

TRANSMISSION IN TRANSITION

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Setting the Stage

01

The WPP

02

Transmission Planning

03

The Interconnected
West

WPP provides a range of grid integration and coordination services to its customer-members throughout the entire Western Interconnection

**Reserve
Sharing Group**

**Frequency
Response
Sharing Group**

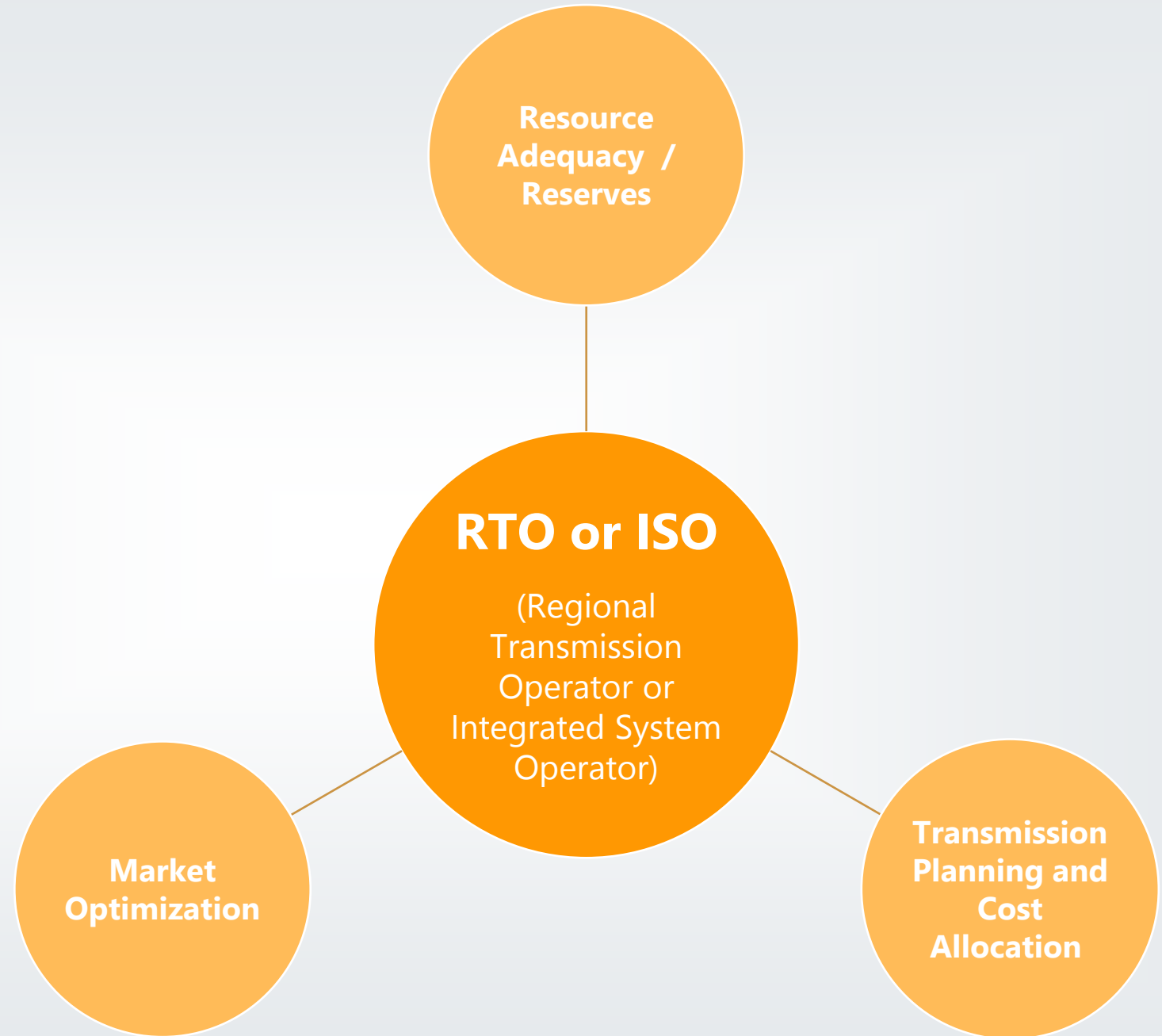
Training

**Transmission
Services**

**Resource
Adequacy**

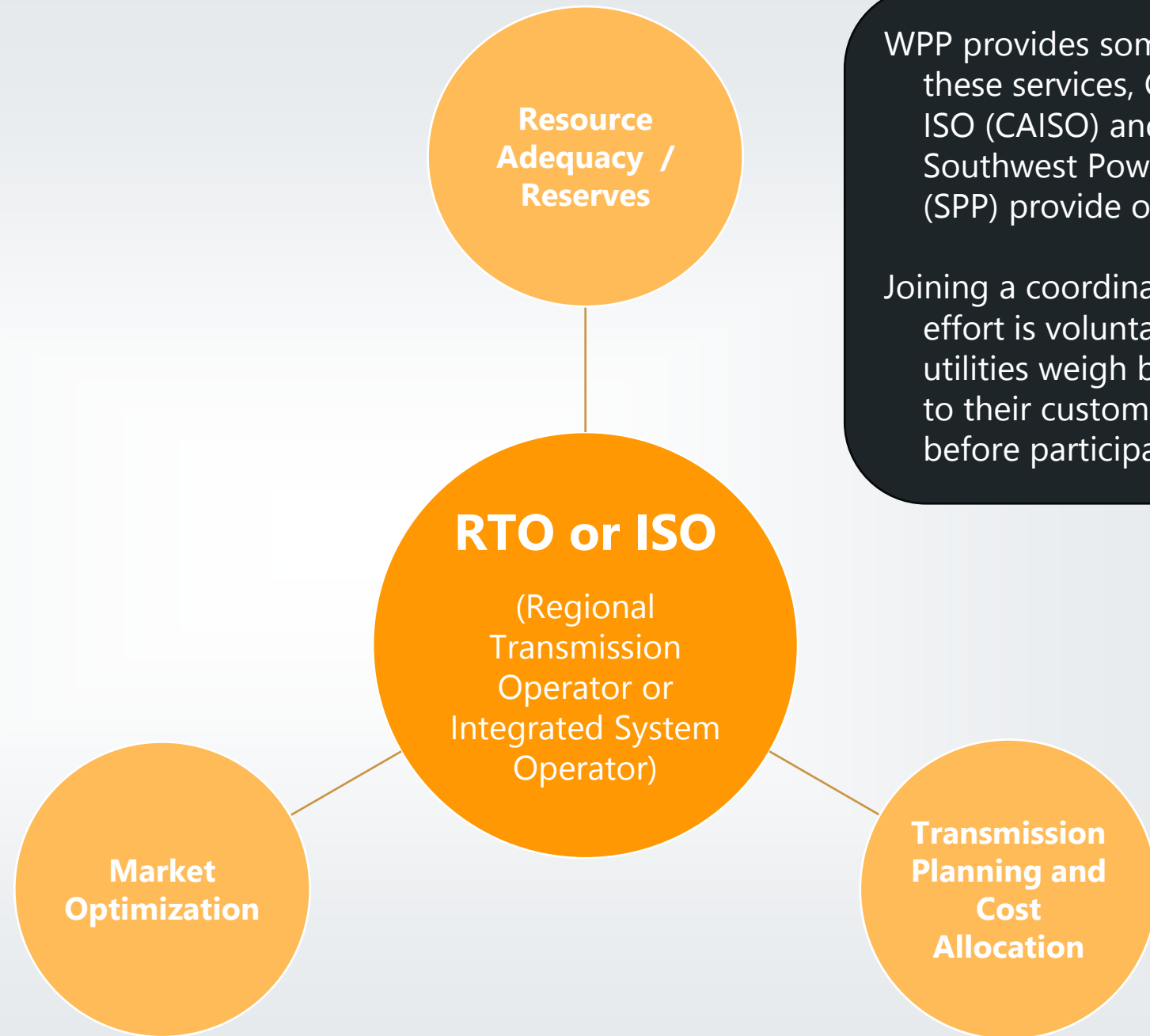
**Hydro
Modeling**

Elsewhere in the US, organizations like Power Pools offer consolidated services for grid coordination.



