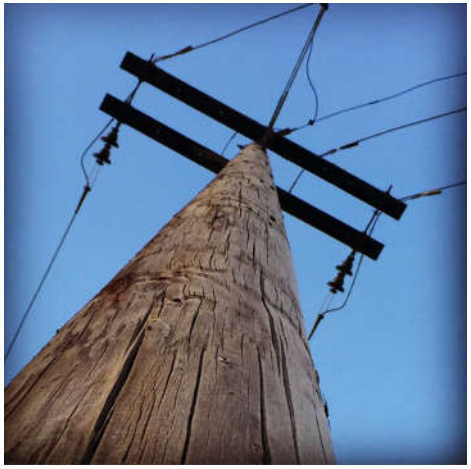
Oregon Department of **ENERGY**

Energy Facility Siting Council Meeting

Oregon Dept. of Energy
500 Capitol St NE
Salem, Oregon

May 16, 2025



OREGON DEPARTMENT OF ENERGY

Opening Items:

- Call to Order
- Roll Call
- Announcements

OREGON DEPARTMENT OF ENERGY

Announcements:

- Reminder to Council and to anyone addressing the Council to please remember to state your full name clearly, and no not use the speakerphone feature, as it will create feedback.

- You may sign up for email notices by clicking the link on the agenda or the Council webpage.

- You are also welcome to access the online mapping tool and any documents by visiting our website.

OREGON
DEPARTMENT OF
ENERGY

Announcements continued:

- Please silence your cell phones
- Please use the “Raise Your Hand” feature in Webex to speak during the public comment period, or press *3 to raise your hand if you are participating by telephone.
- Energy Facility Council meetings shall be conducted in a respectful and courteous manner where everyone is allowed to state their positions at the appropriate times consistent with Council rules and procedures. Willful accusatory, offensive, insulting, threatening, insolent, or slanderous comments which disrupt the Council meeting are not acceptable. Pursuant to Oregon Administrative Rule 345-011-0080, any person who engages in unacceptable conduct which disrupts the meeting may be expelled.

OREGON DEPARTMENT OF ENERGY

Agenda Item A
(Action Item & Information Item)

Consent Calendar

- March 2025 Council Meeting Minutes
- Council Secretary Report

May 16, 2025

OREGON
DEPARTMENT OF
ENERGY

Compliance Updates

Facility	Update	Status

This slide will be updated prior to meeting

OREGON DEPARTMENT OF ENERGY

2025 EFSC Specific Legislation

Bill #	ODOE Summary
HB 3681	**1)** EFSC shall make every effort to conclude CC and issue FO within 12 months of issuance of PO; **2)** any appeals related to EFSC go directly to the Oregon Supreme Court; **3)** subject to the rules adopted by EFSC, certificate holders may add area to a site boundary without an amendment; **4)** the earliest date EFSC may require a certificate holder to begin construction is six years from the date of the final order; **5)** changes PUC certificate of public convenience and necessity requirements (related to eminent domain);
SB 1034	Removes language that allows EFSC to not have to implement all local government applicable substantive criteria and includes language that requires it.

OREGON DEPARTMENT OF ENERGY

2025 EFSC Specific Legislation – Cont'd.

Bill #	ODOE Summary
HB 3874	Raises the threshold before a wind project would be required to be reviewed by EFSC from 150 MW to 300 MW nameplate capacity. Requires a decommissioning plan and financial assurances.
SB 2410	**1)** Allows a Small Modular Nuclear Power Plant demonstration project in Umatilla County. **2)** Requires consultation with each federally recognized tribe. **3)** Waives requirement of a permanent federal repository for high-level radioactive waste. **4)** Waives requirement that voters of Oregon must approve the facility in a statewide election but requires the voters of Umatilla County to approve the legislation. **5)** Directs ODOE to prepare a report on regulatory requirements to determine existing requirements and any new needed to address impacts. Establishes a funding mechanism for ODOE to carry out its duties but does not specifically allocate funds.

Agenda Item B
(Action Item)

Muddy Creek Energy Park
Request to Extend Expiration of Notice of Intent

Chase McVeigh-Walker, Senior Siting Analyst, ODOE

May 16, 2025

OREGON
DEPARTMENT OF
ENERGY

Muddy Creek Energy Park
Request to Extend Expiration of Notice of Intent

Background

- On May 19, 2023 , Muddy Creek Energy Park, LLC (Applicant) submitted a Notice of Intent (NOI) for the Muddy Creek Energy Park.

- NOI is valid for two years (May 19, 2025).

- On March 31, 2025, the applicant submitted a petition to extend the NOI expiration date by one year to May 19, 2026.

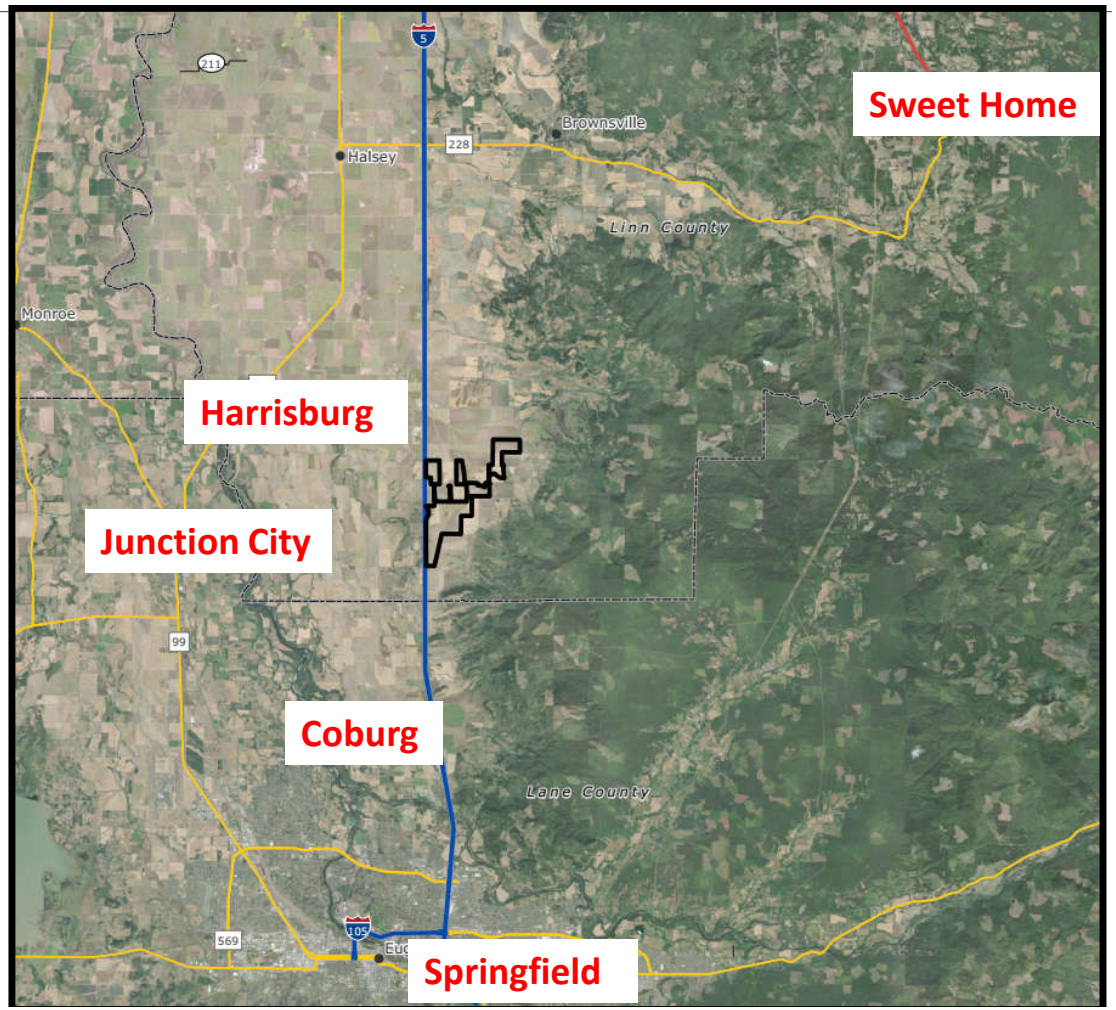
OREGON DEPARTMENT OF ENERGY

Muddy Creek Energy Park
Request to Extend Expiration of Notice of Intent

Proposed Facility Overview

Applicant:
Muddy Creek Energy Park, LLC., a wholly owned subsidiary of Hanwha Q CELLS USA Corp.

Location/Site Boundary:
Proposed to be sited within approximately 1,588 acres (2.5 sq. mile) of privately owned land in Linn County, zoned for Exclusive Farm Use.



OREGON DEPARTMENT OF ENERGY

Muddy Creek Energy Park
Request to Extend Expiration of Notice of Intent

Proposed Facility Overview

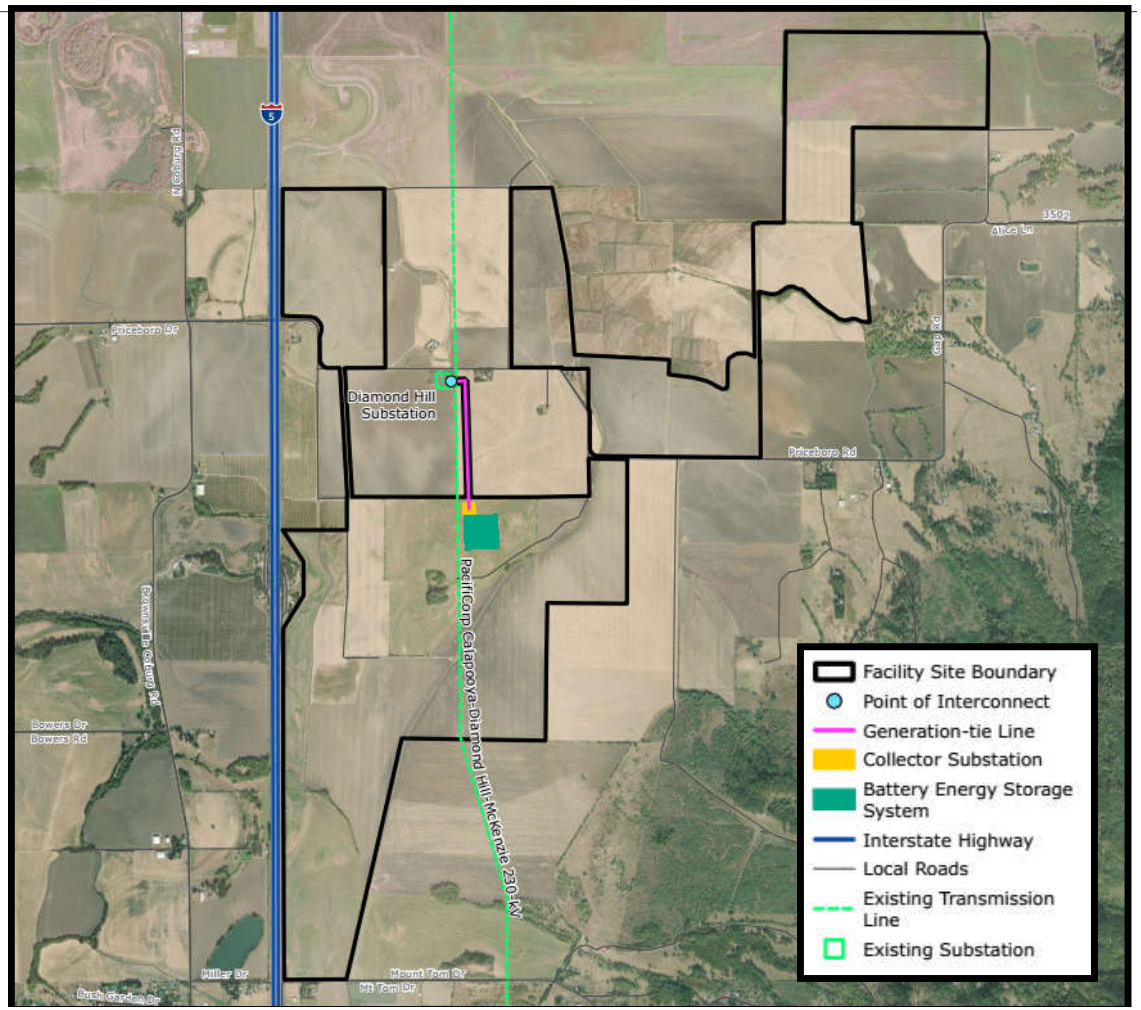
Proposed Energy Facility:

Solar Components

- Modules
- Tracker system
- Posts
- Inverters and transformers
- Cabling/collection system

Related or Supporting Facilities:

- Battery energy storage system
- Collector substation
- Gen-tie line (230 kV)
- Site Access, Service Roads, Perimeter Fencing, and Gates



OREGON DEPARTMENT OF ENERGY

Muddy Creek Energy Park
Request to Extend Expiration of Notice of Intent

Requirements OAR 345-020-0060

- Applicant has two years from the date of submitting the NOI to submit their preliminary application for site certificate.

- If NOI expires, a new NOI must be submitted.

- Applicants can request a one-year extension of the NOI
  - Must be submitted not less than 45 days before the NOI expiration date
  - If Council finds that the petition shows good cause, the Council may extend the expiration date for a period of up to one year.

OREGON DEPARTMENT OF ENERGY

Muddy Creek Energy Park
Request to Extend Expiration of Notice of Intent

Request for Extension

- The petition for NOI extension was submitted 49 days before expiration and was timely.

- The petition explains that the one-year extension is needed to allow sufficient time to complete resource studies, the agrivoltaics management plan, and to prepare and submit the pASC.
  - Coordination (including a site visit) with the Oregon Department of State Lands and U.S. Army Corps of Engineers resulted in unanticipated discovery of more wetlands
  - Supplemental season-dependent field surveying
  - Revisions to the wetland delineation
  - Multiple redesigns of the project to ensure it could be viable

OREGON DEPARTMENT OF ENERGY

Muddy Creek Energy Park
Request to Extend Expiration of Notice of Intent

Public Comment

- Following receipt of the petition for extension, the Department received a comment from a member of the public.

- OAR 345-020-0060 does not include a public notice requirement, nor a public comment period and the Department is unaware of the Council ever soliciting or taking public comments on an NOI extension request.
  - If Council were to accept and consider public comments in this instance, in fairness to the applicant, it should also provide the applicant an opportunity to respond to such comments.

- The Department recommends Council not consider any public comments submitted regarding the petition for extension.
  - To remain consistent with past practices, and save time and resources by not introducing a new process step to evaluate public comments and applicant responses

OREGON
DEPARTMENT OF
ENERGY

Council Options

Option 1 - Recommended	Option 2
Approve the petition for extension	Deny the petition for extension

OREGON DEPARTMENT OF ENERGY

Council Deliberation

OREGON DEPARTMENT OF ENERGY

Agenda Item C
(Information Item)

Battery Storage Technology Overview

Tom Jackman, Rules Coordinator, ODOE

May 16, 2025

OREGON
DEPARTMENT OF
ENERGY

HB 4015 (2024)

ORS 469.300(5)

- Defined a *"**battery energy storage system**"* (BESS) as a facility that stores and later discharges energy using rechargeable batteries (excluding personal, non-commercial systems).

- Prior to HB 4015, no definition for BESS existed.

