

DOCKETED

Docket Number:	15-RETI-02
Project Title:	Renewable Energy Transmission Initiative 2.0
TN #:	212873
Document Title:	Panel 3 presentation - David Smith
Description:	RETI 2.0 Western Outreach Project: Portland Workshop 8-12-16
Filer:	Misa Milliron
Organization:	Anschutz
Submitter Role:	Public Agency
Submission Date:	8/19/2016 10:52:01 AM
Docketed Date:	8/19/2016



TransWest Express Transmission Project: Wyoming Transmission Assessment Focus Area Transmission Options



RETI 2.0-
Western Outreach
Workshop
Portland , OR
August 12, 2016

RETI 2.0 Out-of-State Transmission Assessment

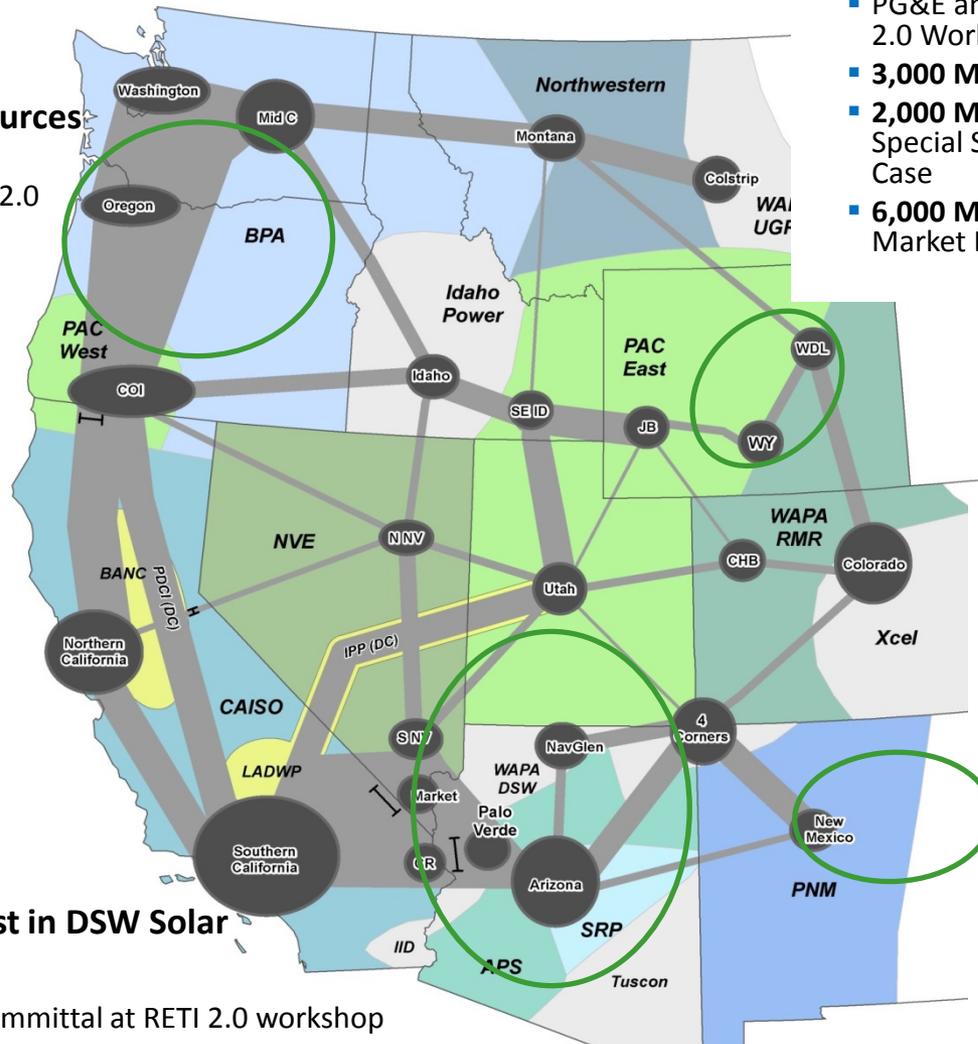
Focus Areas

California Interest in NW Resources

- RETI 2.0 TAFAs
- Utilities non-committal at RETI 2.0 workshop

California Interest in Wyoming Wind

- RETI 2.0 TAFAs
- PG&E and SDG&E stated interest at RETI 2.0 Workshop, others non-committal
- 3,000 MW by 2026 - CPUC LTPP Scenario
- 2,000 MW by 2026 – ISO 50% RPS Special Study & WestConnect Renewable Case
- 6,000 MW by 2030 – ISO Regional Market Benefits Study



