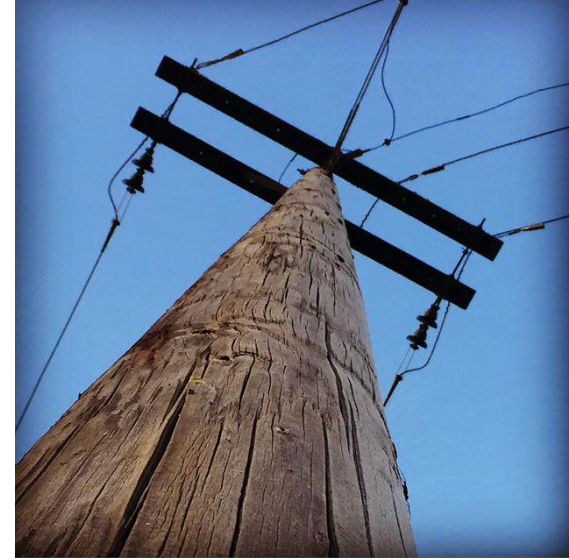


Oregon Department of **ENERGY**

Cascade Renewable
Transmission System
Informational Meeting

May 2, 2023
Columbia Gorge
Discovery Center

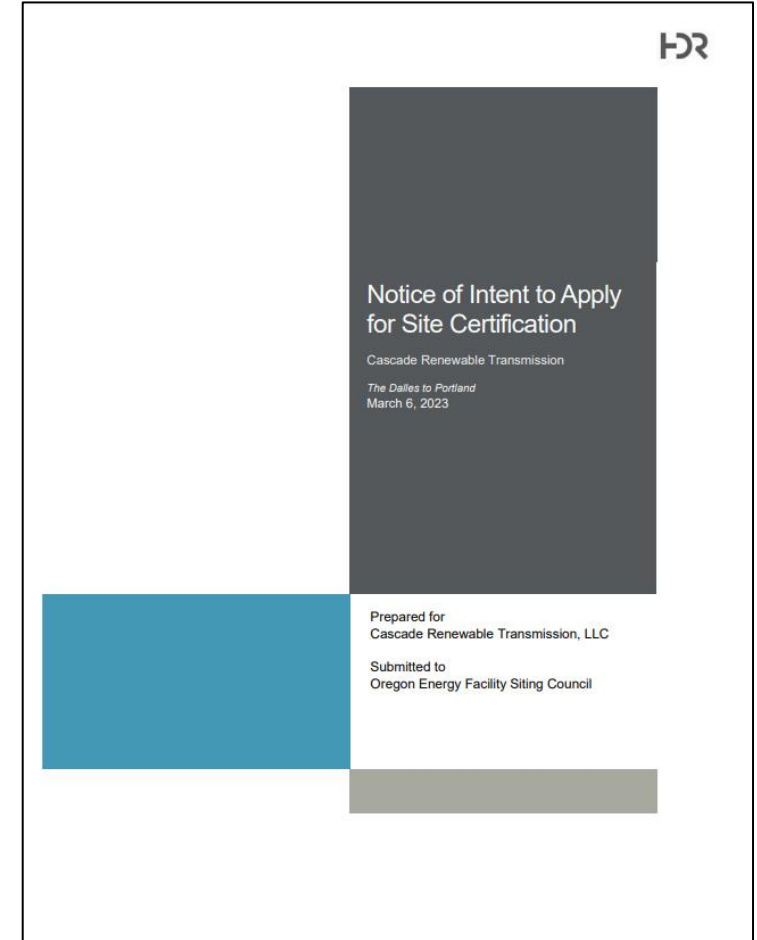
My 3, 2023
Oxford Suites –
Jantzen Beach



Presentation to Start at 6:30 PM

AGENDA

- Introduction of Project and Siting Process
- Siting Process Overview
- Proposed Facility Overview
- Public Comment & Questions



Meeting Overview

- On March 7, 2023 ODOE received a Notice of Intent to File an Application for a Site Certificate for the Cascade Renewable Transmission System.
- This informational meeting:
 - Is intended to give members of the public an opportunity to learn about the proposal and provide comment on the NOI.
 - Is **not** a contested case hearing, and participation in the meeting is not required to preserve issues or standing for the contested case.
- Please hold all questions and comments until the public comment period at end of the presentations.
- Any person engaging disruptive behavior may be asked or required to leave the meeting.

