Study Scope for the 2020-2021 Planning Cycle

NorthernGrid

Enrolled Parties and States Committee

July 29, 2020

EPSC State Representatives

Name	Title
Paul Kjellander	ID PUC Commissioner
Stephen Goodson	ID PUC Policy Advisor
John Chatburn	ID OER, Administrator
Marissa Warren	ID OER, Policy Analyst
Bob Lake	MT PSC, Commissioner
Robin Arnold	MT PSC, Commission Staff
Jamie Stamatson	MT CC, Staff
Lawrence Nordell	MT CC, Staff

Name	Title
Megan Decker	OR PUC, Commissioner
Shelley-Anne Maye	OR PUC, Commission Advisor
Nadine Hanhan	OR PUC, Staff
Matt Muldoon	OR PUC, Staff
Chris Parker	UT DPU, Director
Brooke Tucker	UT OE Managing Director
Ann Rendahl	WA UTC Commissioner
Jason Ball	WA UTC, Deputy Assistant Director
Kathleen Drew	WA EFSEC, Chair
Kara Fornstrom	WY PSC, Commissioner

EPSC Member Representatives

Member	Name
Avista	Jeff Schlect
	John Gross
Idaho Power	Jared Ellsworth
	Curtis Westhoff
MATL	Sharmen Andrew
Northwestern Energy	Dori Quam
	Chelsea Loomis

Member	Name
PacifiCorp	Graham Retzlaff
	Brian Fritz
Portland General	Shaun Foster
	Sarah Edmonds
Puget Sound Energy	Shauna Tran
	Stephanie Imamovic

Objectives

EPSC Actions (10 minutes)

Selection of EPSC state and Enrolled Parties Co-chairs

Study Scope (1 hour)

Discussion of key 2020-21 Study Scope components providing a basis for the committee to contribute

Comment Submittal Demonstration (20 minutes)

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Selection of EPSC Co-chairs

- States
  - Nominations
  - States Vote
- Enrolled Parties
  - Nominations
  - Enrolled Parties Vote

General Schedule and Deliverables

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Members

Avista

BHE U.S. Transmission

Bonneville Power Administration

Chelan County P.U.D.