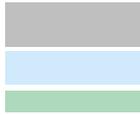
California Interest in New Mexico Wind

- RETI 2.0 TAFAs
- PG&E and SDG&E stated interest at RETI 2.0 Workshop, others non-committal
- 2,000 MW by 2026 – ISO 50% RPS Special Study & WestConnect Renewable Case
- 5,000 MW by 2030 – ISO Regional Market Benefits Study

California Interest in DSW Solar

- RETI 2.0 TAFAs
- Utilities non-committal at RETI 2.0 workshop

Existing System: TAFE Import Paths



Import Capacity to California Load for NW Resources

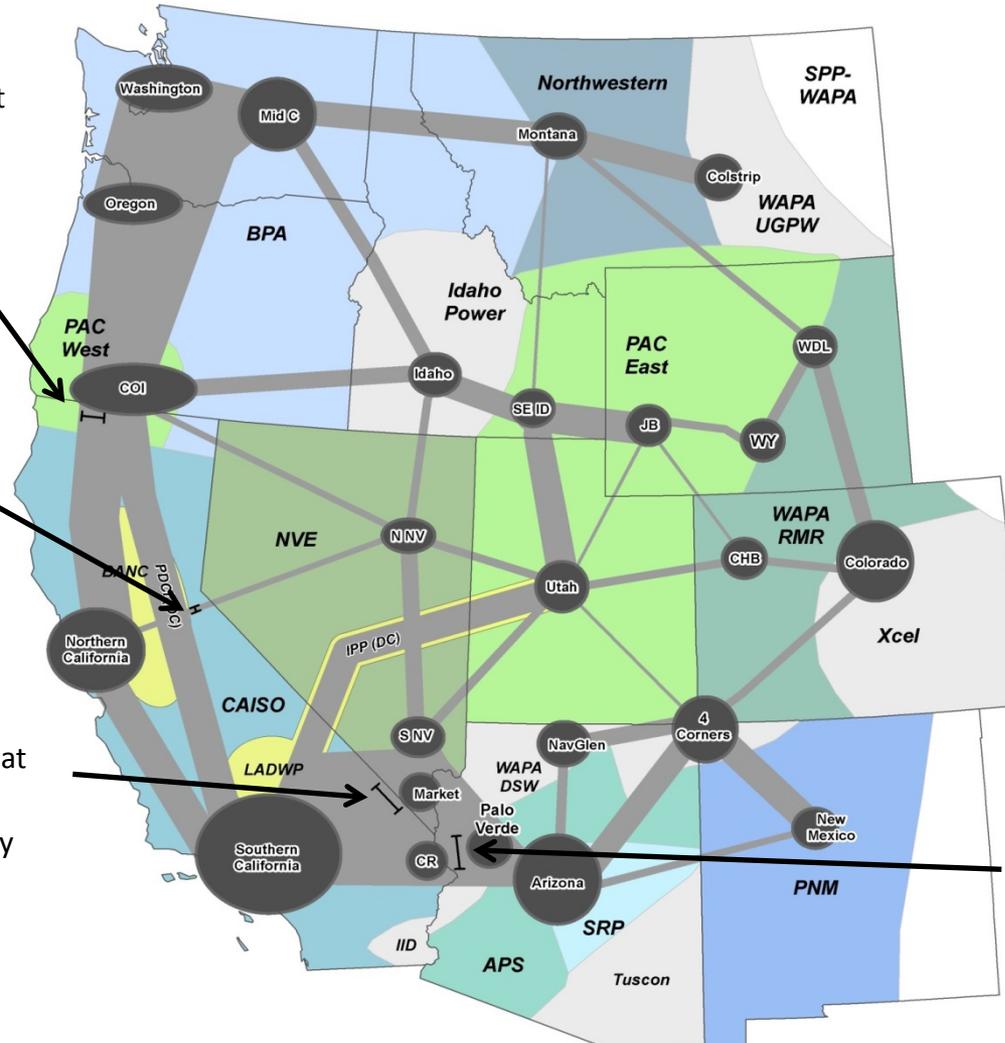
- 2,000 MW of import capacity at Colorado Oregon Intertie

Import Capacity to California Load for Northern/Central Sierra Resources

- 500 MW of import capacity at Palo Verde

Import Capacity to California Load for Wyoming Wind

- 3,000 MW of import capacity at Eldorado/Mead/Market Place
- IPP?, Robinson Summit?, Harry Allen/Crystal?



Import Capacity to California Load for DSW Resources

- 3,000 MW of import capacity at Palo Verde
- Four corners?