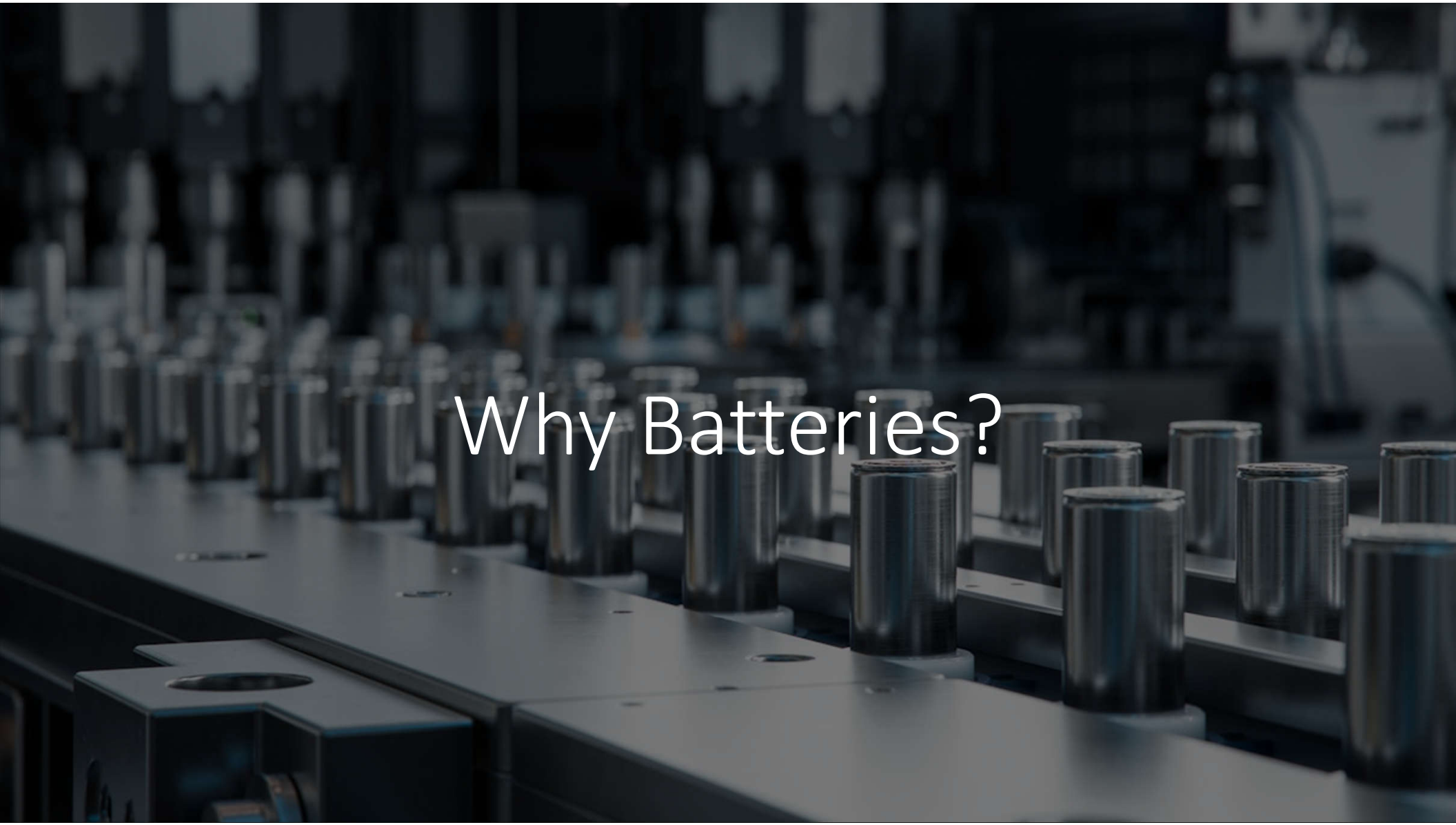
HB 4015 (2024)

ORS 469.320(5)

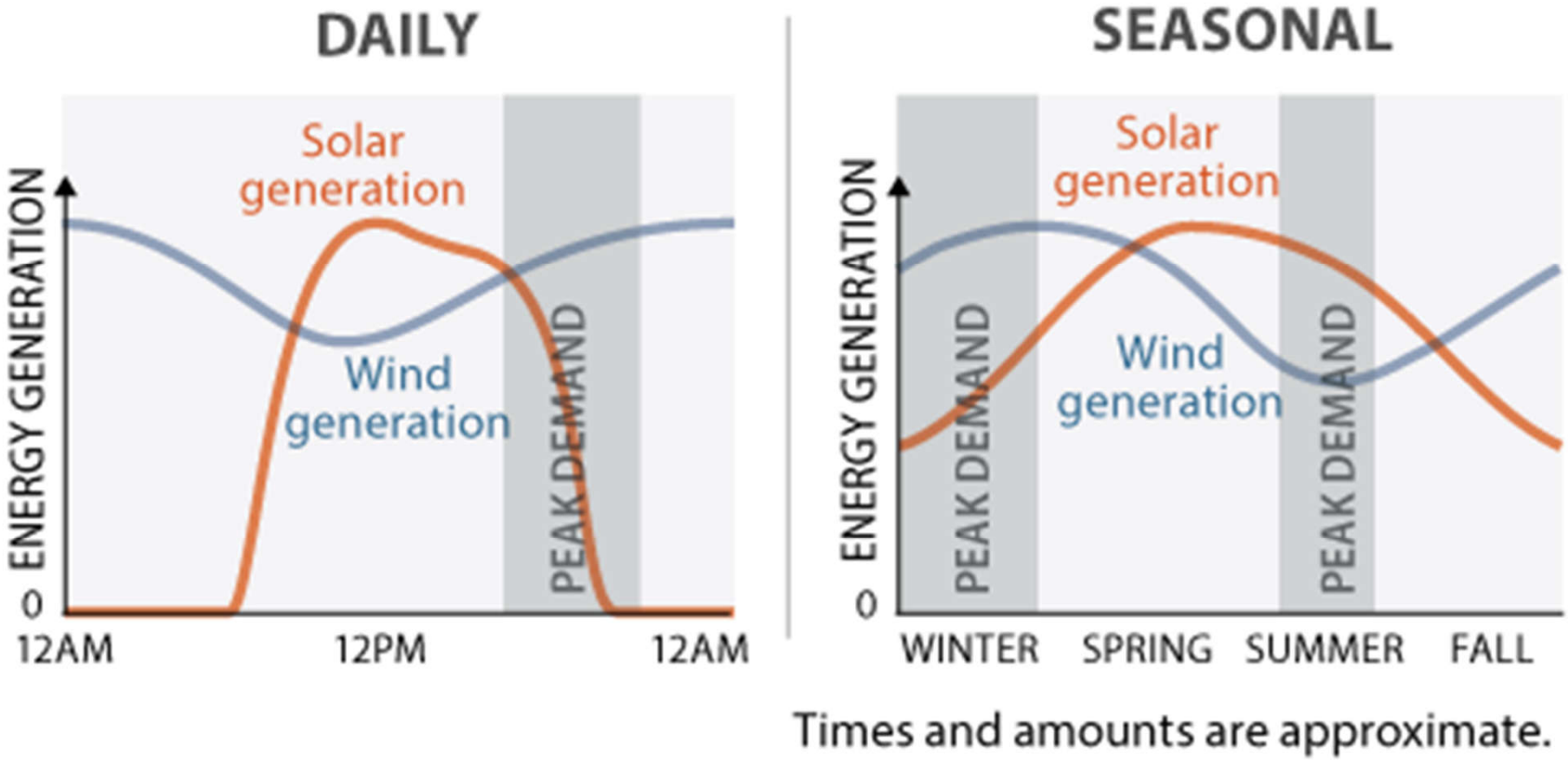
- Adds BESS to the list of things that **do not require a separate site certificate** when built as a "related or supporting facilit[y]" for another energy facility.

ORS 469.320(8)

- Formally allows developers (or local governments, in consultation with developers) the **choice** to have a **standalone** BESS reviewed through EFSC rather than solely through county processes.


Why Batteries?

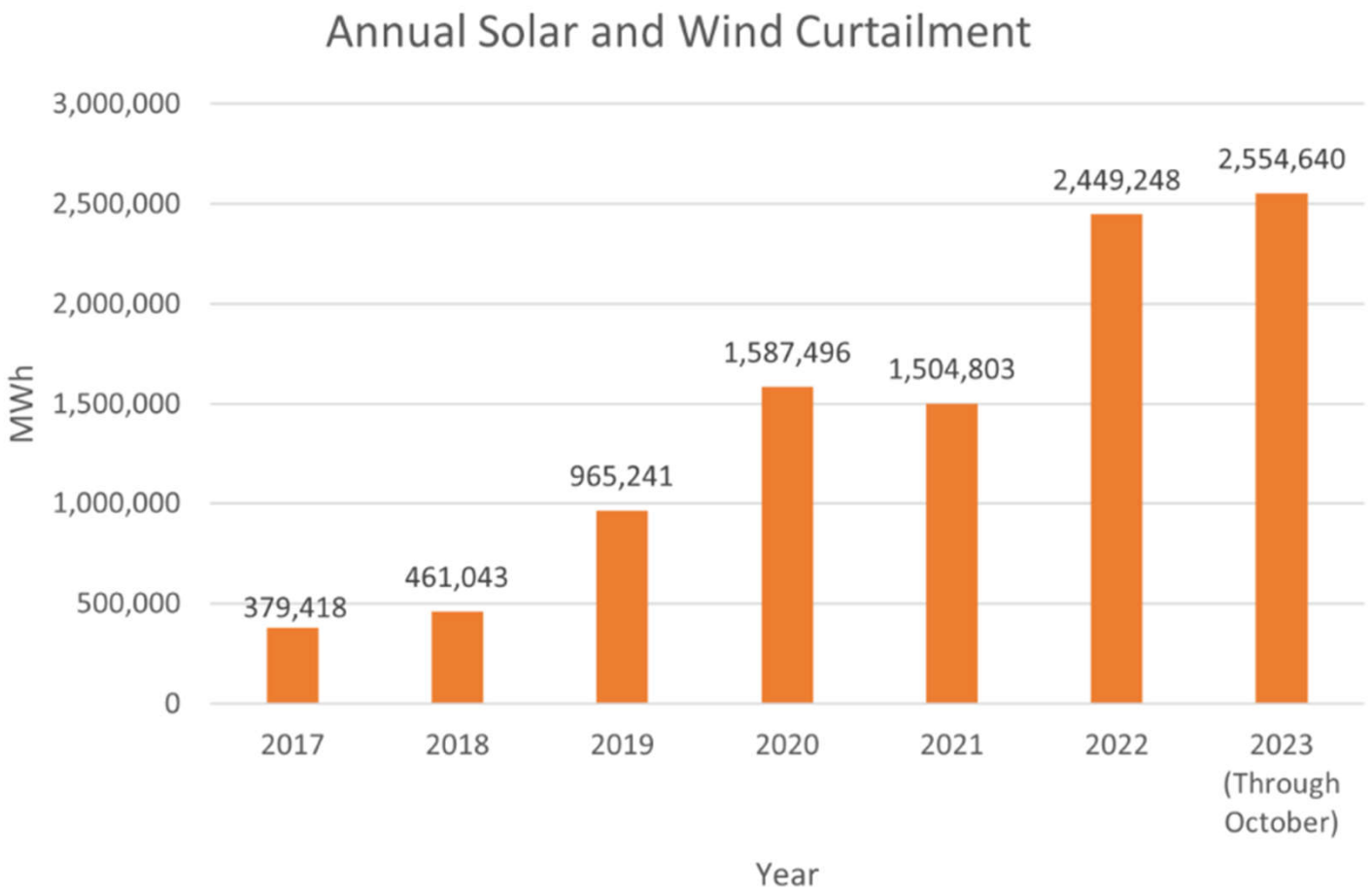
Renewable Energy Is Variable



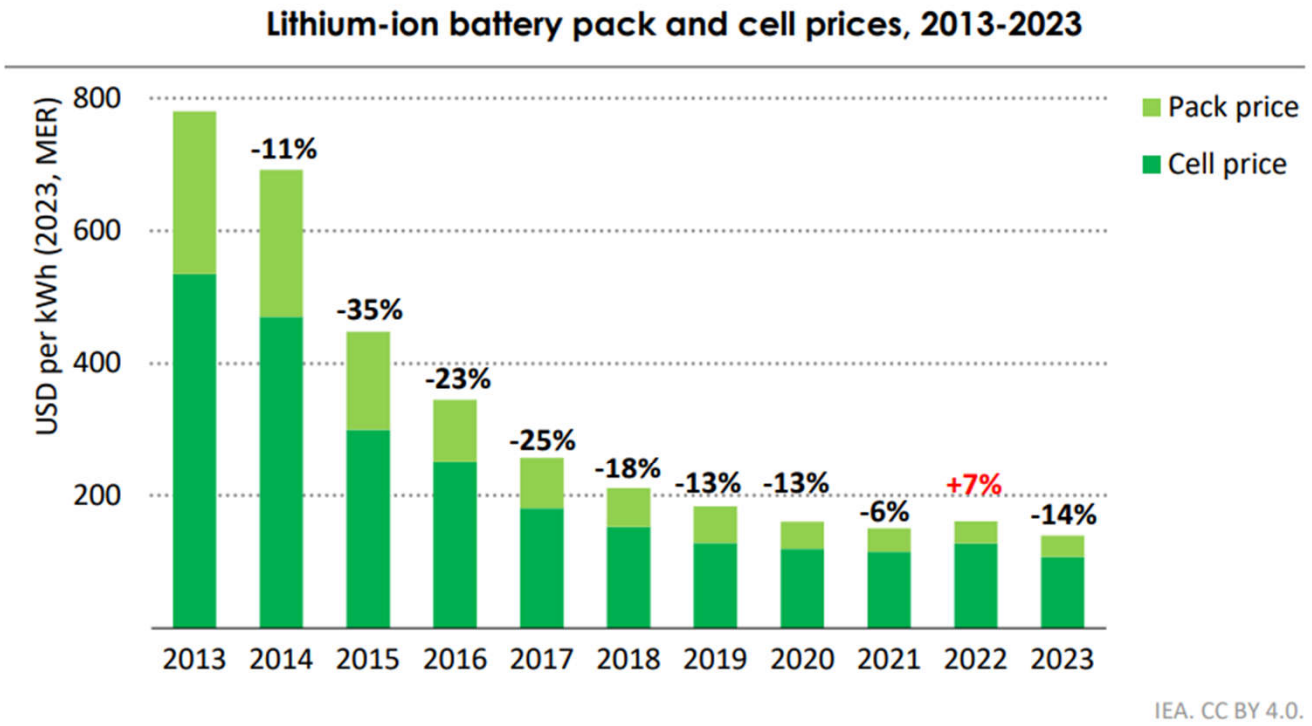
BESS Supercharges Grid and Renewables

- Ensures **peak energy** demands are met – functionally eliminating need for expensive gas or coal “peaker” plants
- Reduces need for **curtailing** – letting you capture more green energy when production exceeds demand (96 of 116 days had curtailing during peak production period in CA – Spring, 2024)
- Ensures greater **return on investment** for existing and future renewable facilities
- Regulates energy **grid voltage** with microsecond response times, preventing blackouts

Curtailment in CA – Gigawatt Hours!



