
36 Code of Federal Regulations (CFR) 251, Subpart B, U.S. Department of Agriculture (USDA) U.S. Forest Service (USFS)	Includes USFS-administered lands; the regulation stipulates that various plans, such as emergency action plans and site security plans, be implemented as conditions of approval.	Public Services & Utilities
43 USC 1701 et seq., Federal Land Policy and Management Act of 1976	Governs how the Department of the Interior's Bureau of Land Management (BLM) and USFS (under USDA) administer public lands, including grants of rights-of-way for the transmission lines associated with solar and wind facility development. See also the BLM Right-of-Way Regulations (43 CFR 2800).	Public Services & Utilities
29 CFR 1910.269, Occupational Safety and Health Act	Establishes the Occupational Safety and Health Administration, which regulates worker safety and hazards in the United States. Safe worker practices and training requirements are applicable to solar energy facilities and electrical systems.	Public Services & Utilities
Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 USC 6901 et seq.) and the Hazardous Solid Waste Amendments of 1984	The regulations governing hazardous materials influence the destinations and process for solid waste reclamation. Applicable to solid and hazardous waste generated during construction, operation, and decommissioning.	Public Services & Utilities
47 USC 303(q) Antenna Tower Lighting and Marking Requirements; 47 CFR 17.21- 17.58, Federal Aviation Administration (FAA) Advisory Circulars	Standards and specifications set forth in FAA advisory documents govern antenna tower lighting and marking requirements, which are mandatory under the Federal Communications Commission (FCC) rules. The FCC requirements for filing with FAA for proposed structures vary based on a number of factors including height, proximity to an airport, location, and frequencies emitted from the structure, etc. Depending on such factors, communication structures associated with the solar energy facilities may be subject to FAA standards.	Public Services & Utilities
National Electric Code, Article 690 Solar Electric Systems	Governs the safe installation and operation of photovoltaic solar systems, including solar panels, connections, inverters, battery storage, and connection to the grid.	Public Services & Utilities

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
National Electric Code, Article 705, Interconnected Power Systems	Includes requirements that make it easier for first responders to safely and effectively turn off a solar energy system.	Public Services & Utilities
National Fire Protection Association 855 S tandards for Installation of Energy Storage Systems	Applies to facilities with co-located battery energy storage system (BESS). Provides the minimum requirements for mitigating the hazards associated with BESS.	Public Services & Utilities
Wilderness Act, 1964	The Wilderness Act created the National Wilderness Preservation System and provides the highest level of conservation protection of federal lands. The purpose of the act is to manage wilderness areas to preserve and, where possible, to restore their wilderness character. Wilderness areas are defined as "outstanding opportunities for solitude or a primitive unconfined type of recreation."	Recreation Resources
National Wilderness Preservation System (43 Code of Federal Regulations 19)	Designates more than 111 million acres of protected wilderness areas in the United States for enjoyment of the public.	Recreation Resources
Wild and Scenic Rivers Act, 1968 (16 United States Code 1271-1287)	This act establishes a National Wild and Scenic Rivers System for the protection of rivers that have important scenic, recreational, fish and wildlife, and other resources. The system protects the designated river and an adjacent corridor of land. Wild and scenic river corridors contain both private and public lands. Restrictions associated with the Wild and Scenic River Act apply to only federal lands.	Recreation Resources
National Recreation Areas (Federal Executive Branch Policy, March 26, 1963)	A Federal Executive Branch Policy that establishes National Recreation Areas with the purpose "to fulfill adequately the steeply mounting outdoor recreation demands of the American people." National Recreation Areas are established by acts of Congress. Private lands are not included in National Recreation Areas and are not bound by National Recreation Area rules.	Recreation Resources
National Forest Management Act, 1976	The National Forest Management Act requires every national forest or grassland managed by the U.S. Forest Service (USFS) to develop and maintain a Land Management Plan (also known as a Forest Plan).	Recreation Resources
Federal Land Policy and Management Act of 1976	Establishes management guidelines on public lands to protect, develop, and enhance public lands.	Recreation Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
Forest and Range Renewable Resource Planning Act of 1974	A long-range planning policy to protect, enhance, and develop renewable resources on forest and range lands managed by USFS. The Resource Planning Act requires a renewable resources assessment that reports on the status, trends, and projected future uses of the nation's renewable resources on forest and range lands to occur every 10 years. This assessment looks at the condition of various resources including outdoor recreation.	Recreation Resources
Executive Order 12962, Recreational Fisheries	Mandates federal agencies, to the extent permitted by law and where practical, to improve the "quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities."	Recreation Resources
Reclamation Manual (Bureau of Reclamation 2024a)	Consists of policies, directives, and standards utilized by the Bureau of Reclamation. The policies, directives, and standards with the manual assign program responsibilities with the Bureau of Reclamation and serve to document how the bureau operates. The manual contains several directives and standards that relate to recreational activities on Reclamation Lands.	Recreation Resources
National Wildlife Refuge System Administration Act	Provides the U.S. Fish and Wildlife Service with guidelines, directives, and the authority to improve the National Wildlife Refuge System. The Act defines wildlife compatible recreational opportunities including hunting, fishing, wildlife observation, and photography.	Recreation Resources
49 Code of Federal Regulations (CFR) 77, Federal Aviation Administration (FAA) Obstruction to Navigation Federal Regulation	Requires FAA approval of any facility higher than 200 feet (61 meters) in height.	Transportation

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
49 United States Code 5101 et seq., Hazardous Materials Transportation Act	Empowered the Secretary of Transportation to designate as hazardous material any "particular quantity or form" of a material that "may pose an unreasonable risk to health and safety or property." Title 49 regulations pertain to all forms of surface transportation and transportation security, including pipelines, railroads (passenger and freight), waterways, cars, etc. Hazardous material or hazardous waste handlers, shippers, carriers, or freight forwarders must comply with Title 49 regulations, which cover requirements for markings, labels, placards, shipping papers, training, emergency response, and performance-oriented packaging standards.	Transportation
Fixing America's Surface Transportation Act	Established a new National Highway Freight Network, which requires states to improve the safety, security, efficiency, and resiliency of freight transportation in rural and urban areas.	Transportation
Metropolitan Transportation Planning and Programming, 23 CFR 450.306	Requires metropolitan planning processes including projects, strategies, and services to address productivity, safety, security, mobility, resiliency, and other environmental and mobility goals.	Transportation
Federal Highway Administration (FHWA) Office of Infrastructure Interstate System Access Informational Guide (FHWA 2010)	Provides background on how the Washington State Department of Transportation (WSDOT) assesses requests for new or modified access to the Interstate System. Provides information and methods for analyzing access requests by considering the needs of the system on a national, state, and local levels.	Transportation
FHWA Final Rule to 23 CFR 625, Design Standards for Highways	Modifies regulations governing new construction, reconstruction, resurfacing, restoration, and rehabilitation projects on the National Highway System (including the Interstate System).	Transportation
14 CFR 77 Safe, Efficient Use, and Preservation of the Navigable Airspace	Establishes: 1) requirements to provide notice to FAA of certain proposed construction or alteration of structures; 2) standards used to determine obstructions to air navigation, and navigational and communication facilities; 3) the process for aeronautical studies of obstructions to air navigation or navigational facilities; and 4) the process to petition FAA for discretionary review of determinations, revisions, and extensions of determinations.	Transportation