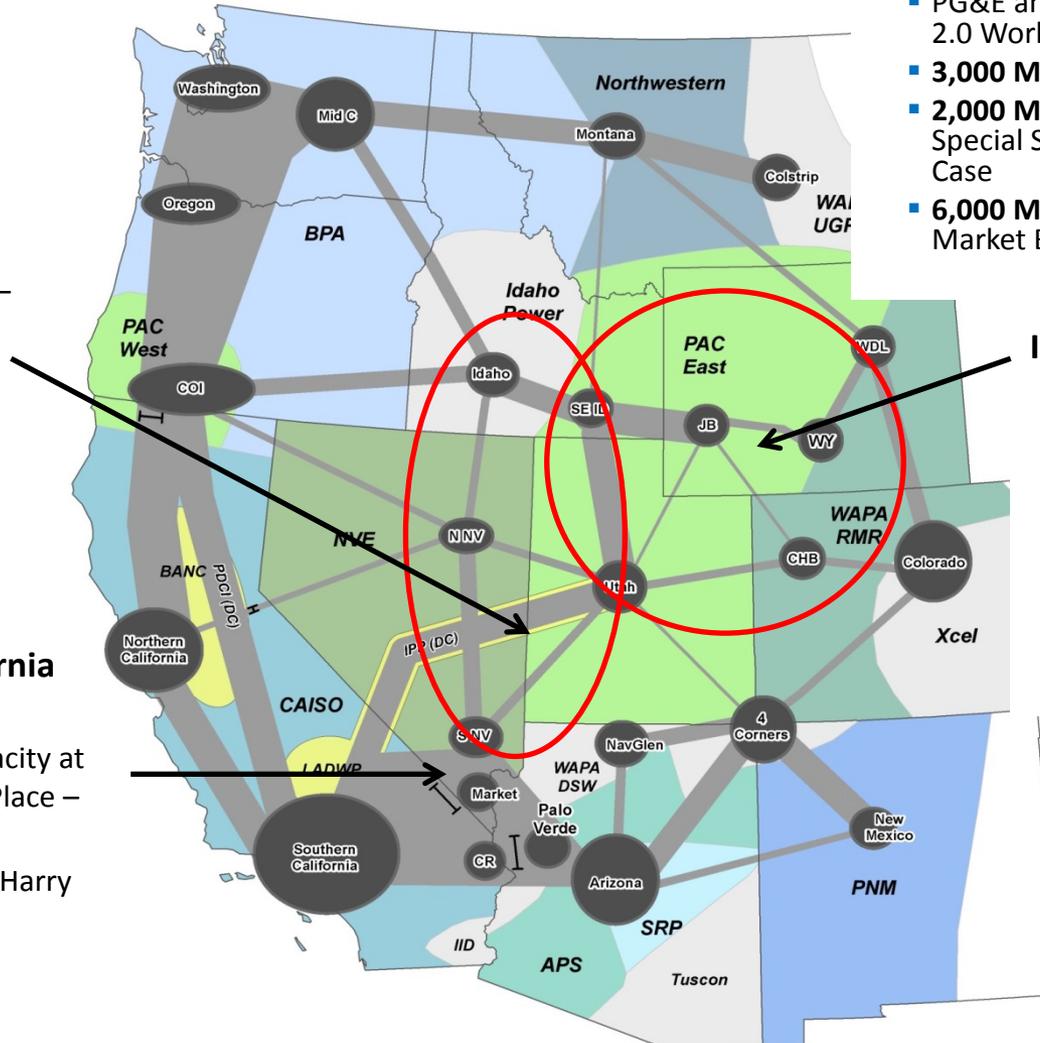
Existing System: Capacity and Constraints

Inter-Mountain - DSW Constraints

- Utah to CA Import Path – limited capacity other than IPP
- Limits exports from California to Inter-Mountain region

Import Capacity to California Load for Wyoming Wind

- 3,000 MW of import capacity at Eldorado/Mead/Market Place – RETI 2.0 TTIG
- IPP?, Robinson Summit?, Harry Allen/Crystal?