Cascade Renewable Transmission System

- Proposed 300-kV DC transmission line and related or supporting facilities spanning ~100 miles between The Dalles and Portland
 - Majority of line buried in bed of Columbia River using “jet plow”
 - Additional segments buried in road rights-of-way or installed using HDD
- Two converter stations proposed near points of interconnection
 - ~500 ft. of overhead 500-kV AC line to interconnect with Big Eddy Substation.
 - ~3 mi. of 230-kV AC line buried underground and installed under Willamette River using HDD to interconnect with Harborton Substation

Cascade Renewable Transmission System

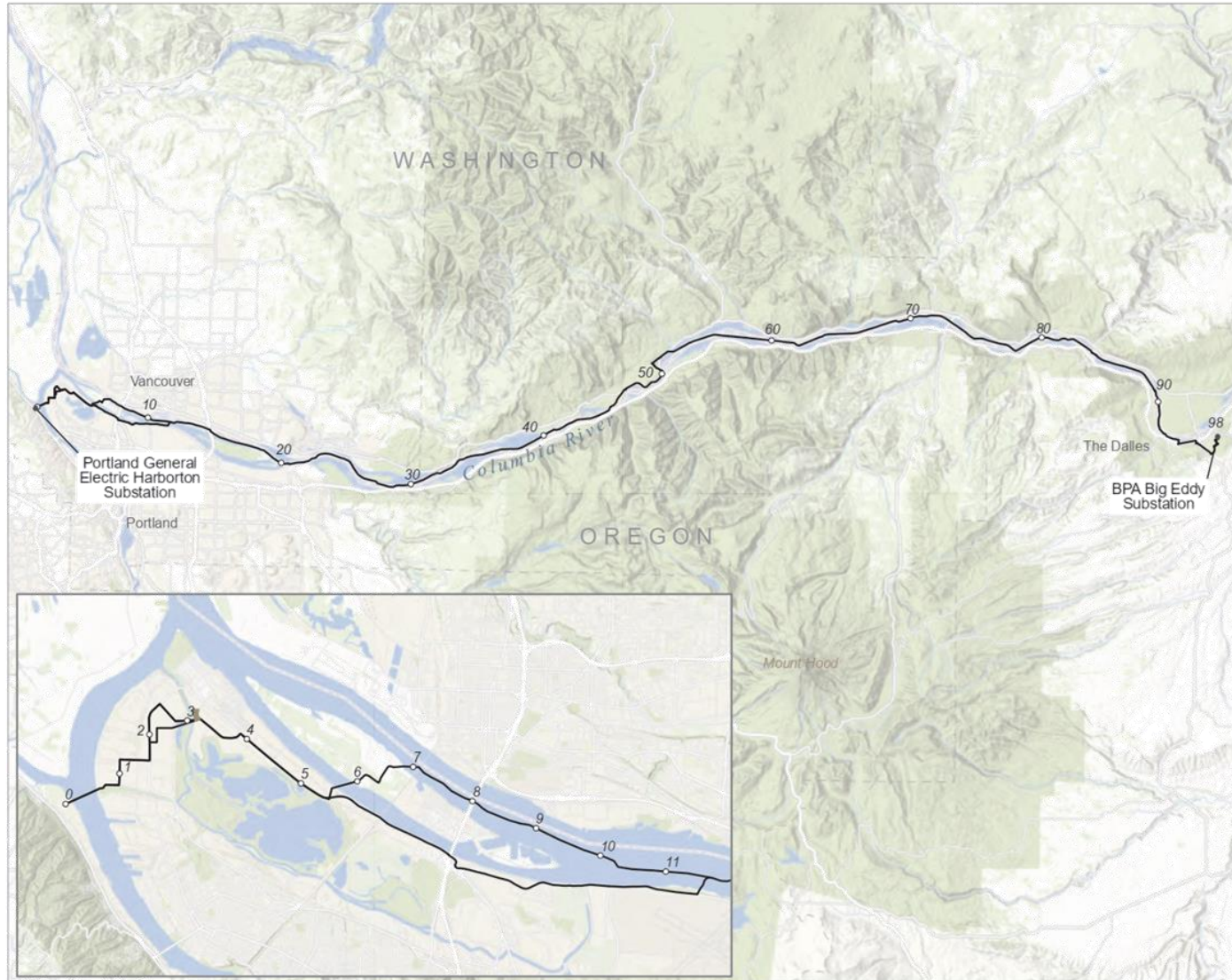


Figure B-1
Facility Vicinity Map

- Proposed Alignment
- River Miles (Miles)

CASCADE RENEWABLE TRANSMISSION



Oregon's Energy Facility Siting Program

- Oversees the review, decision-making, and compliance for most large-scale energy-generating facilities and infrastructure in Oregon.
 - Energy Facility Siting Council (EFSC) is final decision-making authority
 - Oregon Department of Energy (ODOE), Siting Division serves as staff to EFSC
- Consolidated process between state agencies and local government:
 - Eliminates duplication, consolidates timelines, decisions, and judicial review
 - Reviews proposal for compliance with applicable standards, laws, and rules.
 - Provides opportunities for public participation and comment
 - Coordinates review and solicits input from reviewing agencies, local governments, and tribal governments