Cost Curves Push Energy Industry to Act

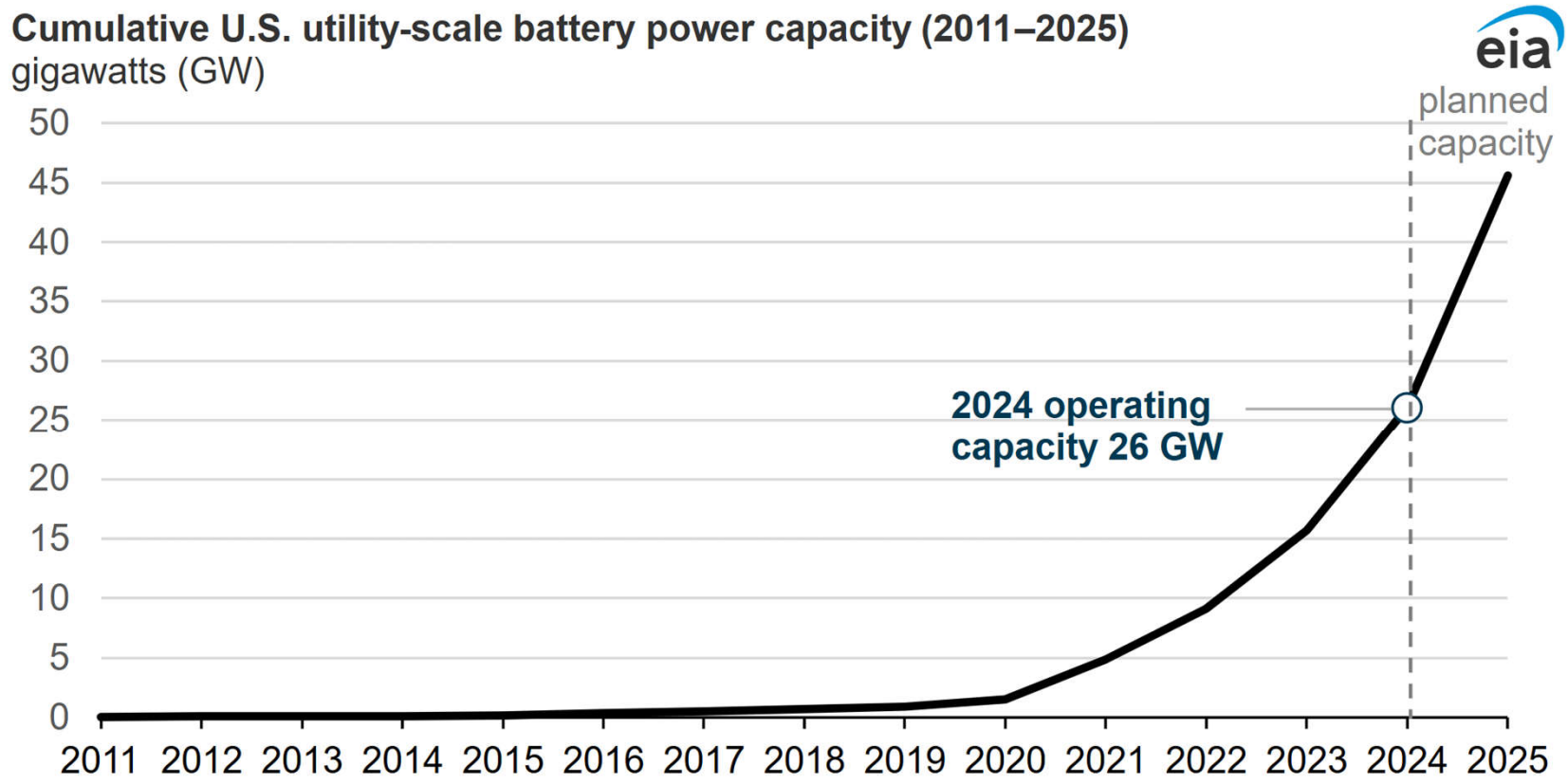


Prices for lithium-ion batteries steadily declined over the last decade with a spike in 2022, but dropping again in 2023

Notes: USD = US dollars, kWh = kilowatt-hours. Prices are weighted average across regions and chemistries.

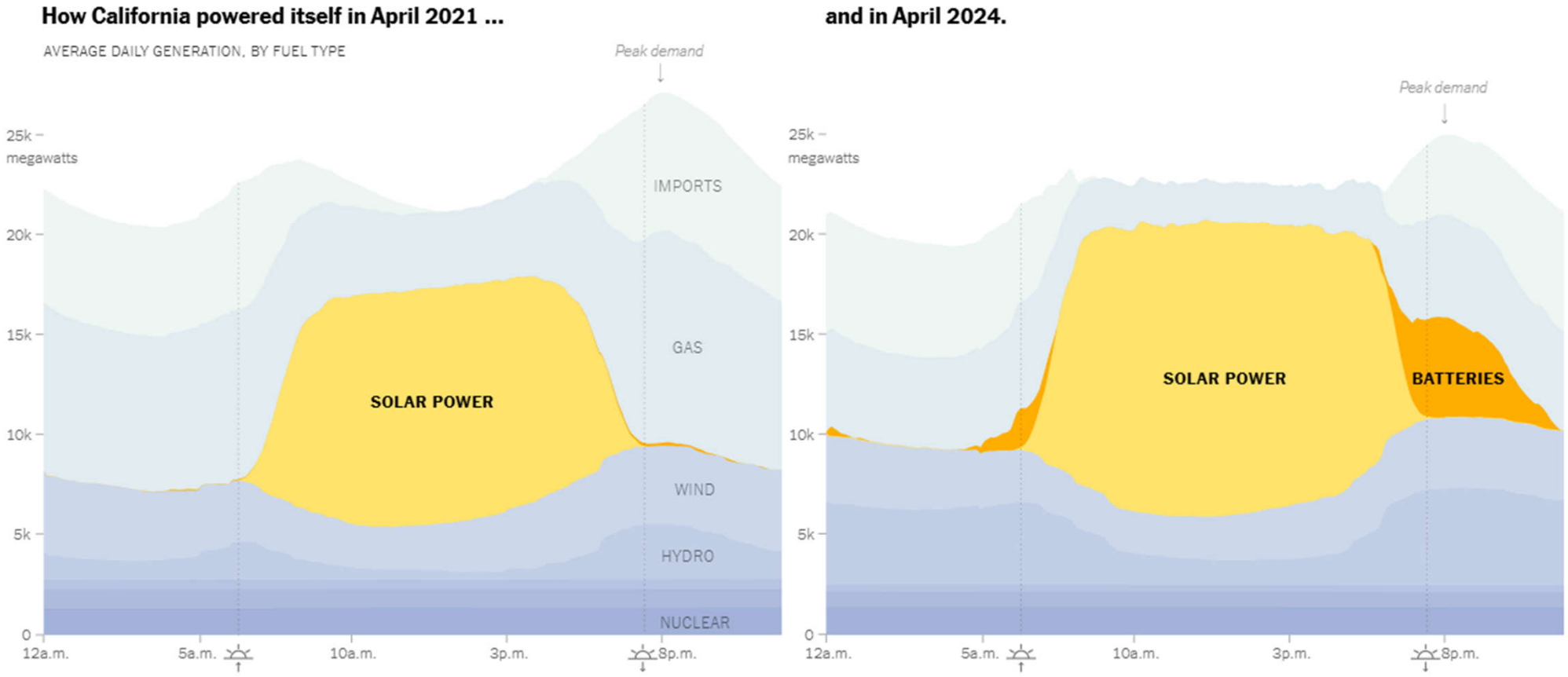
Source: IEA analysis based on BNEF (2023a).

Falling Prices Lead to Rapid Adoption



Data source: U.S. Energy Information Administration, Preliminary Monthly Electric Generator Inventory, January 2025

A Changing Grid



Batteries in Oregon*

*photo of BESS in Travis County, Texas

Approved by EFSC

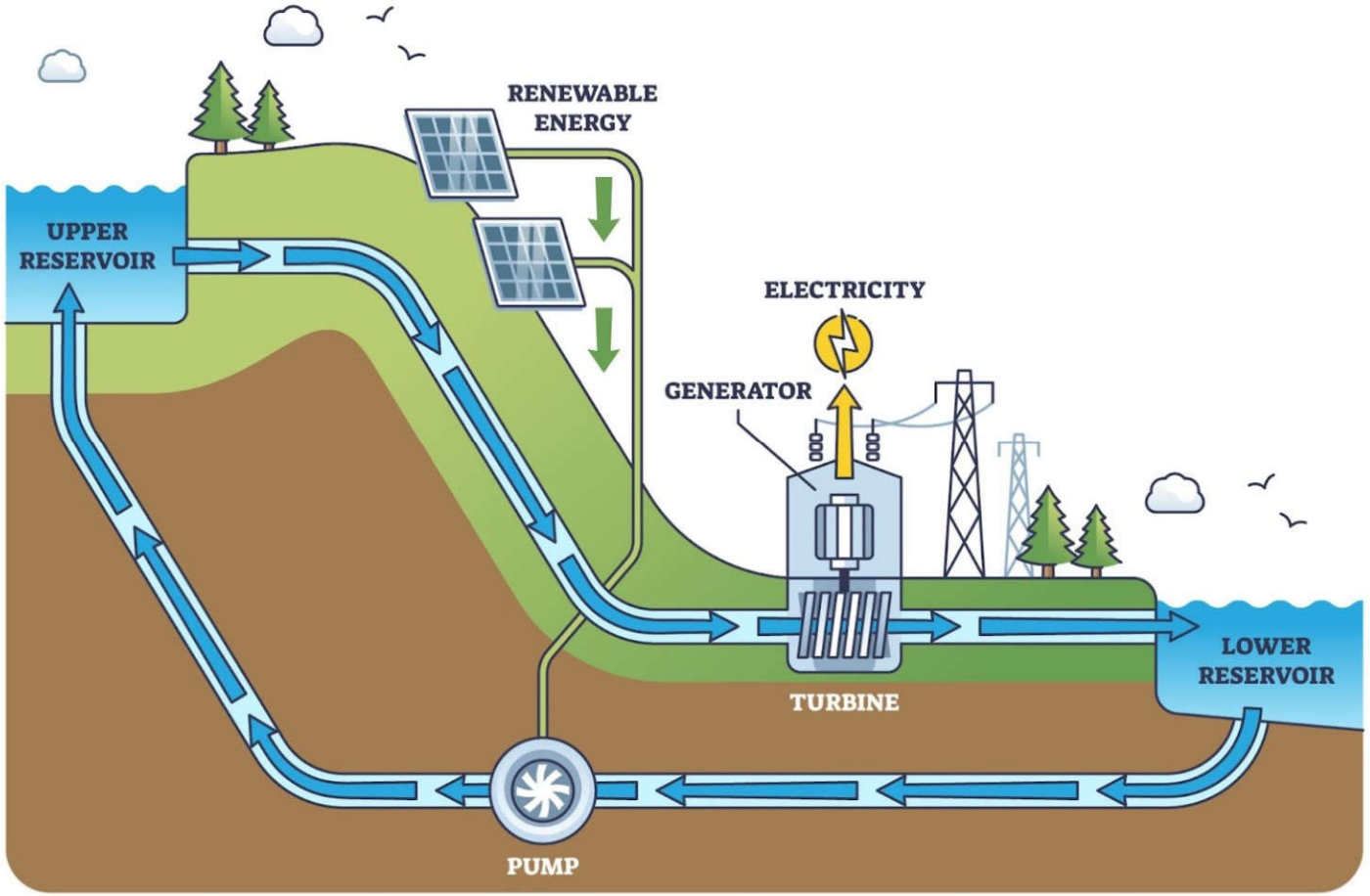
Facility	Type	Size	Operational?
Port Westward (Columbia County)	Lithium-ion	6 MW	Yes
Pachwáywit Fields (Gilliam County)	Lithium-ion	100 MW	Yes
Wheatridge (Morrow County)	Lithium-ion	30 MW	Yes
Bakeoven Solar (Wasco County)	Lithium-ion	303 MW	Under Construction
Nolin Hills (Umatilla County)	Lithium-ion	120 MW	No
Obsidian Solar Center (Lake County)	Vanadium Flow	50 MW	No
Madras Solar (Jefferson County)	Lithium-ion	63 MW	No
Wagon Trail Solar (Morrow County)	Lithium-ion + Zinc	2,000 MW	No
Sunstone Solar (Morrow County)	Lithium-ion + Zinc	1,200 MW	No
West End Solar (Umatilla County)	Lithium-ion	70 MW	No
Stateline Wind (Umatilla County)	Lithium-ion	50 MW	No

Proposed for Review by EFSC

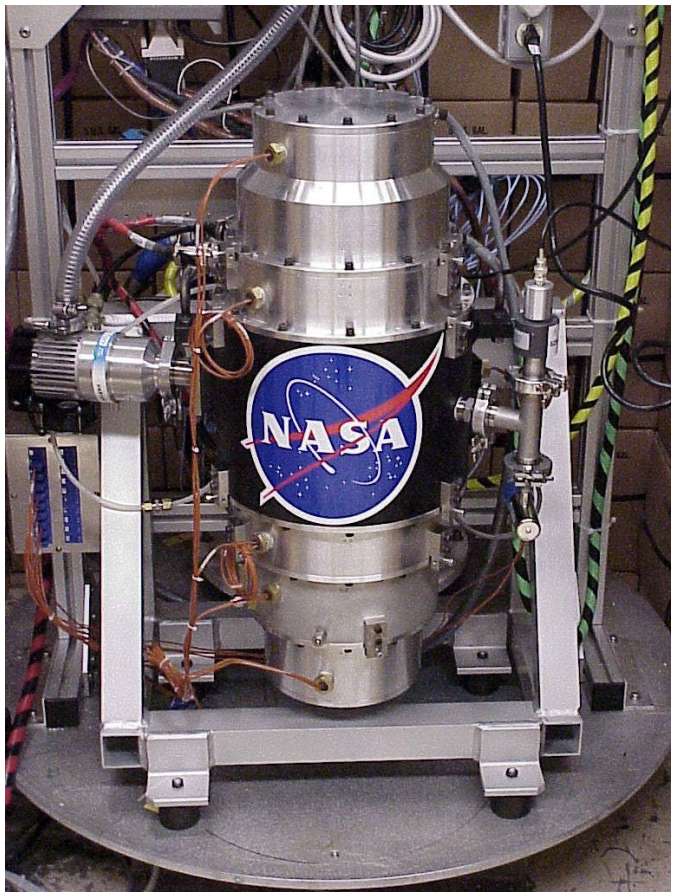
Facility	Type	Size
Summit Ridge (Wasco County)	Lithium-ion	201 MW
Buckley Solar (Sherman County)	Lithium-ion	1,200 MW
Sunrise (Morrow County)	Lithium-ion	800 MW
Deschutes (Wasco County)	Lithium-ion	1,000 MW

