Northwest **Power** and **Conservation** Council

January 7, 2025

MEMORANDUM

TO: **Council Members**

FROM: **Annika Roberts, Resource Policy Analyst and John Ollis, Manager of Planning and Analysis**

SUBJECT: **Proposal of Existing Policies to Incorporate in Plan Starting Point**

BACKGROUND:

Presenter: Annika Roberts and John Ollis

Summary: The energy policy landscape lays the groundwork upon which we understand the future of resource development in the region and country. What those policies are and how they are represented in the Council's models is an important early step in the power plan development process. In development of the Issue Paper and review of comments on the issue paper, staff discussed the intent of assuming all existing policies, regulations, and goals are met in the starting point of the power plan. In this discussion, staff will outline all the existing polices to be represented in the Ninth Plan starting point and a high-level understanding of how they will be incorporated. This summary will cover regional, WECC-wide, and federal energy policies and will address how they interact with each other as well as which pieces of our planning they impact.

On our current timeline, staff need to finalize the list of policies to be included in the starting point by February to allow sufficient time to prepare new resource options, load forecasts and the models. This is an opportunity for members to understand all the existing policies, ask questions, and provide insights before staff finalize this task. Please come prepared with questions.

Relevance: There are Federal, state, local, and utility policies and goals that have the potential to impact future loads, resource options, resource costs, and other power planning dynamics. Capturing all existing policies is an important early step in power plan development.

Workplan: A.3.4. Track local, state, and Federal policies that impact the energy system and provide periodic reports to Council on new developments.
B. Preparation for the Ninth Power Plan

Background: Below is the list of existing policies proposed to be considered in the starting point for the Council power plan. Along with the name of each policy and a brief description of what is required, staff have also included a simple framework representing how the policy is captured in our modeling, whether in terms of a **load** impact, **resource options** impact, or **resource cost** impact.

In-Region

Name	Role in Modeling	Summary
Washington		
Clean Energy Transformation Act (CETA)	Resource Options	Requires utilities: - eliminate coal-fired resources from WA rates by 2025 -be carbon neutral by 2030 -be 100% clean by 2045 -use the social cost of carbon in their resource planning
Climate Commitment Act (CCA)	Load (electrification)	Cap & invest program, utilities subject to CETA are allocated allowances under CCA in alignment with their carbon reduction goals set by CETA
Advance Clean Cars II Rulemaking on Low and Zero Emission Vehicles	Load	Requires 100% of new light duty vehicles to be ZEV or PHEV by 2035 Adopted CA clean truck rules
Clean Fuel Standard	Load	Requires suppliers to gradually reduce the carbon intensity of transportation fuels to 20% below 2017 levels by 2034
Clean Building Performance Standard	Load	Covered buildings must comply by meeting an energy performance metric (EUI target)
Codes & Standards	Load	Building code and appliance standards above and beyond the federal standards

Name	Role in Modeling	Summary
Renewable Portfolio Standard	Resource Options	15% by 2020
Healthy Environment for All (HEAL) Act	NA (could consider in recommendations)	Requires Ecology and the state departments of Agriculture, Commerce, Health, Natural Resources, Transportation, and the Puget Sound Partnership to identify and address environmental health disparities in overburdened communities and for vulnerable populations.
Oregon		
HB2021	Resource Options	Directs utilities to reduce emissions levels below 2010-2012 baseline levels by 80% by 2030, 90% by 2035, and 100% by 2040. Also expanded the capacity standard for Small Scale Renewables from 8% to 10%
Climate Protection Program 2024	Load (electrification)	Sets an enforceable declining cap on GHG emissions from fossil fuels used throughout Oregon, including diesel, gasoline, and natural gas. Designed to reduce these emissions by 50% by 2035 and 90% by 2050
Advanced Clean Cars II Rulemaking on Low and Zero Emission Vehicles Advanced Clean Truck Rules	Load	100% of new light duty vehicles to be ZEVs or PHEVs by 2035 Increasing sales targets for zero emission MHDV starting in 2025
SB1547 Community Solar	Resource Options	Requires the Oregon Public Utility Commission to establish a program for the procurement of electricity from community solar projects.
Energy Performance Standard for commercial buildings	Load	Based on 2024 ASHRAE Standard 100, with OR specific amendments, sets EUI targets for different building commercial types
Codes & Standards	Load	Building code and appliance standards above and beyond the federal standards
Renewable Portfolio Standard	Resource Options	35% renewable by 2030 45% by 2035 50% by 2040

Montana		
Missoula- 100% Clean Electricity Initiative	Resource Options	100% clean electricity by 2030 for the Missoula urban area
Bozeman-2020 Climate Plan	Resource Options	100% net clean by 2030 Caron neutral by 2050
Helena-100% Clean Electricity Goal (city council resol.20592)	Resource Options	100% clean electricity by 2030, interim goal of 80% by 2025
NorthWestern Energy "Net Zero Vision"	Resource Options	Net zero emissions by 2050
Idaho		
Boise's Energy Future	Resource Options	100% citywide clean electricity by 2035
Idaho Power	Resource Options	100% clean energy by 2045 (currently ~55% clean)
Avista	Resource Options	100% clean electricity by 2045 and carbon neutral by 2028 (currently ~59% clean)

Federal

Name	Role in Modeling	Summary
Inflation Reduction Act (IRA)	Resource Cost Load	A broad policy, but most relevant are a number of tax credits: Technology neutral 30% investment tax credit & 2.75 cent production tax credit, carbon capture tax credit, existing nuclear tax credit, clean hydrogen tax credit, new advanced manufacturing production tax credit, advanced energy project credit, clean fuel production credit, clean vehicle tax credits
Bipartisan Infrastructure Law (BIL)	NA	Another wide-ranging policy, that mostly focuses on grants, pilot programs, & demonstration projects. A few notable pieces though they won't be explicitly modeled: Power marketing administration (BPA) transmission borrowing authority expanded, incentives for maintaining and enhancing hydroelectricity
Clean Air Act	Resource Cost Resource Options	The primary purpose of the Clean Air Act is to protect and enhance air quality to promote the public health