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In the West, we're approaching these services differently – we often call it "the incremental approach."



WPP provides some of these services, California ISO (CAISO) and Southwest Powerpool (SPP) provide others.

Joining a coordinated effort is voluntary, and utilities weigh benefits to their customers before participating.

Transmission Planning in an RTO

- » Coordinated effort across the RTO's footprint
- » Utilizes information about load and generation changes, market activity, etc. to identify transmission build-out
- » Cost allocation is established for all participants joining

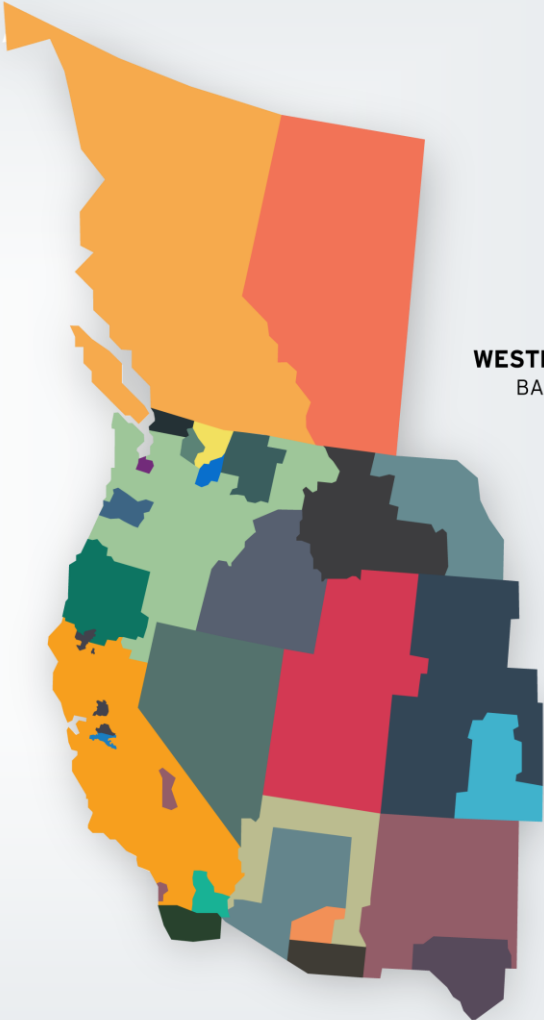
Transmission: the high-voltage wires that move bulk power from where it is produced (often across long distances) to the lower-voltage distribution wires that deliver power to consumers

The Western Interconnect has 38 Balancing Authority Areas (BAAs).

Most of these areas have different Transmission Service Providers and some have more than one.