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
Federal Land Policy and Management Act of 1976, As Amended, Title VI Rights-of-Way	Authorizes the granting of rights-of-way for facilities on federally managed lands, such as systems for generation, transmission, and distribution of electric energy, and roads and highways. Requires the entity applying for right-of-way access to submit a plan of construction, operation, and rehabilitation for such right-of-way in compliance with the applicable federal agency's regulations.	Transportation
Federal agency road design manuals and handbooks	Describes steps, guidelines, and requirements for designing roads on federally managed lands. Each agency maintains its own guidelines and standards.	Transportation
Federal-Aid Highway Act of 1944	Created the Interstate System.	Transportation
Federal-Aid Highway Act of 1956	Established the program for funding and building the Interstate System.	Transportation
Roadless Rule of 2001	Establishes prohibitions on road construction, road reconstruction, and timber harvesting on inventoried roadless areas on National Forest System lands. The intent of the Roadless Rule is to provide lasting protection for inventoried roadless areas within the National Forest System in the context of multiple-use management.	Transportation
Treaties, executive orders, and legislation acknowledging federally recognized Tribes, including: • Treaty of Medicine Creek, 1854 • Treaty of Neah Bay, 1855 • Treaty of Point Elliot, 1855 • Treaty of Point No Point, 1855 • Treaty of Walla Walla, 1855 • Treaty with the Yakama, 1855 • Quinault Treaty, 1856 • Agreement of May 9, 1891, and Act of July 1, 1892 (27 Stat. 62), and Executive Order Acknowledging Snoqualmie Indian Tribe	Treaties, executive orders, and legislation pertaining to Tribes within Washington State variably acknowledge homelands, set aside reservation lands, and reserved fishing, gathering, and hunting rights for the signatory Tribes throughout their areas. Note: Federal guidance (Working Group 2022) urges consulting agencies to interpret treaty rights as they would have been understood by the signatories.	Tribal Rights, Interests, and Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
American Indian Religious Freedom Act of 1978 (42 United States Code [USC] 1996)	Establishes that the policy of the federal government is to accommodate access to and ceremonial use of Indian sacred sites and avoid adverse effects on the physical integrity of the sites.	Tribal Rights, Interests, and Resources
Antiquities Act of 1906 (54 USC 320301–320303, 18 USC 1866(b))	The Antiquities Act was enacted in 1906 and grants the President the authority to designate national monuments to protect significant natural, cultural, or scientific features. The goal of the act is to preserve public lands and cultural heritage, and it has played an important role in the formation of historic preservation policy. The act establishes a process of creating national monuments and protecting archaeological sites on federal land from looting and vandalism.	Tribal Rights, Interests, and Resources
Archaeological and Historic Preservation Act of 1974 (MossBennett Act, Archaeological Recovery Act; 16 USC 469–469c-2)	The act applies to all federal projects or federally assisted or licensed projects, activities, or programs. The act requires the preservation of significant scientific, prehistorical, historical, or archaeological data that would be irrevocably lost or destroyed by the activity. Then the federal agency must undertake the recovery, protection, and preservation of the data. This act can extend to private individuals, associations, or public entities if their project receives federal financial assistance.	Tribal Rights, Interests, and Resources
Archaeological Resources Protection Act of 1979 (ARPA; 16 USC 470aa–470mm)	Enacted in 1979 to safeguard archaeological resources on public and Indian lands. Key provisions of ARPA emphasize its role in preventing the excavation, removal, or damage of cultural artifacts and archaeological sites. The act creates the requirement for permits for archaeological activities, penalties for violations, and the collaborative efforts between government agencies, Tribes, and the public to protect and preserve archaeological resources. It also establishes the prohibition of public disclosure of sensitive information, specifically the description and location of archaeological sites.	Tribal Rights, Interests, and Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
Confidentiality of archaeological resources information (1984; 36 Code of Federal Regulations [CFR] 296.18)	Establishes that the federal land manager shall not make information concerning the nature of any archaeological resource available to the public except (1) when the disclosure will further the purposes of the ARPA without risking harm to the archaeological resource or site location and (2) when the state governor has submitted a written request of information to the federal land manager concerning archaeological resources within the governor's state that is specific to the archaeological resource or resource area and includes the purpose for the information sought and written commitment to adequately protect the confidentiality of the information.	Tribal Rights, Interests, and Resources
Endangered Species Act of 1973 (ESA; 16 USC 1531 et seq.)	Requires Tribal consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries when undertaking a federal action to ensure the conservation of any ESA-listed animal species and critical habitat so as not to jeopardize the continued existence of any listed species. NOAA Fisheries manages ESA-listed marine and anadromous species, while USFWS manages listed terrestrial and freshwater species.	Tribal Rights, Interests, and Resources
Executive Order 11593, Protection and Enhancement of the Cultural Environment (1971)	The 1971 executive order establishes that the federal government provides leadership in preserving, restoring, and maintaining the historic and cultural environment and the cultural heritage of the nation's past for the benefit of future generations.	Tribal Rights, Interests, and Resources
Executive Order 13007, Indian Sacred Sites (1996)	The 1996 executive order directs federal agencies to manage federal lands to accommodate access to and ceremonial use of Indian sacred sites and avoid adverse effects on those sites. The executive order also establishes the importance of maintaining confidentiality of sacred sites.	Tribal Rights, Interests, and Resources
Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (2000)	The 2000 executive order establishes principles for Tribal consultation that include supporting Tribal sovereignty and self-determination and interacting on a government-togovernment level.	Tribal Rights, Interests, and Resources
Historic Sites Act of 1935 (49 Stat. 666, 16 USC 461–467)	Establishes a national policy to preserve nationally significant historic sites, buildings, and objects for the use and benefit of the people of the United States.	Tribal Rights, Interests, and Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
National Historic Preservation Act (NHPA; 54 USC 300101 et seq.)	The NHPA was approved on October 15, 1966, for the management and preservation of historical and archaeological sites. This act created the National Register of Historic Places (NRHP), National Historic Landmarks List, State Historic Preservation Office (SHPO), and Tribal Historic Preservation Office (THPO). Washington state's SHPO is the Department of Archaeology and Historic Preservation (DAHP), which is the state agency that administers NHPA compliance in Washington.	Tribal Rights, Interests, and Resources
Native American Graves Protection and Repatriation Act of 1990 (NAGPRA; 25 USC 3001)	Enacted on November 16, 1990, NAGPRA establishes rights for lineal descendants, Native Americans and Tribes, and Native Hawaiian organizations to repatriate their culturally affiliated items, including human remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony. NAGPRA includes provisions for unclaimed and culturally unidentifiable Native American cultural items and the intentional and inadvertent discovery of Native American cultural items on federal and Tribal lands only.	Tribal Rights, Interests, and Resources
Section 106 (54 USC 306108) and Section 101 (54 USC 302706) of the NHPA, 36 CFR 800, and National Register Bulletin 38, Guidelines for Identifying and Documenting Traditional Cultural Properties	Establishes the NRHP. Section 106 requires that federal agencies consider the potential effects of undertakings on cultural resources, including archaeological sites, and historic sites. Section 101 and Bulletin 38 specify that properties of traditional religious and cultural importance to Indian Tribes or Native Hawaiian organizations may also be eligible for listing in the NRHP.	Tribal Rights, Interests, and Resources
United States v. Washington, 384 F. Supp. 312 (W.D. Wash. 1974)	Commonly known as the Boldt Decision, the federal district court in this case interpreted the rights of federally recognized Tribes and Tribal members to take fish in the "usual and accustomed places in common with all citizens" to mean that federally recognized Tribes have a treaty-reserved right to harvest 50% of the harvestable portion of fish.	Tribal Rights, Interests, and Resources
Washington v. Washington State, Commercial Passenger Fishing Vessel Association, 443 U.S. 658 (1979)	In this decision, the U.S. Supreme Court upheld the 1974 Boldt Decision.	Tribal Rights, Interests, and Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
36 CFR 61, Procedures for State, Tribal, and Local Government Historic Preservation Programs (1999)	This section of the regulations outlines the procedures and responsibilities for SHPOs, THPOs, and Certified Local Governments. This section also establishes the minimum professional qualifications for archaeology and historic preservation.	Tribal Rights, Interests, and Resources
16 USC 470hh(a), Confidentiality of Information Concerning Nature and Location of Archaeological Resources (2014)	Provision of the ARPA that prohibits public disclosure of sensitive information specific to the nature and location of archaeological resources.	Tribal Rights, Interests, and Resources
Safe Drinking Water Act, 42 (United States Code [USC] 300 et seq., Chapter 6A)	Principal federal law protecting drinking water for the public. Requires states to develop source water assessment programs. Authorizes U.S. Environmental Protection Agency (USEPA) administration of the Sole Source Aquifer Protection Program.	Water Resources
National Flood Insurance Act of 1968 and Flood Disaster Protection Act of 1973 (42 USC 4001 et seq.)	Establishes insurance requirements within high-risk flood areas.	Water Resources
Clean Water Act (CWA) (33 USC 1251 et seq.)	The Federal Water Pollution Control Act of 1948 was the first major U.S. federal law to address water pollution. The law was amended in 1972 and became commonly known as the CWA. The CWA establishes the basic structure for regulating pollutant discharges into waters of the United States and makes it unlawful to discharge any pollutant from a point source into those waters without a permit.	Water Resources
CWA Section 401 Water Quality Certification	Provides states with the authority to ensure that federal agencies do not issue permits or licenses that violate state water quality standards or other protections of the CWA. An applicant for a federal permit must obtain a Section 401 Water Quality Certification from the state in which the activity would occur. Washington State Department of Ecology (Ecology), USEPA, and some Tribes administer Section 401 of the CWA in Washington.	Water Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
CWA Section 303(d) (Impaired Waters and Total Maximum Daily Loads)	Section 303(d) requires states to identify waters that do not meet or are not expected to meet water quality standards. Total Maximum Daily Loads are developed and are then prioritized on the 303(d) list. Administered by Ecology in Washington.	Water Resources
Rivers and Harbors Act of 1899 (33 USC 403)	Requires USACE Section 10 authorization for the construction of any structure in or over any navigable water of the United States.	Water Resources
Presidential Executive Order 11988, Floodplain Management	Requires avoidance, as feasible, of federal development and other activities within the 100-year floodplain.	Water Resources
Federal Water Quality Criteria Applicable to Washington (40 Code of Federal Regulations 131.45)	Establishes water quality standards for Washington; used during administration of the CWA. Includes human health criteria for priority toxic pollutants in surface waters in Washington.	Water Resources
CWA Section 402 (National Pollutant Discharge Elimination System [NPDES])	Establishes the NPDES program, requiring pollutant discharges to surface waters be authorized by a permit. USEPA issues NPDES permits for federally owned facilities and Tribal lands in Washington. Ecology administers the NPDES permitting program for other facilities and lands in Washington.	Water Resources, Biological Resources
CWA Section 404 (Permits for Dredged or Fill Material)	Establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. The U.S. Army Corps of Engineers (USACE) issues Section 404 permit decisions.	Water Resources, Biological Resources
Executive Order 11990, Protection of Wetlands	Provides the overall wetlands policy applicable to all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state or local projects. Requires federal agencies to follow avoidance, mitigation, and preservation procedures and to obtain public input before new construction in wetlands. Consistency with the overall wetlands policy contained in Executive Order 11990 is achieved through CWA Section 404 compliance requirements.	Water Resources, Biological Resources