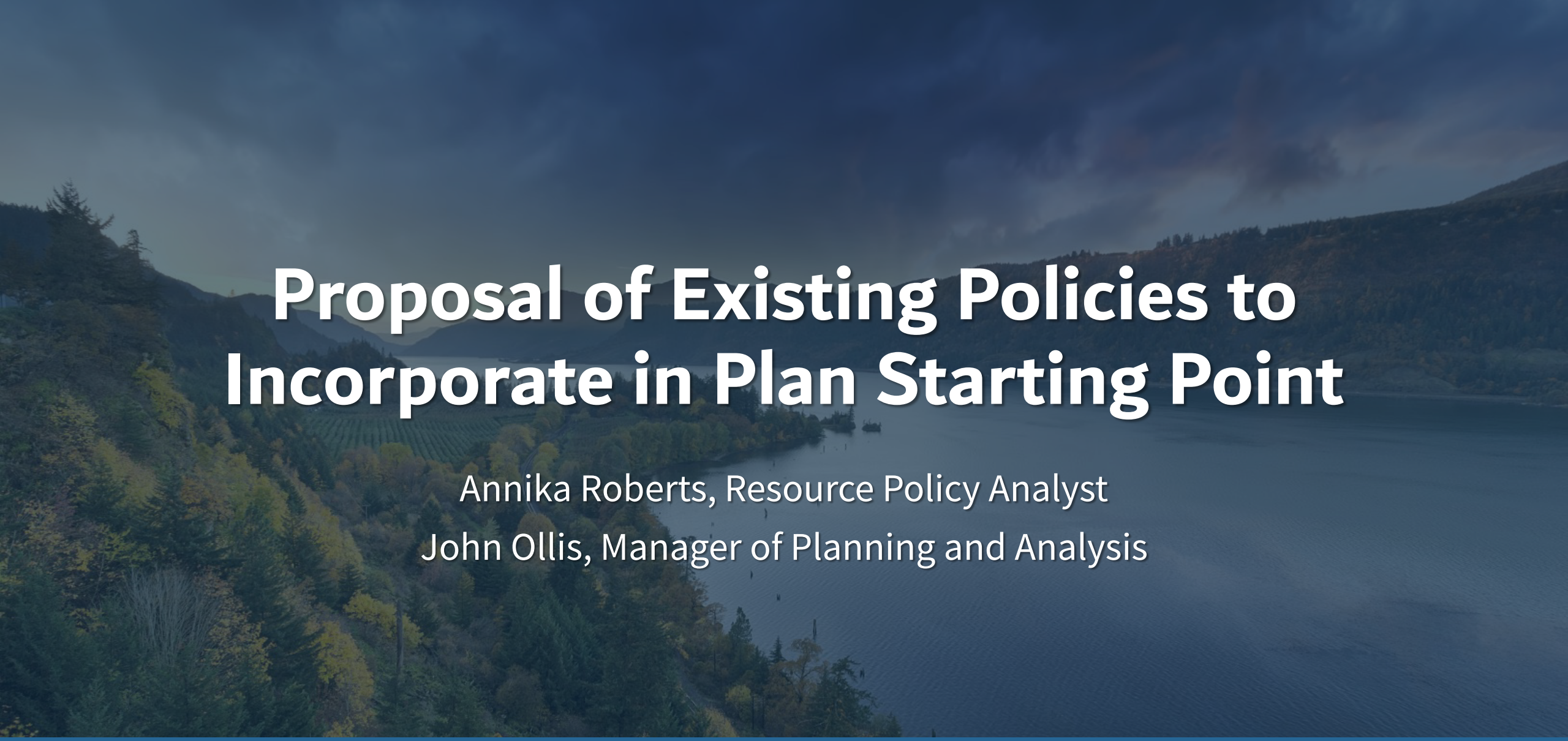
		and welfare of the nation's population. Most relevant, and new since the last plan are: New Source Performance Standards for Carbon Emissions from New and Existing Sources – Clean Air Act § 111(b) and (d): New baseload stationary combustion turbines must have 90% CCS by 2032. Existing coal fired plants planning on operating after 2039 must be equipped with 90% CCS by 2032
Endangered Species Act	Resource Costs (cost of compliance)	Established a framework to conserve and protect endangered and threatened species and their critical habitats
National Environmental Policy Act		Procedural statute that requires federal agencies to consider the environmental impacts of their proposed actions and provide for public involvement in the federal decision-making process
Clean Water Act		Principal federal statute regulating water pollution and protecting the nation's "navigable waters."
Public Utilities Regulatory Policies Act	Resource Options (mostly NA)	PURPA established a class of non-utility generating facilities that, if meeting certain requirements, are permitted to sell the output of their power plants to utilities at the price the utilities would have to pay to develop their own resources. Qualifying facilities are primarily small power production facilities and cogeneration facilities
Codes & Standards	Load	Regulations that establish minimum requirements for energy performance in buildings, appliances, and other products, aiming to reduce energy consumption, essentially defining a level of energy efficiency that must be achieved

WECC-Wide:
At the WECC level all impacts are at the resource option level as our WECC modeling solely informs our market availability and costs.

Name	Summary
California	
Assembly Bill 1279 (2022)	Reduce economy wide GHG emissions 85% below 1990 levels by 2045
Advanced Clean Cars II rule	By 2035 all new passenger vehicles sold in CA will be ZEVs
100% Clean Energy Act (SB 100)	100% of CA electricity to come from clean sources by 2045 Interim targets:

+Clean Energy, Jobs & Affordability Act	-90% of all retail sales of electricity to CA end-use customers clean by 2035 -95% by 2040 -100% by 2045 -100% of electricity procured to serve all state agencies clean by 2030
Renewable Portfolio Standard	60% renewable by 2030
Utah	
Community Renewable Energy Act (HB411)	Opt-out program with a goal of being 100% net renewable by 2030 (19 cities in UT are currently participating and have adopted 100% renewable goals by or before ~2030)
Renewable Portfolio Standard	20% renewable by 2025
Wyoming	
Reliable and Dispatchable Low-Carbon Energy Standard statute (HB 200)	Wyoming Public Service Commission to put in place a standard for each public utility specifying a percentage of electricity to be generated from coal-fired generation utilizing carbon capture technology by 2033 if technically and economically feasible (at least 20%)
Nevada	
Renewable Portfolio Standard	50% renewable by 2030
SB358	100% carbon free energy production by 2050
Arizona	
Renewable Portfolio Standard	15% renewable by 2025 (30% of that from distributed resources)
Arizona Public Service	100% clean energy by 2050 65% clean (45% renewable) by 2030 (currently ~50% clean)
Tucson Electric Power Company	Net zero direct GHG emissions by 2050, 80% reduction in CO2 by 2035
Salt River Project	Goal is to reduce the amount of CO_2 emitted by generation (per MWh) by 82% from 2005 levels by 2035 (~284 lbs./MWh) and reach net zero carbon emissions by 2050.
Colorado	
Renewable Portfolio Standard	IOUs-30% renewable by 2020 Munis-10% by 2020 Coops-20% by 2020
Roadmap to 100% Renewable Energy	Governor goal/commitment: 100% renewable energy by 2040
HB-1261	Sets economy-wide targets for reducing greenhouse gas pollution, with goals of 26% reduction by 2025 below