Grant PUD

Idaho Power — An IDACORP Company

NorthWestern Energy

PacifiCorp — A MidAmerican Energy Holdings Company

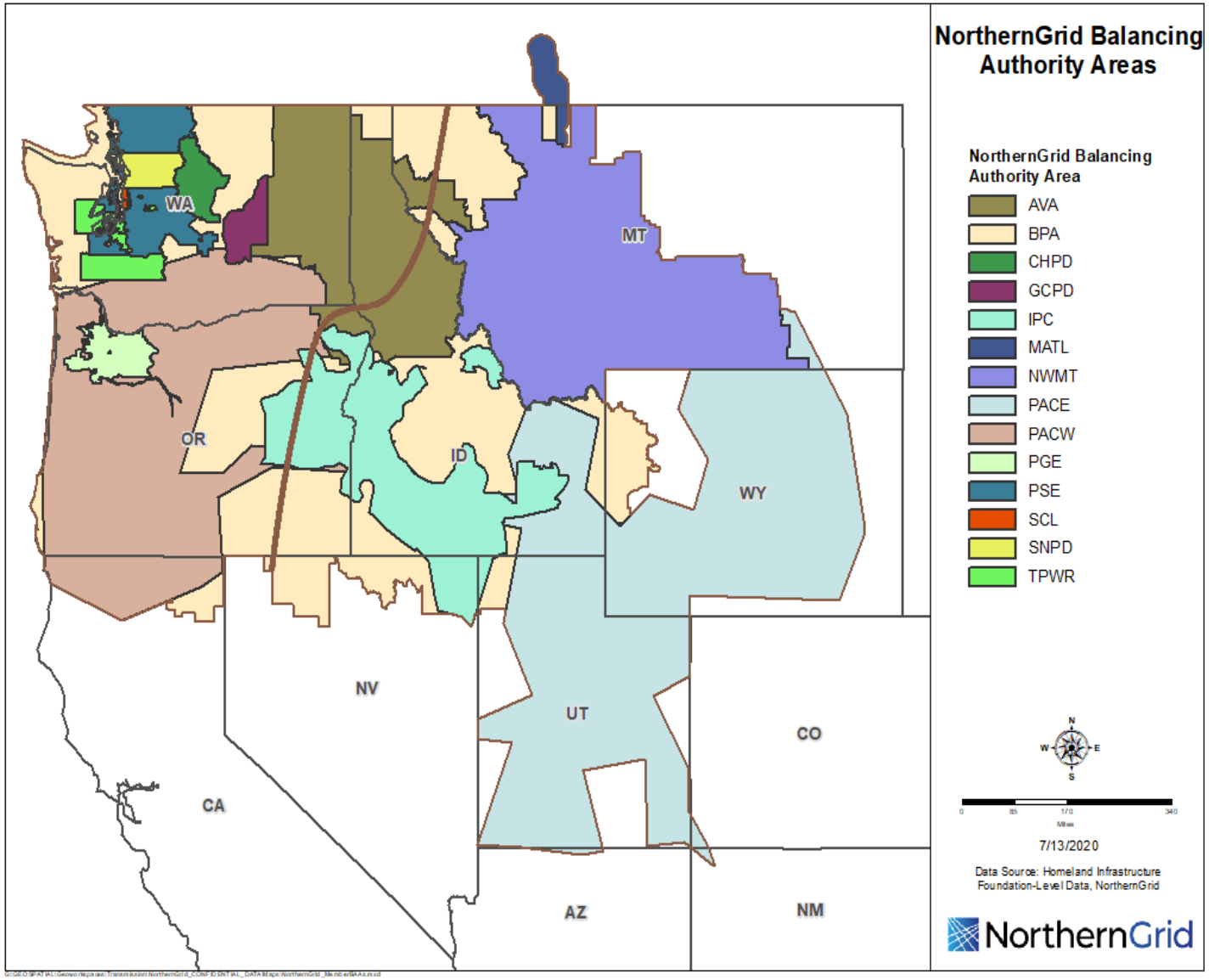
PGE

Puget Sound Energy

Snohomish County PUD — Public Utility District No. 1

Seattle City Light

Tacoma Power — Tacoma Public Utilities



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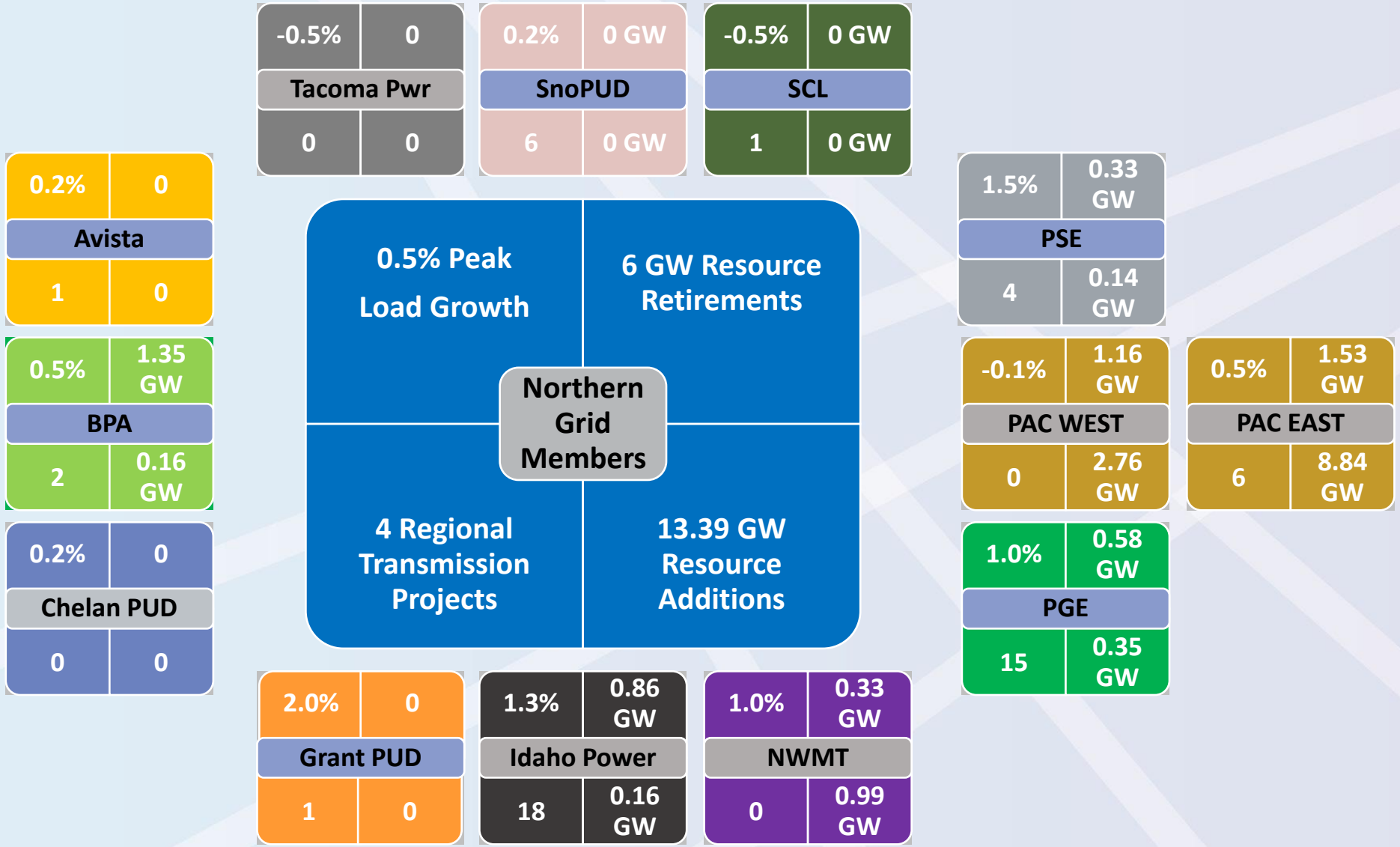
Members Summary