Federal Regulations, Statutes, Guidelines	Description	Affected Environment
Coastal Zone Management Act (CZMA) Federal Consistency (16 USC 1451 et seq.)	The federal consistency provisions of the CZMA require that federal actions, including federal activities and the issuance of federal licenses and permits, be consistent with the enforceable policies of the Washington Coastal Zone Management Program. This applies to federal actions in Washington's 15 coastal counties that could have reasonably foreseeable impacts on state coastal resources and uses. Administered by Ecology.	Water Resources, Biological Resources

State Regulations, Statutes, Guidelines

State Regulations, Statutes, Guidelines	Description	Affected Environment
Chapter 47.39 Revised Code of Washington, Scenic and Recreational Highway Act of 1967	This legislation establishes the State's Scenic Byway program and standards for eligibility and maintenance of scenic roadways and corridors. These roadways are considered in this analysis as designated scenic resources.	Aesthetics/Visual Quality
Chapter 70A.15 Revised Code of Washington (RCW), Washington Clean Air Act	This regulation defines Ecology's and local air pollution control agencies' responsibility for protecting and improving air quality in Washington.	Air Quality & GHGs
Chapter 70A.45 RCW, Limiting GHG Emissions	This regulation establishes GHG emission limits and reporting requirements in Washington.	Air Quality & GHGs
Chapter 70A.65 RCW, GHG Emissions	This regulation establishes the cap and invest program in Washington.	Air Quality & GHGs
Chapter 173-400 Washington Administrative Code (WAC), General Regulations for Air Pollution Sources	This chapter establishes technically feasible and reasonably attainable emissions standards and establishes rules generally applicable to the control and/or prevention of the emission of air contaminants.	Air Quality & GHGs
WAC 173-400-040, General Standards for Maximum Emissions	This chapter outlines some general emissions standards that apply to all sources and emissions units.	Air Quality & GHGs
WAC 173-400-110, New Source Review for Sources and Portable Sources	A source must apply for and be issued a Notice of Construction (NOC) for sources of air emissions unless exempted. Exemptions are described in the rule. A local clean air agency often implements its own approved version of this program.	Air Quality & GHGs
WAC 173-400-99 through 173.400.105, Registration Program	Many sources of air emissions that do not require an NOC instead require registration. A local clean air agency often implements its own approved version of this program.	Air Quality & GHGs
WAC 173-400-720, PSD	These are the state rules for administering the PSD permitting program. If a facility would be a major source of air pollutant emissions, a PSD air permit would be required prior to construction.	Air Quality & GHGs

State Regulations, Statutes, Guidelines	Description	Affected Environment
Chapter 173-401 WAC, Operating Permit Regulation	Title V major sources require an Air Operating Permit.	Air Quality & GHGs
Chapter 173-460 WAC, Controls for New Sources of Toxic Air Pollutants	Sources of toxic air pollutants must comply with these regulations.	Air Quality & GHGs
Chapter 173-441 WAC, Mandatory GHG Reporting	Facilities with stationary fuel combustion units emitting ≥10,000 MT CO2e per year must report GHG emissions.	Air Quality & GHGs
Chapter 173-446 WAC, Washington Climate Commitment Act	Implements the provisions of the GHG emissions cap and invest program.	Air Quality & GHGs
Chapter 173-444 WAC, Washington Clean Energy Transformation Act (CETA)	Establishes rules that electric utilities shall use to comply with parts of the Washington CETA.	Air Quality & GHGs
Chapter 173-476 WAC, Ambient Air Quality Standards	Establishes maximum acceptable levels in the ambient air for particulate matter, lead, sulfur dioxide, nitrogen oxides, ozone, and carbon monoxide.	Air Quality & GHGs
Chapter 463-62-070 WAC, Construction and Operation Standards for Energy Facilities – Air Quality	States that air emissions from energy facilities shall meet the requirements of applicable state air quality laws and regulations.	Air Quality & GHGs
Chapter 463-78 WAC, General and Operating Permit Regulations for Air Pollution Sources	Establishes maximum permissible air emissions standards and reporting requirements for emissions sources under the jurisdiction of the Washington Energy Facility Site Evaluation Council.	Air Quality & GHGs
Chapter 220-610 Washington Administrative Code (WAC), Washington Department of Fish and Wildlife (WDFW) State and Protected Species; WDFW	Grants WDFW the responsibility to oversee the listing and recovery of state endangered, threatened, or sensitive species to ensure their survival as free-ranging populations in the state.	Biological Resources

State Regulations, Statutes, Guidelines	Description	Affected Environment
Priority Habitats and Species		
Washington State Wildlife Action Plan	Provides a comprehensive plan for conserving the state's fish and wildlife and its natural habitats as part of the State and Tribal Wildlife Grants Program. Identifies the Species of Greatest Conservation Need. Many species of uncertain conservation need are listed in the Washington State Wildlife Action Plan. Currently being updated to identify Habitats of Greatest Conservation Need.	Biological Resources
Chapter 90.58 Revised Code of Washington (RCW), Washington State Shoreline Management Act (SMA)	Establishes a state-local partnership for managing, accessing, and protecting Washington's shorelines. The law requires local governments to prepare locally tailored policies and regulations for managing shoreline use in their jurisdictions called Shoreline Master Programs (SMPs). Local governments review shoreline development proposals for compliance with SMP standards. Applies to shorelines of the state, including marine waters, streams and rivers with greater than 20-cubic-feet-per-second mean annual flow, lakes 20 acres or larger, upland areas extending 200 feet landward from the edge of these waters, biological wetlands and river deltas connected to these water bodies, and some or all of the 100-year floodplain, including all wetlands.	Biological Resources
Chapter 36.70A RCW, Washington State Growth Management Act	Requires all cities and counties in Washington to adopt development regulations, according to the best available science, that protect critical areas as defined in RCW 36.70A.030(5), including fish and wildlife habitat conservation areas.	Biological Resources
Title 77 RCW, Fish and Wildlife	Authorizes WDFW to regulate fish, shellfish, and wildlife species in the State of Washington. Includes the following chapters that are relevant to impacts on fish species and habitats: 77.44: Warmwater game fish enhancement program 77.55: Construction projects in state waters 77.57: Fishways, flow, and screening 77.85: Salmon recovery 77.95: Salmon enhancement program 77.105: Recreational salmon and marine fish enhancement program 77.110: Salmon and steelhead trout – Management of resources 77.135: Invasive species	Biological Resources

State Regulations, Statutes, Guidelines	Description	Affected Environment
Chapter 220-640 WAC, Invasive/Non-Native Species	Classifies prohibited and regulated species and regulates the introduction or possession of non-native and invasive aquatic species.	Biological Resources
Chapter 17.10 RCW, Noxious Weeds	Requires owners to eradicate, control, and prevent the spread of noxious weeds within and from their property. Includes the state Noxious Weed List (Class A, B, and C), definitions and descriptions of region boundaries for Class B weeds, and the schedule of monetary penalties.	Biological Resources
Washington Department of Natural Resources (DNR) Natural Heritage Program (advisory)	Assigns conservation status to species and habitats to support federal, state, and local land management policies and listing decisions; has no direct regulatory authority and is advisory only.	Biological Resources
DNR 2006 Policy for Sustainable Forests and 1997 Habitat Conservation Plan	Guides DNR's long-term sustainable management of forested state trust lands.	Biological Resources
Chapter 77.55 RCW; Chapter 220-660 WAC, Washington State Hydraulic Code	Implements Chapter 77.55 RCW (Construction Projects in State Waters), regulating projects that use, divert, obstruct, or change the natural flow or bed of any water of the state. Requires entities who are planning such projects to obtain a Hydraulic Project Approval from WDFW.	Biological Resources
Chapter 90.74 RCW, Aquatic Resource Mitigation	Requires state regulatory agencies to consider mitigation proposals for projects that are designed in a manner to provide equal or better biological functions compared to traditional on-site mitigation proposals.	Biological Resources
Chapter 90.54 RCW, Water Resources Act of 1971	Provides fundamentals of water resource policy for the state to ensure that waters of the state are protected and fully utilized for the greatest benefit to the people of the State of Washington; provides direction to state and local governments in carrying out water and related resources programs.	Biological Resources