	2005 levels, 50% reduction by 2030 and 90% reduction by 2050
H21-264	GHG reduction targets for gas utilities: 4% reduction below 2015 GHG emission levels by 2025 and 22% by 2030.
XCEL Energy	Reduce CO2 emissions 80% lower by 2030 100% carbon-free electricity by 2050 (currently ~50% carbon free)
Platte River Power Authority	100% noncarbon energy mix by 2030
Poudre Valley REA	80% carbon-free energy by 2030
Holy Cross Energy	100% clean energy by 2030
Denver Renewable Energy Action Plan	100% renewable electricity community wide by 2030
New Mexico	
Renewable Portfolio Standard (NM Energy Transition Act)	IOUs: 50% by 2030 100% carbon-free by 2045 Rural Co-ops: 10% by 2020, 40% by 2025, 50% by 2030, 100% carbon-free by 2050
Xcel Energy	100% carbon-free by 2050
Public Service of NM	100 emissions free by 2040



Proposal of Existing Policies to Incorporate in Plan Starting Point

Annika Roberts, Resource Policy Analyst
John Ollis, Manager of Planning and Analysis

Northwest **Power** and **Conservation** Council

Agenda

- Background and Level Setting
  - What policies are we talking about
  - Where do they hit the model
  - How do they interact
- Regional Policies
- Federal Policies
- WECC Policies

REMINDERS→

- An exhaustive list of policies we'll be incorporating into the 9th Plan starting point has been included in your packet
- We will not necessarily be covering every policy in this session, but please raise any that you want to discuss
- This is intended to be a high-level discussion of policies not necessarily a nitty-gritty deep dive into *how* these policies impact modeling outcomes—we can speculate together, but we don't know all the details yet

Policy Levels

- Federal:
  - Inflation Reduction Act
  - Bipartisan Infrastructure Law
  - Clean Air Act
  - Endangered Species Act
  - NEPA
  - PURPA
  - Clean Water Act
  - Codes & Standards

- Regional

Oregon	Montana
HB-2021	Missoula, Bozeman, & Helena city-wide clean goals
Climate Protection Plan 2024	Northwestern Energy net zero by 2050 goal
Clean Cars	**Washington**
RPS	CETA
State C&S	Climate Commitment Act
Idaho	Clean Cars
Boise city-wide clean goal	Clean Fuel
Idaho Power clean by 2045 goal	RPS
Avista clean by 2045 goal	State C&S

- WECC-Wide
  - California
  - Nevada
  - Arizona
  - Wyoming
  - Colorado
  - New Mexico
  - Utah

At the WECC level all policies are at the resource option level as the Council's WECC modeling solely informs our market availability & costs

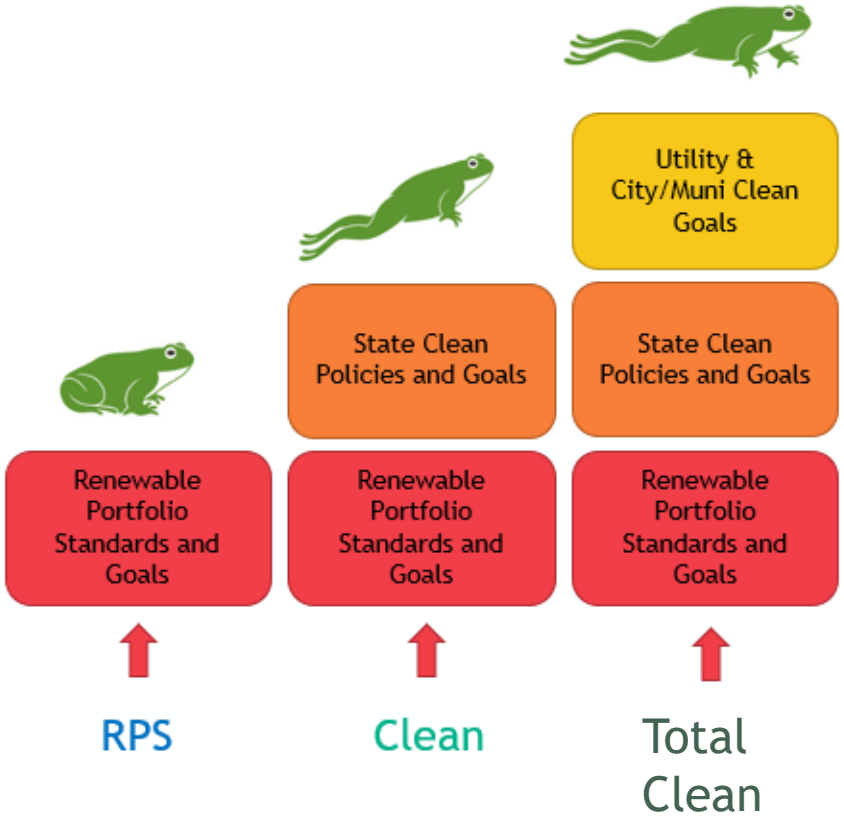
This includes clean targets, at the state, city & utility levels, renewable portfolio standards etc.

Model impacts: *Where in our models do these policies land*

Resource Option	Resource Cost	Load
Policies that impact what resources (or how much of each resource) are available to the model and how they might be selected	Policies that impact the cost of a resource either by cost of compliance with an environmental regulation or via an incentive (tax credit etc.) that affects the cost of the resource	Policies that impact electric load by, for example, promoting electrification or incentivizing energy efficiency

Methodology for incorporating Policies into Council Planning

- Prior to the 2021 Power Plan only state level mandates were represented as parameters in the models
- In the 2021 Plan a methodological change was made to incorporate clean policies more broadly
  - The Council included all clean policies and goals at the state, utility, and community level framed as a percentage of sales obligated to meet a percentage target
- This aggregation method is an update that we feel is more representative of actual energy policy landscape we're operating in



→ *2021 Plan: "Pseudo Clean"*

In-Region Policies

Resource Option

- **Oregon:**
  - HB2021
  - SB1547 Community Solar
  - Renewable Portfolio Standard
- **Washington:**
  - Clean Energy Transition Act
  - Renewable Portfolio Standard
- **Montana:**
  - Missoula/Helena/Bozeman City-Wide Clean Goals
  - NorthWestern Energy "NetZero Vision"
- **Idaho:**
  - Boise's Energy Future
  - Idaho Power Clean Goal
  - Avista Clean Goal

Resource Cost

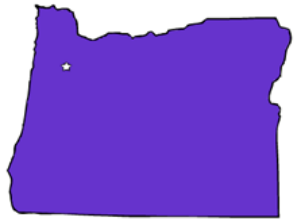
- **Washington:**
  - CETA—Social Cost of Carbon to be incorporated into utility planning