Battery Technology

Pumped Hydro

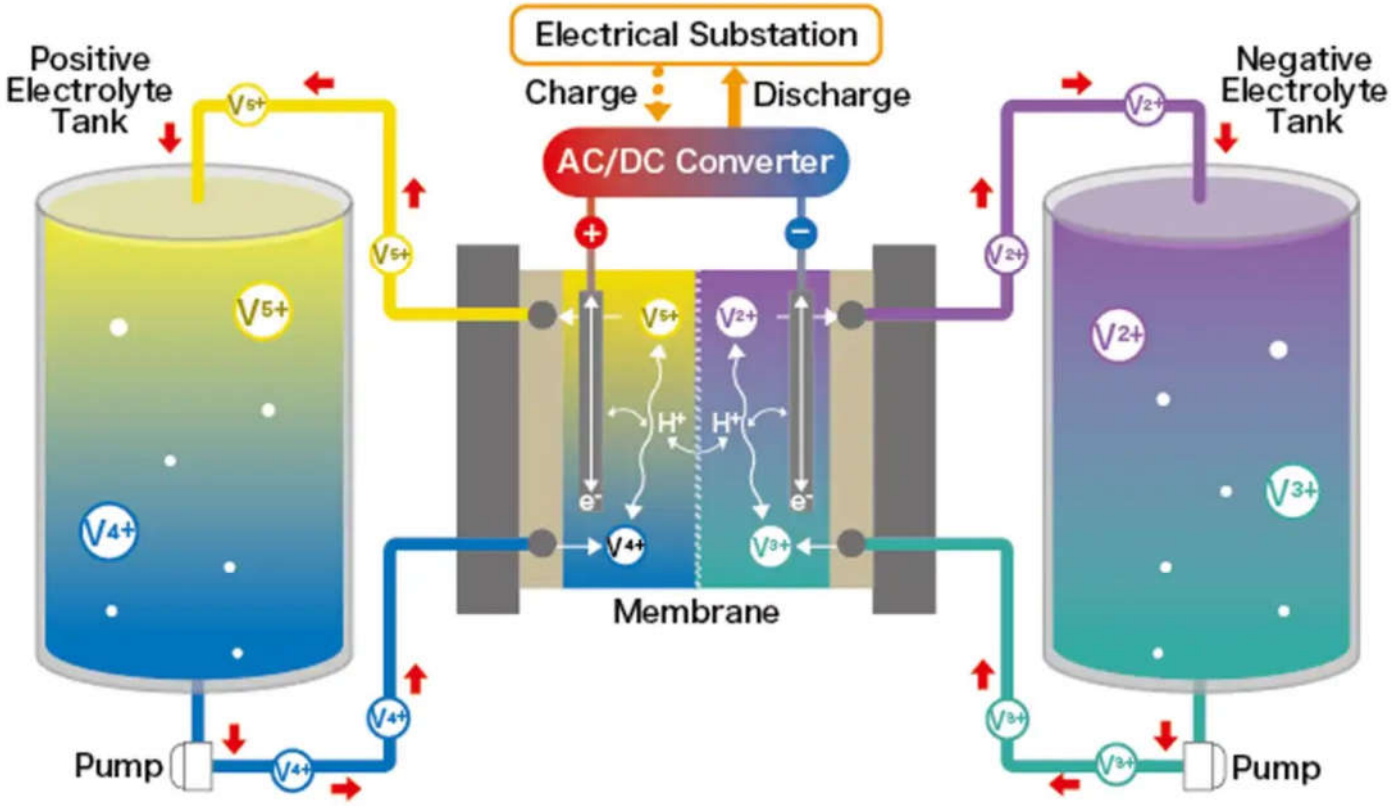


Flywheel



Thermal Battery

Vanadium Flow Redux



World's Largest Redux Flow BESS

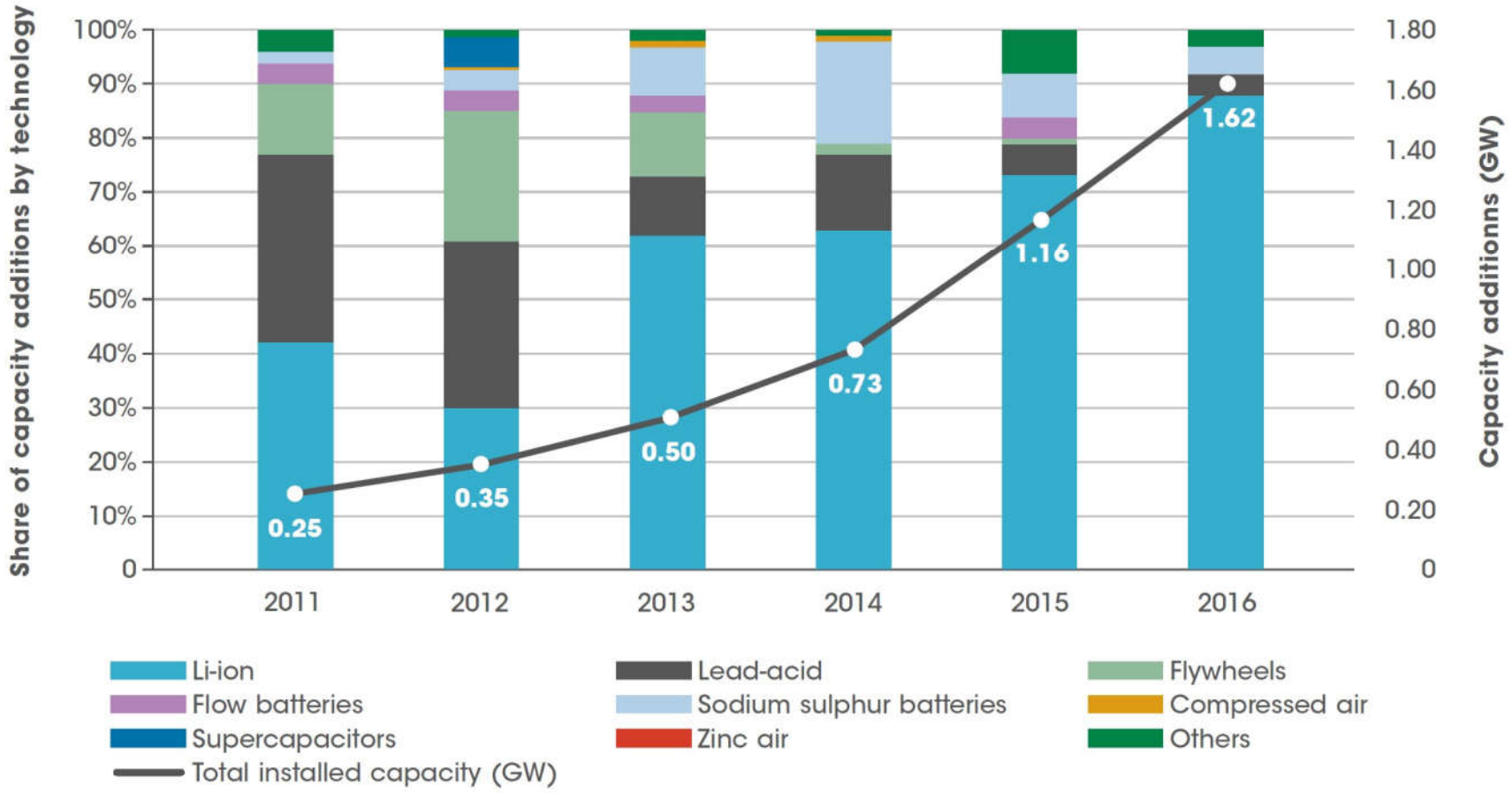
Lithium-ion Batteries

Key Active Material	Lithium-Iron Phosphate	Lithium Nickel Manganese Cobalt Oxide
Technology Short Name	LFP	NMC
Cathode	$LiFePO_4$	$LiNi_xMn_yCo_{1-x-y}O_2$
Anode	C (graphite)	C (graphite)
Safety		
Power Density		
Energy Density		
Cell Costs Advantage		
Lifetime		
BESS Performance		

Lithium-ion BESS Module

Photo credit: Fluence

Lithium-ion Used in Vast Majority of BESS



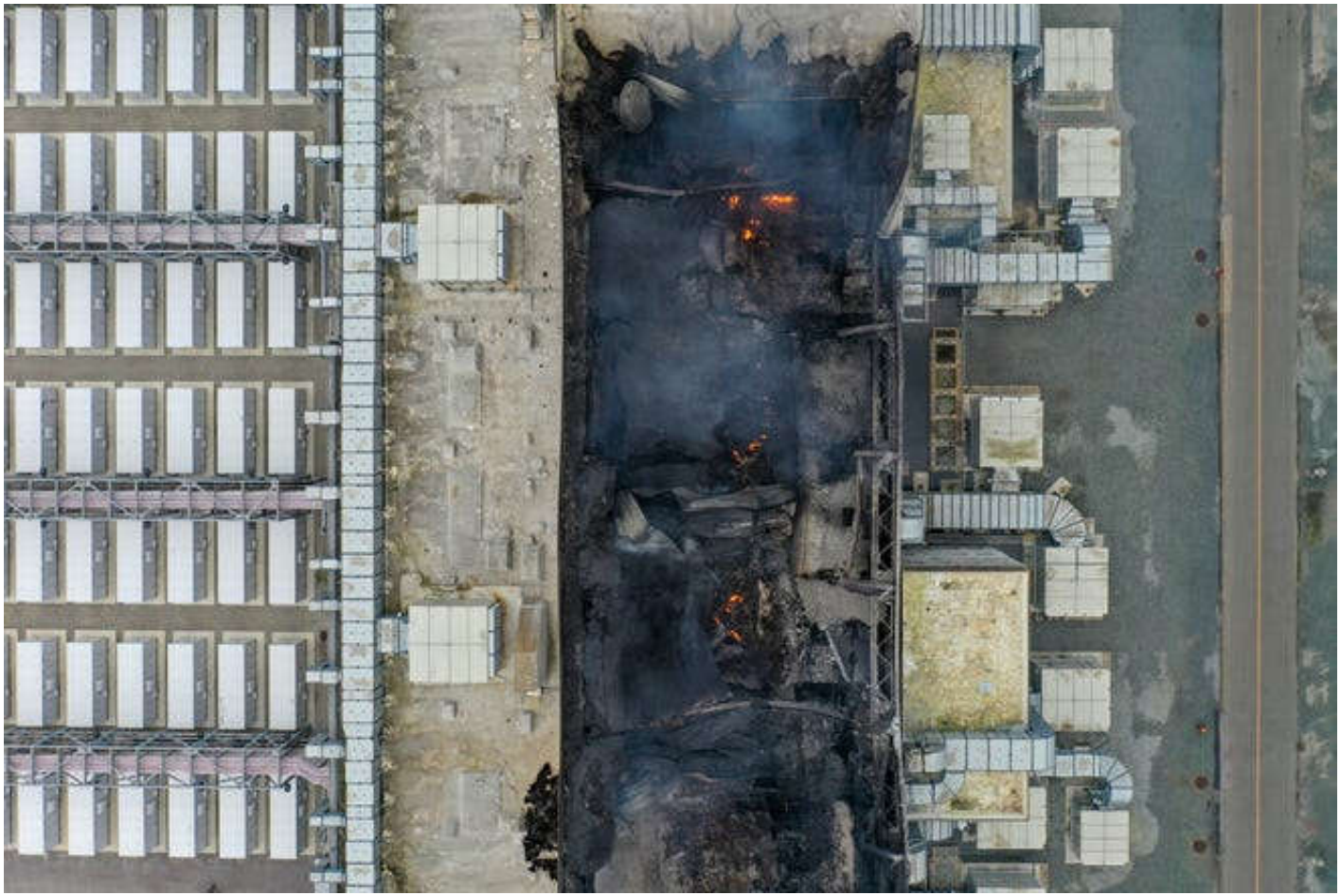
Suitability for BESS

Battery Type	Pros	Cons
Lithium-ion (NMC)	• High energy density (less land use) • Massive supply chain because used in auto industry	• Relatively short lifespan (1000-2000 cycles) • More prone to thermal runaway
Lithium-ion (LFP)	• Safer • Longer lasting (3,000 to 5,000 cycles)	• Lower energy density (less of a concern for BESS)
Zinc (Cell and Flow)	• Zinc is a relatively cheap element • Safer as it runs at a lower temperature	• Still being proven as a reliable alternative to lithium-ion, but already in use in some installations
Vanadium Redux	• Insane cycle length with nearly zero degradation over time • Can scale up to support longer (think 12+ hours instead of 4 hours) battery storage • No possibility of thermal runaway	• Low energy density and more land use • Currently more expensive per MW
Iron-air	• Ultra long-duration (100+ hours) • Incredibly safe	• Cannot be used for instant response • Very large footprint, looks like a water treatment plant on the land

Safety Issues

Moss Landing Used All-In-One Building

Surrounding Area Unharmed



Even a 300MW Li-ion Fire is Still Relatively Safe

EPA Completes Air Monitoring Near Moss Landing Vistra Battery Fire

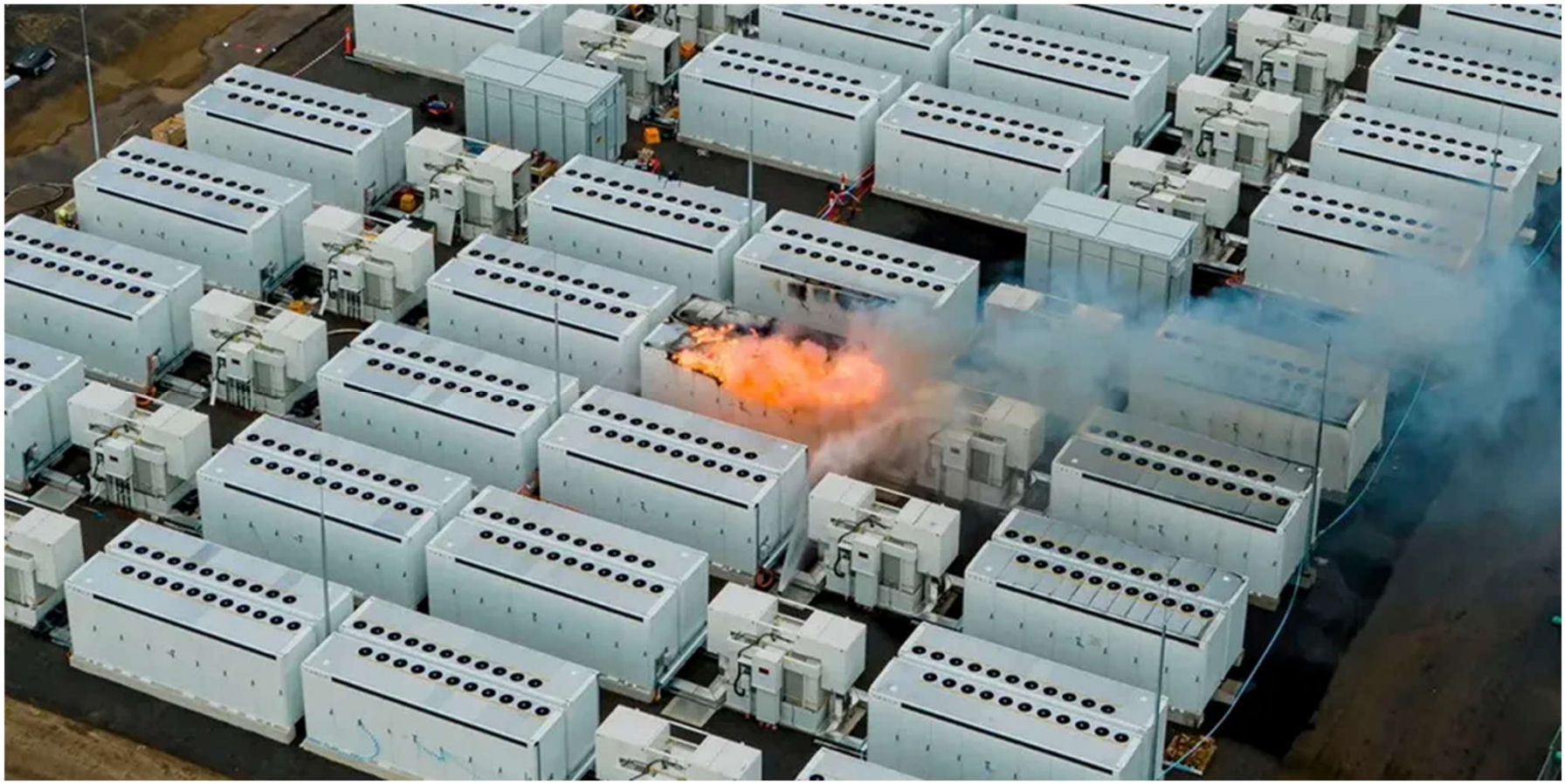
Emergency Response -- Monitoring by the state and Vistra will continue to watch for any risks to public health

January 20, 2025

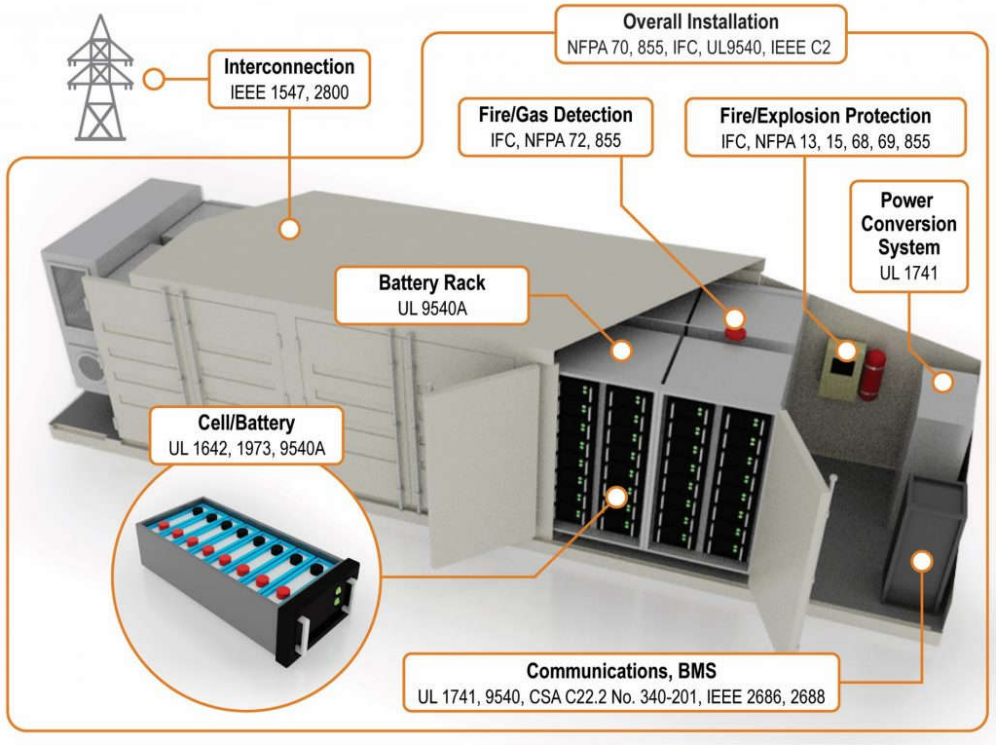
MONTEREY— On January 20, the U.S. Environmental Protection Agency (EPA) concluded supplemental air monitoring in the vicinity of the Vistra Energy battery power storage facility fire in Moss Landing, CA. Results for hydrogen fluoride and particulate matter showed no risk to public health throughout the incident, and smoke from the facility has greatly diminished. The EPA demobilized air monitoring operations after consultation with the Monterey County Incident Command for the Vistra fire.