State Regulations, Statutes, Guidelines	Description	Affected Environment
Title 173 WAC, Department of Ecology	• Chapter 173-201A WAC: Water Quality Standard for Surface Waters of the State of Washington • Chapter 173-204 WAC: Sediment Management Standards • Chapter 173-22 WAC: Adoption of Designations of Shorelands and Wetlands Associated with Shorelines of the State • Chapter 173-226 WAC: Waste Discharge General Permit Program • Chapter 173-500 WAC: Water Resources Management Program Established Pursuant to the Water Resources Act of 1971	Biological Resources
Chapter 76.09 RCW, Washington Forest Practices Act	Forest practices in Washington are regulated by means of the Forest Practices Act. This includes all non-federal and non-Tribal lands within the state. The industry is governed by the Washington Forest Practices Board to protect the state's natural resources, including fisheries and wildlife, and also to maintain a viable timber industry. DNR enforces the rules that are adopted by the board.	Biological Resources
Washington State Executive Order 89-10, Protection of Wetlands	Establishes an interim goal to achieve no overall net loss in acreage and function of Washington's remaining wetlands base and a longterm goal to increase the quantity and quality of Washington's wetlands resource base.	Biological Resources
Chapter 78.44 Revised Code of Washington (RCW), Chapter 332-18 Washington Administrative Code (WAC), Surface Mining Act	Regulatory framework for surface mining activities to minimize their impacts on the environment and communities in Washington. It establishes procedures for permitting, compliance enforcement, and public participation in the regulatory process.	Earth Resources
Chapter 36.70A RCW, Washington State Growth Management Act (GMA)	Land use planning framework aimed at guiding growth and development while preserving natural resource lands, protecting the environment, and enhancing quality of life in Washington. It requires cities and counties to develop and implement comprehensive plans that align with the GMA's goals.	Earth Resources
Chapter 365-190 WAC, Critical Areas	Establishes guidelines for the protection and management of sensitive environmental areas in Washington. Critical areas include wetlands, fish and wildlife habitat conservations areas, frequently flooded areas, geologically hazardous areas, and critical aquifer recharge areas. The regulations aim to ensure responsible land use planning while safeguarding ecologically sensitive zones.	Earth Resources

State Regulations, Statutes, Guidelines	Description	Affected Environment
Chapter 365-190 WAC, Critical Areas – Section 120, Geologically Hazardous Areas	Pertains to regulations in Washington addressing geological hazards such as landslides, erosion, and seismic activity. It outlines requirements for identifying, mapping, and managing areas prone to geological hazards to ensure public safety and environmental protection during land use and development activities.	Earth Resources
Chapter 90.58 RCW, Shoreline Management Act	Establishes a state–local partnership for managing, accessing, and protecting Washington's shorelines. The law requires local governments to prepare locally tailored policies and regulations for managing shoreline use in their jurisdictions called shoreline master programs. Local governments review shoreline development proposals for compliance with shoreline master program standards. Applies to shorelines of the state, including marine waters, streams, and rivers with greater than 20 cubic feet per second mean annual flow, lakes 20 acres or larger, upland areas extending 200 feet landward from the edge of these waters, biological wetlands and river deltas connected to these water bodies, and some or all of the 100-year floodplain, including all wetlands.	Earth Resources
Title 51 WAC, Department of Enterprise Services (Building Code Council)	Adopts and implements state building code and guidelines that establish requirements for building design within zones of certain geologic hazard, including seismic.	Earth Resources
Chapter 90.48 RCW, Water Pollution Control Act	The Water Pollution Control Act sets standards to ensure the purity of all waters of the state and to work cooperatively with the federal government where interest overlaps in a joint effort to extinguish the sources of water-quality degradation. Grants Ecology the jurisdiction to control and prevent the pollution of streams, lakes, rivers, ponds, inland waters, salt waters, water courses, and other surface and groundwater in the state, including wetlands. Tool Ecology uses to regulate certain activities in non-federally regulated waters, including wetlands, through the issuance of authorizations to work in waters of the state.	Earth Resources, Biological Resources, Environmental Health & Safety
Chapter 70A.02 Revised Code of Washington, Environmental Justice (Healthy	Agencies identified in the law must incorporate environmental justice into agency strategic plans and budget development processes, conduct environmental justice assessments, and report on environmental justice implementation.	EJ & Overburdened Communities

State Regulations, Statutes, Guidelines	Description	Affected Environment
Environment for All Act)		
Washington State Office of the Chief Information Officer Policy 188	Intended to assist the State of Washington in meeting its obligations under state and federal law to provide reasonable accommodation to employees and provide persons with disabilities an equal opportunity to participate in, and enjoy the benefits of, services, programs, or activities conducted by the state.	EJ & Overburdened Communities
Executive Order 05-03	Directs all state agencies to adopt the principles and practices of Plain Talk (i.e., reader-friendly language).	EJ & Overburdened Communities
Chapter 194-40 Washington Administrative Code, Clean Energy Transformation Act	Commits Washington to an electricity supply free of greenhouse gas emissions by 2045 and requires utilities to phase out coal-fired electricity by 2025 and be greenhouse gas emissions neutral by 2030.	Energy & Natural Resources
Chapter 43.21F Revised Code of Washington (RCW), State Energy Office	Requires development of a State Energy Strategy at least once per 8 years. The State Energy Strategy provides estimates of electricity needs in the future.	Energy & Natural Resources
Chapter 70A.535 RCW, Clean Fuels Program	Implements a low carbon fuel standard for vehicle fuels delivered in Washington state.	Energy & Natural Resources
Chapter 70.94 Revised Code of Washington (RCW), Washington Clean Air Act	These regulations secure and maintain levels of air quality that protect human health and safety, including the most sensitive members of the population, to comply with the requirements of the federal Clean Air Act, to prevent injury to plants, animal life, and property; to foster the comfort and convenience of Washington's inhabitants; to promote the economic and social development of the state; and to facilitate the enjoyment of the natural attractions of the state.	Environmental Health & Safety
Chapter 70.95 RCW, Solid Waste Management Act	These regulations establish a comprehensive statewide program for solid waste handling, solid waste recovery, and recycling.	Environmental Health & Safety
Chapter 70.105 RCW, Hazardous Waste Management Act	These regulations establish a comprehensive statewide framework for the planning, regulation, control, and management of hazardous waste.	Environmental Health & Safety

State Regulations, Statutes, Guidelines	Description	Affected Environment
Chapter 70.105D RCW, Model Toxics Control Act (MTCA)	MTCA funds and directs the investigation, cleanup, and prevention of sites that are contaminated by hazardous substances.	Environmental Health & Safety
Chapter 173-340 Washington Administrative Code (WAC), MTCA	These regulations establish administrative processes and standards to identify, investigate, and clean up sites where hazardous substances are located. Chapter 173-340 WAC implements MTCA in Chapter 70A.305 RCW.	Environmental Health & Safety
Chapter 70.107 RCW, Washington State Noise Control Act	These regulations expand statewide efforts directed toward the abatement and control of noise.	Environmental Health & Safety
Chapter 173-60 WAC, Maximum Environmental Noise Levels	These rules establish maximum noise levels and provide use standards relating to the reception of noise.	Environmental Health & Safety
Chapter 173-303 WAC, Dangerous Waste Regulations	These regulations implement Chapter 70.105 RCW and designate policies for dangerous solid waste.	Environmental Health & Safety
Chapter 173-350 WAC, Solid Waste Handling Standards	These regulations set performance standards, functions, priorities, and responsibilities for solid waste.	Environmental Health & Safety
WAC 51-54A-8200, International Wildland-Urban Interface Code	The International Wildland-Urban Interface Code sets additional requirements code officials can require for structures and subdivisions located within the wildland-urban interface areas. These include a site plan, vegetation management plan, vicinity plan, fire apparatus access roads, and water supply.	Environmental Health & Safety
Chapter 51-54A WAC, State Building Code Adoption and Amendment of the 2021 Edition of the International Fire Code	These regulations promote the health, safety, and welfare of the occupants or users of buildings through building codes. This includes regulations related to lithium batteries.	Environmental Health & Safety
Chapter 332-24 WAC, Forest Protection	These regulations are related to forest protection including burning permits, outdoor permits, forest debris, felling of snags, and burning plans.	Environmental Health & Safety
Chapter 296-155 WAC, Safety Standards for Construction Work	These standards are minimum safety requirements for construction, alteration, demolition, related inspection, and/or maintenance and repair work performed in the state of Washington.	Environmental Health & Safety