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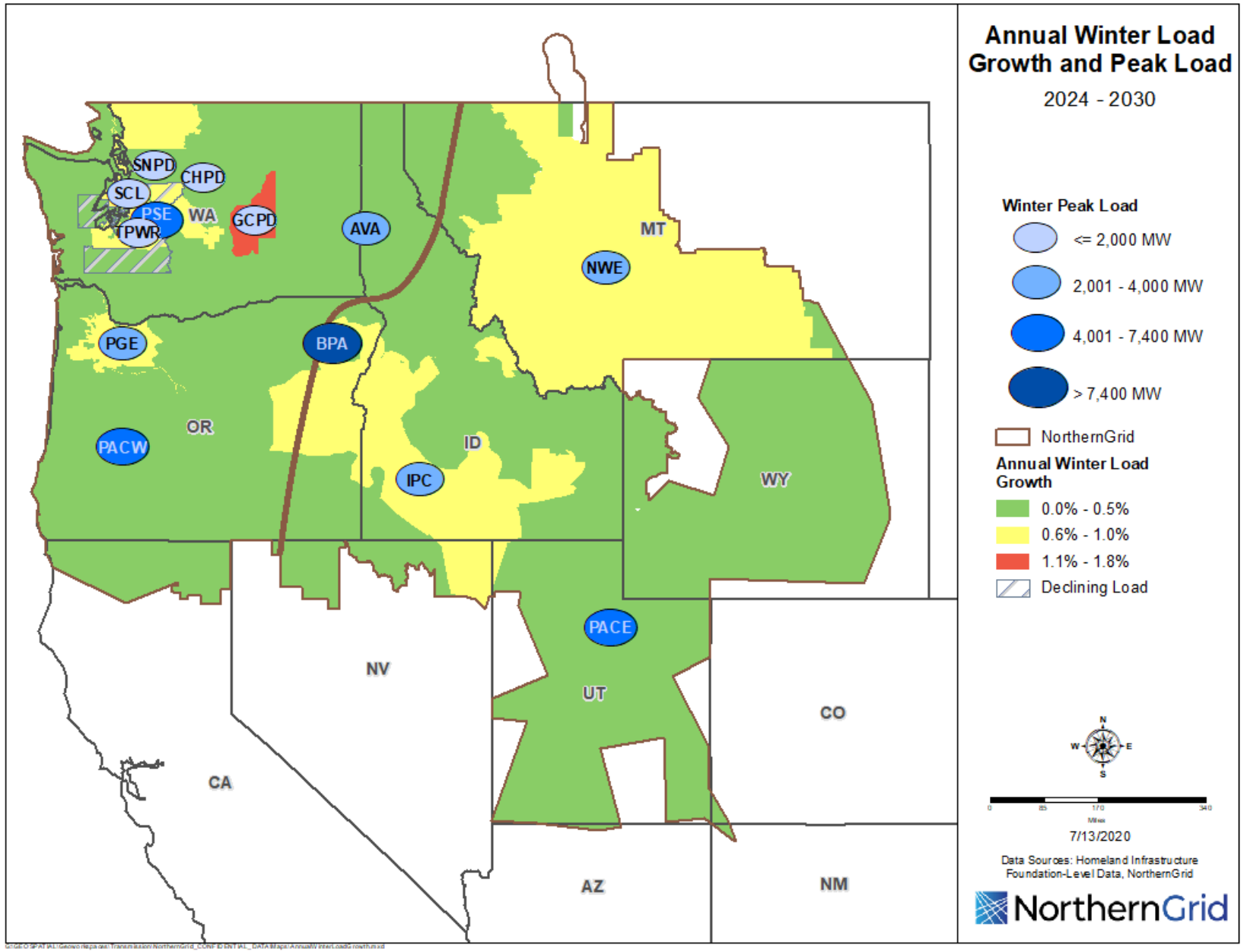
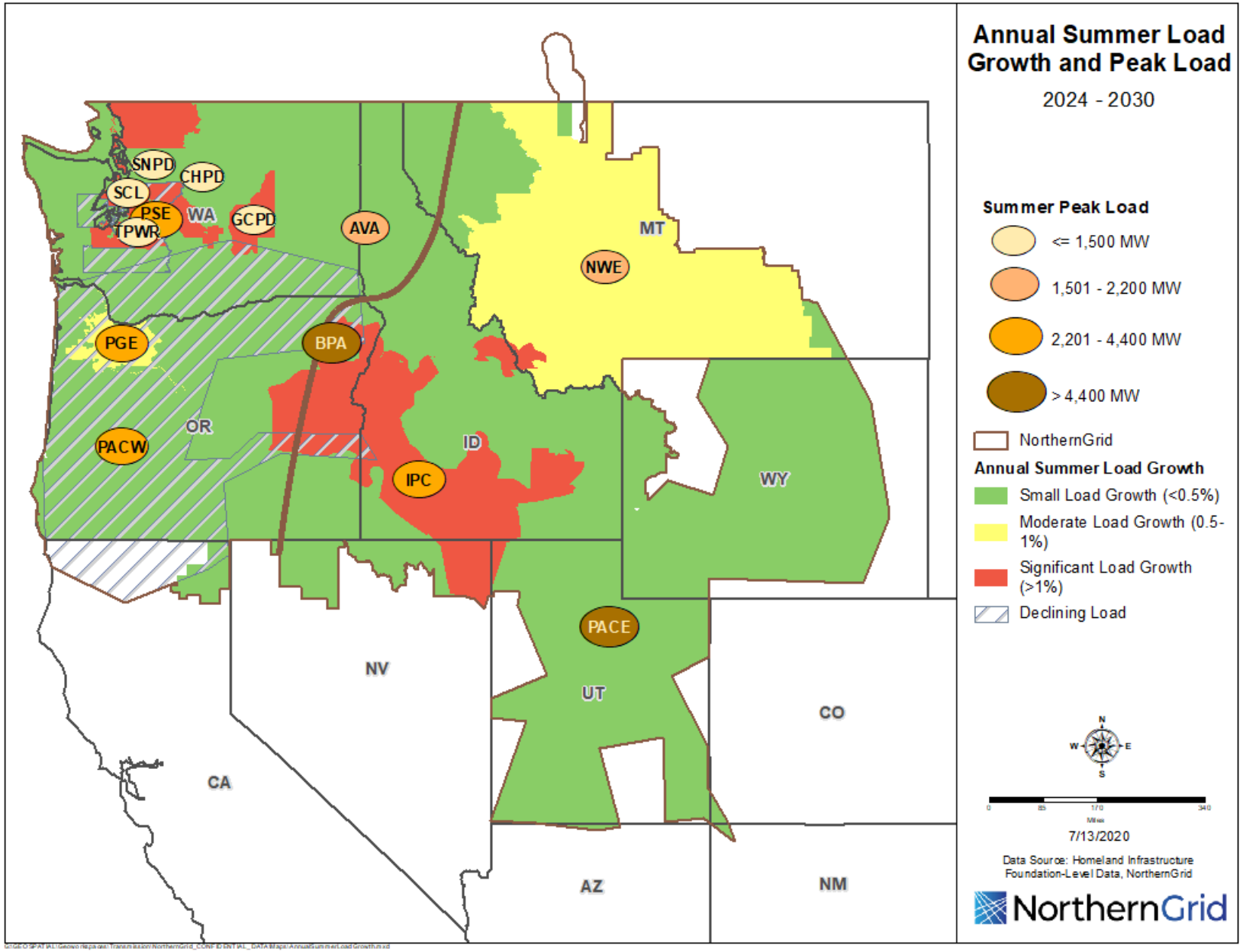
Winter Load