California Interest in Wyoming Wind

- RETI 2.0 TAFAs
- PG&E and SDG&E stated interest at RETI 2.0 Workshop, others non-committal
- 3,000 MW by 2026 - CPUC LTPP Scenario
- 2,000 MW by 2026 – ISO 50% RPS Special Study & WestConnect Renewable Case
- 6,000 MW by 2030 – ISO Regional Market Benefits Study

Inter-Mountain Constraints

- Wyoming - No capacity to west/southwest
- Some potential available capacity with coal plants to PAC East and Colorado

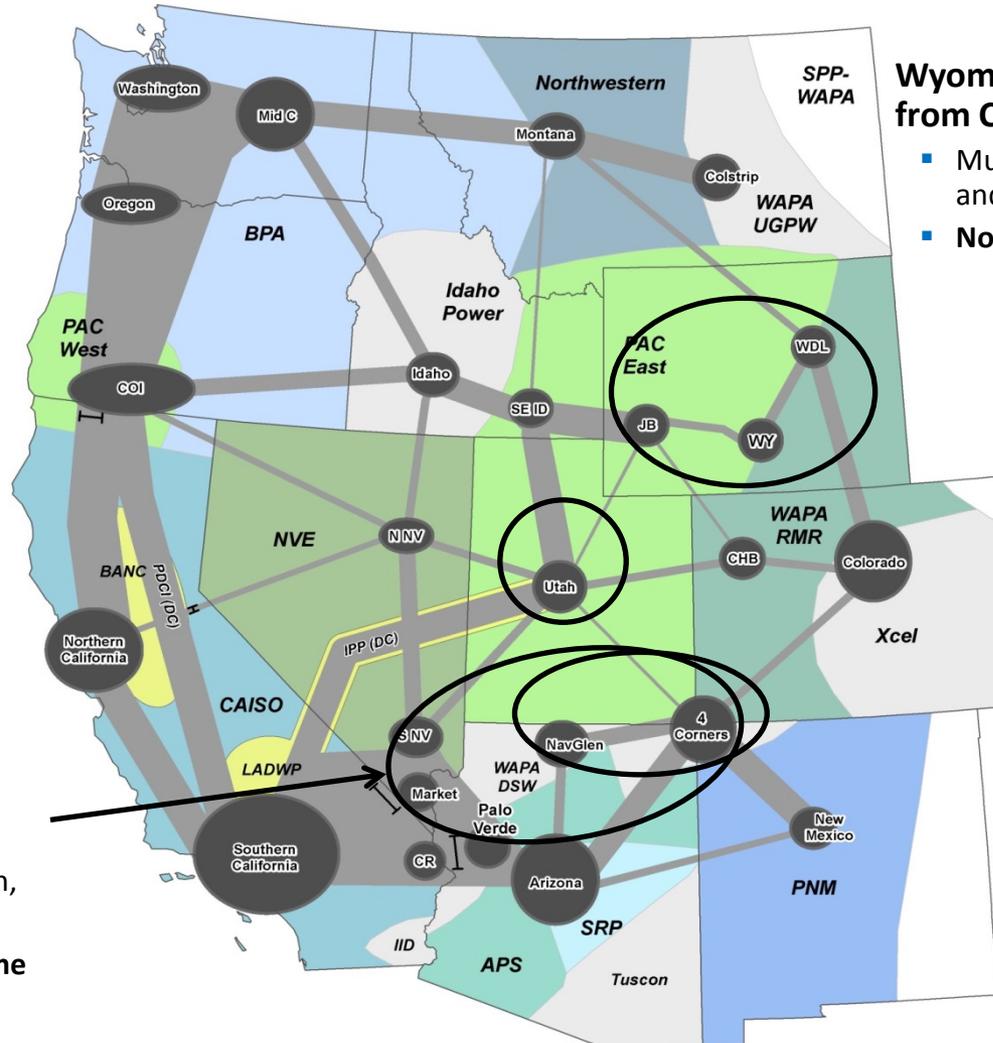
Generation Fleet Trends

Utah Potential Capacity from Retiring Coal Plants

- IPP Owners reviewing Options
- Delivery to California
- TTIG did not identify Potential
- Potential for Compressed Air Storage

DSW Potential Capacity from Retiring Coal Plants

- Eldorado/Mead/Marketplace - Mojave, Four Corners/San Juan, Navajo
- TTIG identified 3,000 MW some of capacity