State Jurisdictional “Energy Facilities”

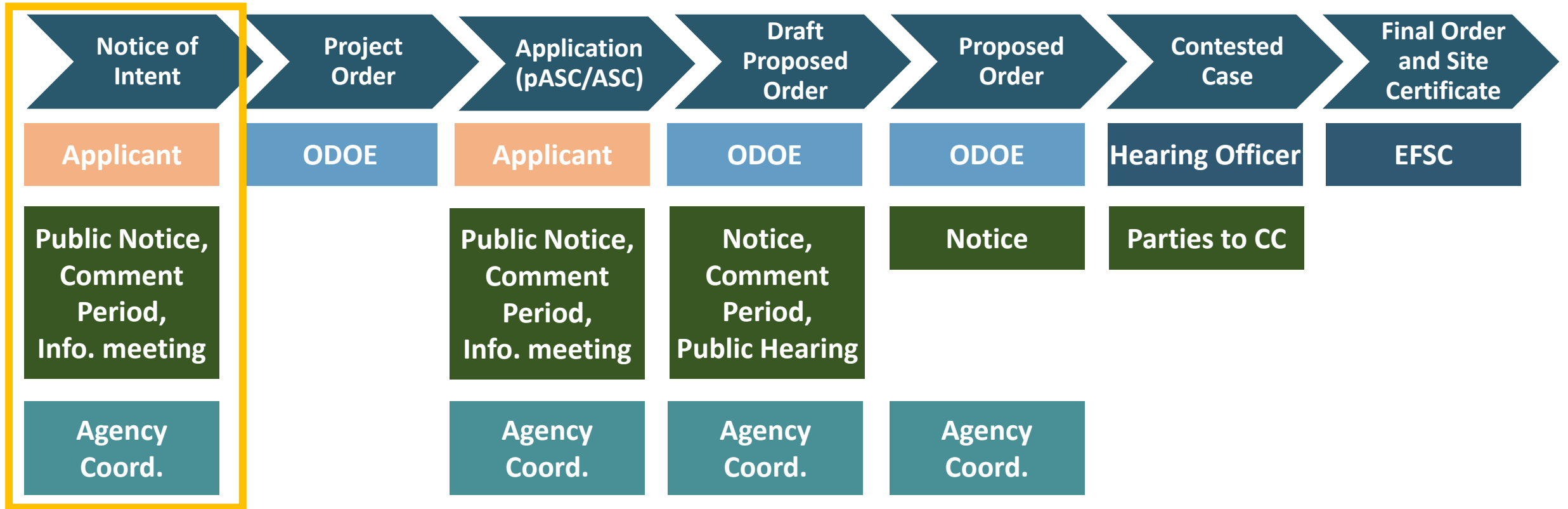
ORS 469.300(11)

- **High Voltage Transmission Lines**
- Electrical Power Generating Plants (Thermal, Solar, Wind, Geothermal, etc.)
- Biomass and Synthetic Fuel Production Facilities
- Fuel Pipelines
- Natural Gas Reservoir Surface Facilities
- Nuclear Installations
- LNG Storage Facilities
- Uranium Mills or Mill Tailings Disposal Facilities