- 0.5% peak load growth across the NorthernGrid region

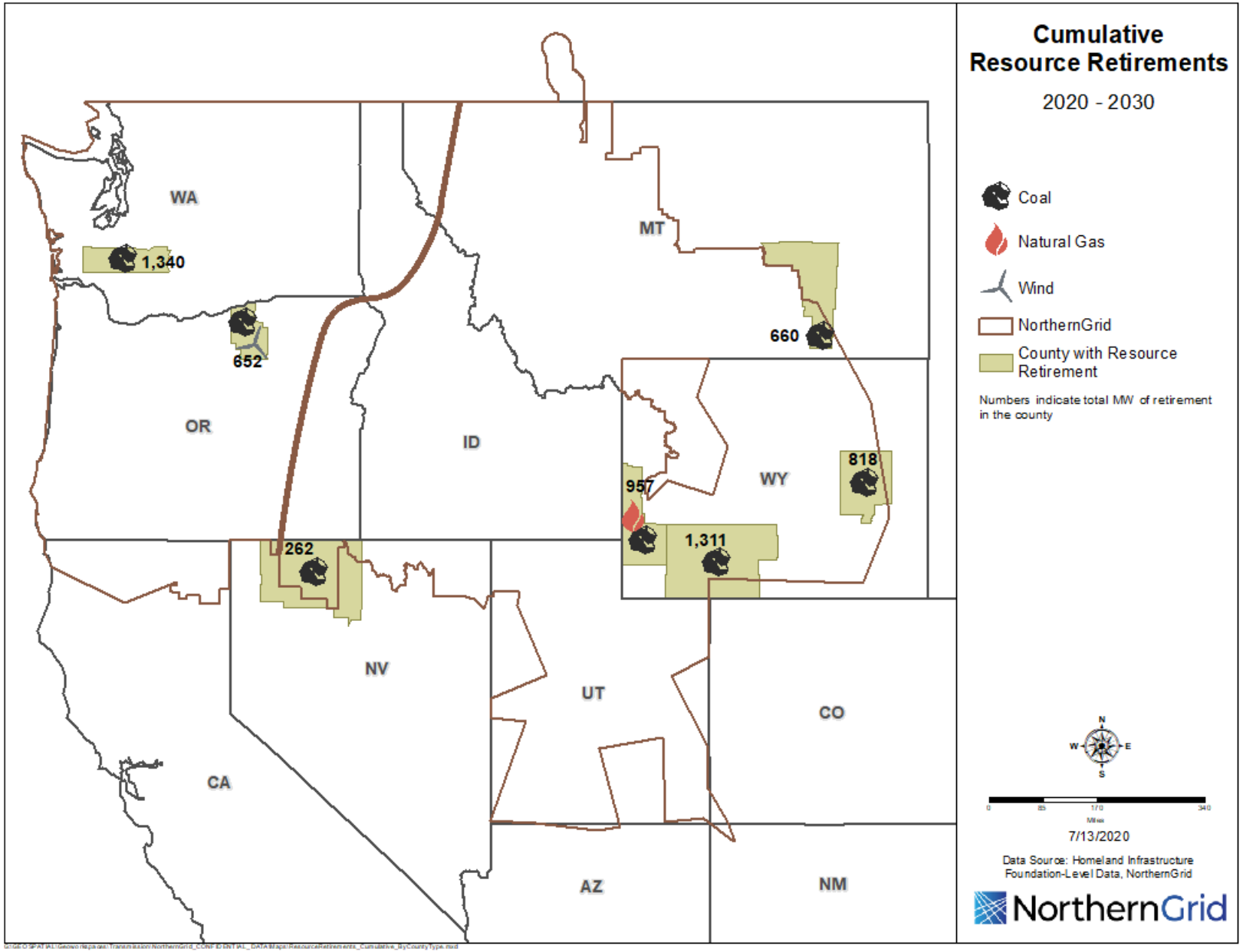


Summer Load

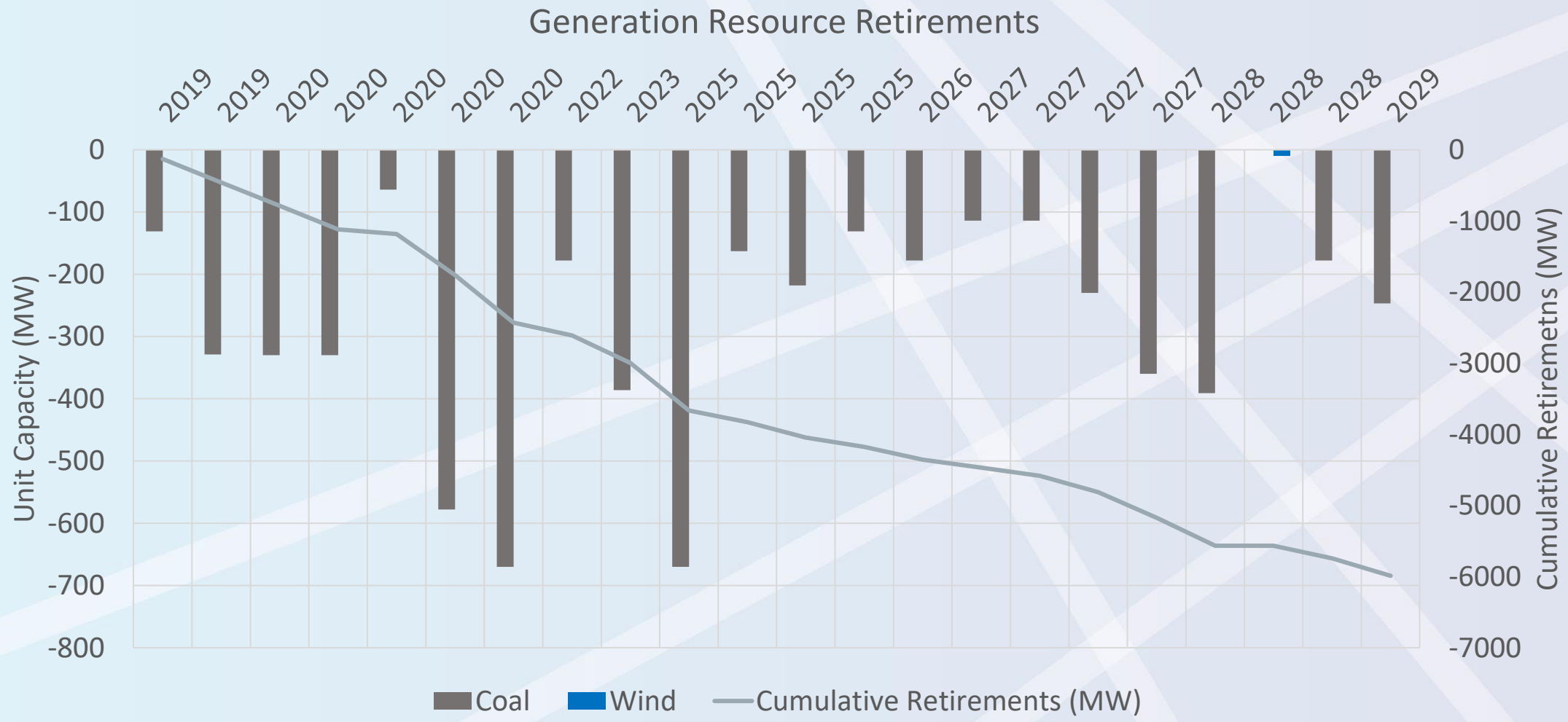
- 0.5% peak load growth across the NorthernGrid region