Notably, most policies that impact resource costs are set at the federal level

Load

- **Oregon:**
  - Climate Protection Program 2024
  - Advanced Clean Cars
  - Energy Performance Standard for Commercial Buildings
  - State Codes & Standards
- **Washington:**
  - Climate Commitment Act
  - Advanced Clean Cars
  - Clean Fuel Standard
  - Clean Building Performance Standard
  - State Codes & Standards

OREGON



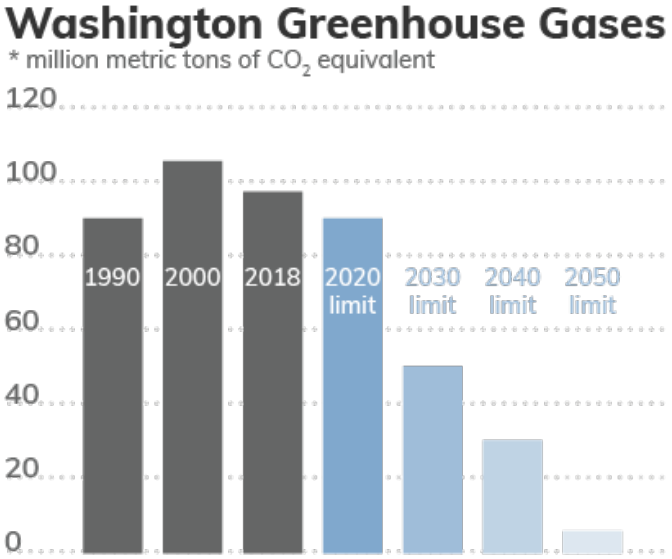
- HB2021-Clean Energy Targets Bill
  - Requires Portland General Electric, PacifiCorp and Electricity Service Suppliers to reduce greenhouse gas emissions from the electricity they provide
    - 80% below baseline emissions levels by 2030
    - 90% below baseline emissions levels by 2035
    - 100% below baseline emissions levels by 2040 (ie 100% clean by 2040)
- Climate Protection Program 2024 (DEQ-18-2024)
  - sets an enforceable declining cap on greenhouse gas emissions from fossil fuels used throughout Oregon, including diesel, gasoline, and natural gas
  - program is designed to reduce these emissions by 50% by 2035 and 90% by 2050.

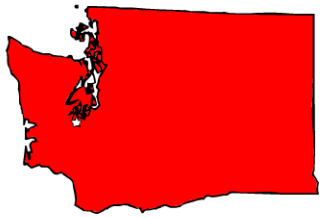
Electric Company	Baseline Emissions Level	2030 (80% reduction)	2035 (90% reduction)	2040 (100% reduction)
PacifiCorp	8,994,448	1,798,890	899,445	0
PGE	8,105,343	1,621,069	810,534	0

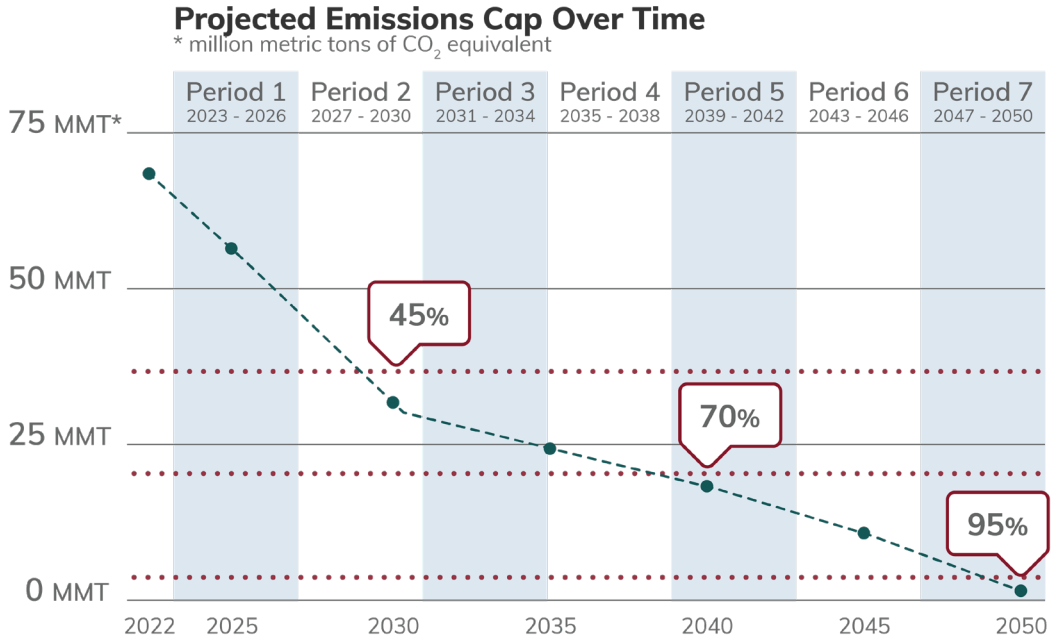
- Renewable Portfolio Standard
  - Investor-Owned Utilities (PacifiCorp & Portland General)
    - 20% renewable by 2020, 27% by 2025, 35% by 2030, 40% by 2035, and 50% by 2040
  - Large Consumer Owned Utilities (> 5% sales) (EWEB & Umatilla Electric)
    - 25% renewable by 2025
  - Small COUs (5% < 1.5% sales)
    - 10% by 2025
  - Smallest COUs (< 1.5% sales)
    - 5% by 2025

WASHINGTON

- CETA (Clean Energy Transformation Act)
  - **2025** – All electric utilities must eliminate coal-fired generation serving Washington state customers.
  - **2030** – All electric utilities must be greenhouse gas neutral—for example, remaining carbon emissions are offset by renewable energy, energy efficiency, carbon reduction project investments, or payments funding low-income assistance.
  - **2045** – All electric utilities must generate 100% of their power from renewable or zero-carbon resources.
- CCA (Climate Commitment Act)
  - Generally, businesses that emit the equivalent of 25,000 metric tons of carbon dioxide or more annually are covered under the program.
  - Covered business types include (but are not limited to) fuel suppliers, natural gas and electric utilities, waste-to-energy facilities (starting in 2027), and railroads (starting in 2031).