ENERGY FACILITY SITING PROCESS

Application for Site Certificate Process

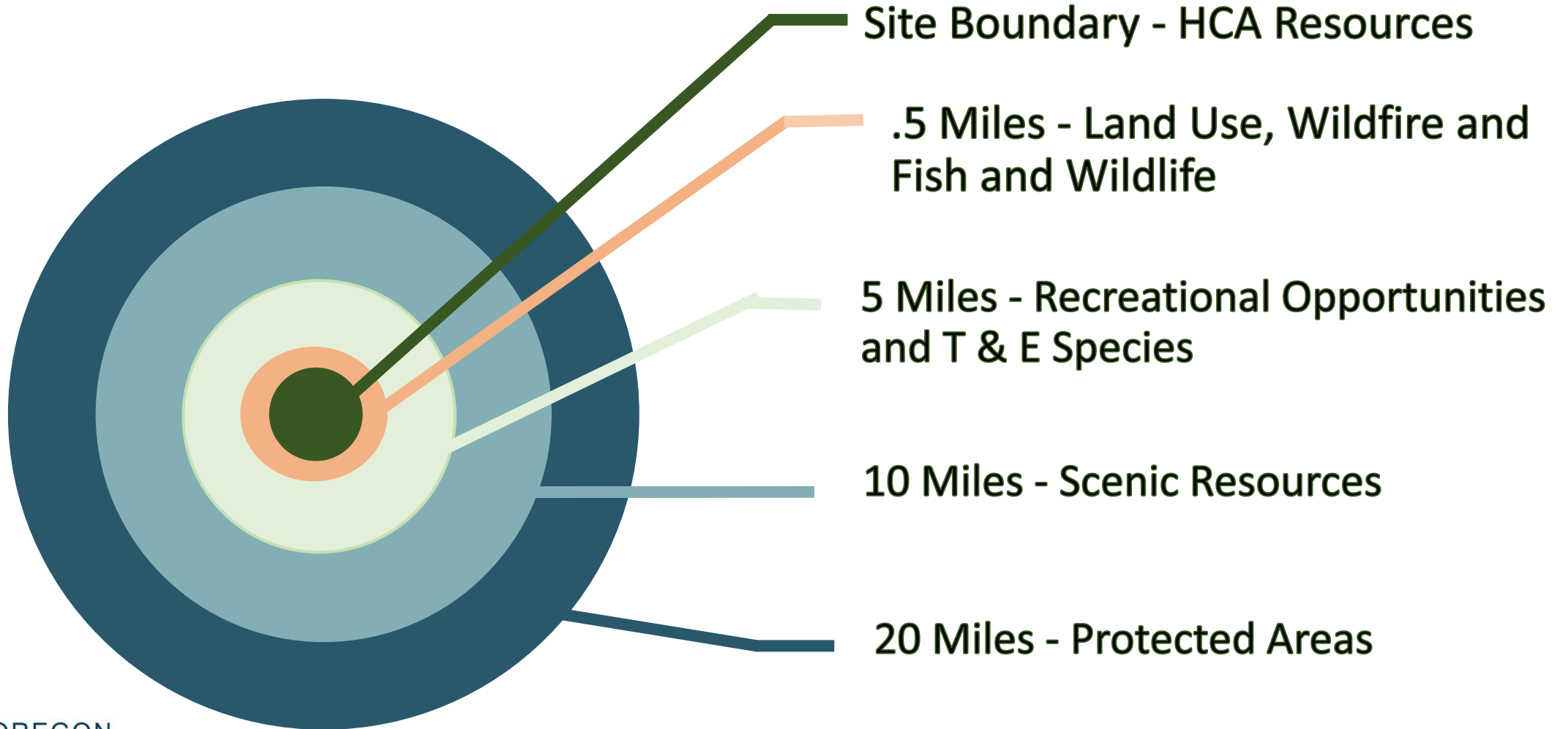


Energy Facility Siting Process

EFSC Siting Standards:

- General Standard of Review
- Organizational Expertise
- Structural Standard
- Soil Protection
- Land Use
- Protected Areas
- Retirement and Financial Assurance
- Fish and Wildlife Habitat
- Threatened and Endangered Species
- Scenic Resources
- Historic, Cultural and Archaeological Resources
- Recreation
- Public Services
- Waste Minimization
- Wildfire Prevention and Risk Mitigation
- Noise
- Siting Standards for Transmission Lines
- Need Standard