Generation Resource Retirements



Cumulative Generation Resource Retirements



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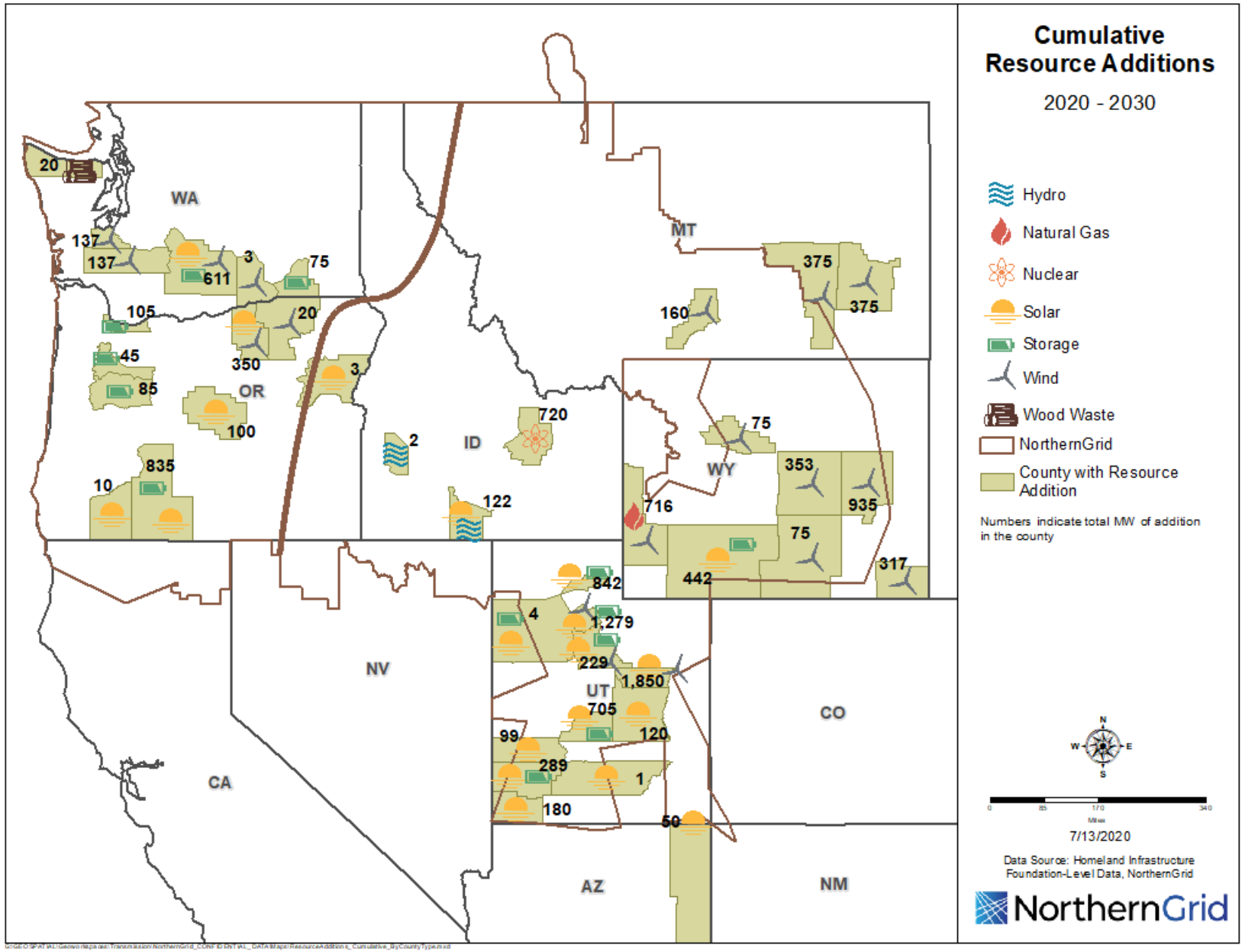
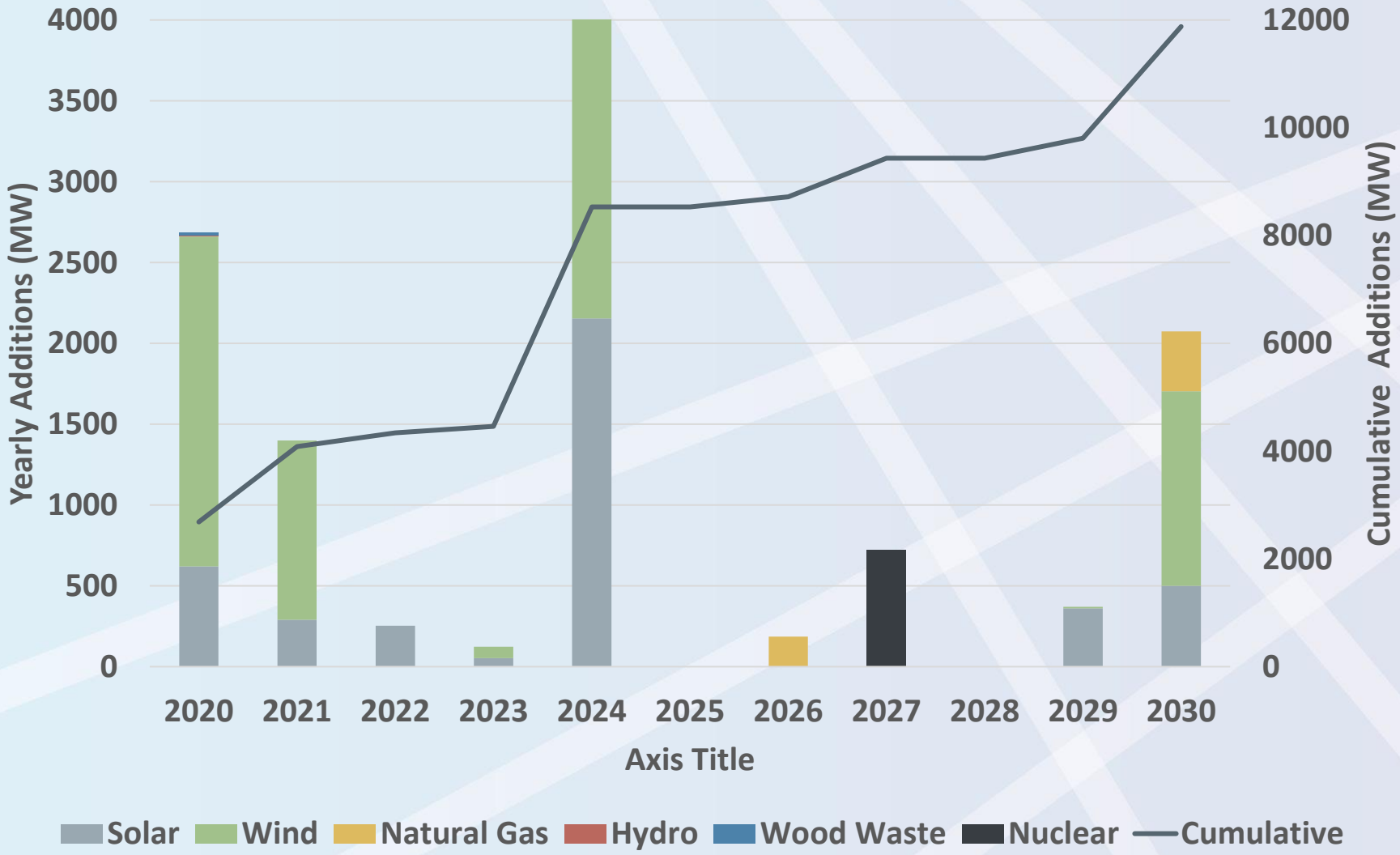
Generation Resource Additions