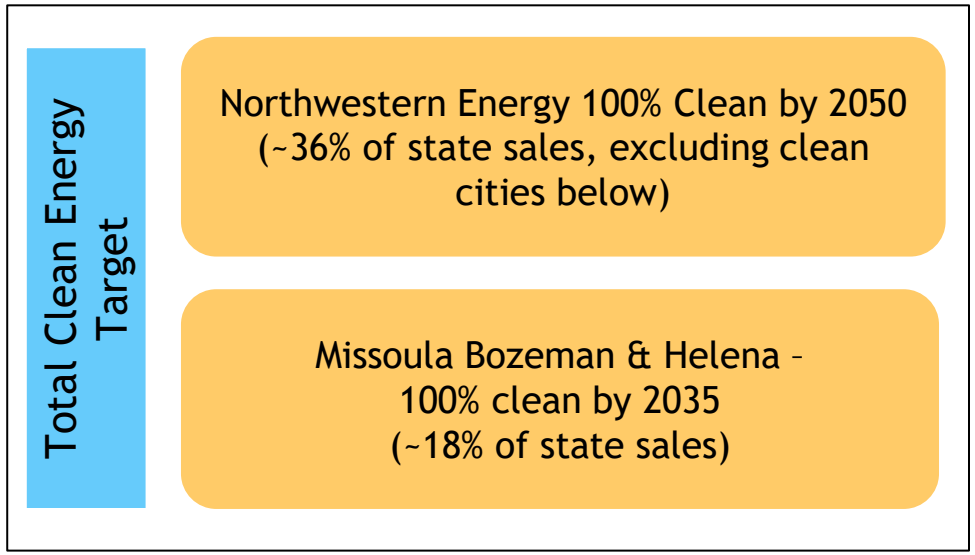






MONTANA

- Bozeman/Missoula/Helena—100% Clean electricity by 2030, cities have signed a memorandum of understanding with northwestern energy, their primary utility provider to achieve these goals
- NorthWestern Energy—Net zero emissions goal by 2050 as laid out in their “Net Zero Vision”

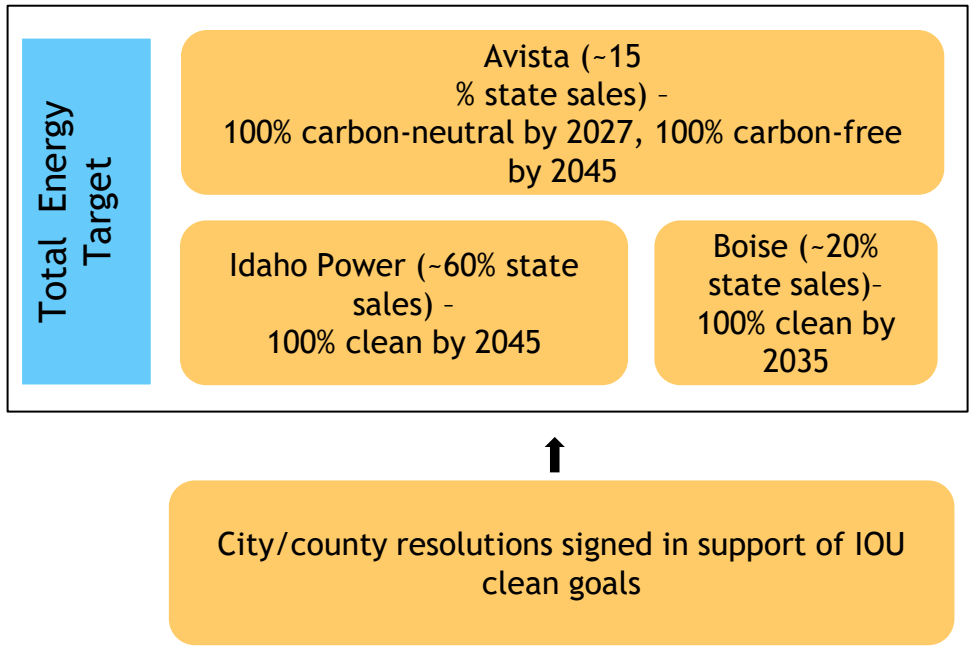


Portion of state sales to meet goal: ~54% sales by 2050
*based on 2023 EIA sales data
Current state clean energy mix: ~50% renewable & 45% coal-fired**
**EIA Electric Power Monthly Report

IDAHO

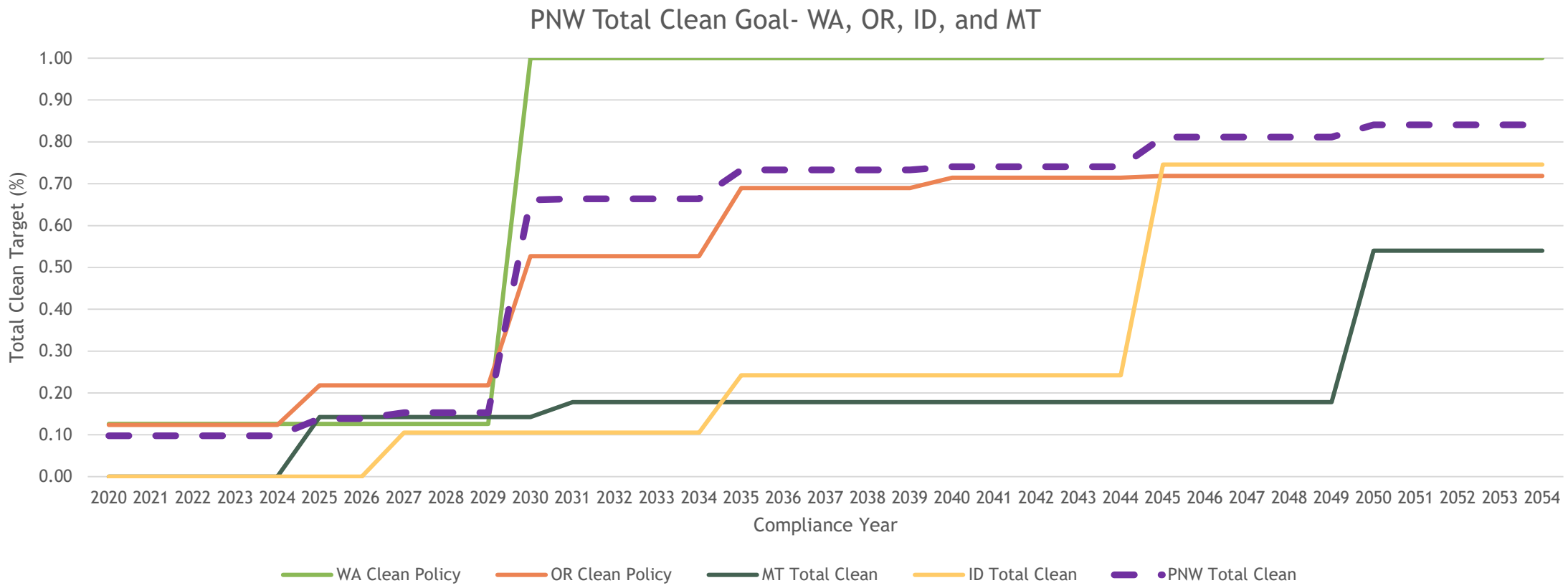
- Boise—100% citywide clean electricity by 2035
- Idaho Power—100% clean energy goal by 2045
- Avista—100% clean electricity goal by 2045 carbon neutral 2028