Typical Li-ion BESS

Compartmentalization Reduces Risk

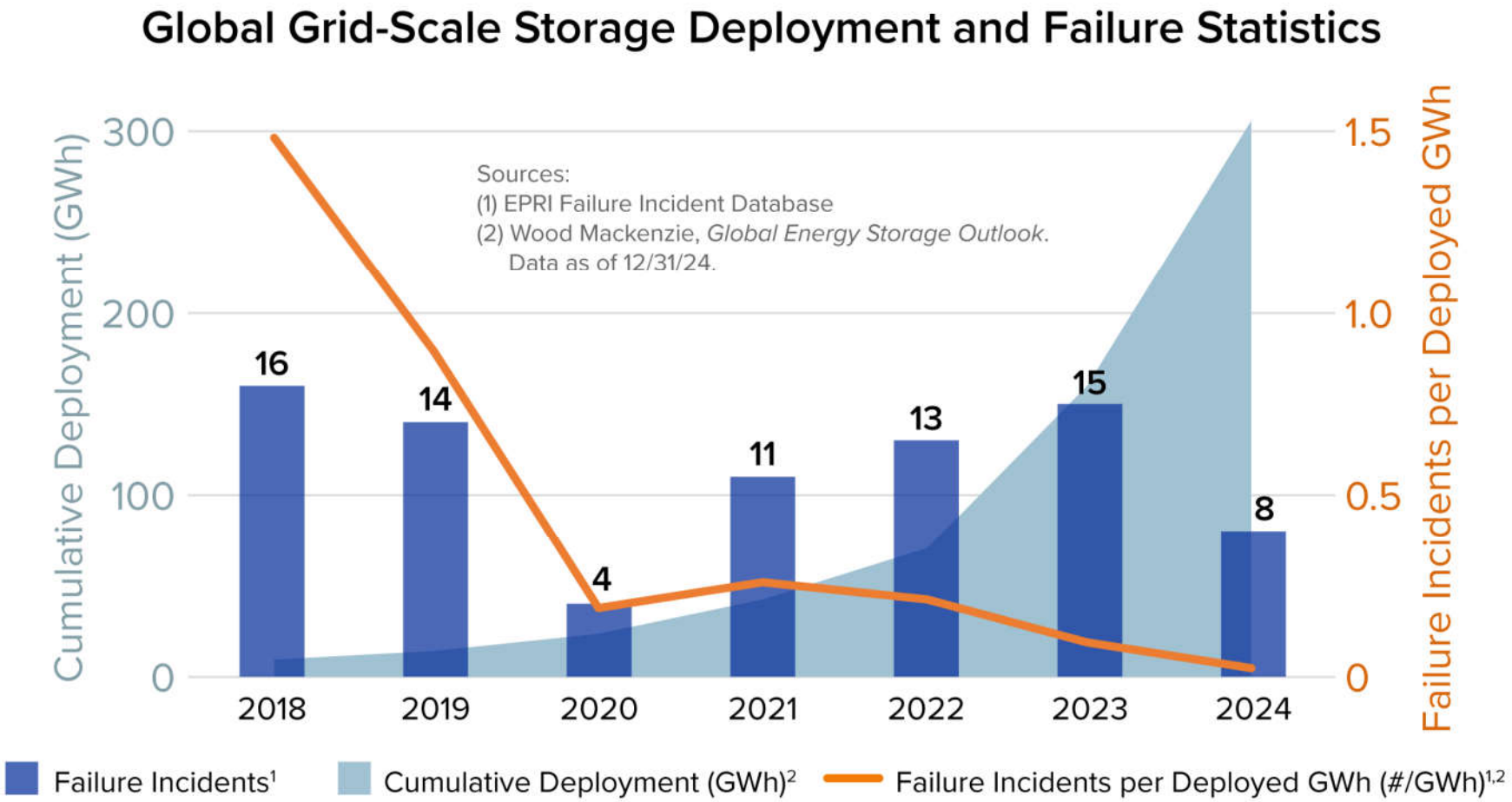


Safety Standards Are Rapidly Evolving



- UL 9540 – Requires robust fire prevention and response preparedness, explosion containment provisions, hazard detection sensitivity, and resistance to cascading failures.
- UL 9540A – Test methodology for proving fire safety and mitigation measures for thermal runaway.
- NFPA 855 (National Fire Protection Association) –mitigation standards for stationary storage systems.
- NFPA 68 – Passive explosion mitigation measures.
- NFPA 69 – Early detection and mitigation measures.

Newer BESS Installations Shown to be Safer



Recycling

NEWS ENERGY

Study: Recycled Lithium Batteries as Good as Newly Mined › Cathodes made with novel direct-recycling beat commercial materials

BY PRACHI PATEL | 15 OCT 2021 | 3 MIN READ |

BREAK

OREGON
DEPARTMENT OF
ENERGY

Agenda Item D
(Information Item)

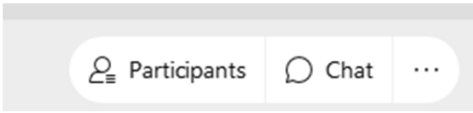
PUBLIC COMMENT

This time is reserved for the public to address the Council regarding any item within Council jurisdiction that is not otherwise closed for comment which includes the Obsidian Solar Center Amendment 2 Draft Proposed Order.

Time Limit – 7 Minutes per commentor

OREGON DEPARTMENT OF ENERGY

How to Raise Your Hand in Webex:



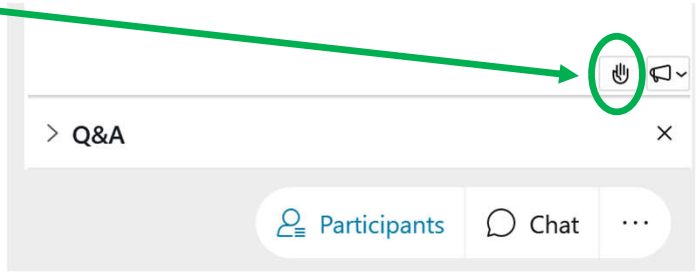
Webinar Participants

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

Click on “Participants”

The bottom right of the participant window is a hand icon, click on the hand:

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.

OREGON DEPARTMENT OF ENERGY

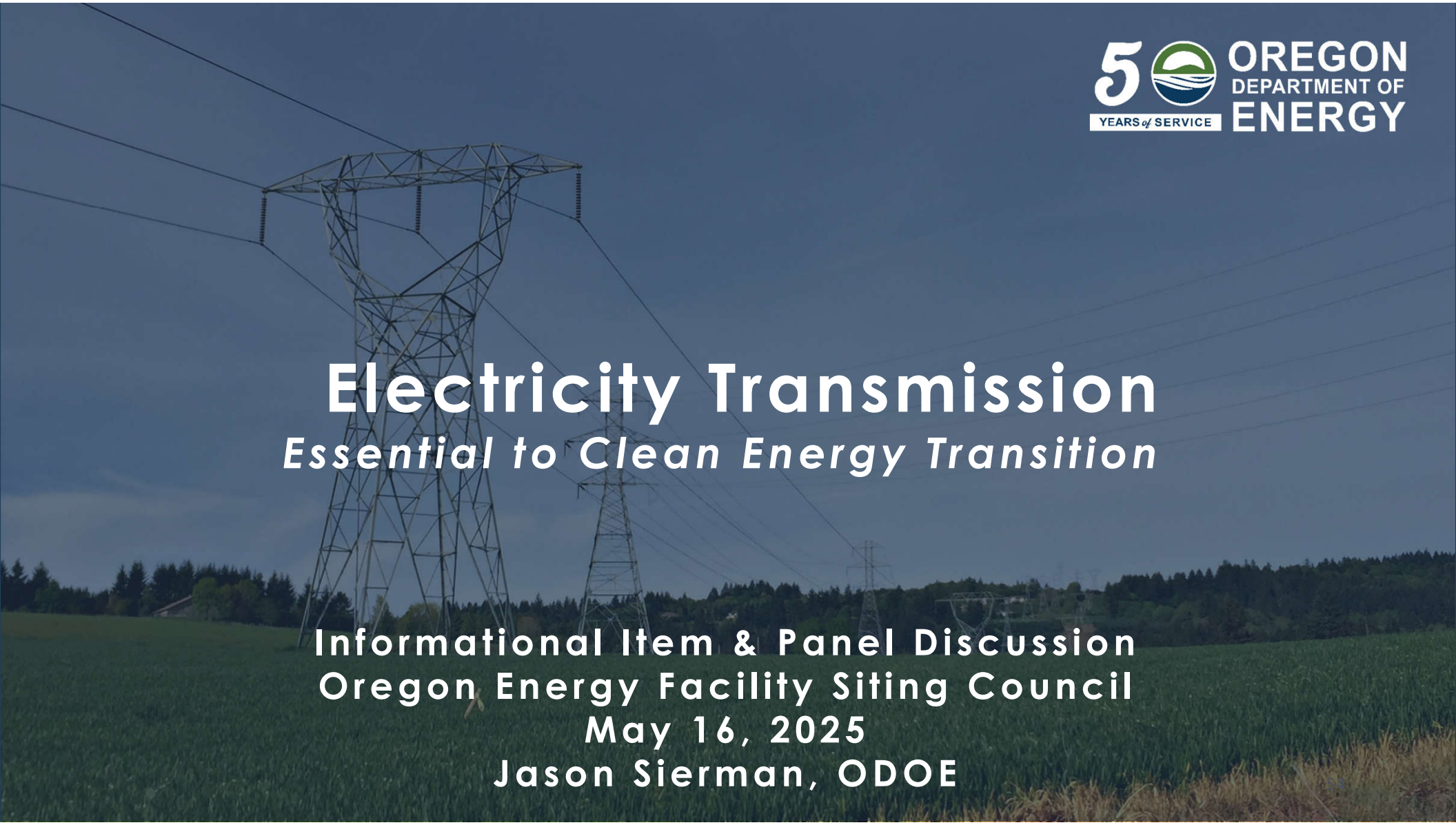
Agenda Item E
(Information Item)

Opportunities for increased distribution of transmission lines for Green Energy Connection

Jason Sierman, Senior Policy Analyst, ODOE

May 16, 2025

OREGON DEPARTMENT OF ENERGY



OREGON DEPARTMENT OF ENERGY
50 YEARS of SERVICE

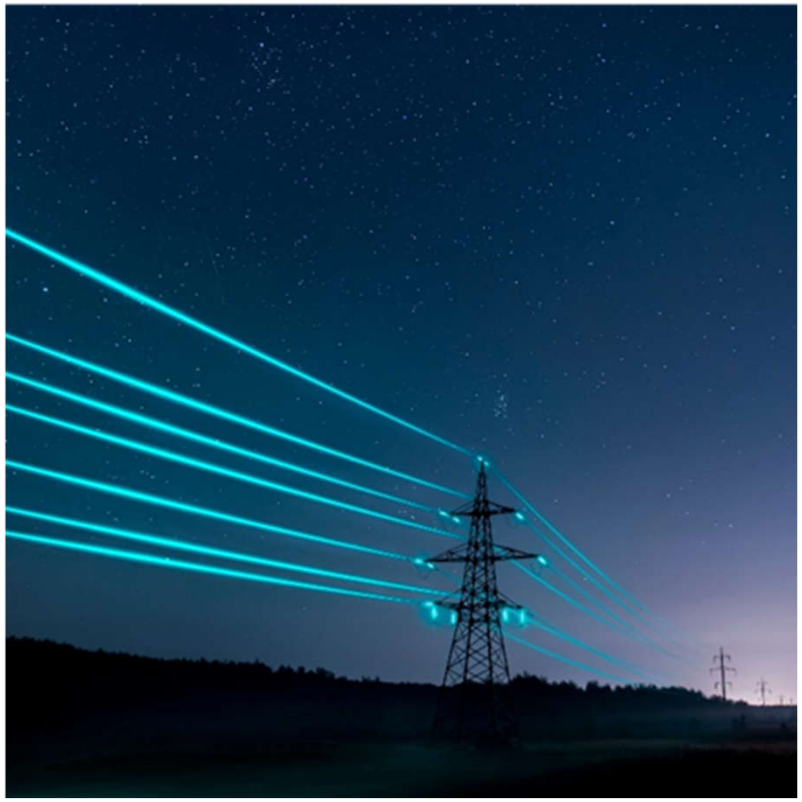
Electricity Transmission

Essential to Clean Energy Transition

Informational Item & Panel Discussion
Oregon Energy Facility Siting Council
May 16, 2025
Jason Sierman, ODOE

TODAY'S TOPICS

- Physical Power Grid
- Bilateral & Centralized Markets
- Regional Transmission Organizations
- Fragmented Transmission Service
- Why Market Footprints Matter
- Efforts on Transmission Planning & Cost Allocation



Common Theme:

Diverse demand, diverse supplies, diverse states, diverse policies.