- 13,390 MW forecasted
- 87% from PacifiCorp
- 75% forecasted in the NG-IM area
- Shift from dispatchable and baseload operated to variable generation resources



Cumulative Generation Resource Additions



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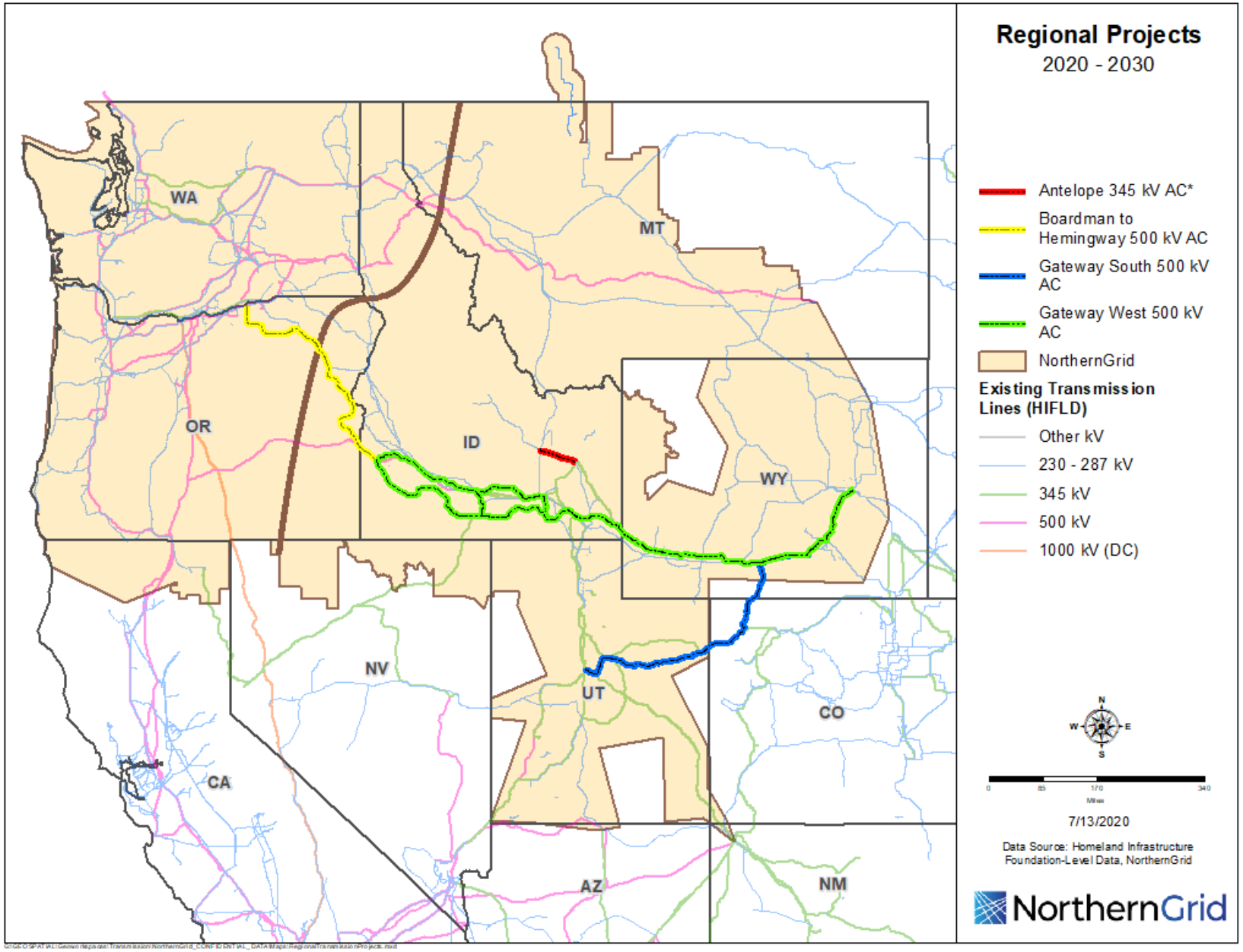
Regional Transmission

- Antelope to Goshen
- Boardman to Hemingway
- Gateway South
- Gateway West



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Non-Incumbent Transmission Projects