State Regulations, Statutes, Guidelines	Description	Affected Environment
Chapter 27.53 Revised Code of Washington (RCW), Archaeological Sites and Resources	Relates to the conservation, preservation, and protection of archaeological sites and resources.	Historic & Cultural Resources
RCW 27.53.030, Professional Archaeologist Definition	Relates to the procedures of application for and review processes of archaeological excavations and removals; permits are issued by DAHP.	Historic & Cultural Resources
Chapter 25-48 Washington Administrative Code, Archaeological Excavation and Removal Permit	Establishes the procedures for application for and review processes of archaeological excavations and removals; permits are issued by DAHP.	Historic & Cultural Resources
RCW 42.56.300, Archaeological Site Public Disclosure Exemption	This section of the Public Records Act exempts records, maps, or other information identifying the location of archaeological sites and Traditional Cultural Places.	Historic & Cultural Resources
Archaeological and Cultural Resources (Washington State Governor's Executive Order [GEO] 21-02)	Enacted in 2021, GEO 21-02 requires state agencies to consider the impacts of project undertakings, project approvals, or project funding on significant cultural and historic properties. This process requires consultation with DAHP, the Governor's Office of Indian Affairs, and relevant Indian Tribes.	Historic & Cultural Resources
RCW 19.27.120, Washington State Historic Building Code	Establishes the minimum standards for the restoration, rehabilitation, or strengthening of architecturally or historically significant buildings that are eligible or potentially eligible for listing in a historic register.	Historic & Cultural Resources
RCW 27.34.400, Heritage Barn Program	Relates to the preservation of heritage barns 50 years or older.	Historic & Cultural Resources
Chapter 27.44 RCW, Indian Graves and Records	Relates to the protection, management, and processes in the care of Indian Tribe cemeteries, historic graves, and related records.	Historic & Cultural Resources
Chapter 68.50 RCW, Human Remains	Relates to the protection, management, and processes in the care of human remains.	Historic & Cultural Resources
Chapter 68.60 RCW, Abandoned and Historic Cemeteries and Historic Graves	Relates to the preservation and protection of abandoned and historic cemeteries and graves, including human remains.	Historic & Cultural Resources

State Regulations, Statutes, Guidelines	Description	Affected Environment
Chapter 43.376 RCW, Government-to-Government Relationship with Indian Tribes	This chapter establishes a requirement of state agencies to engage in government-to-government relationships with federally recognized Tribes.	Historic & Cultural Resources
Forest Practices Rules (Title 222 Washington Administrative Code [WAC]), Forest Practices Act (Chapter 76.09 Revised Code of Washington [RCW]), Stewardship of Non-industrial Forests and Woodlands (Chapter 76.13 RCW)	Establish standards for timber harvesting, pre-commercial thinning, road construction, fertilization, forest chemical application and other forest practices applications.	Land Use
Floodplain Management (Chapter 173-158 WAC, Chapter 86.16 RCW)	Statewide floodplain management regulations. Establishes state requirements that equal the minimum federal requirements for the National Flood Insurance Program, in addition to higher standards. Applies to the planning, construction, operation, and maintenance of any structures or improvements that might affect the flooding regimen of a waterbody.	Land Use
Governor's Executive Order 2102	Requires that all projects receiving capital funding from agencies of the Executive Branch and Small Cabinet must consult with the Washington State Department of Archaeology and Historic Preservation and affected Tribes on their project.	Land Use
Photovoltaic Module Stewardship and Takeback Program (RCW 70A.510.010)	Requires manufacturers of solar photovoltaic modules to provide the public a convenient and environmentally sound way to recycle all modules purchased after July 1, 2017.	Land Use
State Environmental Policy Act (Chapter 43.21 RCW)	Requires environmental review for activities proposed or permitted by state or local agency.	Land Use
State land leasing and easement rules (Chapters 79.13 and	Establishes standards and procedures for state agencies to issue leases or easements on public lands.	Land Use

State Regulations, Statutes, Guidelines	Description	Affected Environment
79.36 RCW; Chapter 332-22 WAC)		
Washington State Department of Transportation: Utility Lines – Franchises and Permits (Chapter 468-34 WAC)	Requires a utility permit or franchise for facilities proposed within state highway rights-of-way.	Land Use
Washington State Growth Management Act (Chapter 36.70A RCW)	Requires fast-growing cities and counties to develop a comprehensive plan to manage their population growth. Establishes a series of 13 goals that should act as the basis of all comprehensive plans. Requires all cities and counties to designate natural resource lands (forestry, agriculture, fisheries, and mining) and identify steps to preserve them. Requires all cities and counties to adopt critical areas regulations.	Land Use
Washington State Legislature: 2020 greenhouse gas legislation, 2021 State Energy Strategy, 2019 Clean Energy Transformation Act	Commits Washington to an electrical supply free of greenhouse gas emissions by 2045, and to a goal of net zero emissions by 2050. Identifies policies and actions to achieve the state's greenhouse gas emissions and transition to 100% clean energy.	Land Use
Washington State Shoreline Management Act (Chapter 90.58 RCW) and implementing guidelines (Chapter 173-26 WAC)	Establishes a state-local partnership for managing, accessing, and protecting Washington's shorelines. The law requires local governments to prepare locally tailored policies and regulations for managing shoreline use in their jurisdictions called Shoreline Master Programs (SMPs). Local governments review shoreline development proposals for compliance with SMP standards. Applies to shorelines of the state, including marine waters, streams and rivers with greater than 20 cubic feet per second mean annual flow, lakes 20 acres or larger, upland areas extending 200 feet landward from the edge of these waters, biological wetlands and river deltas connected to these water bodies, and some or all of the 100-year floodplain, including all wetlands.	Land Use

State Regulations, Statutes, Guidelines	Description	Affected Environment
Written notice to U.S. Department of Defense (DoD) for renewable energy projects (RCW 35.63.270, 35A.63.290, and 36.01.320; WAC 365-16-475)	Requires local governments to provide DoD with written notice for alternative-energy permit applications.	Land Use
Washington State Noise Control Act of 1974 (Chapter 70.107 Revised Code of Washington)	This act establishes maximum environmental noise levels. The regulations (Chapter 173-60 Washington Administrative Code) apply to a variety of land uses, activities, and facilities, including general construction activities and maintenance facilities. Exemptions include electrical substations, mobile noise sources, vehicles traveling in public right-of-way, a nd safety warning devices, such as bells. Many cities and counties in Washington have adopted the state provisions.	Noise & Vibration
Revised Code of Washington (RCW) 36.70A.070, Washington State Growth Management Act	Requires cities and counties to include a utilities element in their comprehensive plans.	Public Services & Utilities
Chapter 51-50, State Building Code adoption and amendment of the 2021 edition of the International Building Code (IBC)	Establishes the Washington State Building Code's adoption of the IBC, which sets standards for commercial construction. This chapter also adopts National Fire Protection Association (NFPA) 70, National Electric Code, which sets national standards for electric, and communications components installed in buildings, structures, and in open-air settings. The IBC has adopted parts of and full standards of NFPA sections including NFPA 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations, which sets construction and demolition fire safety standards.	Public Services & Utilities
Chapter 51-56 Washington Administrative Code (WAC), adoption and amendment of the 2021 edition of	The International Wildland-Urban Interface Code sets additional requirements code officials can require for structures and subdivisions located within the wildland-urban interface areas. These include a site plan, vegetation management plan, vicinity plan, fire apparatus access roads, and water supply.	Public Services & Utilities

State Regulations, Statutes, Guidelines	Description	Affected Environment
the WildlandUrban Interface Code		
Chapter 51-52 WAC, State Building Code adoption and amendment of the 2021 edition of the International Mechanical Code	Establishes the Washington State Building Code's adoption of the International Mechanical Code, which sets standards for mechanical infrastructure in buildings and structures. This chapter also adopts several NFPA standards including NFPA 72 National Fire Alarm and Signaling Code.	Public Services & Utilities
Chapter 51-54A WAC, State Building Code Adoption and Amendment of the 2021 Edition of the International Fire Code	Establishes Washington State's adoption of the International Fire Code (IFC) and also adopts some IFC standards including NFPA 855 Standards for Installation of Energy Storage Systems relevant to BESS installation. Washington State provides amendments to each iteration of the IFC. The current Washington State amendments to the 2021 IFC have been effective since March 15, 2024. The IFC sets standards for fire preparedness and safety.	Public Services & Utilities
RCW 70A.510, Photovoltaic Module Stewardship and Takeback Program	Applicable to recycling and disposal of photovoltaic modules and decommissioning of solar energy facilities.	Public Services & Utilities
WAC 173-303-573, Standards for universal waste management	Applicable for lithium-ion battery disposal.	Public Services & Utilities
RCW 70.95.010 et seq., Solid Waste Management – Reduction and Recycling	Applicable mostly to decommissioning of solar and wind energy facilities.	Public Services & Utilities
RCW 70.105.005 et seq., Hazardous Waste Management	Applies to storage, handling, transportation, use, and disposal of hazardous materials associated with the facilities.	Public Services & Utilities
RCW 70.118.010 et seq., On-site Sewage Disposal System	Applies to potential septic systems (as applicable) that may be proposed as part of a facility.	Public Services & Utilities