Portion of state sales to meet goal - ~70% sales*



Current renewable mix in state: ~63%

Region-wide Total Clean Target



* Based on 2023 utility bundled retail sales, EIA-861

Comparing Clean Targets

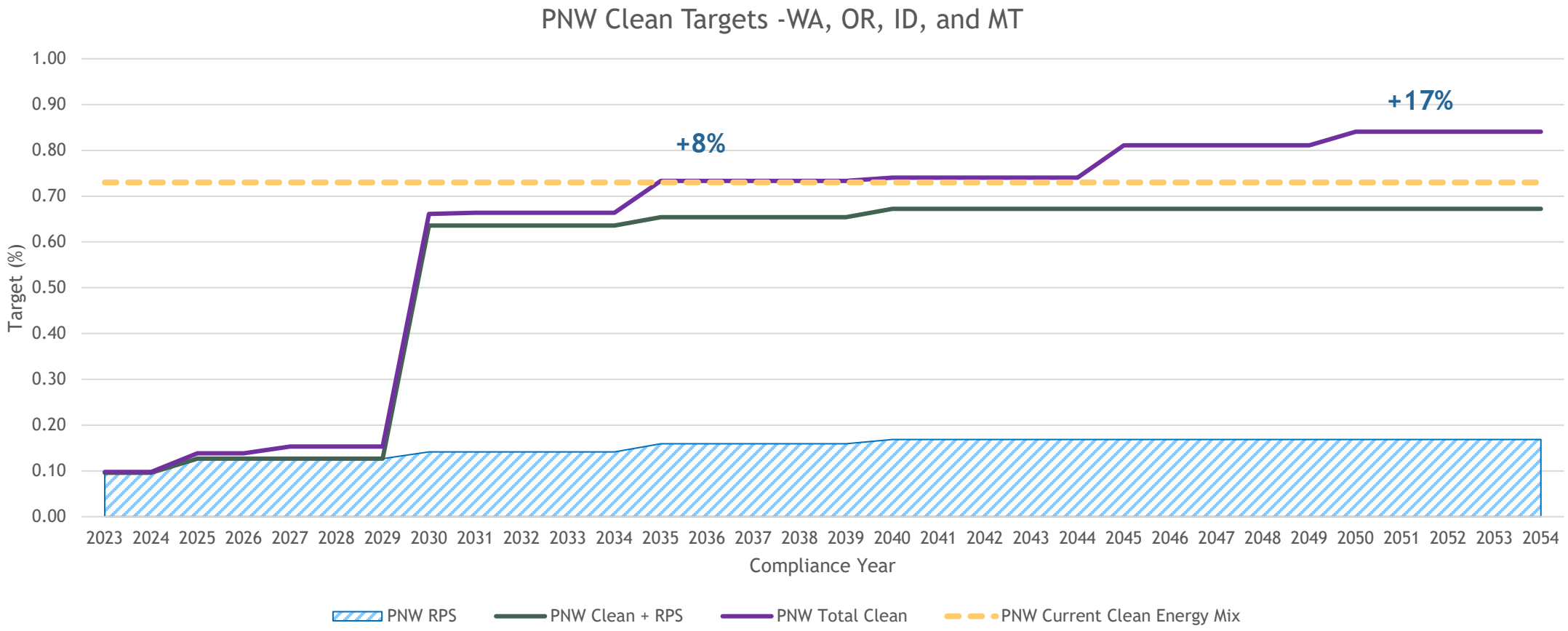
RPS + Clean Policies + Clean Goals

↑

RPS + Clean Policies

↑

Renewable Portfolio Standard



Federal Policies

Resource Option

- Clean Air Act
  - May impact if/how emitting resources get built
- Public Utilities Regulatory Act
  - Affects smaller resource options and who builds them

Resource Cost

- Inflation Reduction Act
  - Tax credits: technology neutral ITC/PTC, clean hydrogen tax credit, carbon capture tax credit etc.
- Clean Air Act
  - Cost of Compliance
- Endangered Species Act
  - Cost of Compliance
- National Environmental Policy Act
  - Cost of Compliance
- Clean Water Act
  - Cost of Compliance

Load

- Inflation Reduction Act
  - Incentives for clean cars & energy efficiency programs
- Federal Codes & Standards
  - Minimum efficiency for appliances/buildings incorporated into the EE baseline and assumed in the load forecast

Federal Energy Policy Since the 2021 Plan

The largest change in federal energy policy enacted since the 2021 Plan are the Bipartisan Infrastructure Law and the Inflation Reduction Act

Both laws are expansive and touch many different parts of the country's energy landscape, I've pulled out the pieces that are most directly applicable to our modeling here:

Inflation Reduction Act

- Technology neutral investment and production tax credits for clean generating resources
- Existing nuclear tax credit
- Carbon capture tax credit
- Clean hydrogen tax credit
- Advanced energy project credit
- Clean fuels production credit
- Clean vehicle tax credit
- Energy efficiency incentives
- Clean Air Act amendments

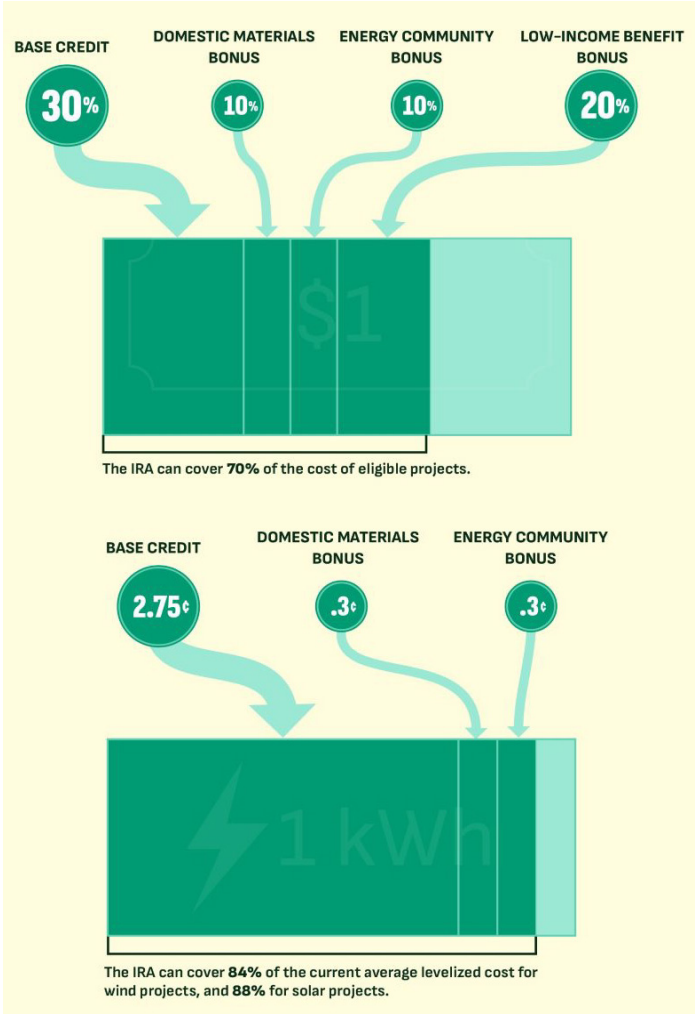
Bipartisan Infrastructure Law

- Power marketing administration transmission borrowing authority
- Maintaining and enhancing hydroelectricity incentives
- Civil nuclear credit program