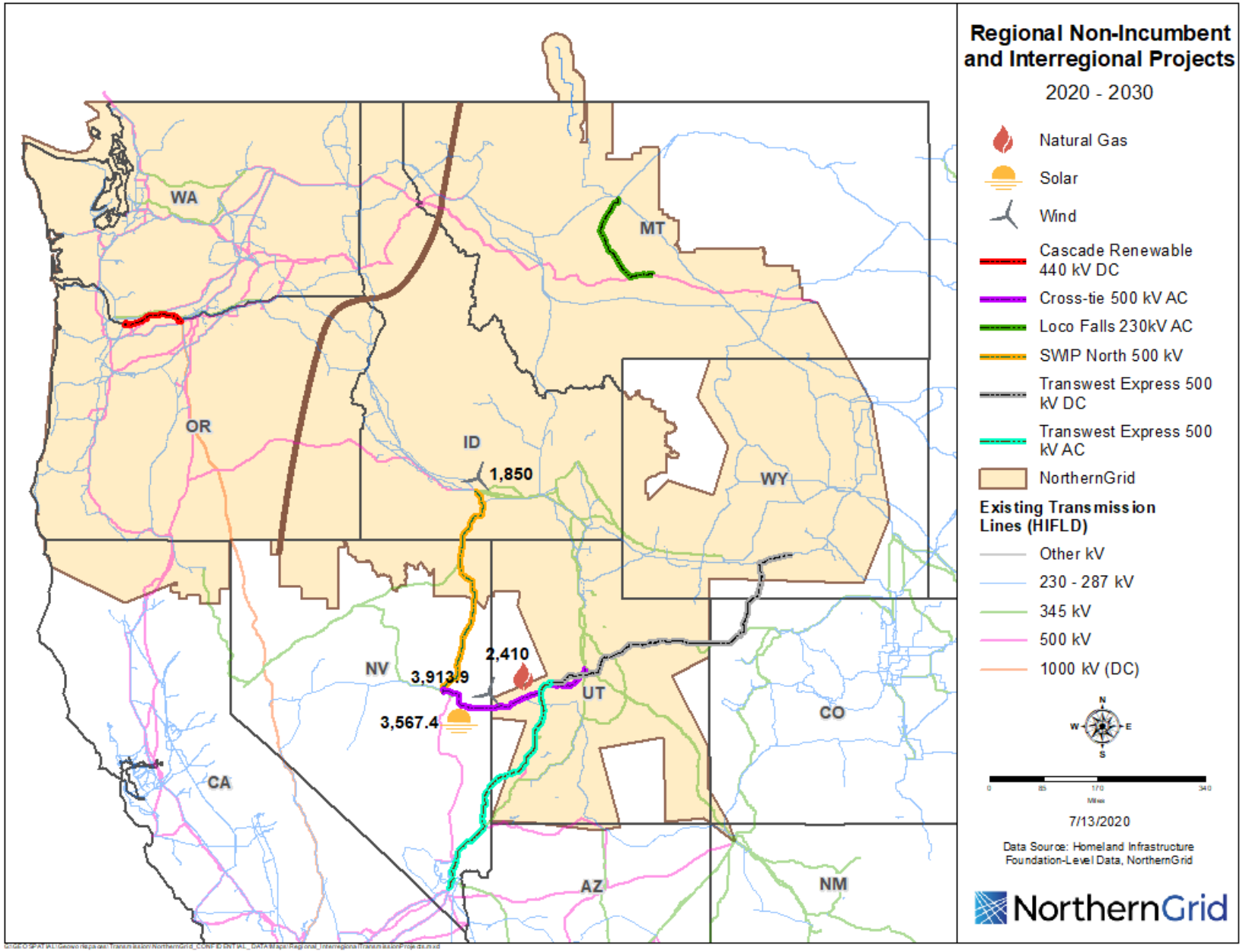
Cascade Renewable Transmission

Loco Falls Greenline

SWIP North (Interregional)

Cross-Tie (Interregional)

Transwest Express (Interregional)