WESTERN INTERCONNECTION FOOTPRINT



WESTERN INTERCONNECTION BALANCING AUTHORITIES

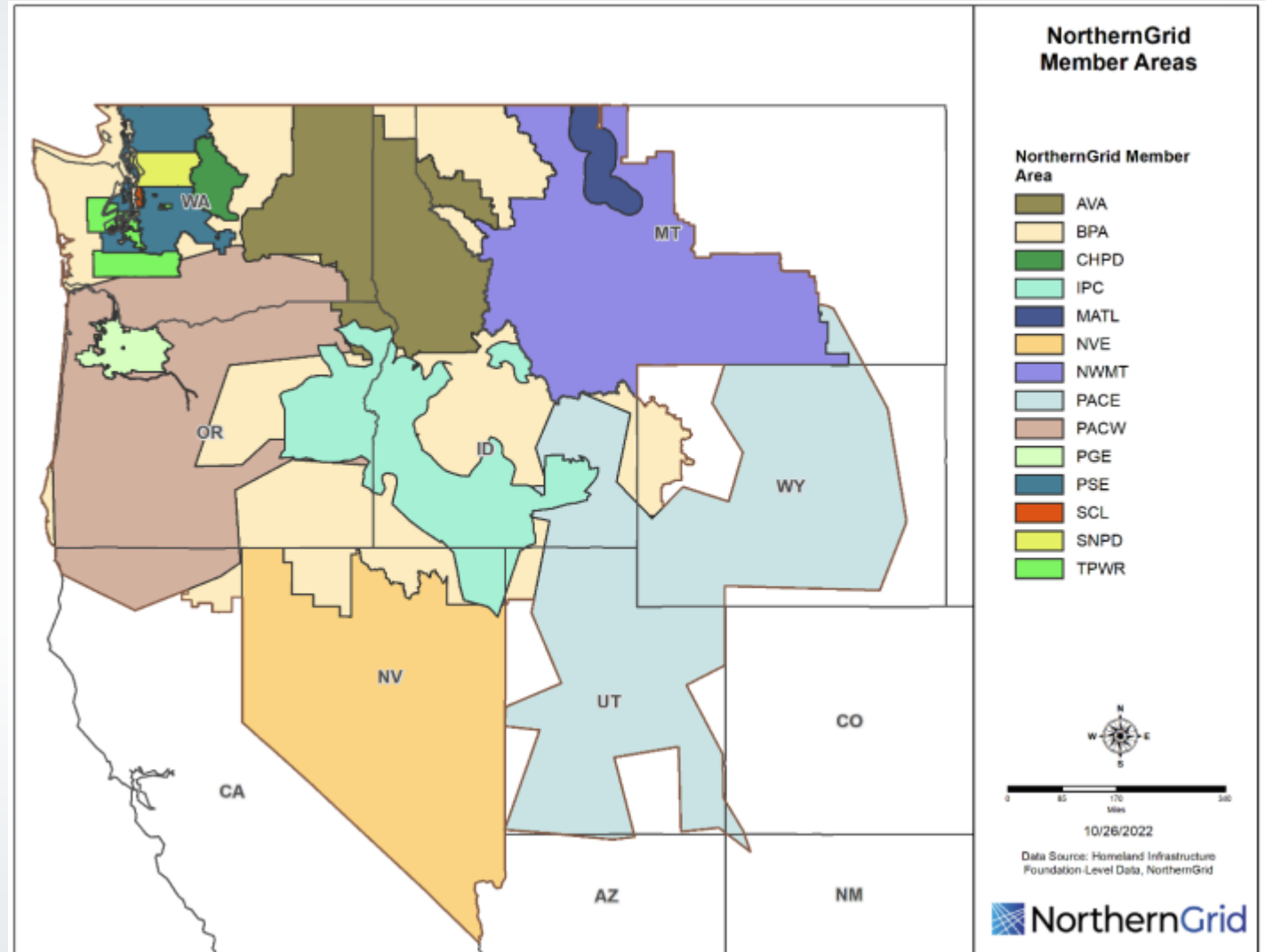
Interconnected Northwest

- » BPA, PAC, and PGE transmission systems are highly interconnected
- » No single provider can make a comprehensive plan
- » Best value will come from collaborative transmission planning



The Federal Energy Regulatory Commission (FERC) requires transmission providers to engage in regional transmission planning under the "FERC Order 1000" process.

WPP facilitates the NorthernGrid process.