Diversity is a strength not a weakness

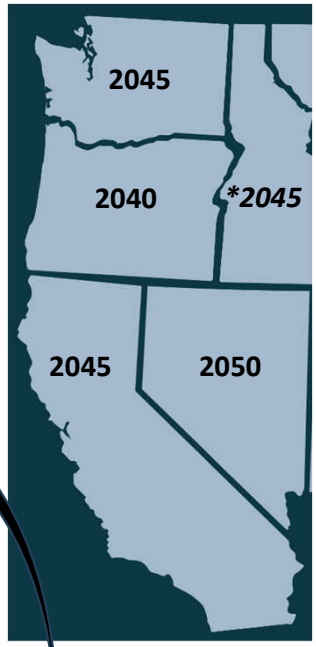
OREGON DEPARTMENT OF ENERGY
50 YEARS of SERVICE

MORE CLEAN ELECTRICITY AT THE RIGHT TIME & RIGHT PLACE

Common Themes: State, Region, West-Wide

Snapshot of States with 100% Clean Energy Targets

**Idaho Power & Avista Targets*



1) Electricity Load Growth

- Population growth
- Data center growth (Internet, A.I.)
- Weather (colder and hotter peaks)

Additional Load Growth

- Clean transportation (EVs)
- Clean buildings (Heat Pumps)

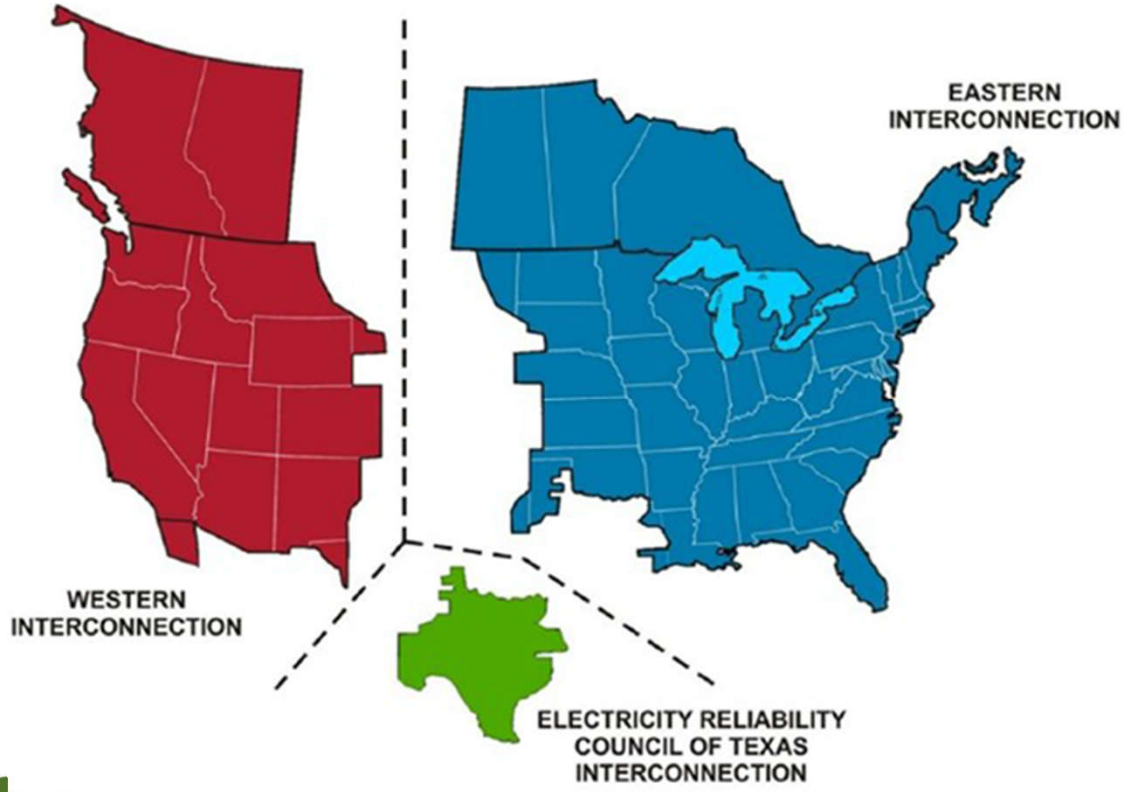
2) Extreme Weather Events

- Increased frequency & intensity/duration
  - Hotter heat waves
  - Colder cold snaps
- Changing precipitation
- Wildfires & windstorms

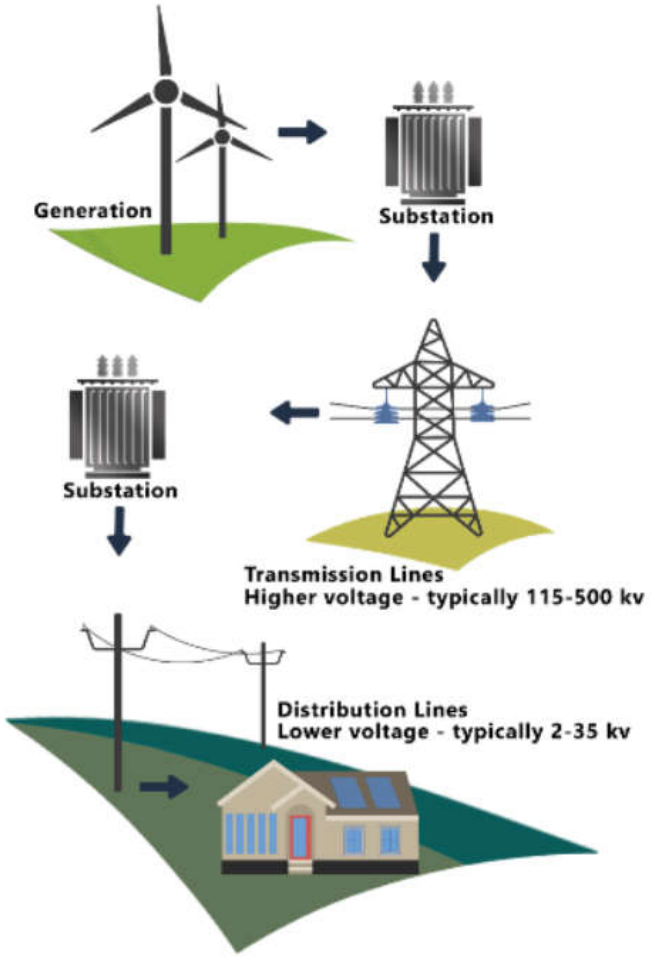
3) Clean Energy & Climate Policies

- **<u>Power grid policies</u>**
  - Ex. Oregon's 100% Clean x 2040 (HB 2021)
- **<u>Economy-wide policies</u>**
  - Ex. Oregon's 90% Decarb x 2050 (ODEQ – CPP)

VISUALIZING THE POWER GRID
Network of Systems

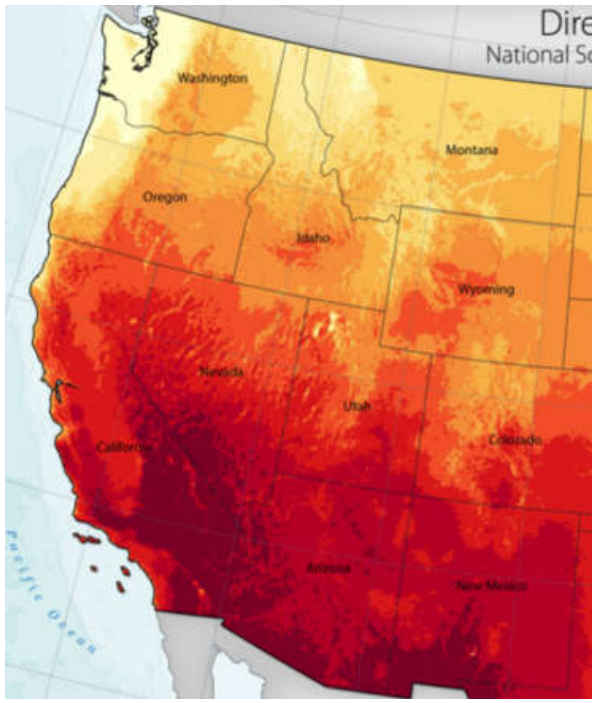


Source: US DOE

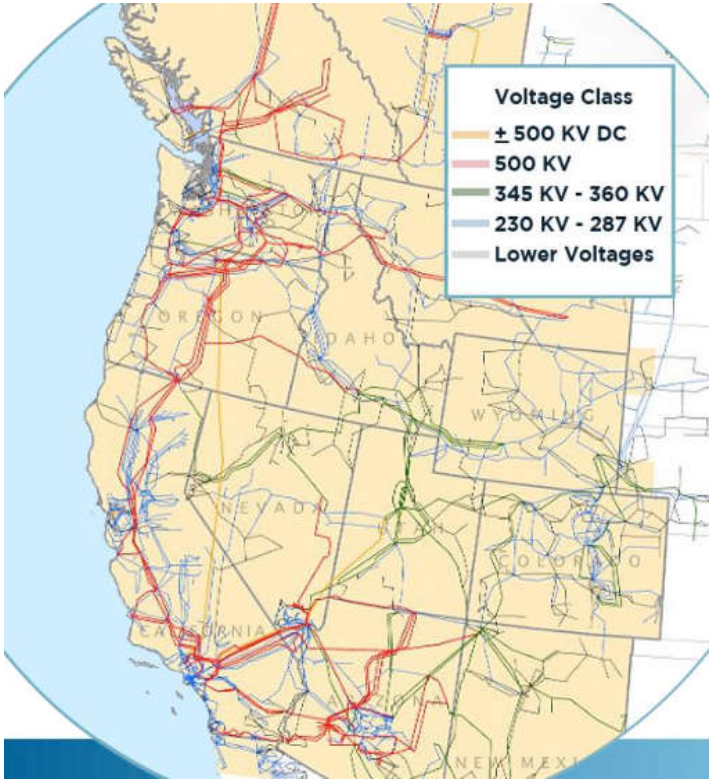


OREGON DEPARTMENT OF ENERGY

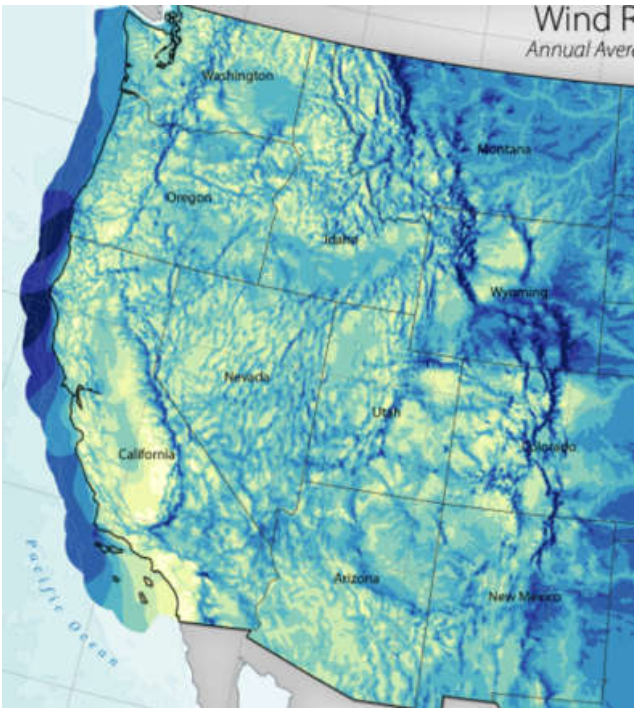
LOCATION OF LARGE LOADS AND LARGE VOLUMES OF LOW-COST ELECTRICITY DRIVE TRANSMISSION EXPANSION



Source: NREL



Source: GridWorks



Source: NREL

OREGON DEPARTMENT OF ENERGY
50 YEARS of SERVICE

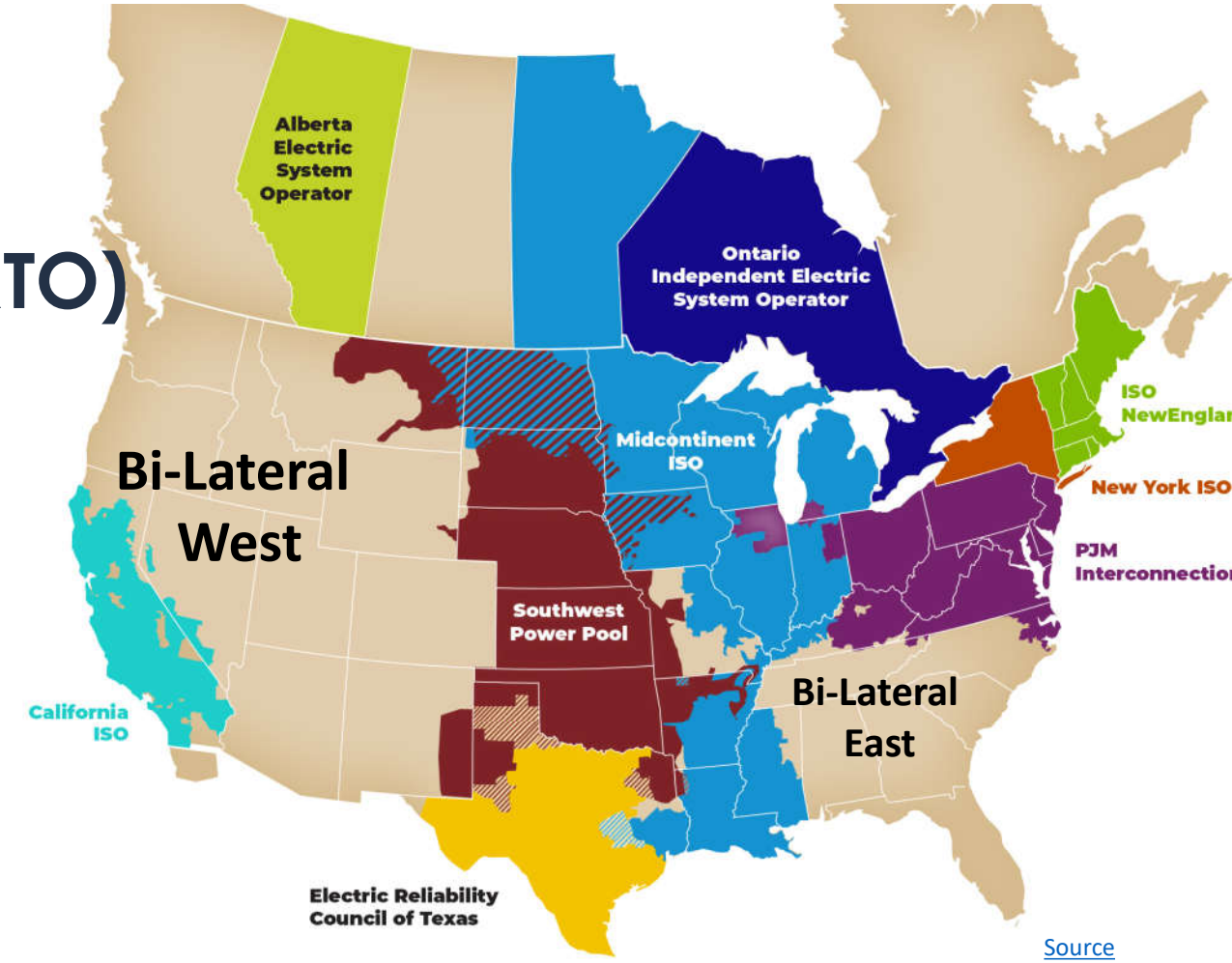
BILATERAL MARKETS

- Dominate the West and Southeast
- **Fragmented market:** individual utilities operate their own resources and transmission systems to serve individual utility demand
- Fragmented transmission planning and development

Source

REGIONAL TRANSMISSION ORGANIZATIONS (RTO)