Wyoming Potential Capacity from Coal Plants

- Multiple plants serving PAC East and Colorado load
- No delivery to California

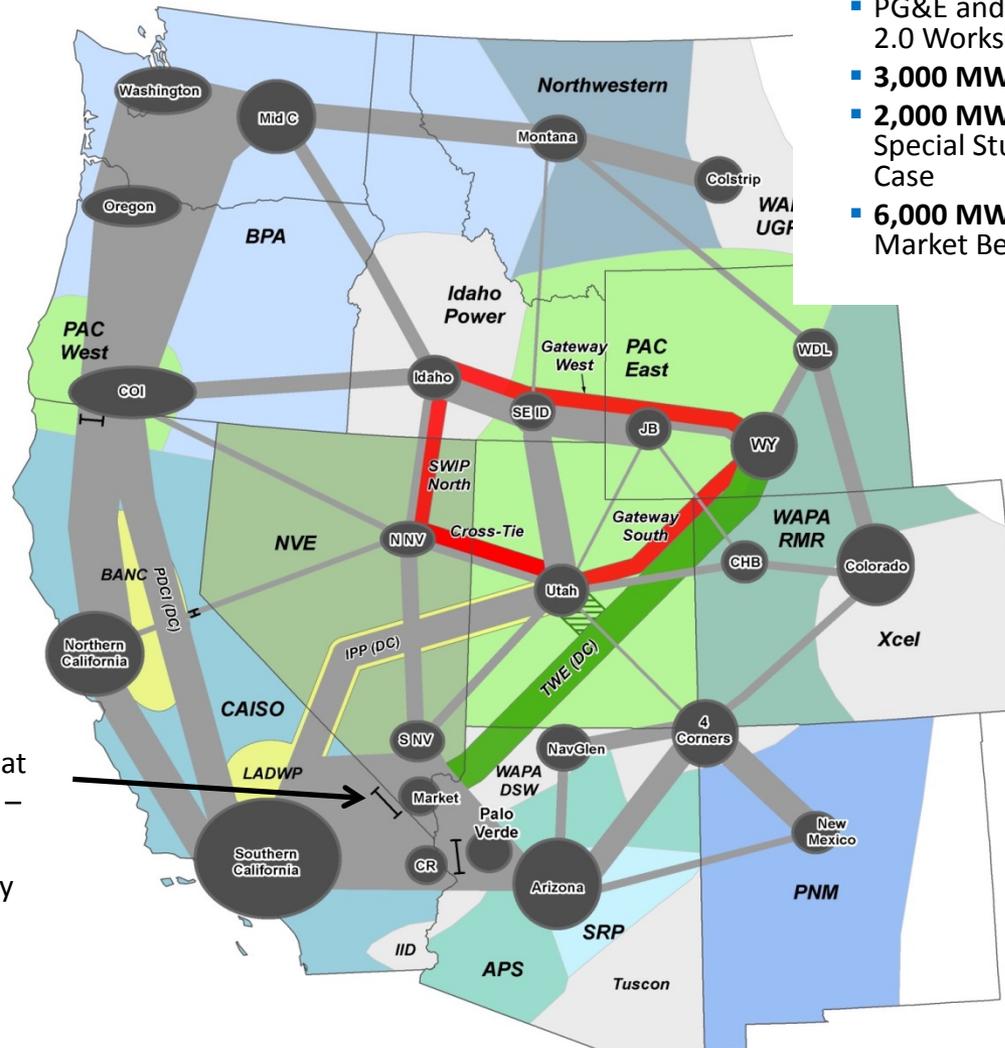
Arizona/New Mexico Potential Capacity from Retiring Coal Plants

- Multiple plants
- Delivery to California
- TTIG did not identify potential capacity

Wyoming TAFE Transmission Expansion Options

California Interest in Wyoming Wind

- RETI 2.0 TAFE
- PG&E and SDG&E stated interest at RETI 2.0 Workshop, others non-committal
- 3,000 MW by 2026 - CPUC LTPP Scenario
- 2,000 MW by 2026 – ISO 50% RPS Special Study & WestConnect Renewable Case
- 6,000 MW by 2030 – ISO Regional Market Benefits Study



Import Capacity to California Load for Wyoming Wind

- 3,000 MW of import capacity at Eldorado/Mead/Market Place – RETI 2.0 TTIG
- IPP?, Robinson Summit?, Harry Allen/Crystal?

