

NW Energy Coalition Webinar

Resource Adequacy in the Northwest

May 7, 2020



About the NW Energy Coalition

The NW Energy Coalition leads the Northwest's broadest alliance of energy interests in designing, promoting, and implementing clean, affordable, and equitable energy policy grounded in analytical expertise.



NW Energy Coalition
for a clean and affordable energy future

nwenergy.org

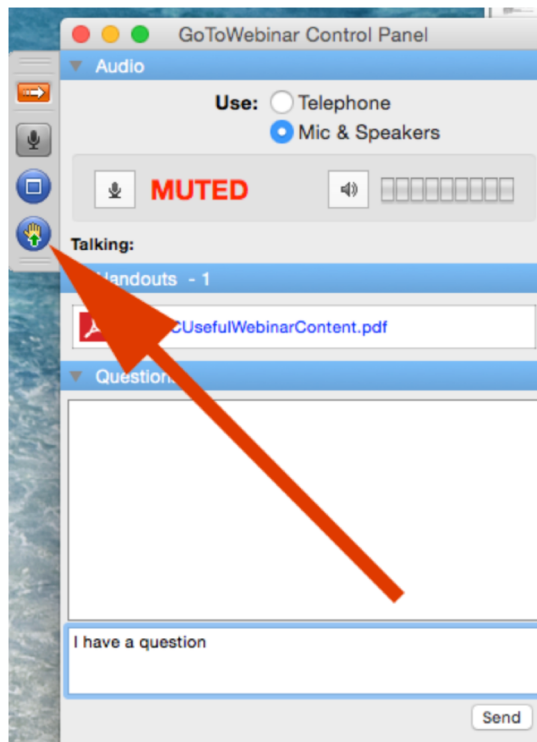
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Asking a Question

Raise Hand



Type a Question



NW Energy Coalition Webinar

Resource Adequacy in the Northwest

May 7th, 2020

Panelists:

Ben Kujala

NW Power and Conservation Council

Elaine Hart

Portland General Electric

Therese Hampton

Public Generating Pool

Moderated by:

Fred Heutte

NW Energy Coalition



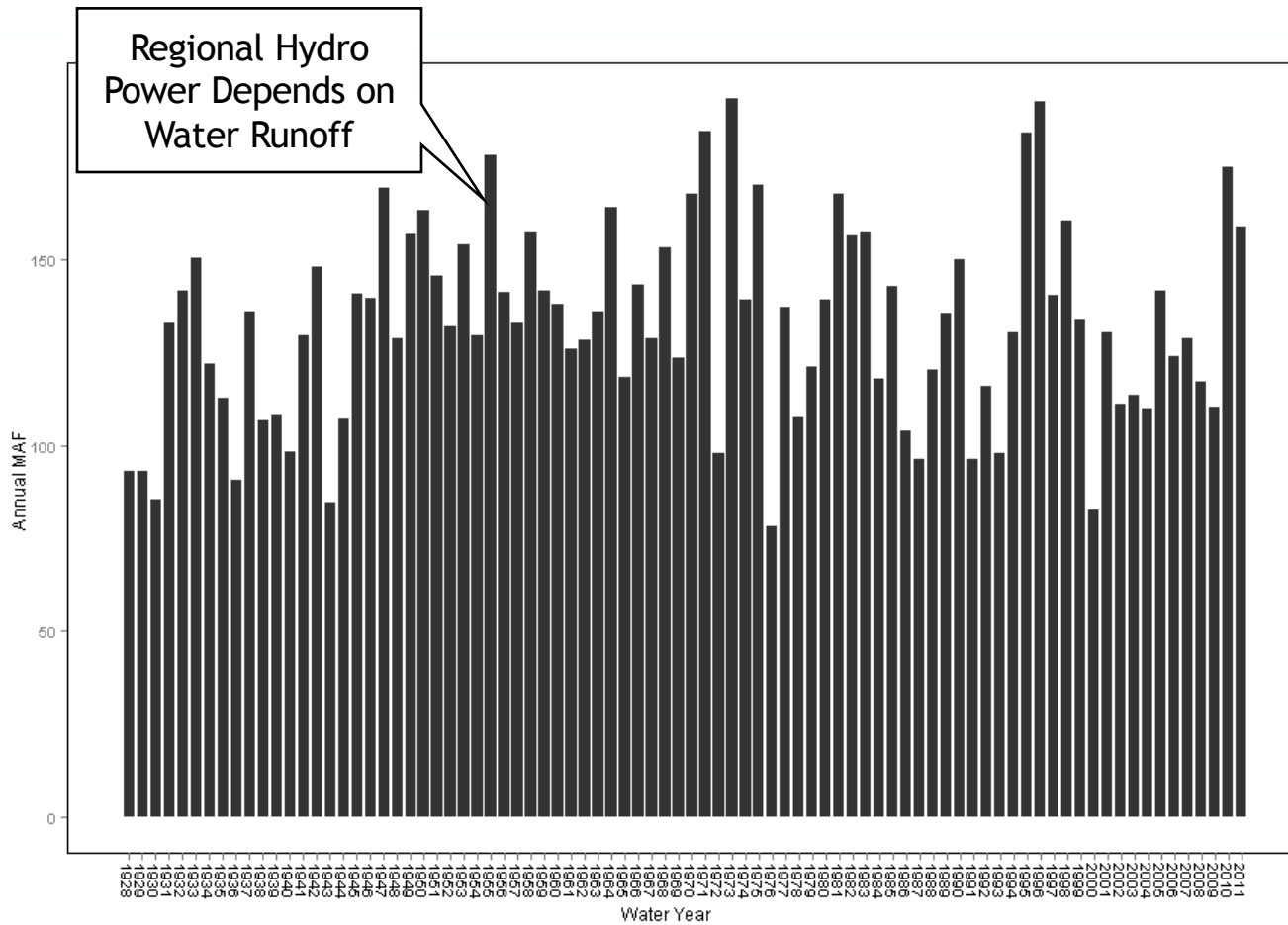


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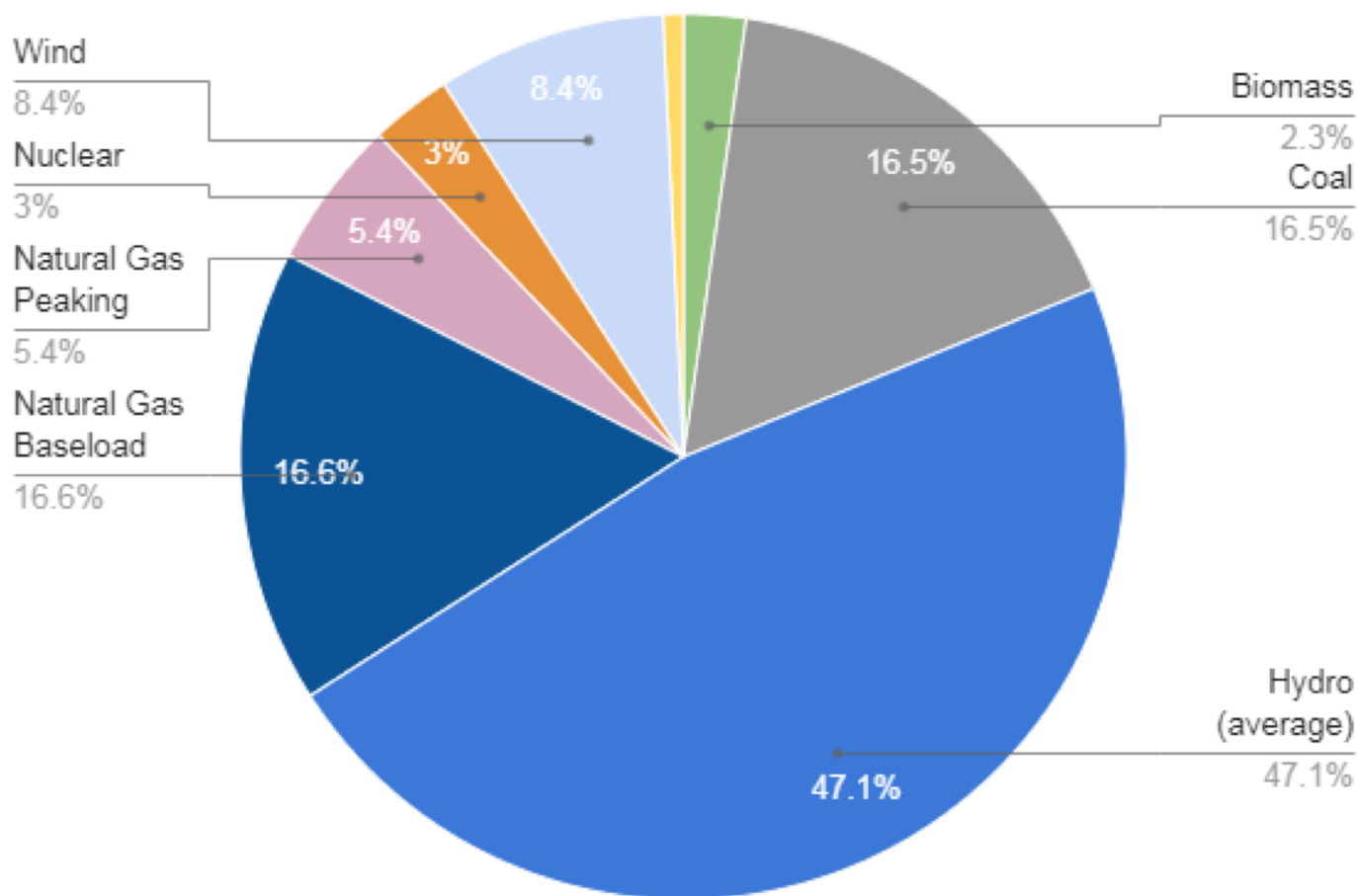
First speaker:

Ben Kujala

**NW Power and Conservation
Council**



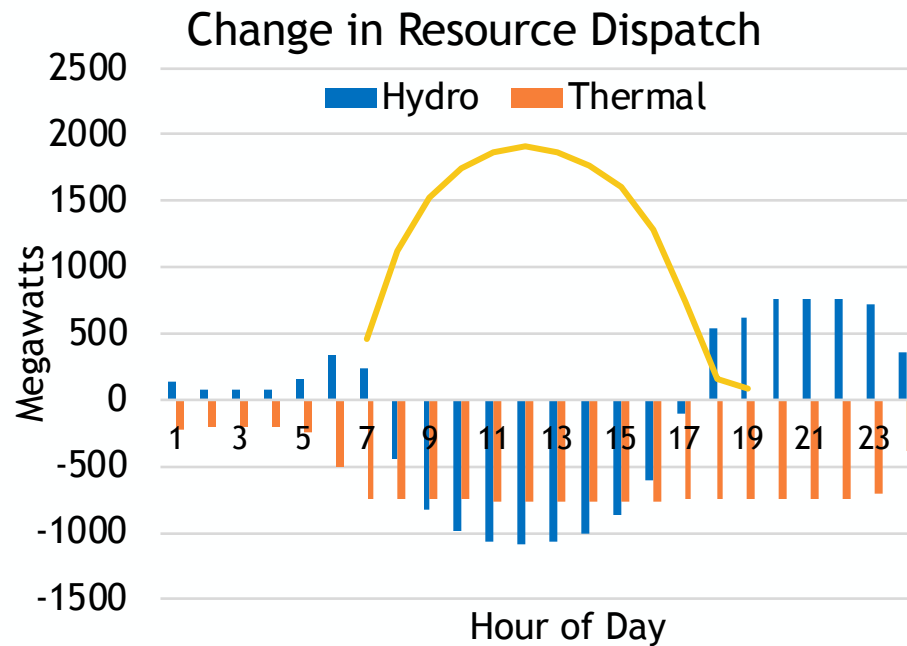
Pacific Northwest Generating Capability: 34,480 MWa*



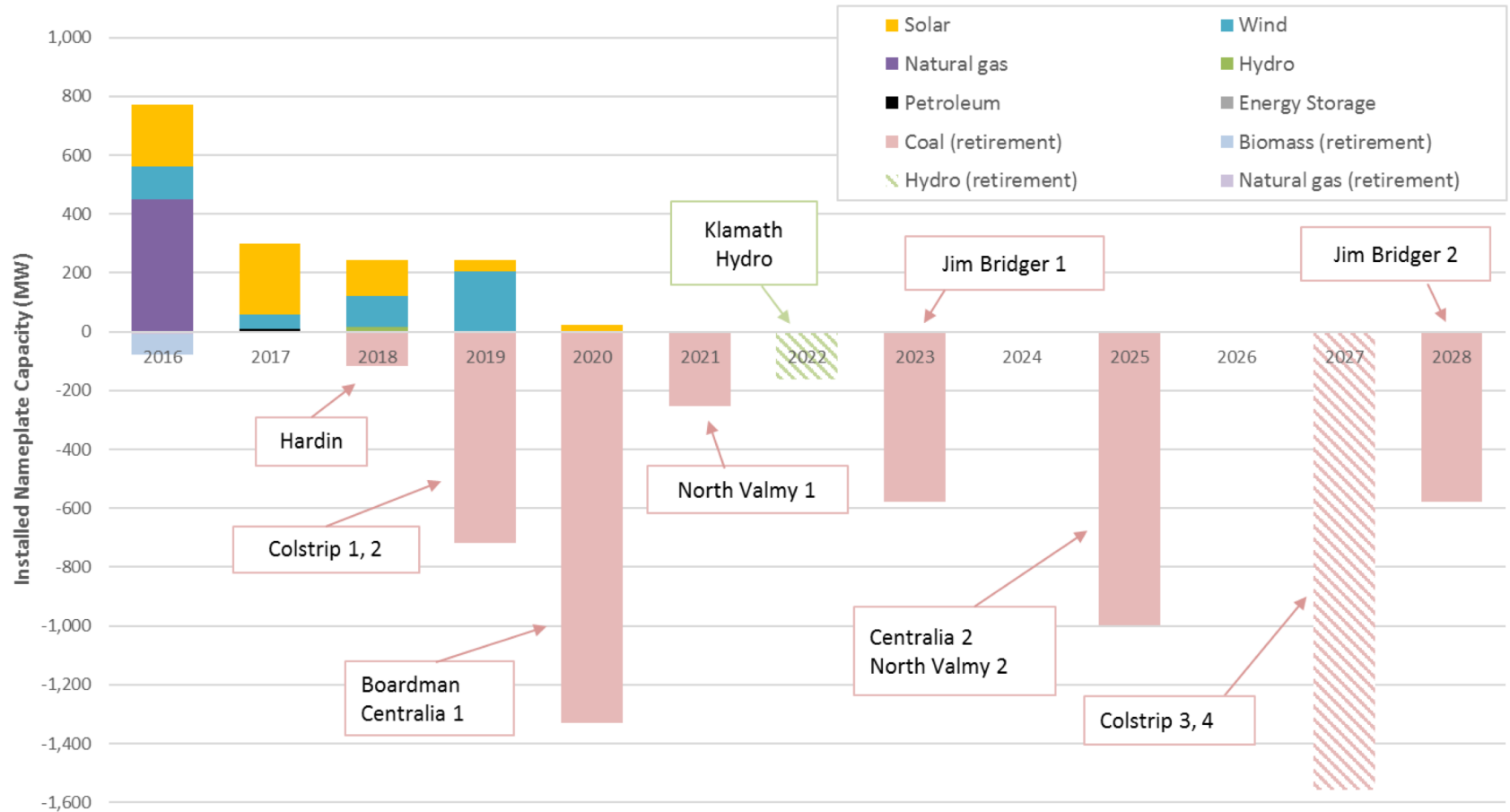
Check out the [Power Supply Source Data](#)