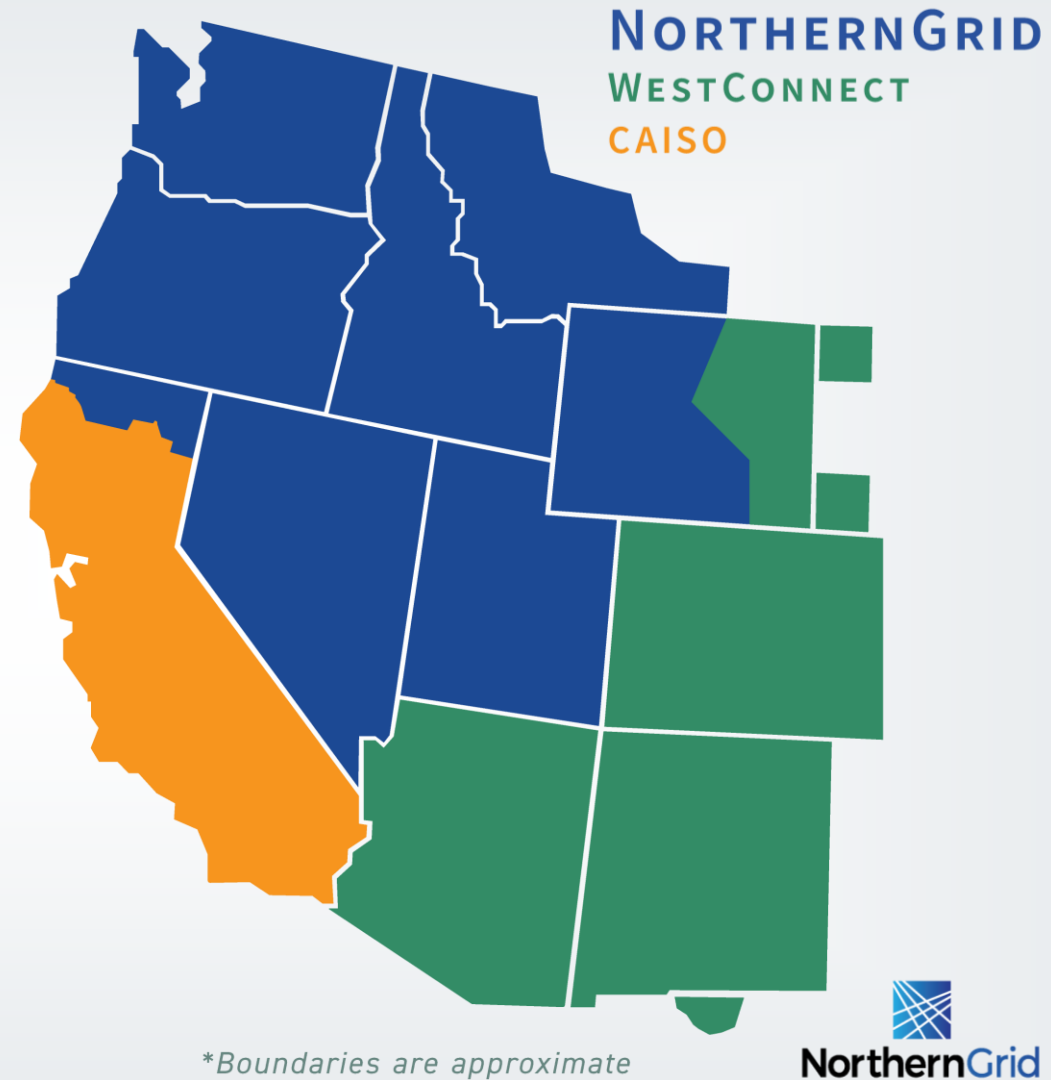


WPP is facilitating conceptual conversations about a new kind of regional planning effort called Western Transmission Expansion Coalition (WTEC).