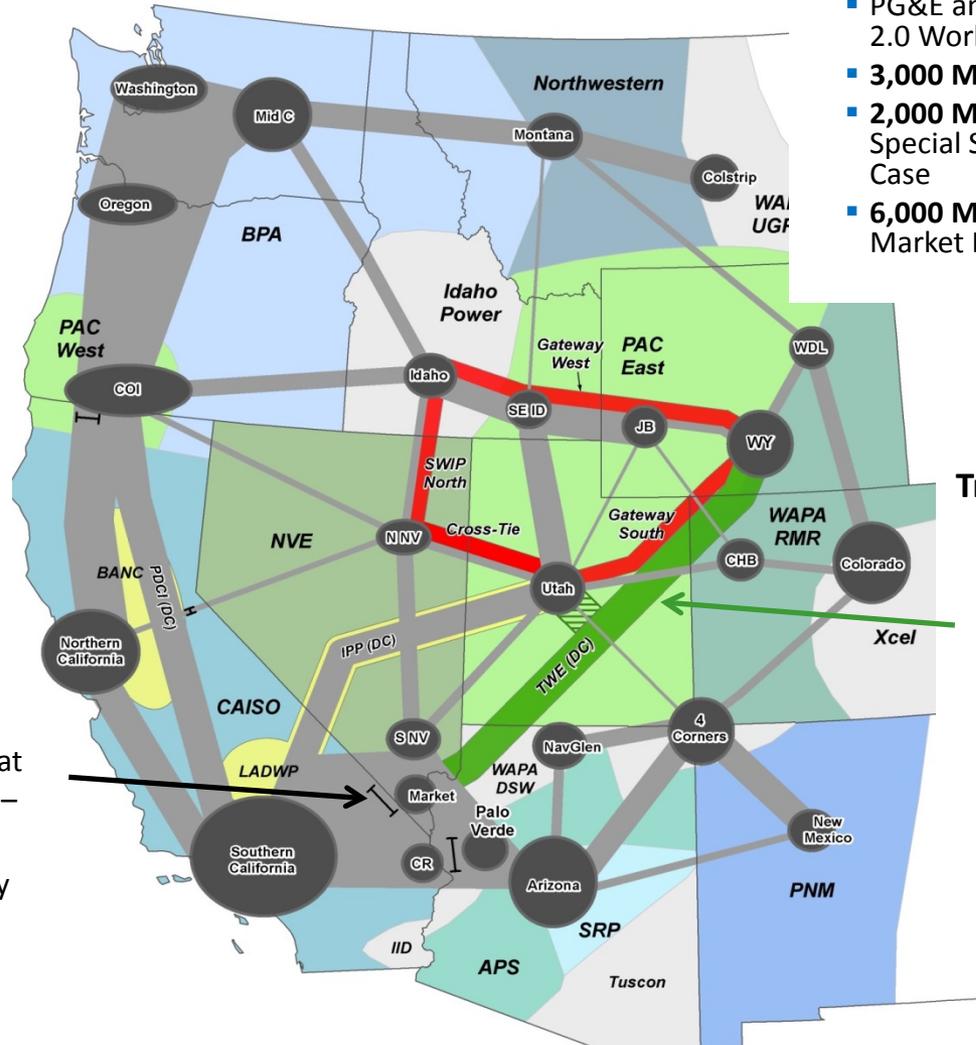
Wyoming TAFE Options: TWE Project

TransWest Express Status

- Utility Interest: WAPA, others
- Permitting: FEIS - 2015
- Path Rating: Phase 2B
- Earliest COD: 2021
- Connected to WY AC system in PAC East and potential with WestConnect/Mountain West
- Co-located with shovel-ready 1,500 – 3,000 MW Wind Energy Project
- Connected to NV AC System in CAISO and WestConnect
- Simple cost allocation

Import Capacity to California Load for Wyoming Wind

- 3,000 MW of import capacity at Eldorado/Mead/Market Place – RETI 2.0 TTIG
- IPP?, Robinson Summit?, Harry Allen/Crystal?



California Interest in Wyoming Wind

- RETI 2.0 TAFE
- PG&E and SDG&E stated interest at RETI 2.0 Workshop, others non-committal
- 3,000 MW by 2026 - CPUC LTPP Scenario
- 2,000 MW by 2026 – ISO 50% RPS Special Study & WestConnect Renewable Case
- 6,000 MW by 2030 – ISO Regional Market Benefits Study

TransWest Express

- 1,500 - 3,000 MW
- Direct delivery to Eldorado/Mead Marketplace
- 730 miles
- \$2.4 - \$3.0B
- Potential ITP in CAISO, WestConnect and NTTG