Integrated Solar affects both Hydro and Thermal Resources



Additions and Retirements since the Seventh Power Plan (incl. announced planned retirements)



Planned retirements based on agreements, announcements, IRPs; subject to change

Updated Mar 2020

Idaho Power intends to end its participation in North Valmy 1 in 2019

Uncertainty remains over timing of Jim Bridger 1,2 potential accelerated retirements

Hardin Generating Station was sold to an out-of-region cryptocurrency company; therefore no longer "counts" towards the region

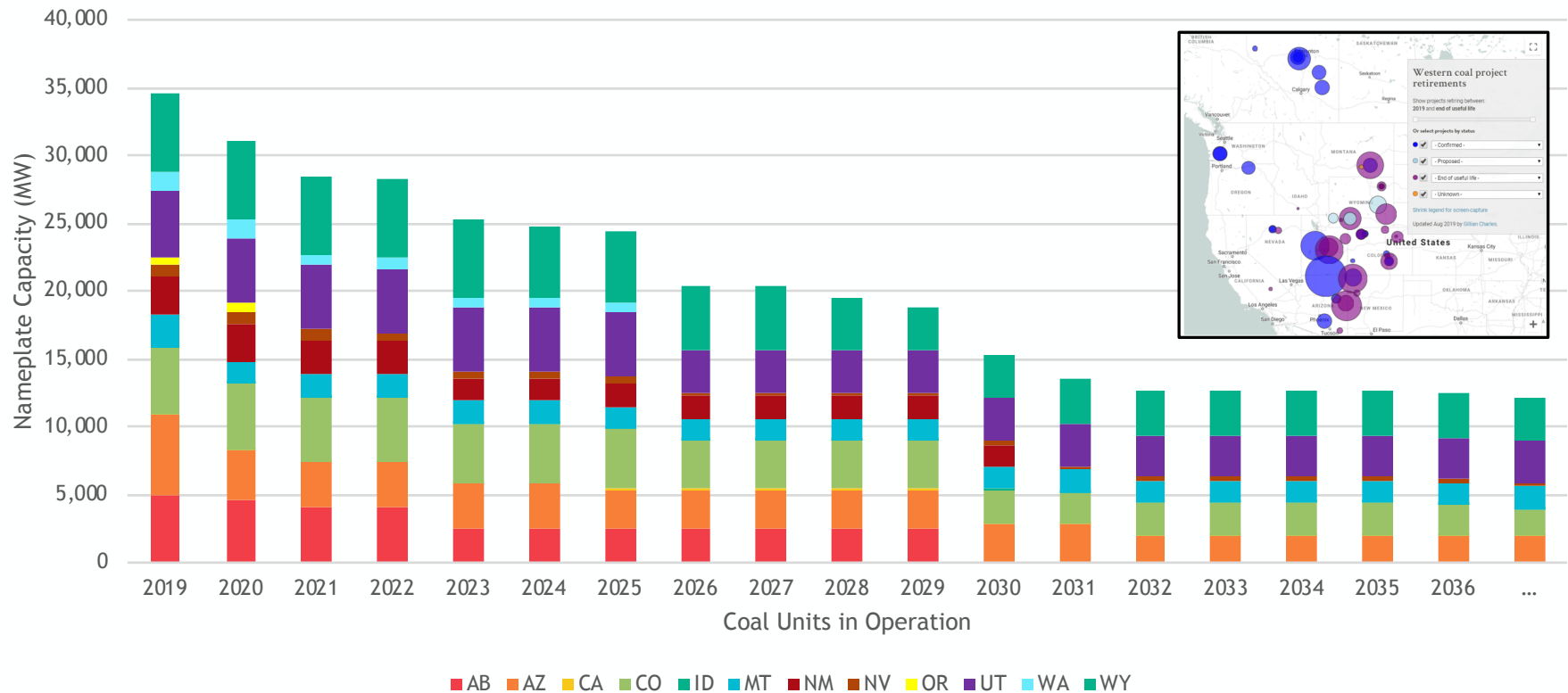
Colstrip 3,4 should be considered very tentative

THE 2021
NORTHWEST
POWER PLAN



WECC coal units in operation, decreasing over time

WECC Coal Units in Operation - By State/Province



Overall, coal operating in the WECC falls from about ~34GW in 2019, to ~15GW in 2030 and ~13GW in 2032 (and thereafter)



THE 2021
NORTHWEST
POWER PLAN



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Questions?