Study Area Distances



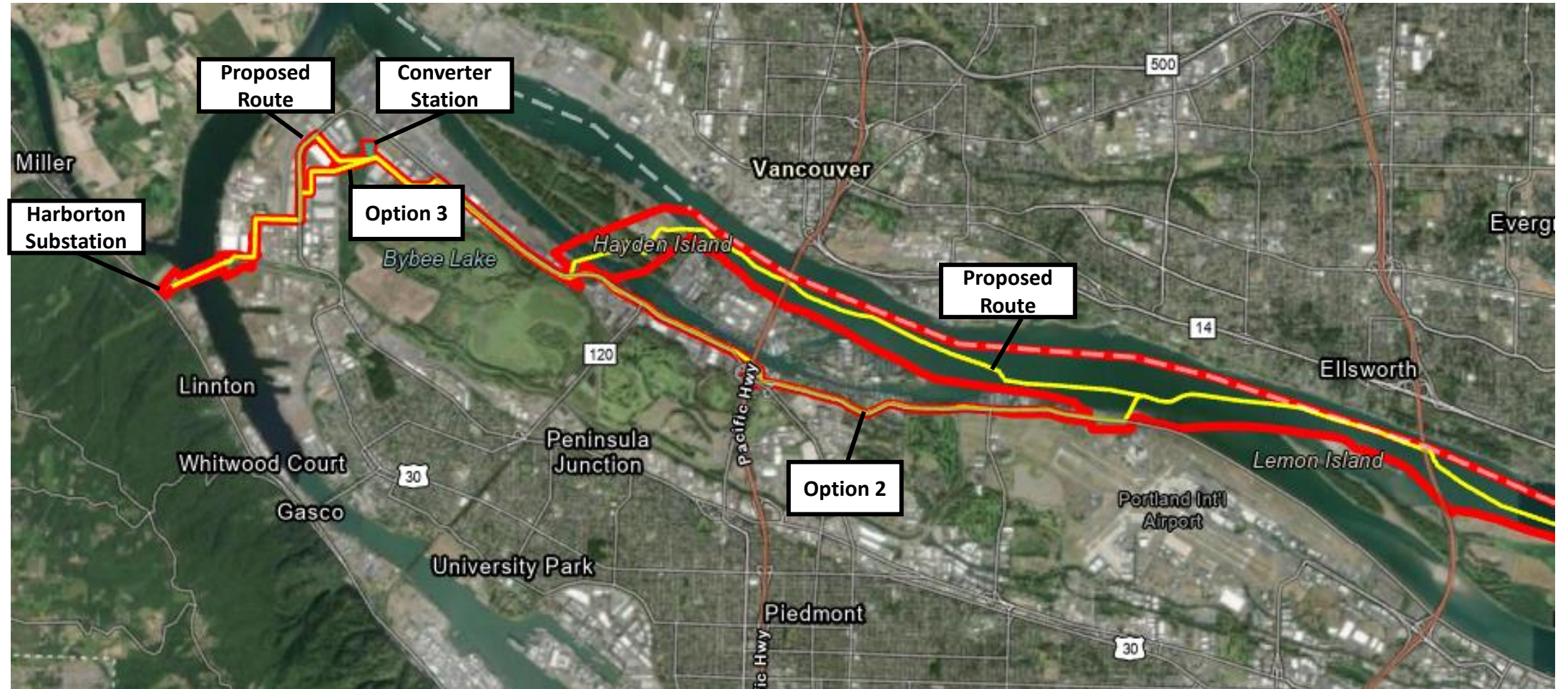
Land Use

- The applicant may choose to obtain land use approval from EFSC or from the affected local governments.
- NOI indicates applicant intends to seek land use determination from EFSC
- If election changes, interested persons should participate in the local land use process.

Corridor Adjustments

- NOI identifies multiple corridors near western interconnection.
- The proposed corridors are subject to change.
- The Applicant may propose adjustments in the application or at these informational meetings.
- The applicant must consider public comments in selecting corridors for analysis in the Application for Site Certificate.

Cascade Renewable Transmission System



Cascade Renewable Transmission System



Reviewing Agency Coordination

- **Reviewing Agencies and Special Advisory Groups:**
 - Provide comments on the proposed facility within the jurisdiction or expertise of the agency
 - Make recommendations regarding the size and location of analysis area(s)
 - Identify:
 - Studies that should be conducted to identify potential impacts
 - Statutes, administrative rules, applicable substantive criteria, and local government ordinances administered by the agency
 - Permits administered by the agency that might apply to construction or operation of the proposed facility

Public Comments

- Opportunity for the public to comment on the Notice of Intent is Open. All written comments submitted to ODOE are included in the public record and provided to the applicant.
- Comment period closes on June 1, 2023.
- Oral Comments may be provided during the Q&A Session at this meeting.
- This meeting is not a public hearing, and participation is not required to establish standing to participate in the contested case during the review of the ASC.

Helpful Resources

Oregon Department of Energy / Energy Facilities & Safety / Facilities

Energy Facility Siting

COUNCIL INFORMATION

- About the Council
- Council Jurisdiction
- Council Meetings
- Council Rulemaking
- Compliance Program

ENERGY FACILITIES

- Public Guide
- Siting Project Updates
- Facilities Under EFSC
- Public Comment Portal
- EFSC Facilities Map
- Federal Facilities in Oregon
- About the Siting Process
- Siting Standards
- Siting Statutes & Rules
- Fact Sheets

FACILITIES UNDER REVIEW

- Archway Solar Energy Facility
- Cascade Renewable Transmission System
- Boardman to Hemingway Transmission Line
- Echo Solar Project
- Eugene to Medford Transmission Line
- Nolin Hills Wind Power Project
- Wagon Trail Solar Project