WTEC aims to be:

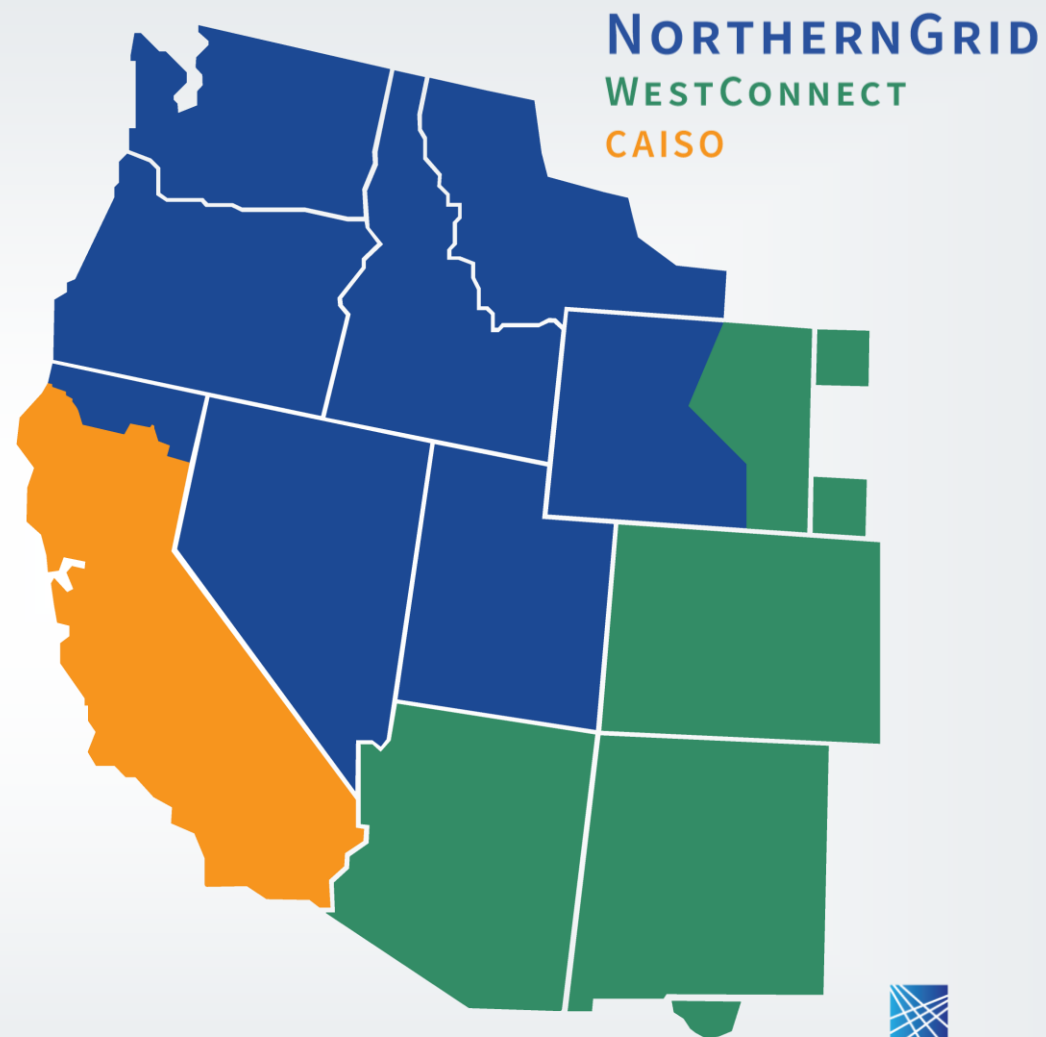
- » Different
- » Expedient
- » Inclusive

in order to arrive at actionable regional transmission studies



A proposal for WTEC was posted to the WPP website in October for comment by stakeholders.

WPP is reviewing comments with stakeholders and expects to release updated information about next steps in late November.



NORTHERNGRID
WESTCONNECT
CAISO

**Boundaries are approximate*



Questions?

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