State Regulations, Statutes, Guidelines	Description	Affected Environment
RCW 80.28.440, Wildfire mitigation plan—Review/revision	Requires wildfire mitigation plan for investor-owned utilities.	Public Services & Utilities
Washington State Recreation and Conservation Plan, 2023 (RCO 2023)	Provides a strategic direction for how local, regional, state, and federal agencies, Tribal governments, and private and non-profit partners can work together to make sure Washington residents' outdoor recreation and conservation needs are being met. This plan is updated with new data and findings every few years.	Recreation Resources
Washington State Shoreline Management Act (Chapter 90.58 Revised Code of Washington [RCW])	Establishes a state-local partnership for managing, accessing, and protecting Washington's shorelines. The law requires local governments to prepare locally tailored policies and regulations for managing shoreline use in their jurisdictions called Shoreline Master Programs (SMPs). Local governments review shoreline development proposals for compliance with SMP standards. Applies to shorelines of the state, including marine waters, streams and rivers with greater than 20-cubic-feet-per-second mean annual flow, lakes 20 acres or larger, upland areas extending 200 feet landward from the edge of these waters, biological wetlands and river deltas connected to these water bodies, and some or all of the 100-year floodplain, including all wetlands.	Recreation Resources
Washington Forest Practices Act (Chapter 76.09 RCW)	Forest practices in Washington are regulated by means of the Forest Practices Act. This includes all non-federal and nonTribal lands within the state. The industry is governed by the Washington Forest Practices Board to protect the state's public resources, but also to maintain a viable timber industry. The Washington Department of Natural Resources enforces the rules that are adopted by the Board.	Recreation Resources
Forest Practices Habitat Conservation Plan (DNR 2024a)	Covers lands that are subject to the Forest Practices Act with goals to protect and provide long-term conservation for several salmonid species and other aquatic- and riparian-dependent species and keep the timber harvest industry economically viable.	Recreation Resources
Title 220 Washington Administrative Code (WAC), Washington Department of Fish and Wildlife (WDFW)	Identifies WDFW's responsibility to preserve, protect, perpetuate, and manage the state's fish and wildlife species.	Recreation Resources

State Regulations, Statutes, Guidelines	Description	Affected Environment
RCW 77.04.012, Mandate of Department and Commission	Identifies WDFW's responsibility to conserve the wildlife and food fish, game fish, and shellfish resources in a manner that does not impair the resource.	Recreation Resources
Chapter 47.06 Revised Code of Washington (RCW), Washington State System Plans: Highway, Freight, Aviation, Marine, and Public Transportation	Ensures that the transportation system in Washington supports and enhances the movement of people and goods; addresses federal and state policies and meets federal and state planning requirements (WSDOT 2016, 2017a, 2017b, 2022a). Includes RCW 47.06.050 related to state-owned facilities and RCW 47.06.040, the statewide multimodal transportation plan.	Transportation
WSDOT Draft 2024 Highway System Plan (WSDOT 2024a)	Implements RCW 47.06.040 and ensures that the highway system in Washington supports and enhances the movement of people and goods; addresses federal and state policies and meets federal and state planning requirements.	Transportation
Washington Statewide Transportation Improvement Program (STIP; WSDOT 2024b)	The STIP is a 4-year prioritized multimodal transportation program including state, local, Tribal, and public transportation projects involving highways, streets, roads, rail, transit-hubs, park and rides, bridges, sidewalks, bike lanes, trails, and safety. It is developed annually, submitted to FHWA and Federal Transit Administration in December, and approved in January.	Transportation
Forest Practices Act, Chapter 76.09 RCW, and Forest Practices Rules, Title 222 Washington Administrative Code (WAC)	The Washington Department of Natural Resources administers rules that govern forest practices activities on non-federal and non-Tribal forestland in Washington state.	Transportation
Guidelines for Forest Roads, Section 3 (DNR 2013)	Provides guidance related to forest practices and Forest Roads.	Transportation
Transportation System Policy Goals, RCW 47.04.280	Contains six transportation system policy goals, including the maintenance, preservation, and extension of the life and utility of prior investments in transportation systems and services and the predictable movement of goods and people throughout Washington state, including congestion relief and improved freight mobility.	Transportation

State Regulations, Statutes, Guidelines	Description	Affected Environment
Water Quality Standards for Surface Water (Chapter 173201A WAC)	Establishes water quality standards for surface waters, implementing Title 90 RCW (Chapter 90.48 RCW, Water Pollution Control Act). Freshwater designated uses and associated criteria are specifically identified in WAC 173-201A-200. Applicable to proposed new or improved roads and associated runoff.	Transportation
Guide for Planning, Evaluating, and Designing Part-Time Shoulder Use as a Traffic Management Strategy (FHWA 2016)	Describes planning, design, implementation, and day-to-day operation of shoulder use. Part-time shoulder use is the conversion of shoulders to travel lanes during some hours of day as a congestion relief strategy.	Transportation
Written notice to U.S. Department of Defense (DoD) for renewable energy projects (RCW 35.63.270, 35A.63.290, and 36.01.320; WAC 365-16-475)	Requires local governments to provide DoD with written notice for alternative-energy permit applications.	Transportation
Centennial Accord Between the Federally Recognized Tribes in Washington and the State of Washington (and Implementation Plan)	Establishes that Washington State and Tribes consult on a government-to-government basis. Outlines ideals and goals for improvements in economic opportunity, communication, and other areas. Provides guidelines for consultation.	Tribal Rights, Interests, and Resources
Chapter 27.44 Revised Code of Washington (RCW), Indian Graves and Records	Concerns procedures and management of Indian cemeteries and remains.	Tribal Rights, Interests, and Resources
RCW 42.56.300, Public Disclosure Exemptions	Exempts site records, maps, and portions of reports from public disclosure. Concerns archaeological resources and "Traditional Cultural Places," analogous to Traditional Cultural Properties or properties of traditional religious and cultural importance to Indian Tribes or Native Hawaiian organizations.	Tribal Rights, Interests, and Resources

State Regulations, Statutes, Guidelines	Description	Affected Environment
Governor's Executive Order 21-02, Archaeological and Cultural Resources (2021)	Requires consideration of potential effects to cultural resources by projects approved, undertaken, and funded by state agencies. This process requires consultation with DAHP, the Governor's Office of Indian Affairs, and affected Tribes.	Tribal Rights, Interests, and Resources
Governor's Executive Order 83-16, Governor's Office of Indian Affairs (1983)	Reaffirms the state's responsibility toward federally recognized Tribes in Washington to encourage and strengthen Tribal governments and formalize a state-Tribal relationship based on government-to-government interaction.	Tribal Rights, Interests, and Resources
Water Quality Standards for Surface Water (Chapter 173-201A Washington Administrative Code [WAC])	Establishes water quality standards for surface water, implementing Title 90 Revised Code of Washington (RCW; Chapter 90.48 RCW – Water Pollution Control Act).	Water Resources
Water Quality Standards for Groundwater (Chapter 173-200 WAC)	Establishes water quality standards for groundwaters, implementing Title 90 RCW including Chapters 90.48 (Water Pollution Control Act) and 90.54 RCW (Water Resources Act of 1971).	Water Resources
NPDES Permit Program (Chapter 173-220 WAC)	Establishes a state individual permit program, applicable to the discharge of pollutants and other wastes and materials to the surface waters of the state, operating under state law as a part of the NPDES created by Section 402 of the CWA. Permits issued under this chapter are designed to satisfy the requirements for discharge permits under both Section 402(b) of the CWA and Chapter 90.48 RCW.	Water Resources
Water Rights (Chapter 173-152 WAC)	Establishes the framework for Ecology's performance of basin assessments and processing of water rights applications, implementing Title 90 laws including Chapters 90.03 (Water Code) and 90.82 RCW (Watershed Planning).	Water Resources
Water Rights-Environment (Title 90 RCW)	Contains many laws covering subjects including water rights, claims registration, minimum streamflows, water pollution control, shoreline management, and aquatic resources mitigation.	Water Resources

State Regulations, Statutes, Guidelines	Description	Affected Environment
Washington State Hydraulic Code (Construction Projects in State Waters) (Chapter 77.55 RCW, Chapter 220.660 WAC)	Requires a permit for any facility that will use, divert, obstruct, or change the natural flow or bed of any waters of the state. Requires entities who are planning such projects to obtain a Hydraulic Project Approval from Washington Department of Fish and Wildlife.	Water Resources
Floodplain Management (Chapter 173-158 WAC)	Implements Title 86 RCW (Chapter 86.16 RCW – Floodplain Management). Directs floodplain management and compliance with minimum requirements of the National Flood Insurance Program (NFIP).	Water Resources
Administration of Surface and Groundwater Codes (Chapter 508-12 WAC)	Establish regulations for Ecology's administration of surface water and groundwater codes, including regulation of water rights diversions, surface water and groundwater appropriation procedures, and reservoir permits.	Water Resources
Growth Management Act (Title 36 RCW)	Requires local governments to manage growth by identifying and protecting critical areas and natural resource lands, among other measures.	Water Resources
Chapter 90.48 RCW, Water Pollution Control Act	The Water Pollution Control Act sets standards to ensure the purity of all waters of the state and to work cooperatively with the federal government where interest overlaps in a joint effort to extinguish the sources of water quality degradation. Grants Ecology the jurisdiction to control and prevent the pollution of streams, lakes, rivers, ponds, inland waters, salt waters, water courses, and other surface and groundwater in the state, including wetlands. Tool Ecology uses to regulate certain activities in non-federally regulated w aters, including wetlands, through the issuance of authorizations to work in waters of the state.	Water Resources
Washington State Executive Order 89-10, Protection of Wetlands	Establishes statewide goals to achieve no overall net loss in function and acreage of wetlands and to increase the quantity and quality of Washington's wetlands.	Water Resources

State Regulations, Statutes, Guidelines	Description	Affected Environment
Chapter 90.58 RCW, Washington State Shoreline Management Act	Establishes a state-local partnership for managing, accessing, and protecting Washington's shorelines. The law requires local governments to prepare locally tailored policies and regulations for managing shoreline use in their jurisdictions called Shoreline Master Programs (SMPs). Local governments review shoreline development proposals for compliance with SMP standards. Applies to shorelines of the state, including marine waters, streams and rivers with greater than 20 cubic feet per second mean annual flow, lakes 20 acres or larger, upland areas extending 200 feet landward from the edge of these waters, biological wetlands and river deltas connected to these waterbodies, and some or all of the 100-year floodplain, including all wetlands.	Water Resources

Appendix B: Scoping Comment Summary

Appendix B starts on the next page.