Most of the impact of the BIL is in funding for demonstration projects, pilot programs etc. which is useful work, but not something we model

Tax Credits

- For our work, one of the largest impacts out of the IRA are the extended/expanded tax credits for clean generating resources
  - Tax credits are now technology neutral and developers can choose between applying the investment tax credit or the production tax credit
- **Assuming developers make the most financially advantageous choice: In the 9th Plan, solar and wind will receive the *Production Tax Credit* and all other technologies will use the *Investment Tax Credit***
  - This treatment is consistent with the assumptions of others in the region
- In the models:
  - ITC: Will be incorporated into the total fixed cost in our financial revenue requirements tool (Microfin), as it was treated in the 2021 plan but more broadly applied
  - PTC: Will be applied in the modeling, as it is necessarily based on plant production



ITC

PTC

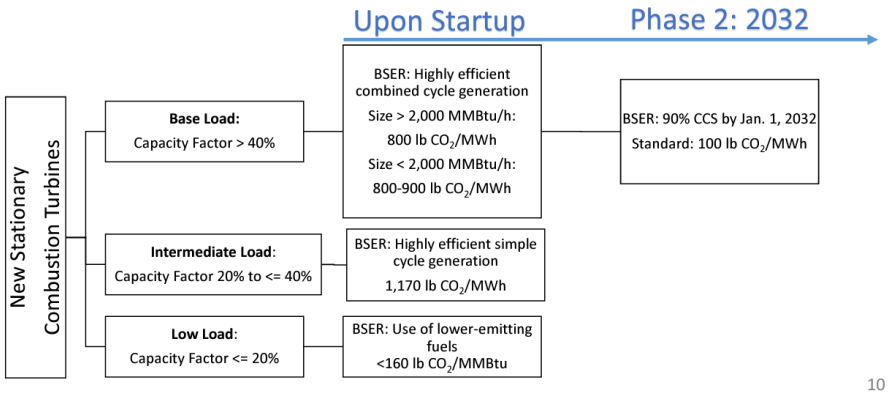
As a way to potentially account for some insecurity around the long-term certainty of these tax credits we are considering a sensitivity in the Resource and Transmission Risk scenario where we could test different resource costs

Clean Air Act Section 111

CAA Section 111(b): New Sources

Final Standards for New Stationary Combustion Turbines

- Standards effective from date of proposal publication (May 23, 2023)
- Three subcategories: base load, intermediate load, low load
- Standards are technology neutral, affected sources may comply with it by co-firing hydrogen



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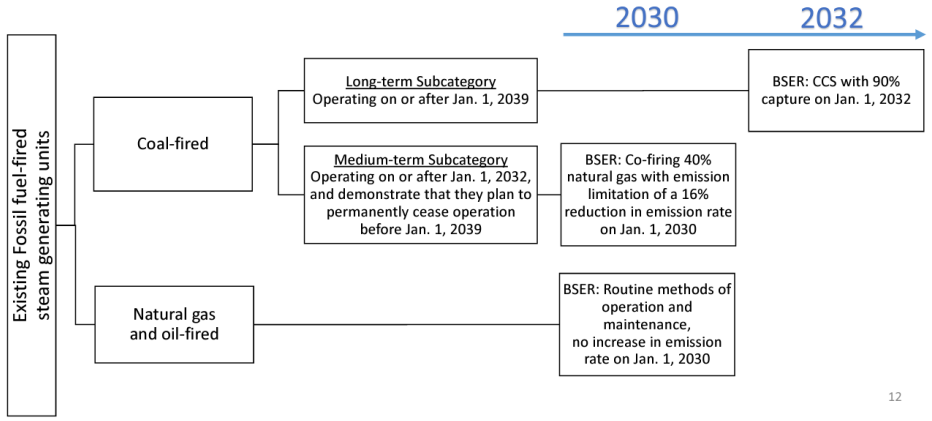
CAA Section 111(d): Existing Sources

Final Emission Guidelines for Existing Steam Generating Units

- Two subcategories for existing coal-fired units, depending on operating horizon: (1) Units operating on or after Jan. 1, 2039 and (2) Units that are operating on or after Jan. 1, 2032, and demonstrate they plan to permanently cease operation before Jan. 1, 2039
- Units that demonstrate they plan to permanently cease operations before Jan. 1, 2032 are not subject to these standards