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Next speaker:

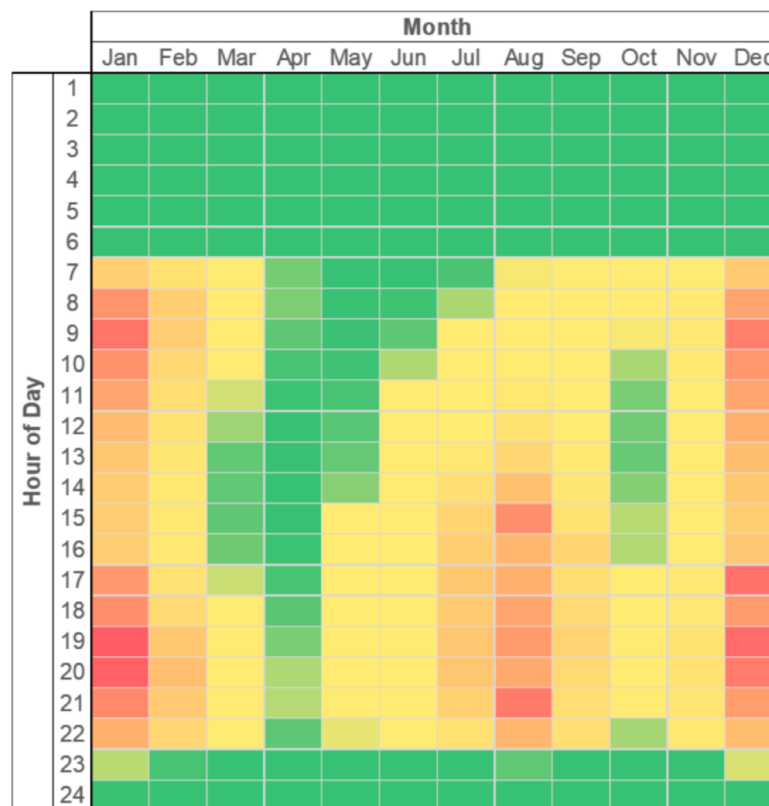
Elaine Hart

Portland General Electric

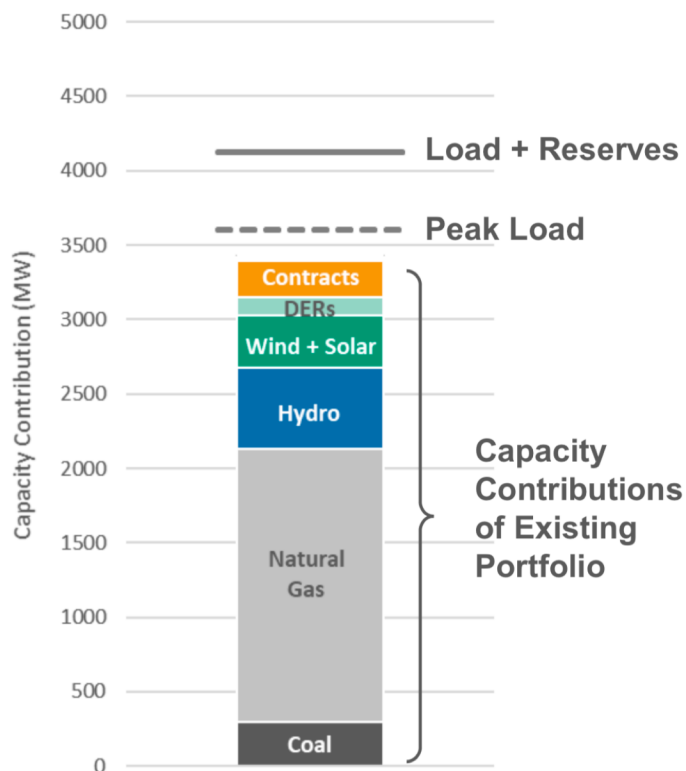
Resource Adequacy in Utility IRPs

- Every utility in the region develops their own assessment of resource adequacy needs within their planning process
- Portland General Electric (PGE) uses a probabilistic model that considers how electricity demand and resource availability change over time
- PGE plans to a standard of 2.4 loss of load hours per year