Cost Allocation Overview

Cost Allocation – Qualified Developers

TransCanyon, LLC

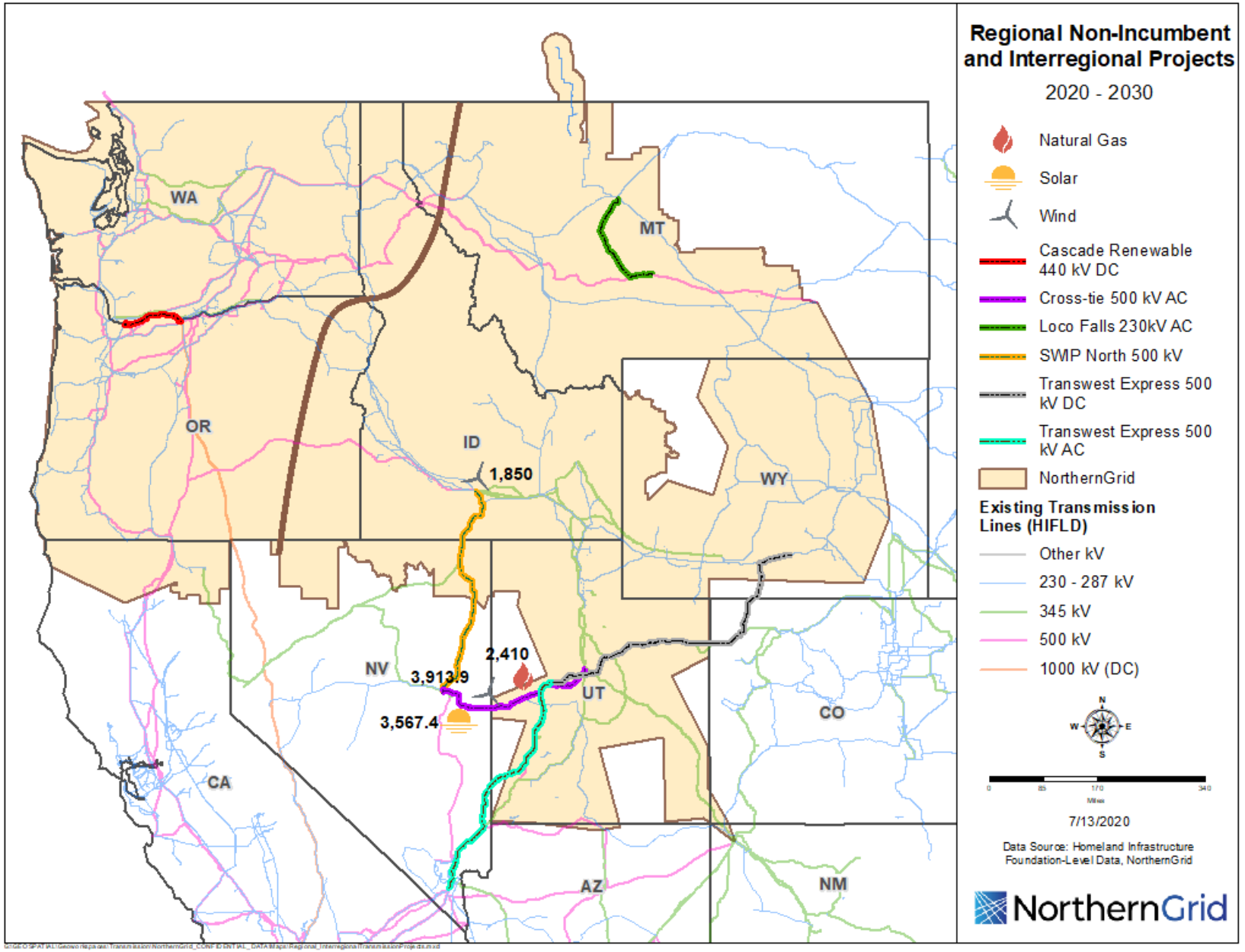
- Cross-Tie

Great Basin Transmission, LLC

- SWIP North

PowerBridge

- Cascade Renewable Transmission



Cost Allocation - More Efficient or Cost Effective Solution Determination

- Satisfaction of one or more Enrolled Party's Needs
- Effectiveness of performance
- Economics
- Feasibility to Complete
- Sponsorship and degree of development
- Coordination with and mitigation of any Material Adverse Impact on any affected transmission system
- Consistency with applicable state, regional, and federal planning requirements and regulations

Cost Allocation – Project Benefits

- Deferred Costs
- Avoided Capital Costs
- Increased Useful Available Transfer Capability

Public Policy

- Identified enacted public policies through 2030 that impact resource and local transmission plans
- Enacted policies exist in Washington, California, Oregon, Montana, and Utah
- No identified public policy requirements in Wyoming and Idaho

Analysis Methodology

Objective: Assess existing system and committed projects ability to reliably serve 2030 forecasted loads and resources

Simulation: WECC heavy winter, heavy summer and light spring power flow cases along with power flows from Production Cost simulation for transmission system stress hours

Analysis: Monitor transmission and generation facilities for thermal and voltage violations during facility outages

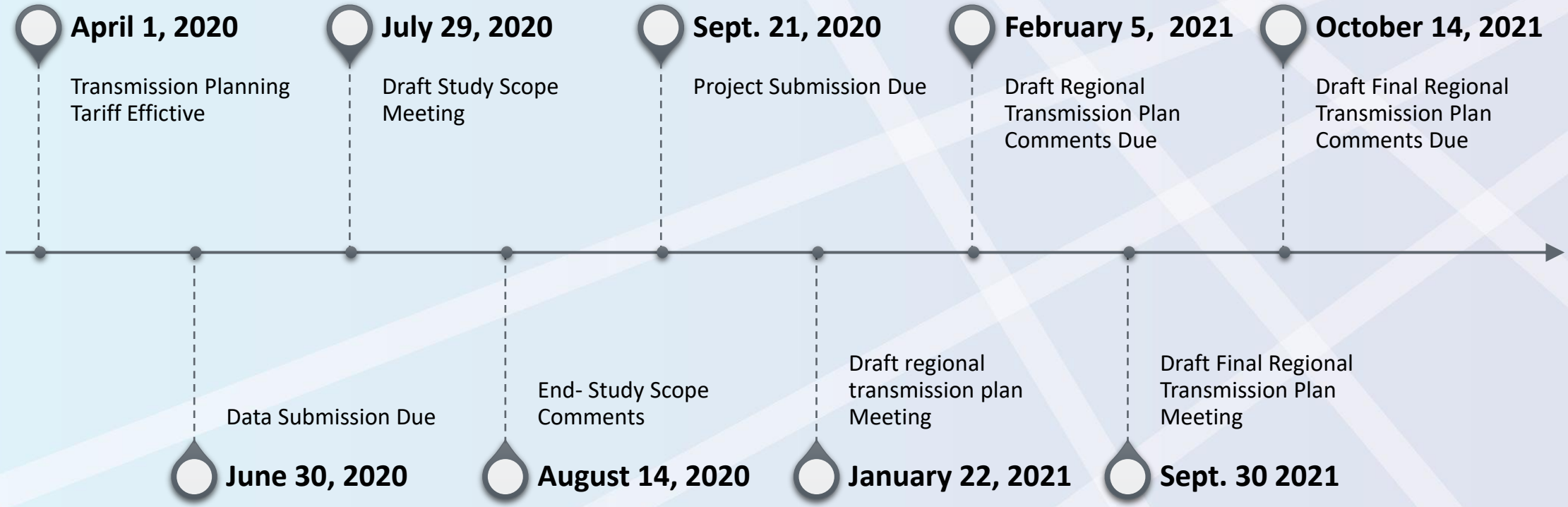
Available WECC Power Flow Cases

- **2029-30 Heavy Winter 1**
  - Expected December through February evening load peaks
- **2030 Light Spring 1-S**
  - March, April, and May light-load condition with solar and wind serving a significant portion of the WECC total load
- **2030 Heavy Summer 1**
  - Expected June through August late afternoon load peaks
- **2030 Heavy Summer 1 ADS**
  - ADS-PCM 7/29/2030 hour 19:00 MDT

Production Cost Model Cases

- WECC Anchor Data Set provides the 2030 Production Cost Model
- Member Planning Committee will select hours that stress the NorthernGrid transmission system
- Additional power flow cases are generated from Production Cost Model

Stakeholder Engagement Schedule



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Comment Portal Demonstration

- Comment period opens on July 29th and closes August 14th
- Link to comment portal on NorthernGrid web site: https://www.northerngrid.net/comments/

Questions? Please contact Dave Angell at dave.angell@northerngrid.org

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EPSC Questions for Consideration

- Does the EPSC desire to meet to produce a contribution set?

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