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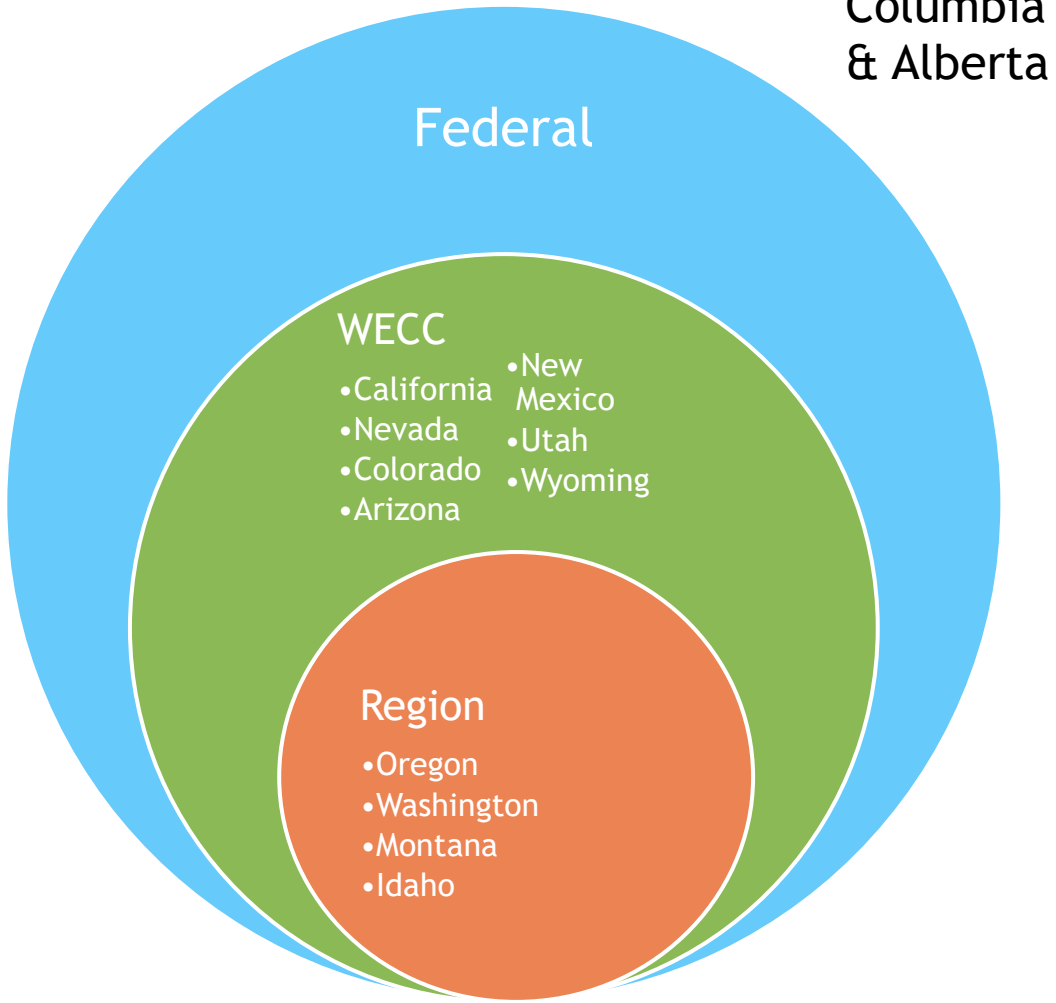
WECC-Wide Policies

Why does the WECC matter?

- We are not producing a WECC-wide power plan, so why are we representing any WECC-wide policies in our modeling?
- The Council's modeling of the WECC solely informs our market availability & costs
  - And so, we capture these in terms of resource options (and availability) in the market and loads to the extent practicable in the out of region load forecast
  - For the whole WECC we incorporate things like clean targets, at the state, city & utility levels, renewable portfolio standards etc.



WECC-wide policies

California
- RPS
- Economy-wide emissions targets
  - Cap & trade
- Clean electricity targets
- Clean Cars rule

Nevada
- RPS
- State-wide clean goal

Colorado
- RPS
- Governor renewable energy commitment
- Economy-wide emissions targets
- Gas Utility emissions targets
- Utility Goals

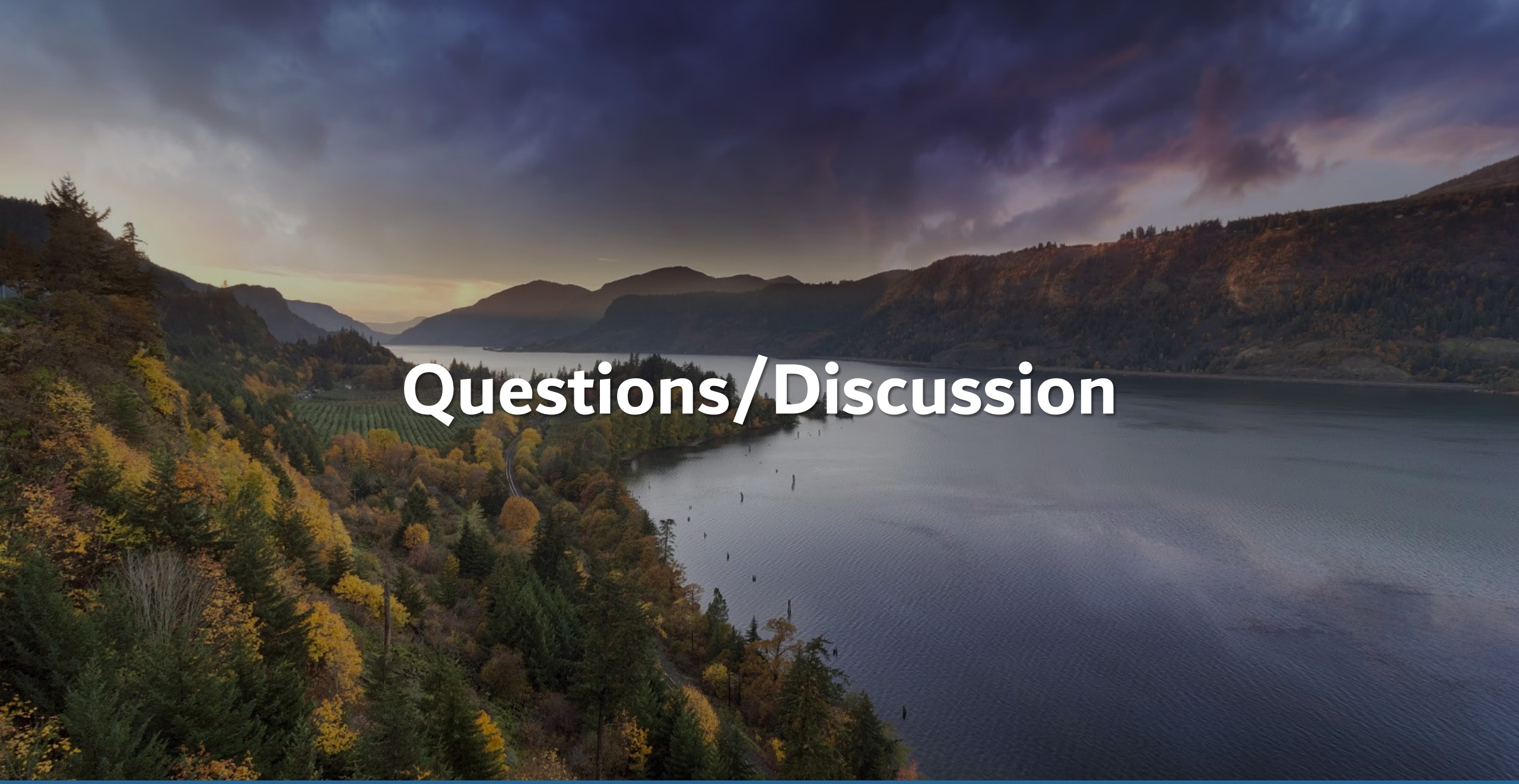
Utah
- RPS
- Coordinated city-wide goals (19 cities total)

Arizona
- RPS
- Utility Goals

Wyoming
- Standard for CCS on coal-fired generation

New Mexico
- RPS
- Utility Goals

Canada
- Alberta: Clean electricity target (30% by 2030)
- British Columbia: Clean electricity target (100% clean by 2030)
- Canada-wide carbon price


Questions/Discussion