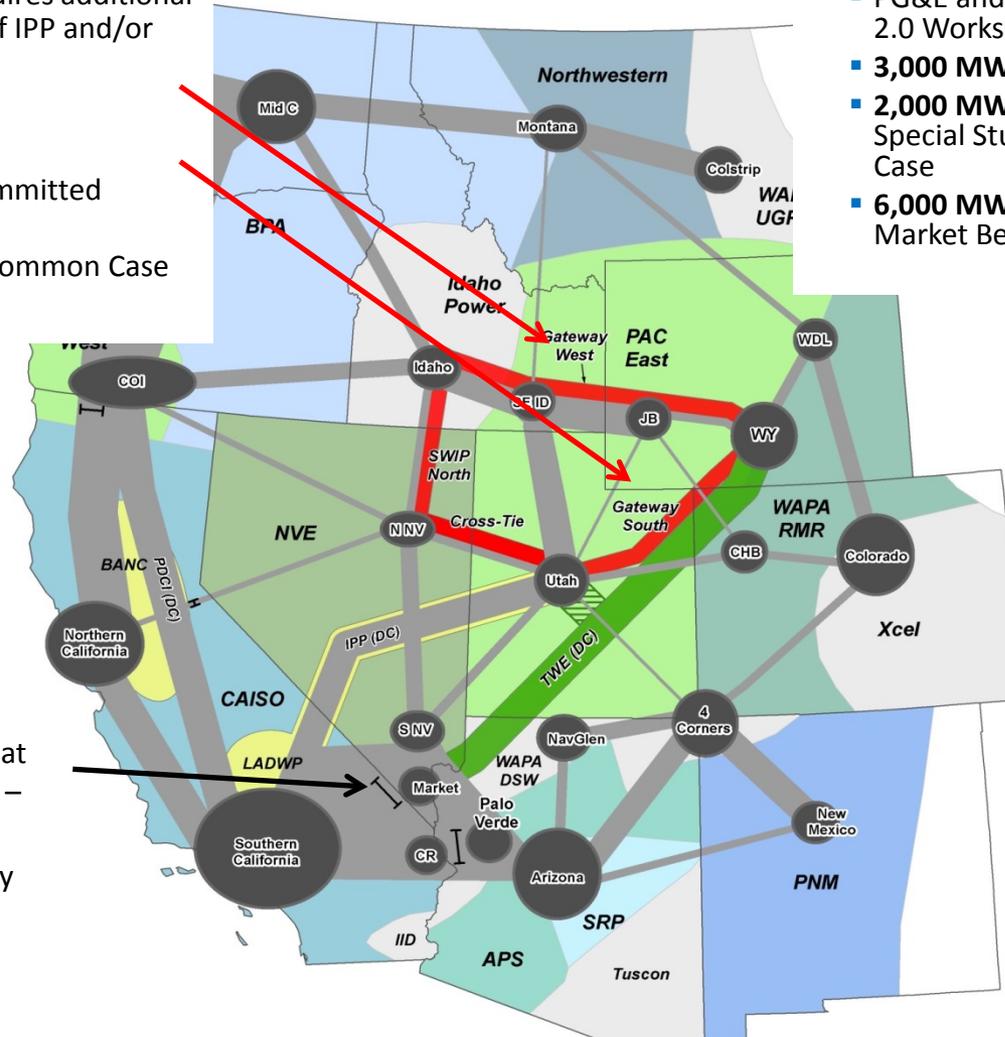
Wyoming TAFE Options: Gateway Projects

Gateway South / Gateway West

- Total of 3,000 MW
- **No delivery to California**, requires additional transmission expansion, use of IPP and/or potentially regional expansion
- 880 miles total length
- \$2.7B
- PacifiCorp sponsored, non-committed Project in NTTG Plan
- Completed Project in WECC Common Case Assumptions

California Interest in Wyoming Wind

- RETI 2.0 TAFE
- PG&E and SDG&E stated interest at RETI 2.0 Workshop, others non-committal
- **3,000 MW** by 2026 - CPUC LTPP Scenario
- **2,000 MW** by 2026 – ISO 50% RPS Special Study & WestConnect Renewable Case
- **6,000 MW** by 2030 – ISO Regional Market Benefits Study



Import Capacity to California Load for Wyoming Wind

- **3,000 MW** of import capacity at Eldorado/Mead/Market Place – RETI 2.0 TTIG
- IPP?, Robinson Summit?, Harry Allen/Crystal?

Wyoming TAFE Options: 500 KV AC Projects

Gateway South / Gateway West

- Total of 3,000 MW
- **No delivery to California**, requires additional transmission expansion, use of IPP and/or potentially regional expansion
- 880 miles total length
- \$2.7B
- PacifiCorp sponsored, non-committed Project in NTTG Plan
- Completed Project in WECC Common Case Assumptions

California Interest in Wyoming Wind

- RETI 2.0 TAFE
- PG&E and SDG&E stated interest at RETI 2.0 Workshop, others non-committal
- **3,000 MW** by 2026 - CPUC LTPP Scenario
- **2,000 MW** by 2026 – ISO 50% RPS Special Study & WestConnect Renewable Case
- **6,000 MW** by 2030 – ISO Regional Market Benefits Study