DRAFT

FUNDED BY WASHINGTON'S CLIMATE COMMITMENT ACT
SKAGIT COUNTY WASHINGTON
Skagit County Clean Energy Siting and Permitting

CESP EIS Scoping Comment Summary

Introduction

Skagit County was awarded a Clean Energy Siting and Permitting (CESP) grant in 2026 to develop a programmatic Environmental Impact Statement (EIS) evaluating the potential impacts of clean energy projects and inform development regulations for such projects. The four energy facilities being studied as a part of this project include solar, fusion small modular nuclear reactors (SMRs)[1], battery energy storage systems (BESS), and renewable fuels.

The following document summarizes the comments received during the Skagit County Clean Energy Siting and Permitting (CESP) Project EIS scoping comment period.

The scoping comment period was open for 33 days from **May 14 to June 16, 2026**.

The County invited comments on the following topics:

- EIS alternatives which should be considered,
- EIS elements of the environment,
- Probable significant adverse impacts,
- Minimization and mitigation measures, and
- Licenses or other approvals that may be required.

Interested parties could provide comments in the following ways:

Online Comments were submitted via email to pdscomments@co.skagit.wa.us with the subject line: "Energy Siting and Permitting EIS Scoping Comment"

Written Comments were be submitted via mail to the following address**:**

Reference:	Energy Siting and Permitting EIS Scoping Comment
To:	Planning and Development Services
Address:	1800 Continental Place Mount Vernon WA 98273

Three in person scoping events were held in the form of open houses during the comment period on June 9th and June 10th, 2026. The open houses were held in three locations across the County to ensure that individuals had equal opportunity to participate in the scoping process and provide in person feedback to the project team. The Anacortes and Mount Vernon Open houses were held on June 9th and the Concrete open house was held on June 10th. Skagit County invited the community to attend the scoping events and spoke to approximately 40 individuals. These events provided an opportunity for individuals to learn about the project and EIS scoping process. Scoping comment forms were provided at these events, but no completed forms were received. No official verbal testimony was collected at these events. For more information on the Scoping Events, please see the Open House Event Summary.

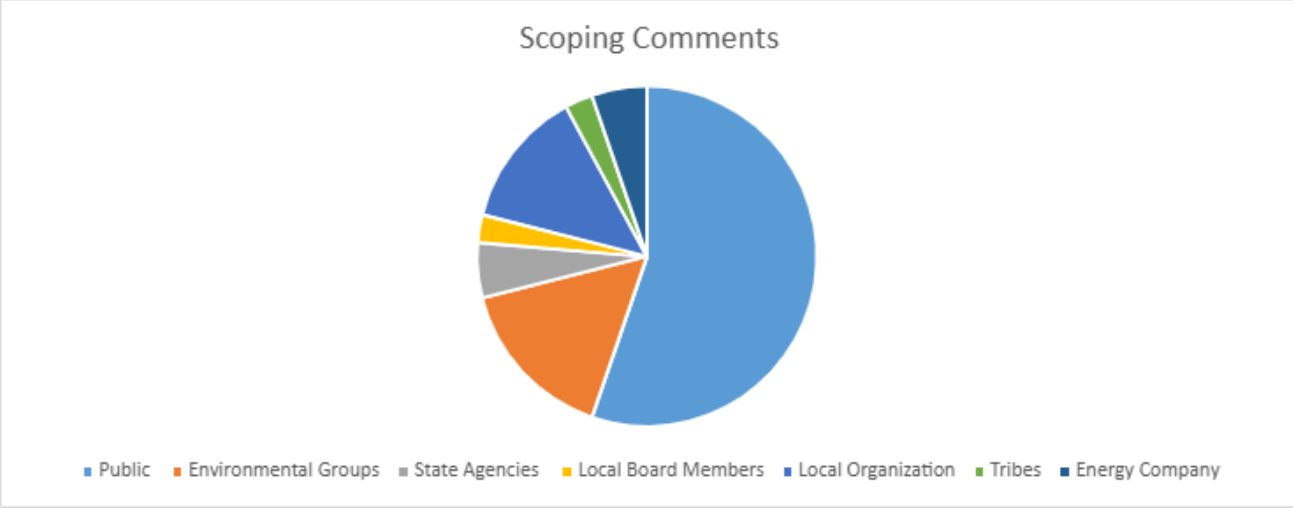
[1] During the scoping period, SMR was included broadly, which meant the inclusion of nuclear fission. It was not until after the close of the comment period, that the scope of SMR analysis was narrowed to solely focus on fusion SMRs. The comments in this summary reflect a broad SMR scope and were taken into consideration as the EIS alternatives were developed.

Respondents

At the close of the CESP Project scoping comment period, **Skagit County received 38 comments.** As shown in Figure 1 below, the respondents included:

- Twenty-one members of the public,
- Six environmental organizations,
- One Tribal community,
- Two state agencies,
- Two energy companies,
- One advisory board member, and
- Five local organizations.

Figure 1 Scoping Comments Respondents



Overall Comment Themes

Overall, scoping comments revealed key themes as it relates to the proposed EIS alternatives, energy siting criteria, the various elements of the environment, and the CESP Project process. The key themes heard from scoping comments include:

- Support and some community concern regarding Battery Energy Storage Systems
- Protection of Skagit County's agricultural lands
- Deeper analysis of specified environmental impacts
- Strong support for solar energy
- Strong concerns about Small Modular Reactors (SMRs)
- Request for consideration of additional technologies
- Protection of treaty rights and tribal resources

EIS Alternatives

Overview

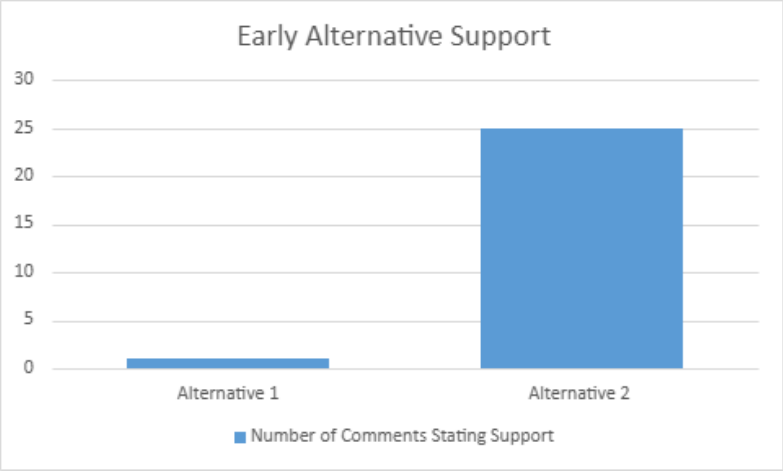
In the May 14, 2026, Scoping Notice, two alternatives were proposed for public comment. These alternatives include:

- **Alternative #1:** No Action Alternative
- **Alternative #2:** Action Alternative: Evaluate potentially significant environmental impacts for solar energy battery energy storage facilities, small nuclear reactors, and renewable fuel facilities in Skagit County.

Comments during the scoping comment period help shape the alternatives to be studied as a part of the EIS process. Comments could state early support or concerns for certain alternatives, share input for revisions to proposed alternatives, and provide additional information and studies.

Of the alternatives proposed in the CESP Project EIS Scoping Notice, **Alternative 2 received the most mentions of early support.** As shown in Figure 2 above, majority of the comments stated support for Alternative 2, the Action Alternative. The support for the Action Alternative is in support of continued evaluation of clean energy technologies. While most respondents support these efforts, many comments often came with a few modification requests. These requests included careful siting of energy uses, risk analysis for BESS, consideration of other technologies and more. Concerns around renewable fuels and hydrogen as well as SMRs were brought forth, participants expressed desire for further analysis of siting and accident/safety risks.

Figure 2 Alternative Support Comparison from Scoping Comments



Comments on Two EIS Alternatives

Alternative 1The one commenter supporting Alternative 1 argued that this alternative is the most protective course of action with respect to small modular nuclear facilities.