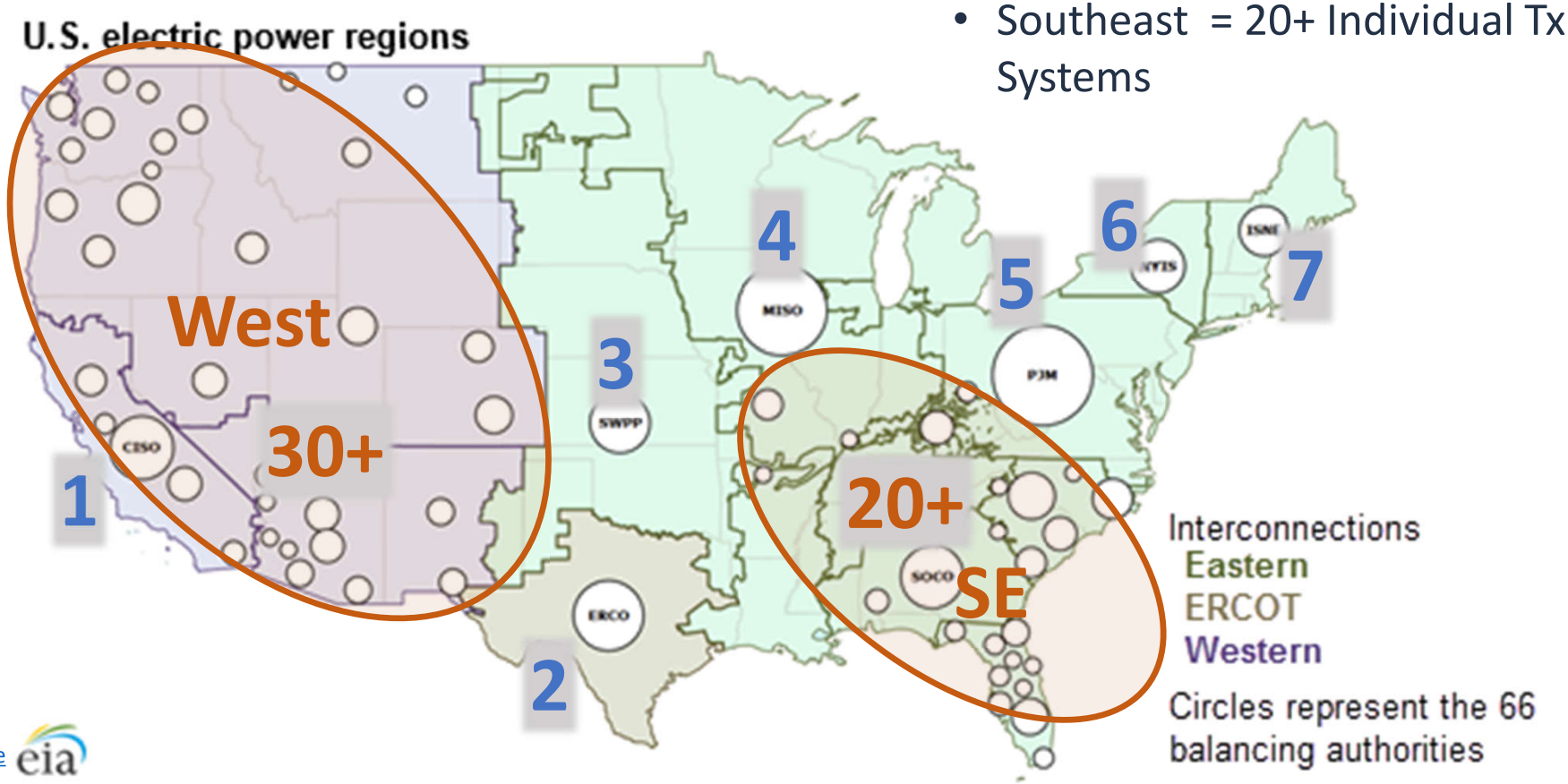
- Shown as the colored areas on map
- **Centralized market:** independent entity schedules pooled resources across pooled transmission to serve pooled demand
- Centralized transmission planning and development



Source

CIRCLES OF CONTROL: TRANSMISSION SYSTEM CONTROL AREAS

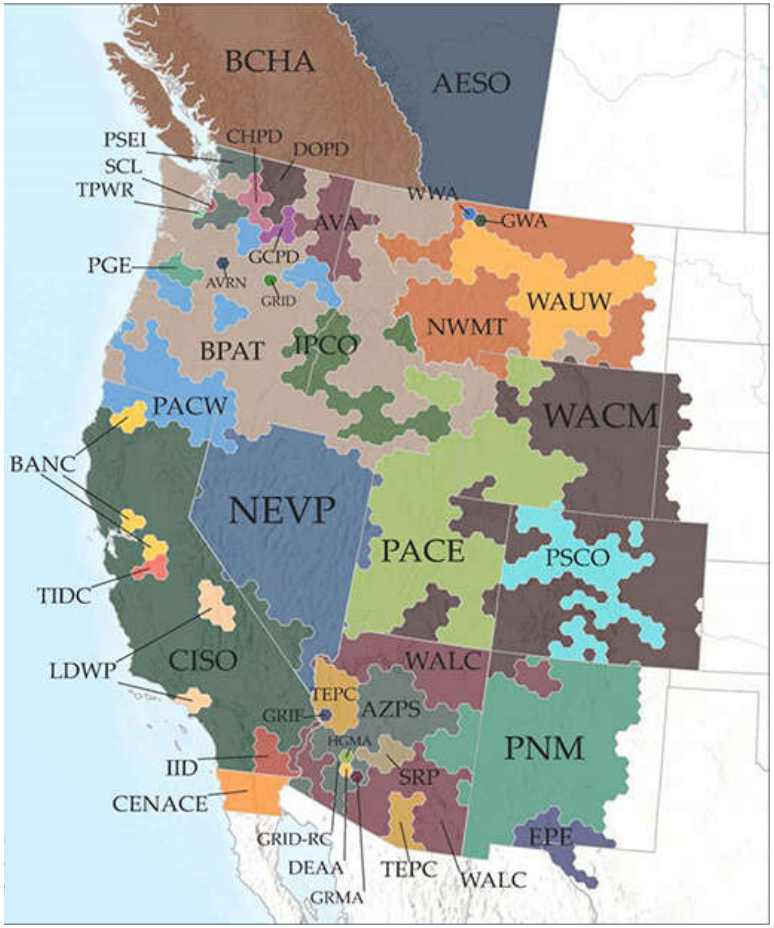
- **Centralized:** 7 RTOs, each **a single transmission system**
- **Fragmented:** Outside the 7 RTOs
  - West = 30+ Individual Tx. Systems
  - Southeast = 20+ Individual Tx. Systems



Source eia

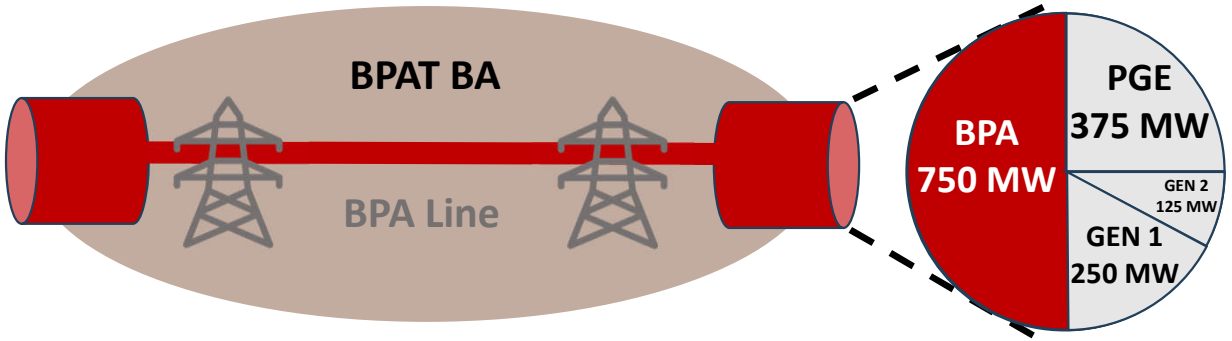
FRAGMENTED TRANSMISSION SERVICE

Balancing Authority Areas



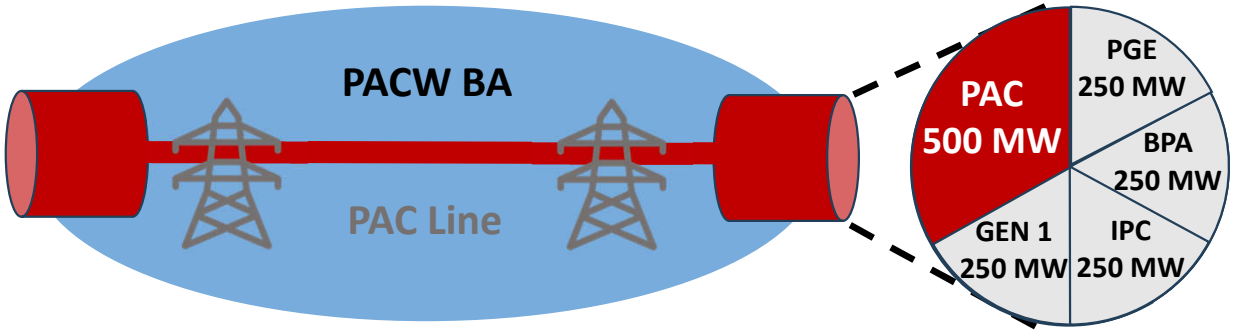
Source: WECC

Transmission Service Rights



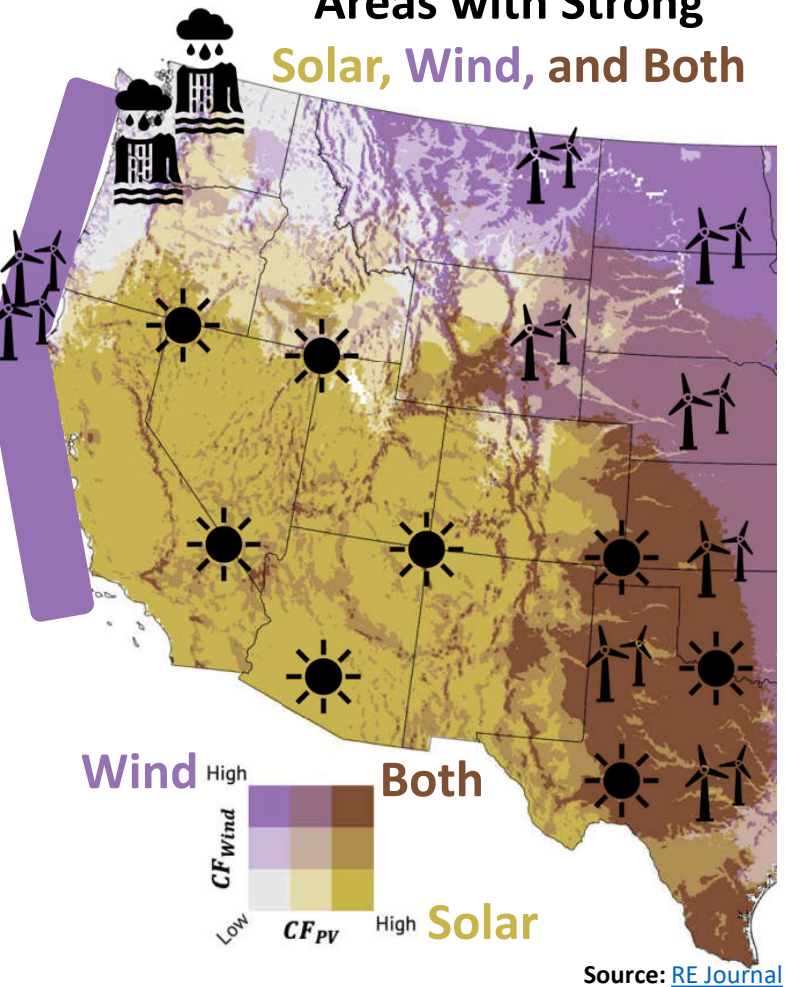
Owners/Operators of Transmission Lines

500 kV Line = 1,500 MW



Why Market Footprints Matter?

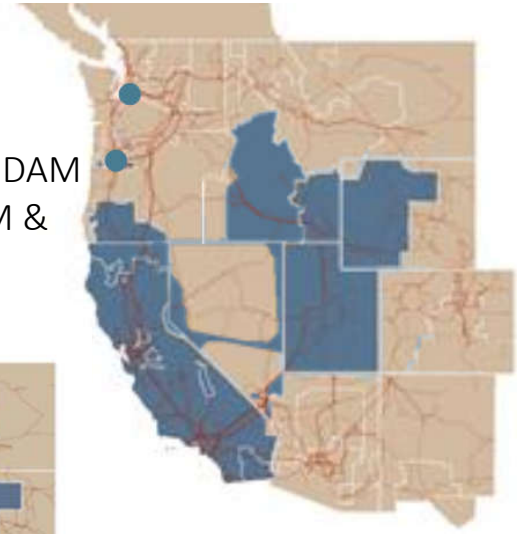
Areas with Strong
Solar, Wind, and Both

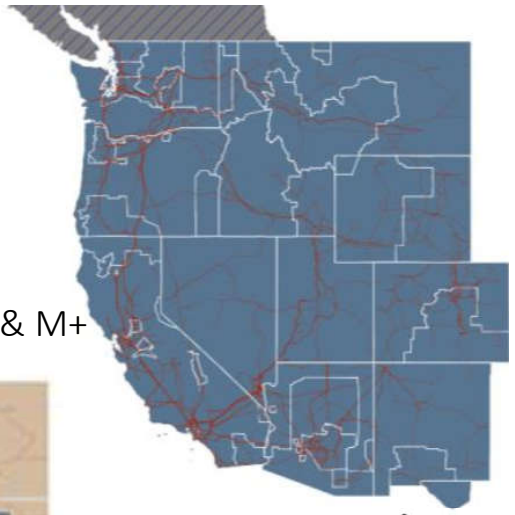


Source: RE Journal

- Large
- Contiguous
- No seams between EDAM
- Seam between EDAM & M+

- Smaller
- Noncontiguous
- Seams between EDAM
- Seams between EDAM & M+





- Largest
- Contiguous
- No Seams

Source: E3 for BPA

Extended Day-Ahead Market (EDAM)

Markets+ (M+)

Credit: Greg MacDonald, PSE

ADDITIONAL EFFORTS ON TRANSMISSION PLANNING AND COST ALLOCATION

WestTEC Transmission Study

- https://www.westernpowerpool.org/about/programs/western-transmission-expansion-coalition
  - West-wide study identifying "actionable" regional/interregional transmission expansion projects
  - May identify expansion projects similar to those a West-wide RTO planning process could identify

FERC ORDER 1920

- https://www.ferc.gov/news-events/news/fact-sheet-building-future-through-electric-regional-transmission-planning-and
  - Federal order requiring a 20-year outlook for regional transmission planning (currently a 10-years)
  - Requires more state involvement in regional transmission planning and cost allocation decisions

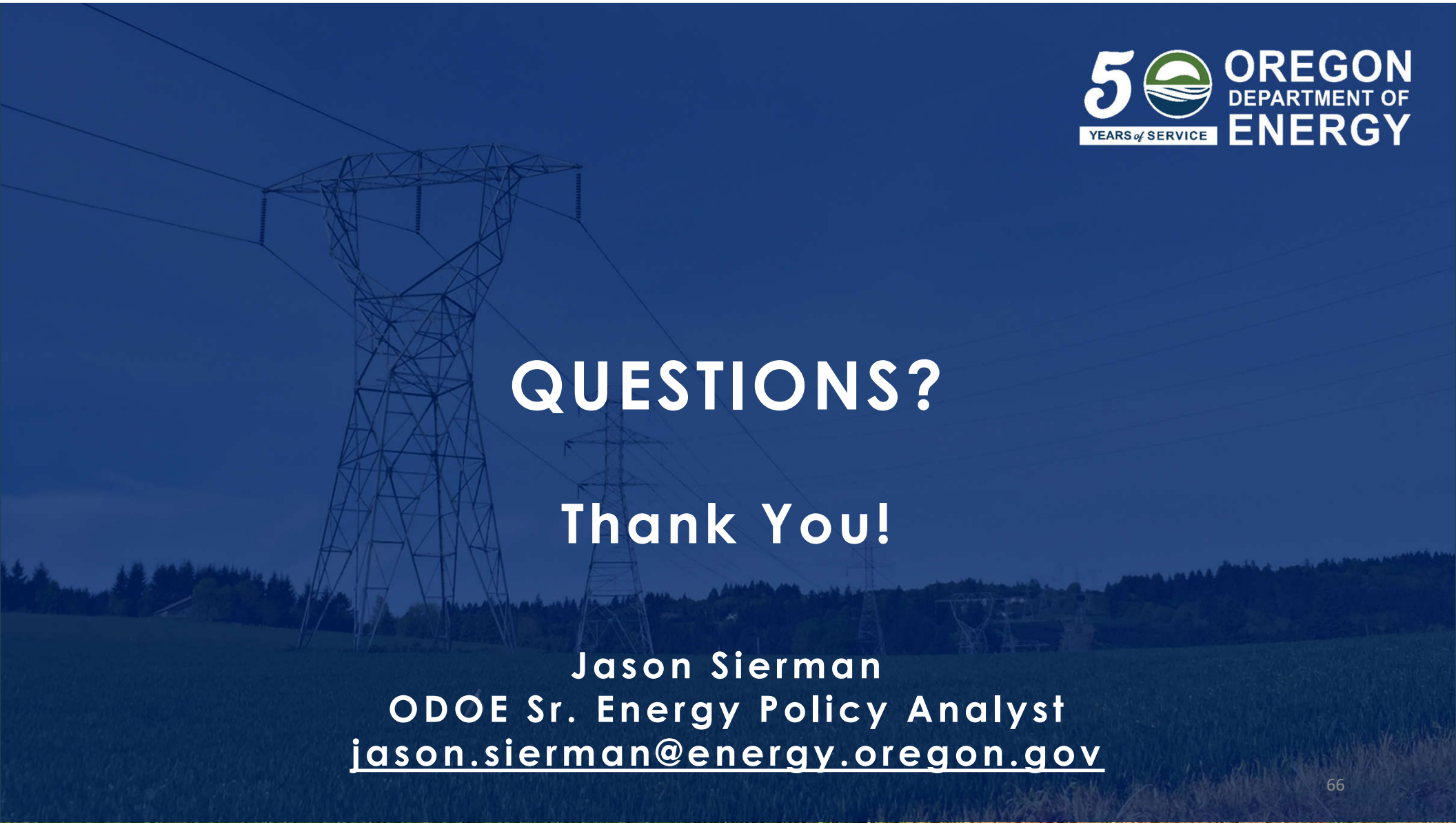
CREPC TC

- https://www.westernenergyboard.org/crepc-transmission-collaborative/
  - Western states exploring transmission cost allocation frameworks
  - Case studies applying frameworks to hypothetical transmission projects

ADDITIONAL EFFORTS ON TRANSMISSION PLANNING AND COST ALLOCATION (Continued)

State Transmission Authorities

- Primary authorities include:
  - Conduct state-wide transmission planning,
  - Collaborate with incumbent transmission owners and merchant developers, and
  - Issue general bonds to help finance the construction of new transmission expansion projects
- Exist in many western states: ID, WY, CO, NM, ND & SD, KS
- 2025 Legislation: OR, WA, MT



QUESTIONS?