SWIP North

- Up to 2,000 MW
- Delivery to California via ON Line owned by LS Power and NVE
- 287 miles
- \$0.8B
- Potential ITP in CAISO, WestConnect and NTTG

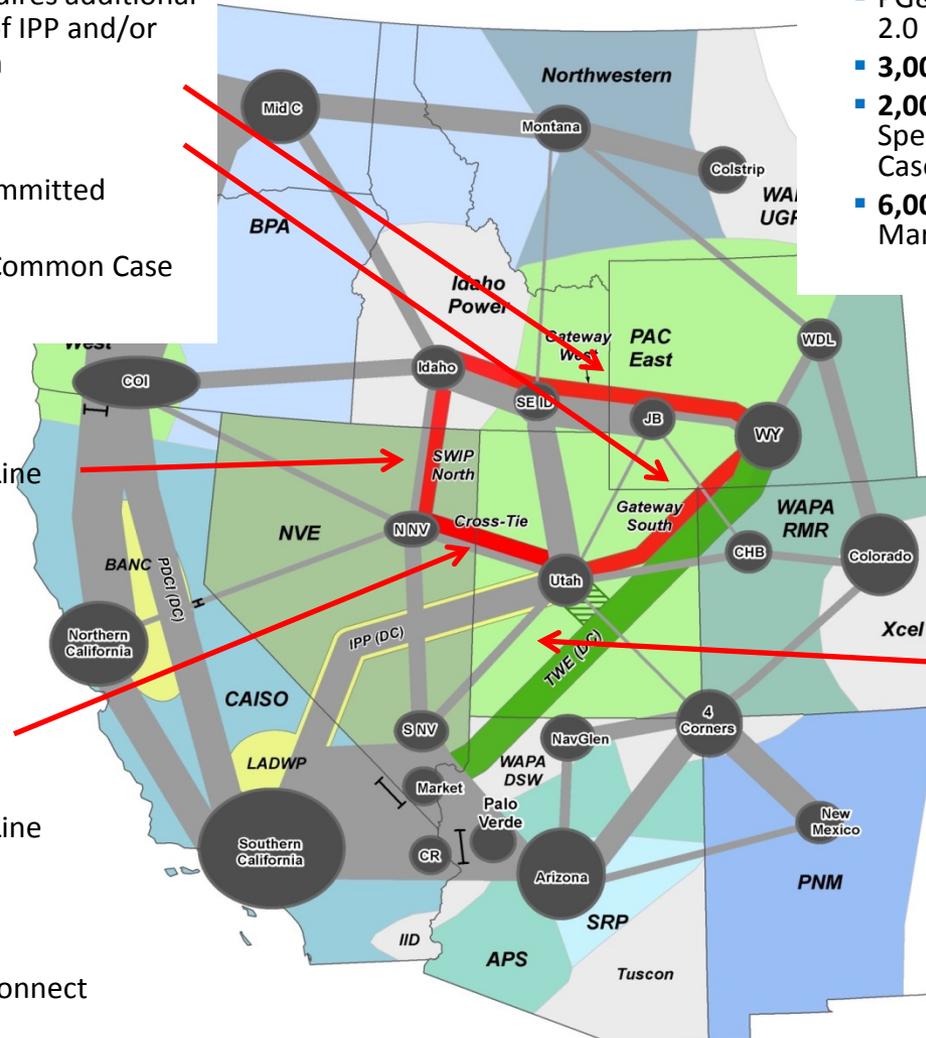
Cross Tie

- 650 – 1,500 MW
- Delivery to California via ON Line owned by LS Power and NVE
- 289 miles
- \$0.7B
- Potential ITP in CAISO, WestConnect and NTTG

TransWest Express

500 kV AC Option

- Up to 1,500 MW
- Connection to Eldorado/Includes 500 kV AC Mead/Marketplace
- 325 miles
- \$1.0B
- Potential ITP in CAISO, WestConnect, and NTTG



Next Steps

- No additional ‘planning initiatives’ needed.
- Need to prioritize and coordinate existing planning processes of authorized transmission entities that can consider/approve infrastructure investments.
- Only CAISO and other OATT entities can consider/approve infrastructure investment. WestConnect and NTTG to perform regional/interregional planning. Other stakeholders have a role but can’t authorize investment.
- What do these authorized transmission groups need to start/complete planning to make recommendations:
 - Direction, beyond SB350, from RETI 2.0?, CPUC, others?
 - Sufficient Power Purchase Agreements?
 - Decisions on regional expansion?
 - Additional project data, system analysis (Production cost modeling? Power flow?)