PGE Expected Loss of Load Hours



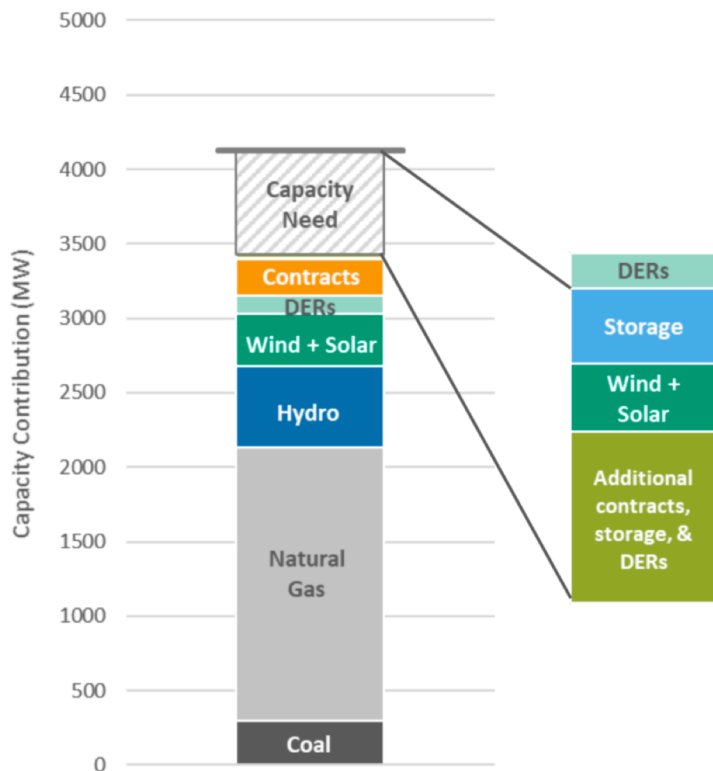
Resource Adequacy in Utility IRPs



- Traditional, centralized, dispatchable resources have long supported resource adequacy and continue to play an important role

*Figures are approximate, load is adjusted for energy efficiency, DER = Distributed Energy Resource

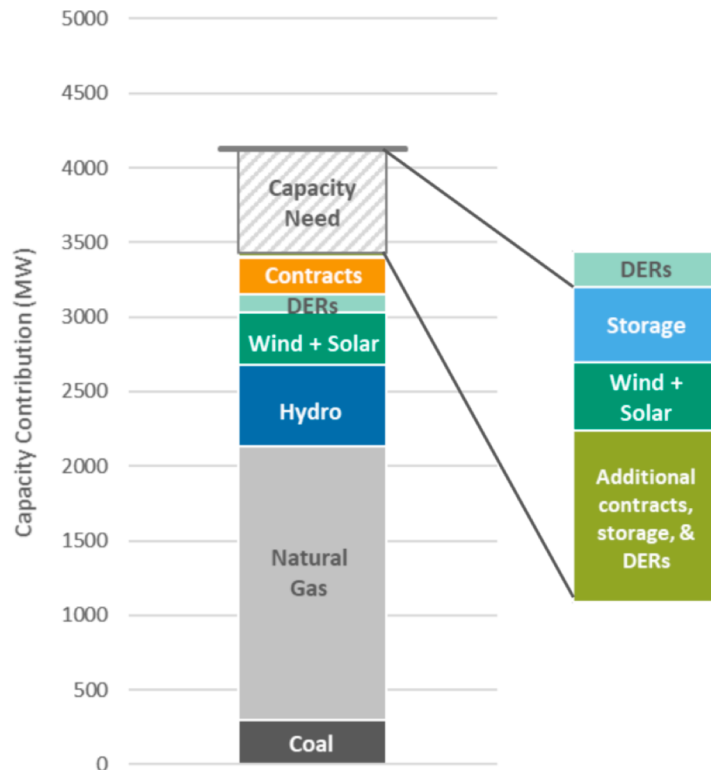
Resource Adequacy in Utility IRPs



- Traditional, centralized, dispatchable resources have long supported resource adequacy and continue to play an important role
- Going forward, capacity needs will be met with larger shares of non-emitting resources, including renewables, energy storage, and demand response

*Figures are approximate, load is adjusted for energy efficiency, DER = Distributed Energy Resource

Resource Adequacy in Utility IRPs



- Traditional, centralized, dispatchable resources have long supported resource adequacy and continue to play an important role
- Going forward, capacity needs will be met with larger shares of non-emitting resources, including renewables, energy storage, and demand response
- This transition will require more sophisticated models and improved regional coordination

*Figures are approximate, load is adjusted for energy efficiency, DER = Distributed Energy Resource

PGE's IRP Stakeholder Process

We are getting started on our next Integrated Resource Plan.

If you're interested in participating, visit www.portlandgeneral.com/IRP
or email us at IRP@pgn.com.





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Questions?