Home > Siting Public Comment

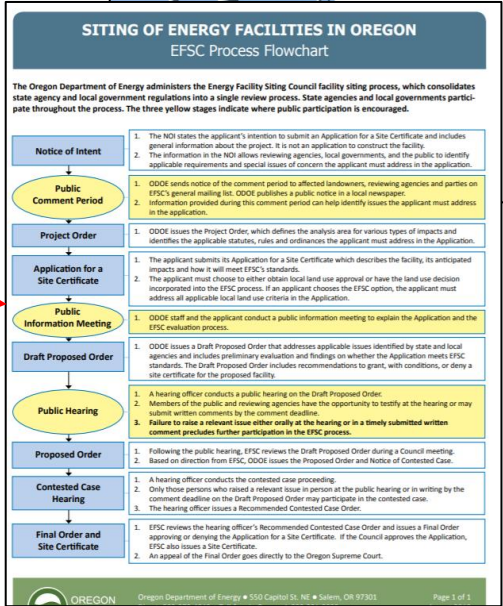
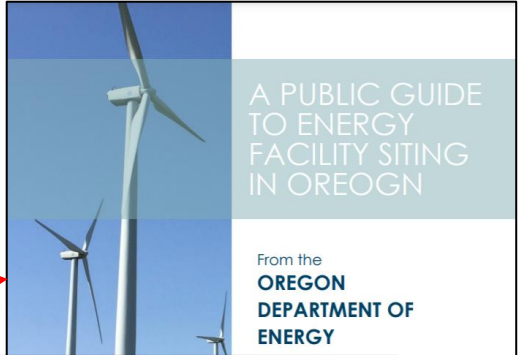
Siting Public Comment

*** Required Field**

Project Selection

Project *
Please select the project that you are interested in commenting on

[Next](#)



<https://www.oregon.gov/energy/facilities-safety/facilities/Pages/default.aspx>

ODOE Contact

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Cascade Renewable Transmission Project

Securing our clean energy future.

Spring 2023

Oregon Department of Energy
Energy Facility Siting Council
Public Informational Meetings
May 2 and 3, 2023

1. Introduction
2. Situation & Need
3. Proven Solution
4. Route & Features
5. Environmental Reviews
6. Marine Transmission
7. Team & Commitments
8. Questions

The Situation

To meet the climate crisis, Oregon and Washington have passed into law bold clean energy goals for electric utilities.

What's missing is new electricity transmission needed to make them a reality.

OR

- 80% carbon-free by 2030
- 90% by 2035
- 100% by 2040

WA

- 80% carbon-neutral by 2030
- 100% by 2045



Oregon utilities face big challenges meeting 100% clean electricity by 2040 target

July 21, 2021

Oregon just passed an ideologically and technically ambitious clean energy bill ... In reality, however, no one, including the utilities, knows how they will achieve the bill's most ambitious targets, which stairstep from 80% clean electricity by 2030, to 90% percent by 2035 and 100% by 2040.

The Situation



How PGE plans to get more clean electricity to meet demand, emission goals

April 5, 2023

PGE said it will be impossible to meet the 2030 emission target without upgrading and building new transmission lines – the high-voltage power lines that move energy from generation source to customers. Transmission lines are notoriously costly and difficult to approve and experts have sounded the alarm in recent years that the current aging transmission system cannot support additional clean energy loads.

Urgent Need

Minimal to no available east to west transmission capacity

Stranded renewables east of the Cascades

Increasing energy demand

Challenges with overhead wires and towers



NORTHWEST STATES NEED TO BUILD NEW POWER LINES, FAST
Otherwise, Oregon and Washington will miss critical climate targets.

October 13, 2022



**Lack of Transmission Lines Could Slow
State's Renewable Energy Transformation**

January 3, 2023

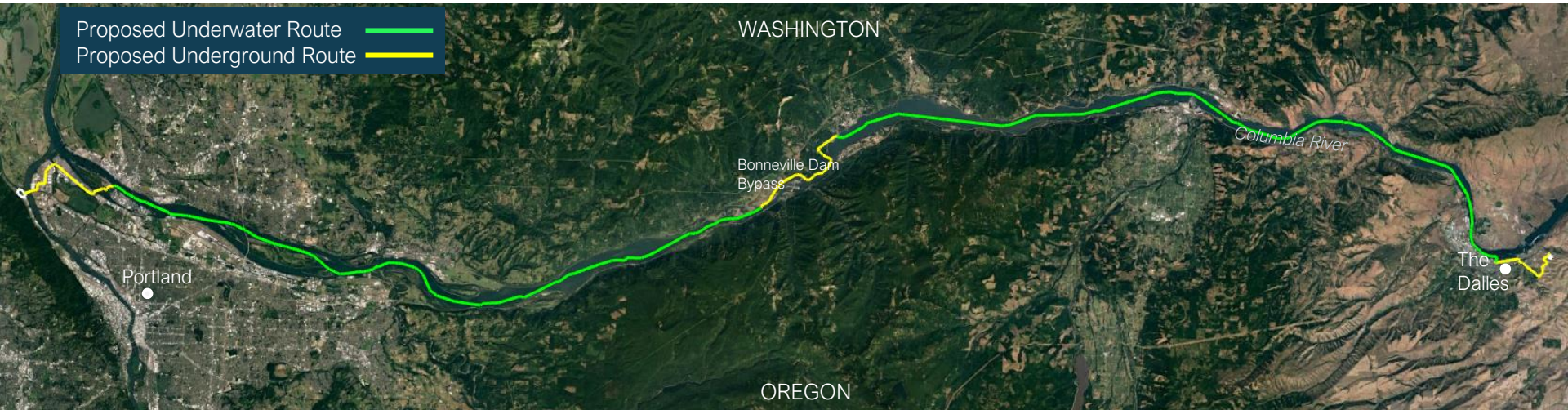
Proven Solution

A 14” bundled transmission line with two 6” cables + fiber optic buried beneath the Columbia River from The Dalles to Portland.