Thank You!

Jason Sierman
ODOE Sr. Energy Policy Analyst
jason.sierman@energy.oregon.gov

WORKING LUNCH BREAK

OREGON DEPARTMENT OF ENERGY

Agenda Item F
(Information Item)

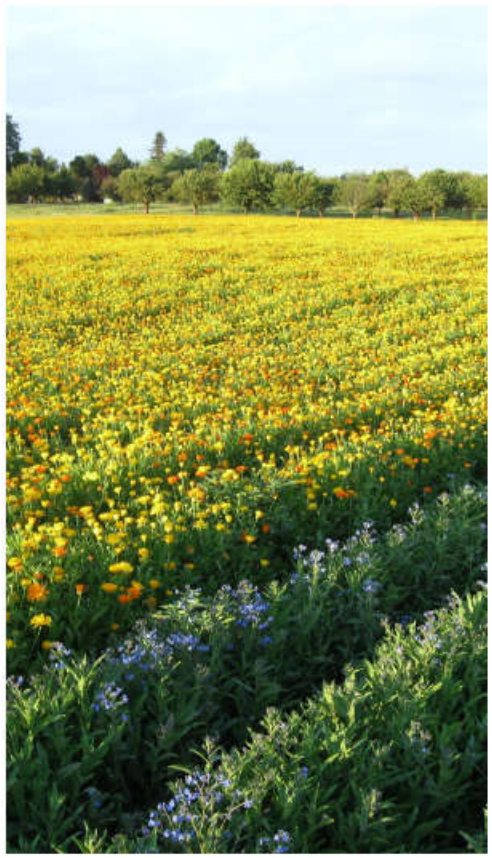
Department of Land Conservation and Development Rule Update

Hilary Foote, Farm and Forest Specialist, LCDC

May 16, 2025

OREGON
DEPARTMENT OF
ENERGY

DLCD



Farm & Forest Modernization Rulemaking

January 31, 2025

Hilary Foote, Farm and Forest Specialist

Proposed Rulemaking Components

1. Codification of Common Law

- **ORS 215.296 Farm impacts Test**
- Agritourism events standards
- Transportation Facilities on Rural Lands.
- Private Parks

2. Proposed Rule Amendments for Other Items

- Preparation of Farm Products
- Income Verification
- Home Occupation

3. Conforming Rulemaking

Farm Impacts Test OAR 660-033-0130

(5) Approval requires review by the governing body or its designate under ORS 215.296. Uses may be approved only where such uses:
(a) Will not force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; and
(b) Will not significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use.

(c) For purposes of subsection (a) and (b), a determination of forcing a significant change in accepted farm or forest practices on surrounding lands devoted to farm and forest use or a determination of whether the use will significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use requires:

(A) Identification and description of the surrounding lands, the farm and forest operations on those lands, and the accepted farm practices on each farm operation and the accepted forest practices on each forest operation;

(B) An assessment of the individual impacts to each farm and forest practice, and whether the proposed use is likely to have an important influence or effect on any of those practices; This assessment applies practice by practice and farm by farm; and

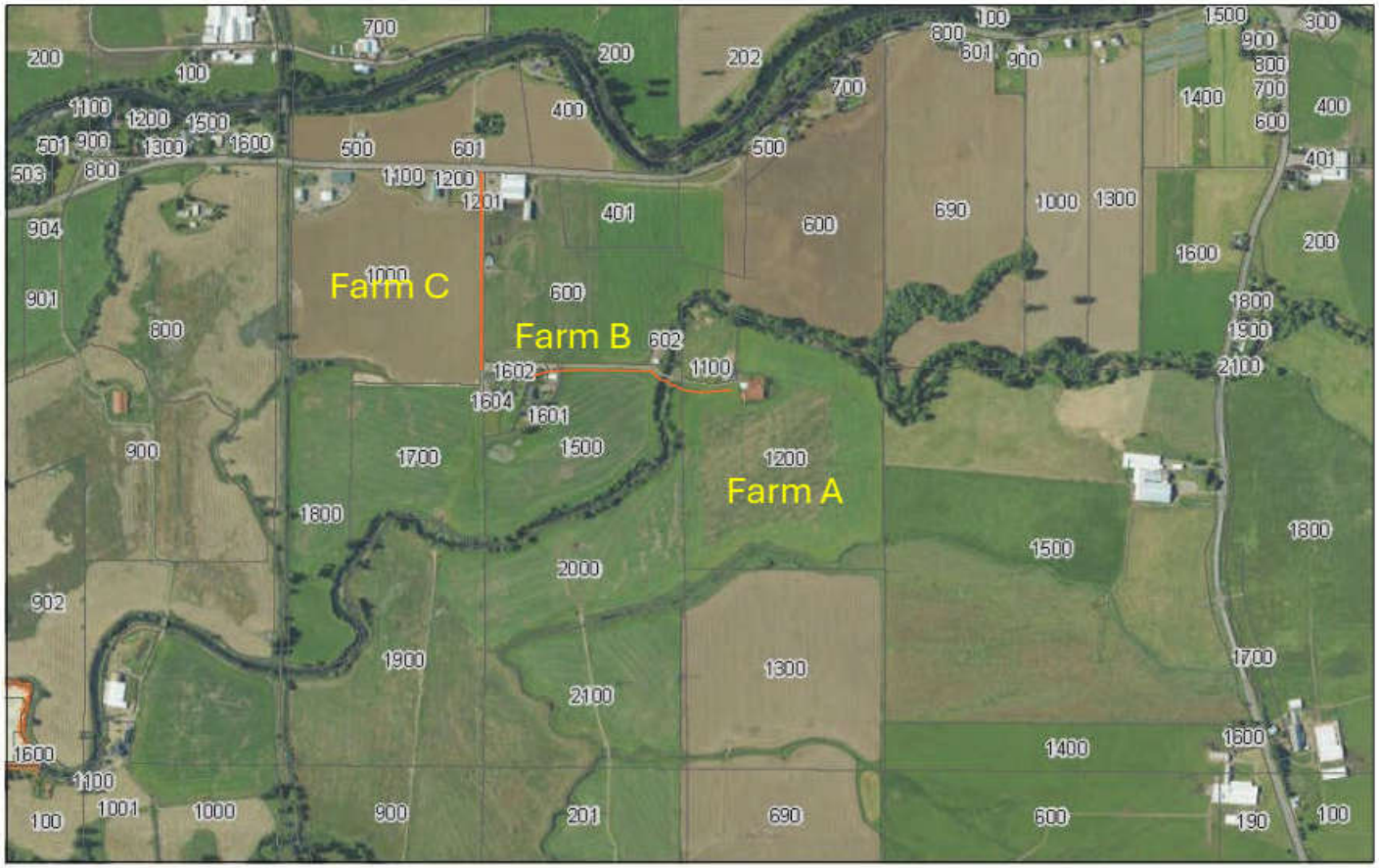
(C) An assessment of whether all identified impacts of the proposed use when considered together could have a significant impact to any farm or forest operation in the surrounding area in a manner that is likely to have an important influence or effect on that operation.

(D) For purposes of this subsection, examples of potential impacts for consideration may include but are not limited to traffic, water availability and delivery, introduction of weeds or pests, damage to crops or livestock, litter, trespass, reduction in crop yields, or flooding.

(E) For purposes of subsection (a) and (b), potential impacts to farm and forest practices or the cost of farm and forest practices, impacts relating to the construction or installation of the proposed use shall be deemed part of the use itself for the purpose of conducting a review under subsection (a) and (b).

(F) In the consideration of potentially mitigating conditions of approval under ORS 215.296(2), the governing body may not impose such a condition upon the owner of the affected farm or forest land or on such land itself, nor compel said owner to accept payment to compensate for the significant changes or significant increases in costs described in subsection (a) and (b).

Farm Impacts Test OAR 660-033-0130



Farm and Forest Modernization Rulemaking

Farm and Forest Modernization Program:

https://www.oregon.gov/lcd/ff/pages/cpip.aspx

Farm and Forest Modernization Rulemaking:

https://www.oregon.gov/lcd/LAR/Pages/FarmForestRule.aspx

Rulemaking Staff Report:

https://www.oregon.gov/lcd/Commission/Documents/202412_Item_4_FFRulemaking_Combined.pdf

Oregon Administrative Rules:

https://secure.sos.state.or.us/oard/displayChapterRules.action?selectedChapter=124

Questions:

Hilary Foote
Farm/Forest Lands Specialist
hilary.foote@dlcd.oregon.gov

DLCD

Department of Land Conservation & Development

Questions:

Hilary Foote
Farm/Forest Lands Specialist
hilary.foote@dlcd.oregon.gov

Agenda Item G
(Information Item)

Soil and Structure Standard Review

Sarah Esterson, Senior Operations & Policy Analyst, ODOE

May 16,2025

OREGON
DEPARTMENT OF
ENERGY

Structural Standard (OAR 345-022-0020)

Public Health and Safety Impacts from Seismic and Non-Seismic Hazards at the Site

To comply with the standard, Council must have the ability to make the following affirmative findings:

(a) The applicant, through appropriate site specific study, has adequately characterized the seismic hazard risk of the site.

(b) The applicant can design, engineer, and construct the facility to avoid dangers to human safety and the environment presented by seismic hazard affecting the site, as identified in subsection (1)(a).

(c) The applicant, through appropriate site-specific study, has adequately characterized the potential geological and soils hazards of the site and its vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the construction and operation of the proposed facility; and

(d) The applicant can design, engineer and construct the facility to avoid dangers to human safety and the environment presented by the hazards identified in subsection (c).

Structural Standard (OAR 345-022-0020)

Public Health and Safety Impacts from Seismic Hazards at the Site

How does an analyst evaluate compliance with the standard?

<u>Evaluation of Facts and Evidence</u>

1. Evaluate information requirements in OAR 345-022-0020(2)
2. Evaluate the accuracy of the information
3. Evaluate the scope/content/outcome of DOGAMI consultation
4. Consult with DOGAMI and/or ODOE's third-party consultant (subject matter expert)

Structural Standard (OAR 345-022-0020)

Public Health and Safety Impacts from Seismic Hazards at the Site

How does an analyst evaluate compliance with the standard?

Draft recommended findings of fact and conditions

1. For a draft proposed order, present the facts determined to be true

2. Incorporate the mandatory conditions under OAR 345-025-0006(12-14)

3. Determine any other conditions necessary to minimize a potentially significant impact

Structural Standard (OAR 345-022-0020)

Example Evaluation of Facts related to Seismic Hazards

From a Structural Exhibit:

8.4.4 Liquefaction and Liquefaction-Induced Hazards

Liquefaction is not typically associated with mountainous terrain where static groundwater is located over 100 feet bgs; rather it is associated with thick deposits of saturated, loose to medium dense granular alluvium, typically in low-lying alluvial plains with high groundwater conditions, such as the Nehalem River Valley. Based on our interpretation of the geological conditions along the proposed pipeline alignments and at the NMCS, Miller Station, Miller Station Storage Area and well pads, liquefaction is not considered to be a credible hazard to these proposed Project elements.

Staff evaluation:

- Proposed underground, electrical transmission line omitted from analysis.
- Proposed underground, electrical transmission line would cross the Nehalem River valley area designated as very highly susceptible to liquefaction per Oregon Statewide Geohazards Viewer
- Requested updated analysis

Structural Standard (OAR 345-022-0020)

Example Evaluation of Conditions related to Seismic Hazards

From a Structural Exhibit, Preliminary Geotechnical Investigation Report:

- Barr Engineering recommend that certificate holder conduct additional landslide hazards analysis for the transmission line alignment, prior to construction, to inform location and design.

Staff evaluation:

- Recommended a condition requirement include a preconstruction evaluation of landslide hazards for the transmission line alignment.

Soil Protection Standard (OAR 345-022-0022)

Minimize impacts to soils from construction and operation

To comply with the standard, Council must have the ability to make the following affirmative findings:

> *..the design, construction and operation of a proposed facility or proposed change to an approved facility, taking into account mitigation, are not likely to result in a significant adverse impact to soils including, but not limited to, erosion and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills.*

Note: LCDC rules for wind and solar facilities address impacts from wind/water erosion and compaction (i.e., overlapping requirements)

Soil Protection Standard (OAR 345-022-0022)

Minimize impacts to soils from construction and operation

How does an analyst evaluate compliance with the standard?

<u>Evaluation of Facts and Evidence</u>

1. Evaluate information requirements in OAR 345-022-0022(2)

2. Evaluate the accuracy of the information (review of sources)

3. Coordinate with DEQ on 1200-C/ESCP Application/Any Specifics

Soil Protection Standard (OAR 345-022-0022)

Minimize impacts to soils from construction and operation

How does an analyst evaluate compliance with the standard?

<u>Draft recommended findings of fact and conditions</u>

1. For a draft proposed order, present the facts determined to be true

2. Determine conditions necessary to minimize a potentially significant impacts from wind/water erosion, compaction, spills

Note: LCDC rules for wind and solar facilities address impacts from wind/water erosion and compaction (i.e., overlapping requirements)

Soil Protection Standard (OAR 345-022-0022)

Example Evaluation of Facts related to Soil Impacts

From a Soil Protection Exhibit:

- Project will not adversely impact soils because best management practices will be implemented.
- Project will not result in soil contamination because safety procedures will be implemented.
- Any potential onsite spills will be limited in size.

Staff evaluation:

- Applicant must identify the best management practices, including scope and timing.
- Applicant must provide/describe the safety procedures.
- Applicant must explain how spills will be limited in size.

Soil Protection Standard (OAR 345-022-0022)

Example Evaluation of Conditions related to Soil Impacts

From a Soil Protection Exhibit

- Any erosion impacts during construction will be addressed through compliance with DEQ's 1200-C/ESCP

Staff evaluation:

- Condition recommended to require compliance with DEQ's 1200-C/ESCP with additional requirements because:
  - DEQ's 1200-C/ESCP is designed to ensure protection with the Clean Water Act (CWA), therefore may not provide adequate onsite protection if there are no waters of the state in proximity to the site
  - Recommended condition must provide the Department authority to require additional erosion controls, as needed, if the ESCP for the CWA is not adequate for onsite soil protection

ADJOURN

OREGON DEPARTMENT OF ENERGY