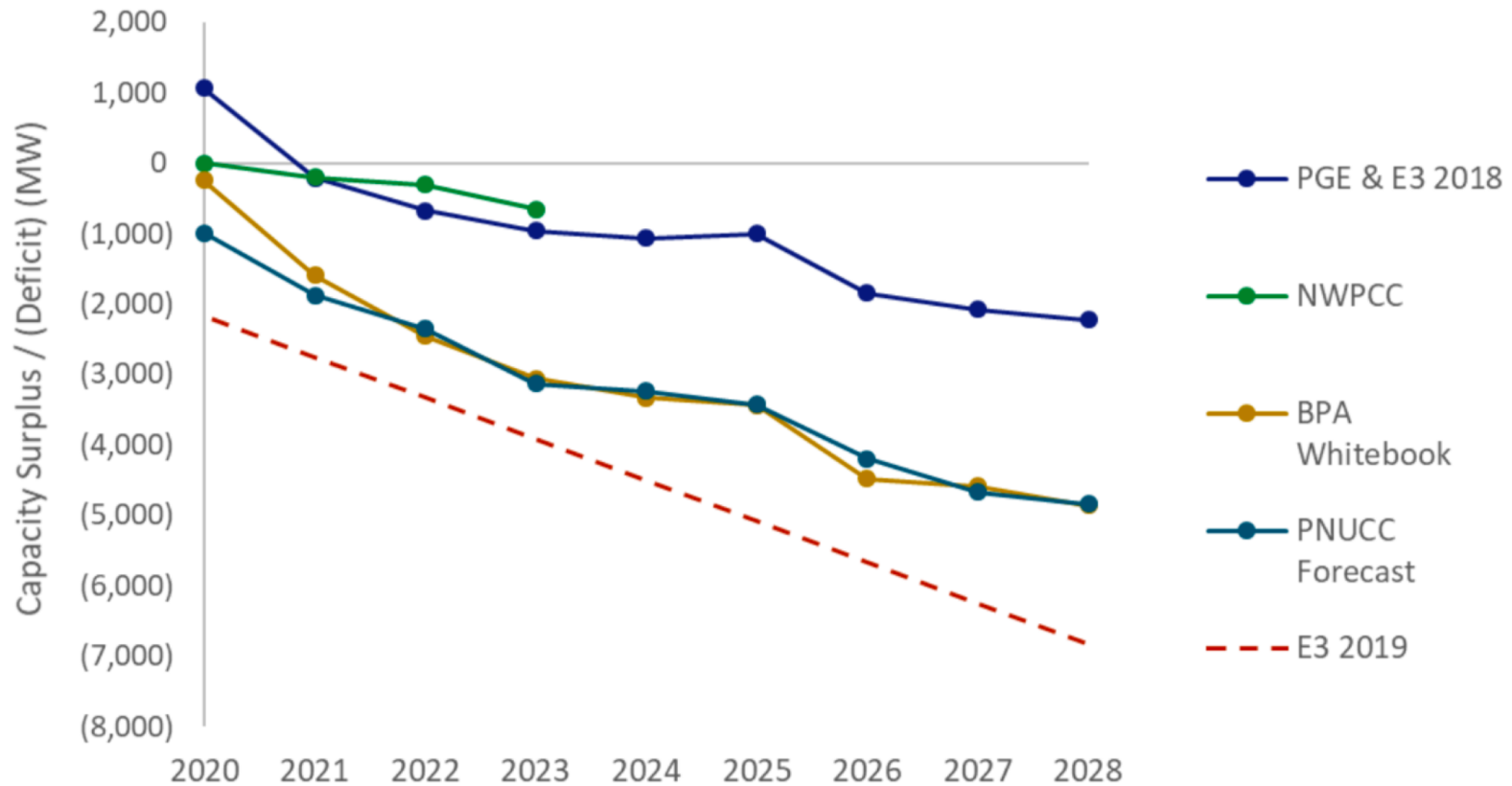


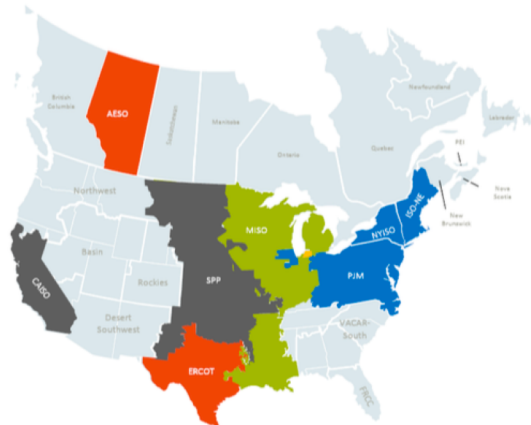
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Next speaker:

Therese Hampton
Public Generating Pool

Resource Adequacy Study Summary





Bilateral Resource Adequacy Program

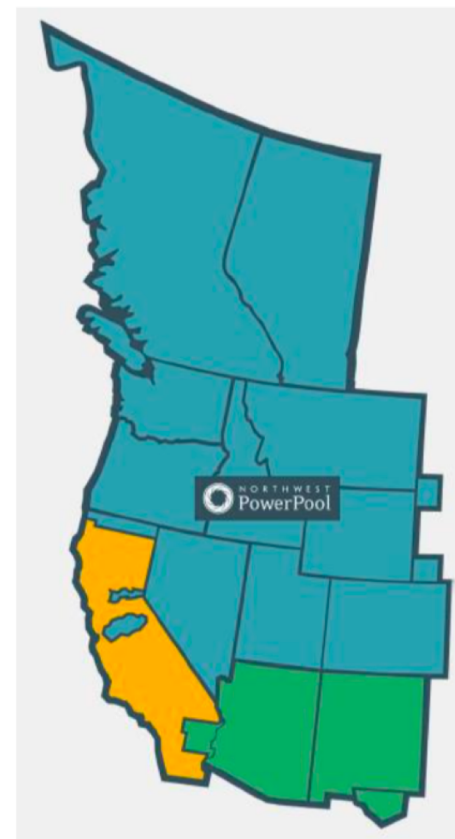
- CAISO
- SPP

Voluntary Central Capacity Market

- MISO

Central Capacity Market

- PJM
- NYISO
- ISO-NE



Resource Adequacy Program Options

REGIONAL PLANNING RESERVE SHARING HAS THE POTENTIAL TO RESULT IN SIGNIFICANT BENEFITS

- Provides an independent means for determining the quantity of capacity that is needed for regional resource adequacy
- Takes advantage of load and resource diversity that exists across regions
 - Planning to meet regional coincident peak loads requires less capacity than meeting each individual utility's peak loads
 - Resources that are surplus in one area could be utilized to meet a deficit in a neighboring area
- May enable a lower reserve margin because large systems are less vulnerable to individual, large contingencies

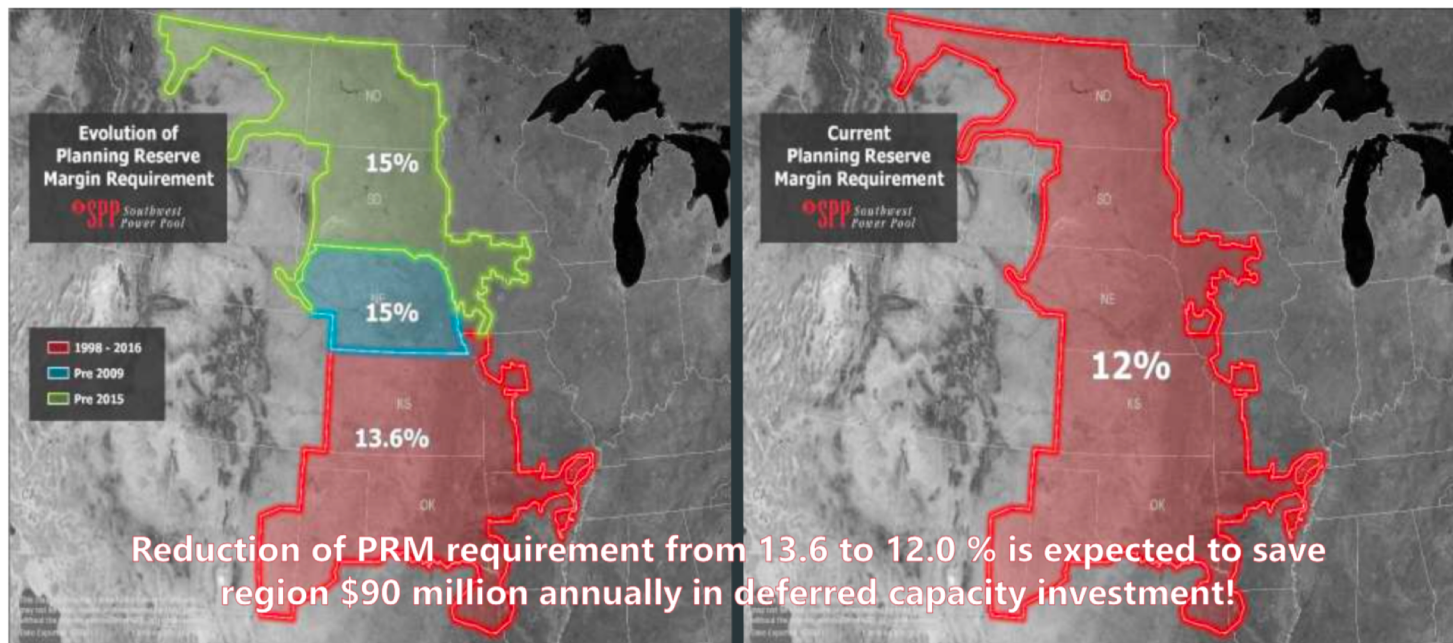
	Potential Benefits	
	BPA+ Area	NWPP (US)
Individual Utility Peak + 15% PRM	33,574	46,398
Regional Peak + 15%	32,833	42,896
Reduction (MW)	741	3,502
Regional Peak + 12%	31,977	41,777
Reduction (MW)	1,597	4,621

Note: Capacity reductions calculated as the difference between the sum of non-coincident peaks for all Northwest Balancing Areas and the coincident peak for the US portion of the Northwest Power Pool footprint



BENEFITS OF DIVERSITY AND EXPANSION

- PRM requirements reliably reduced due to increased load and resource diversity facilitated through regional transmission planning and market operation
- Regional footprint expansion has created further opportunities to reduce PRM requirements



OVERVIEW OF PROJECT TIMELINE



**Phase 1:
Information
Gathering
(concluded Oct.
2019)**

**Phase 2A:
Preliminary
Design Phase
(Early 2020)**

**Phase 2B:
Detailed Design
(Late 2020)**

**Phase 3:
Begin Work to
Implement
Program (2021)**



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Questions?

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Q&A

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Thank you!

Questions or Feedback?

Email: kat@nwenergy.org

We will post the recording on our website:

www.nwenergy.org