The 100-mile High-Voltage Direct Current (HVDC) line will safely transport 1,100 MW of renewable energy generated east of the Cascades to serve 800,000 homes west of the Cascades.



The Route



Columbia River 100-mile Route

Transports 1,100 MW of renewable energy generated east of the Cascades to customers west of the Cascades via an HVDC transmission line.

The Route



The Dalles
5-mile Underground Line

Portland/Rivergate Industrial
5-mile Underground Line

Transmission begins east and ends west at converter stations near existing Bonneville Power Administration (BPA) and Portland General Electric (PGE) electricity facilities.

The Route



7-mile Underground Bonneville Dam Bypass

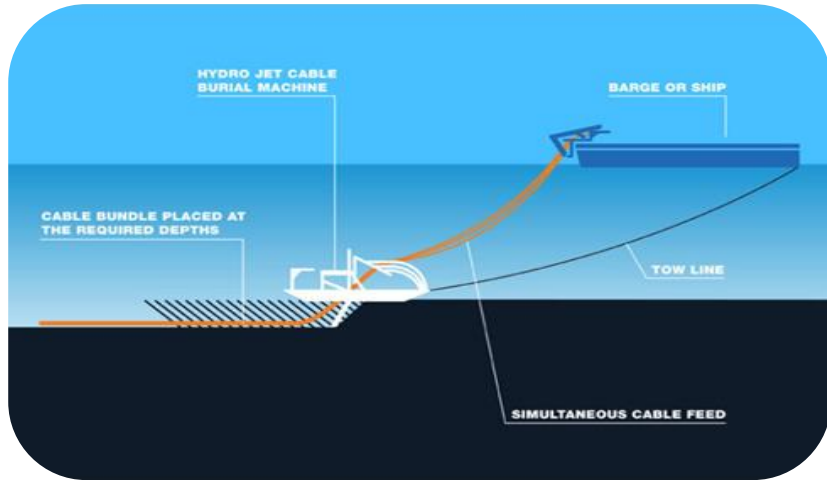
Bypasses Bonneville Dam on land, travelling underground around the dam and locks on existing public rights of way.

Converter Stations



The transmission line will begin and end at 5-acre converter stations in The Dalles and Portland/Rivergate Industrial area near existing BPA and PGE electricity facilities.

Low-Impact Construction



- Water jets create an 18” trench, while the cable bundle is installed 10-15 feet below the riverbed and sediment settles to cover the cable.
- A single barge and tug, typical on the Columbia River, will be used to install the cable bundle. The project can be completed in 36 months; 4-6 months of which is river installation.

Project Schedule

	2022	2023	2024	2025	2026	2027	2028
Northern Grid Planning Process	■						
Permitting	■		■				
Financing				■			
Real Estate		■		■			
Engineering Procurement Construction				■			■
Interconnection					■		■
Testing							■
Commercial Operation							★

Key Features

Clean Energy:

- Helps achieve OR and WA clean energy goals
- Power for 800,000 homes

Low Impact:

- Designed to avoid impacts to sensitive cultural and natural resources
- Avoids habitat, visual and wildfire impacts of overhead transmission

Jobs:

- Supports 300-400 high-skilled union jobs and apprenticeship programs at peak of construction

Construction Cost:

- No public investment required for \$1.5 billion (est.) construction

Taxes:

- Not seeking state tax breaks
- Will ultimately strengthen local tax base

Protecting The Columbia River Gorge

Environmental Reviews

- After multi-year public reviews, the project will meet or *exceed* all federal, state, and local environmental requirements.

Tribal Consultation

- The project will respect and be responsive to Tribal Nation concerns.

Marine Impacts

- Multiple studies related to electromagnetic fields (EMF) have found no measurable adverse impacts on fisheries from similar marine transmission cables.

Low-impact Construction

- River installation will occur during the late fall and winter months to avoid impacts on fisheries and river recreation.

Environmental Track Record

- After 15 years of operation, two similar east coast lines have reported no adverse environmental impacts.