Alternative 2

Most comments were focused on Alternative 2, the Action Alternative. These comments mainly supported the need for advanced energy technologies accompanied by proper siting in the County. Commenters supported this action over the existing regulations in the Skagit County Code. Support for Alternative 2 still came with some requests for strong environmental protections, local oversight, and careful siting requirements.

Several commenters supported the County in furthering this project and developing local permitting processes for the four energy uses identified as a part of the EIS. It is broadly viewed as an opportunity to create a clear framework for clean energy development in the County while also adhering to the legislative requirements and establishing local control. The Agricultural Advisory Boards expressed general concern about the effect of new policies as a result of this EIS on the productivity of farmland in the County.

1.1.1.1. Battery Energy Storage Systems

Many of the commentors expressed support for planning for clean energy facilities and creating a proper siting process. Participants were particularly interested in the expansion of solar energy and battery energy storage systems. Many of the comments emphasized that participants don't want these energy uses without proper siting. This would entail protecting:

- Prime agricultural lands
- Salmon-bearing waters and fisheries
- Wetlands
- Natural resources lands, and
- Areas with community character.

One specific public commenter shared their personal experience with an unwanted BESS system next to their property. Concerns of safety and noise disturbance were communicated to PSE about the BESS project. The commentor is concerned about the large scale development of BESS in the County. Proper mitigation should include:

- Residential setbacks
- Noise level standards, and
- Emergency planning

1.1.1.2. Fusion Small Modular Reactors

Additionally, commentators shared their concerns about the safety of SMRs and battery storage systems. Several commentators asked the County to expand its scope to analyze wind, geothermal, microgrids, and distributed energy sources.

The Snohomish Indian Tribal Community expressed desires to develop clean energy facilities but remain focused on protecting:

- Tribal treaty resources
- Habitats
- Water quality and
- Natural resource lands.

Similarly to other respondents, the comment recommended the County focus on siting energy projects in already disturbed areas while incorporating climate change projections into siting decisions. The Tribe is also concerned about the development of small modular nuclear reactors and suggests that the County remain focused on already proven technologies.

1.1.1.3. Renewable Fuels

Some comments requested a deeper analysis of greenhouse gas emissions as they are related to renewable fuels. Another commenter emphasized that the EIS review should differentiate among fuel types, as each may present distinct risks and environmental impacts.

Additional Commentary on Alternatives

The Washington State Department of Natural Resources provided comment during the scoping period. The comment identifies that the DNR manages land in Skagit County that would need proper feasibility studies, land use licenses, and permits prior to any sort of energy development. The DNR also suggests the project investigates additional energy sources such as:

- Geothermal
- Thermal energy storage
- Carbon sequestration

There were multiple commentators that encouraged the County to evaluate a broader range of clean energy technologies. These technologies included geothermal and district heating systems, thermal energy networks, and distributed energy resources. These requests were in support of prioritizing proven technologies over those that are recently emergent or "unproven". Ecology encourages the County to utilize Washington State's completed PEIS for utility-scale solar, onshore wind, and green hydrogen projects, and to incorporate relevant findings from the analysis into future project review. Ecology also recommended using state resources for BESS and safety and reference the findings as a part of the project's EIS.

A few participants were concerned about what this project meant for the affordability of electricity in the County. They were curious about whether the transition to clean energy will increase costs and lower grid reliability.

Commenters also requested that this project evaluate the financial assurance mechanisms. One mechanism shared was bonding requirements, which can help ensure that facilities are safely decommissioned and restored to their original use at the end of its life. Decommissioning was especially suggested for uses such as solar, BESS, and SMRs.

One commenter recommended requiring specific construction materials for future energy projects in the County. Such materials included corrosion-resistant basalt to make infrastructure more resilient against extreme weather events.

Next Steps for EIS Alternatives

To address the comments on the EIS alternatives, the following actions have been identified:

- Refine the EIS alternatives to incorporate feedback from scoping comments.
- Summarize selected alternatives in the Draft Environmental Impact Statement.

Energy Siting Comments and Resources

Outside of the EIS Alternatives, this scoping period gathered initial feedback on energy siting and energy concerns in the County.

Energy Source Safety Concerns and Resources

Many of the comments received during the scoping period conveyed concern for the County's decision to explore SMRs as a part of this project. SMR concerns included:

- Accident and safety concerns,
- Worker and public health effects,
- Radioactive waste management, and
- Impact on agricultural resource lands.

Participants asked for a careful analysis of this energy source and associated siting criteria through this EIS.

Areas to Avoid or Exclude

Wildlife habitats were the most referred to areas to avoid potential impacts as it relates to energy siting and development pressures. Specific locations in the County that commenters suggested to avoid included:

- Prime agricultural lands,
- Wildlife habitats, including salmon-bearing habitats, and
- 500-year floodplain.

The organization, Evergreen Islands, suggested the County look into siting solar facilities specifically on already disturbed lands. This may lower environmental impacts and project scrutiny.

Next Steps for Siting Energy Uses

To address the comments on energy siting, the following actions have been identified:

- Analyze energy impacts, review resources, and establish siting criteria tailored to Skagit County.

Elements of the Environment

The table below provides a breakdown of the specific topics mentioned as it relates to the scoped elements of the environment and who provided commentary.

Figure 3 Comments on the Elements of the Environment

Element of the Environment	Summarized Topics	Related Commenter/s
Earth Resources	Concern for potential conversion of agricultural soils and natural resource lands leading to loss of productive farmland in the County. Ensure proper analysis and siting of solar arrays, BESS, and fusion facilities.	• County board member (Agricultural Advisory Board) • Two Environmental groups • Six members of the Public
Air Quality & GHG Gases	Consider the lifecycle GHG emissions from renewable fuel production as well as the emissions from manufacturing and transporting clean energy infrastructure. Important to understand the air quality effects from renewable fuels and hydrogen energy facilities.	• Two Environmental Groups • Six members of the public
Water Resources	Protect salmon bearing habitats and study the impacts of clean energy facilities on water supply and availability. Cooling of fusion facilities may increase water demand. Consider the impacts to groundwater and surface water and floodplains. Contaminated water from these facilities may infiltrate surface water runoff.	• Five members of the public • One local board member • One environmental group • One tribal representative
Energy & Natural Resources	Emphasized the need for increased local energy supply but with proven technologies. Solar and battery energy storage facilities are reliable and will be beneficial in the County. There are opportunities to explore geothermal energy, distributed energy resources (DERs), virtual power plants, and microgrids.	• Two members of the Public • One Environmental group • One local board member • One state agency • One tribal representative
Environmental Health & Safety	Concerns about the risk of alternative energy facilities on local infrastructure, public health, fire risk, and emergency preparedness and emergency response.	• Two Environmental groups • Six members of the Public • One state agency • One tribal representative
Impacts on Overburdened Communities /Environmental Justice	Recognition of the potential disproportionate impacts to tribal communities, low-income	• One Environmental group • Two members of the Public • One tribal representative

Element of the Environment	Summarized Topics	Related Commenter/s
	populations, communities of color, and underserved communities. Ensure equitable distribution of facilities. Ensure future mitigation includes community notification.	
Noise	Concerns about the disruption of noise from BESS facilities located near residences. Recommend looking into a noise study and mitigation as a part of the code development.	• Three members of the Public

To address comments on the elements of the environment, the following actions have been identified:

- Integrate the environment topics into the DEIS outline and study parameters, outlining how they are addressed.

Comments on the CESP Process

Multiple commentors suggested that the County increase opportunities for public participation. Events may include informational meetings and other opportunities to comment and provide feedback. It also was suggested that the outreach for future events be routed through media, social media, community events, festivals, and other local public admin buildings. Ultimately, the public wants to continue learning about the project and feel involved in the decision making process.

A few commenters were concerned about the inclusion of Puget Sound Energy (PSE) on the Clean Energy Advisory Group. They argued that PSE is a for-profit utility company that could benefit from future energy projects in the County therefore making them a potential conflict of interest. Multiple responses emphasized the need to rely on local interest and balanced representation on the Clean Energy Advisory Group.

Responses also suggest that the project should include more quantitative analysis as a part of the EIS to ease concerns about energy demand and supply shortfalls in Skagit County.

To address comments on the CESP Project process, the following actions have been identified:

- Explore alternative outreach methods and increase project messaging on project updates and community events.
- Provide transparency on stakeholder's roles on the Clean Energy Advisory Group.
- Analyze data to demonstrate accurate energy demand and supply shortfalls in Skagit County.

Summary of Next Steps

Skagit County will use the scoping comments and the actions identified in this summary to update the proposed approach of the EIS analysis. A complete list of the identified actions is included below:

- Refine the EIS alternatives, incorporating feedback from scoping comments.
- Summarize selected alternatives in the DEIS.
- Analyze energy siting impacts, review resources, and establish siting criteria tailored to Skagit County.
- Integrate the environment topics into the DEIS outline and study parameters, outlining how they are addressed.
- Engage stakeholders and Tribal representatives with follow up questions and discussions.

Appendix C: Distribution List

Appendix C starts on the next page.

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