Major Required Permits & Approvals

- US Army Corps of Engineers (USACE) Section 10, Section 401 (Clean Water Act certificates issued by states), Section 404, Section 408 permits
- NEPA review
- Section 106 consultation with Tribal Nations
- Washington EFSEC Siting Agreement
- Oregon EFSC Siting Authorization
- Permits and approvals as required by affected municipalities (Portland, The Dalles, Stevenson, WA)
- Interconnection agreements with Bonneville Power Administration and Portland General Electric
- Began major permit application process Q1 2023

Federal and multi-state approval process is comparable to that undertaken by PowerBridge for the Neptune and Hudson underwater HVDC projects linking New Jersey and New York.

Similar Marine Transmission

Project	Country	Miles	Rating	Voltage	Online Date
ElecLink	UK-France	32	1000 MW	320 kV	2022
North Sea Link	Norway-UK	453	1400 MW	525 kV	2021
NordLink	Germany-Norway	387	1400 MW	500 kV	2020
Nemo	UK-Belgium	87	1000 MW	400 kV	2019
BorWin3	Germany	99	900 MW	320 kV	2019
BorWin2	Germany	120	800 MW	300 kV	2014
Hudson*	NJ/NY, US	7	660 MW	345 kV	2013
TransBay	San Francisco, US	53	400 MW	200 kV	2010
Neptune*	NJ/NY, US	67	660 MW	500 kV	2007
BassLink	Australia	230	500 MW	400 kV	2005
Cross Sound	CT/NY, US	25	330 MW	150 kV	2003

* *Projects developed and operated by PowerBridge*

PowerBridge Transmission Experience

PowerBridge has built and now operates two underwater transmission projects in the New York, New Jersey area.



- Completed 2007, \$650M cost
- Links PJM Electricity with Long Island Power Authority
- 65-mile, 660 MW HVDC
- 51 miles undersea, 14 miles underground



- Completed 2013, \$850M cost
- Links PJM and NY grids across Hudson River
- 7-mile underwater and underground

Our Team



Chris Hocker



Susan Brown



Ernie Griggs



Jeff Wood



Carol Loughlin



Corey
Kupersmith



Victor Stolt-
Nielsen Holten

Our Values & Commitment to You

RESPECT

- We will engage openly, honestly, and respectfully with all local, state, federal and tribal governments, and residents.

ABOVE AND BEYOND

- We will meet or *exceed* all permitting and regulatory requirements to build and operate this project.

RESPONSIVE

- We will respond to all questions and inquiries as quickly as possible. If we don't immediately have an answer, we will say so and seek out the information.

COMMUNITY

- We will partner with local residents and communities to support organizations and causes to advance the environmental, social, and economic interests of the region.



Cascade Renewable Transmission Project

Securing our clean energy future.

www.cascaderenewable.com

PUBLIC COMMENT

Webinar Participants

The bottom right of the main window is a set of icons.

Click on “Participants”

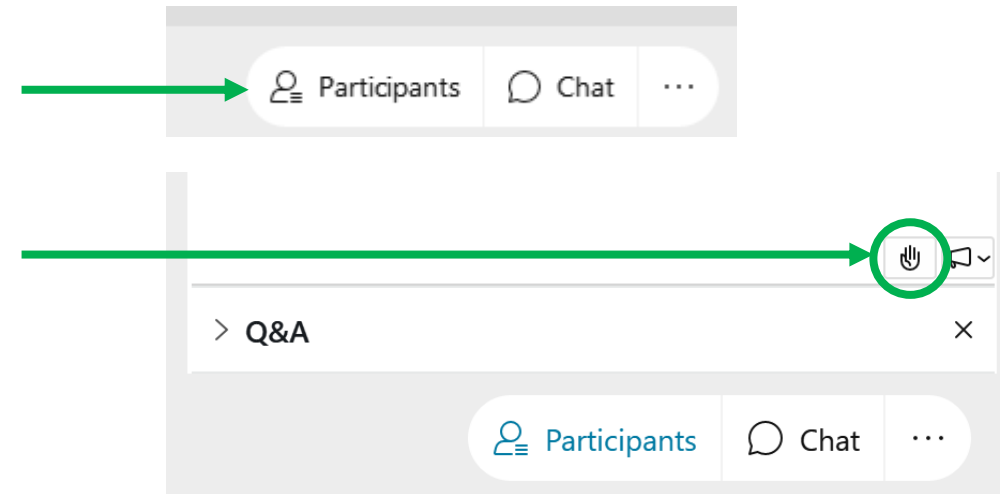
Click on the hand icon in bottom right of the participant window

Clicking on it again will lower your hand.

Phone Participants

Press *3 on your telephone keypad to raise your hand.

Press *3 again on your telephone keypad to lower your hand.



ODOE Contact

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