

Transmission Update

Spring 2023

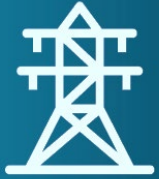
April 27, 2023

Curtis Westhoff
System Consulting Engineer

Agenda

- Introduction/Background
- Boardman to Hemingway (B2H) Project Update and IRP Modeling
- Gateway West IRP Modeling
- Southern Transmission Expansion IRP Modeling

IRP Relevance



- Transmission Costs
- Energy Market Access
- Resource Integration
- Transmission Wheeling
- Electrical Losses
- Reliability



IRP



Transmission Overview

Background Presentation Reminder

- Visit idahopower.com/irp and click Educational Resources
- Or [click here](#)
- Or scan the QR code



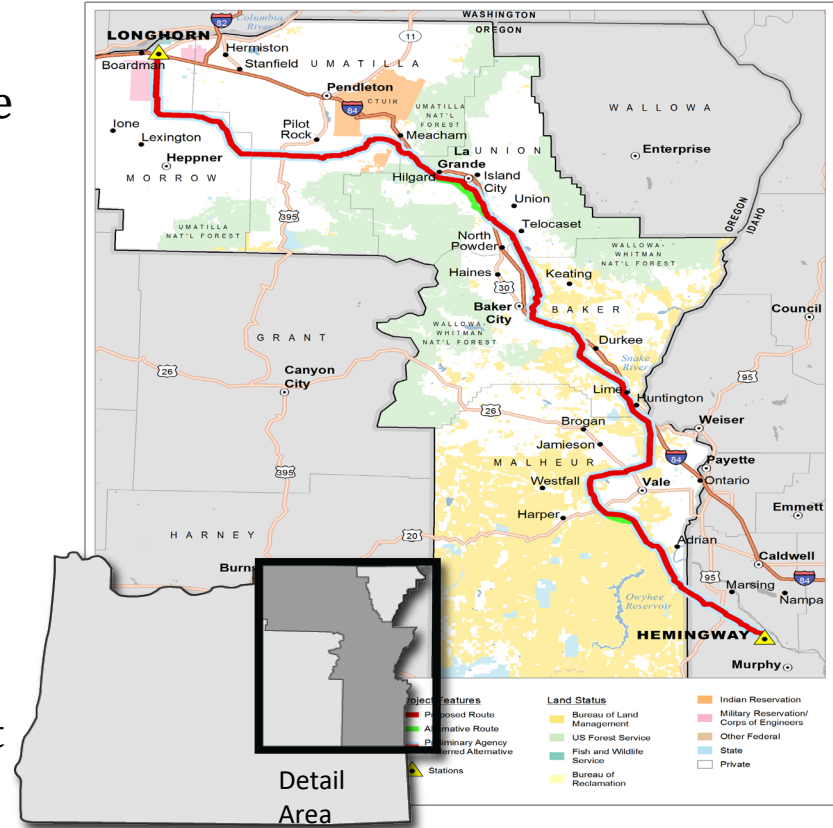
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Boardman to Hemingway

(B2H) Project

- 290-mile, 500-kilovolt (kV) transmission line
- ~1,000 megawatt (MW) of bidirectional capacity increase between Northwest and Idaho
- Bureau of Land Management (BLM) Record of Decision in 2017
- Oregon Energy Facility Siting Council (EFSC) approved final site certificate fall of 2022
 - Decision was upheld by Oregon Supreme Court spring of 2023



B2H Ownership Change Agreements

Signed March 24, 2023

- **Purchase, Sale and Security Agreement:** Idaho Power purchased BPA's permitting share in the project.
- **Mid-C to Longhorn PTP:** Idaho Power reserved 500 MW of BPA transmission capacity from the Mid-C market hub to the future Longhorn terminal of B2H.
- **BPA Customer Network Integration Transmission Service Agreements:** With B2H, Idaho Power will provide transmission service to BPA to facilitate energy deliveries across the Idaho Power system to the BPA SE Idaho customers.
- **Joint Purchase and Sale Agreement:** Idaho Power and PacifiCorp agree to exchange transmission assets at B2H energization.
 - Idaho Power provides PacifiCorp 600 MW E→W and 300 MW W→E transmission ownership.
 - PacifiCorp provides Idaho Power 200 MW of bidirectional ownership from the Four Corners market hub.
 - PacifiCorp provides Idaho Power Goshen Area (BPA SE Idaho Customer) load serving assets.

B2H Ownership Following 2023 Agreements



	W→E Capacity	E→W Capacity
(45%)	750 MW	180 MW

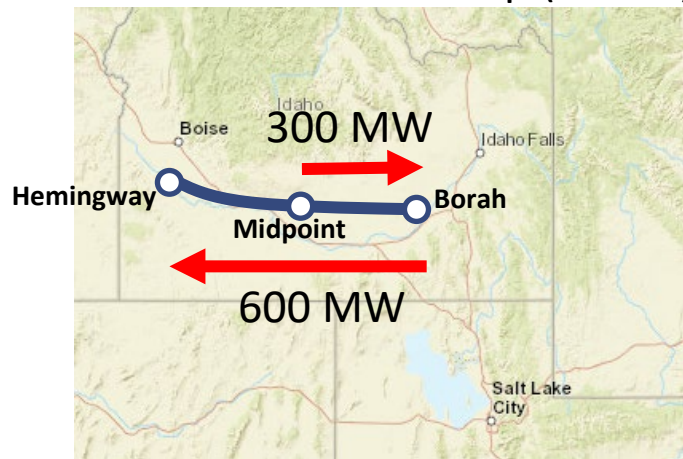


(55%)	300 MW	820 MW
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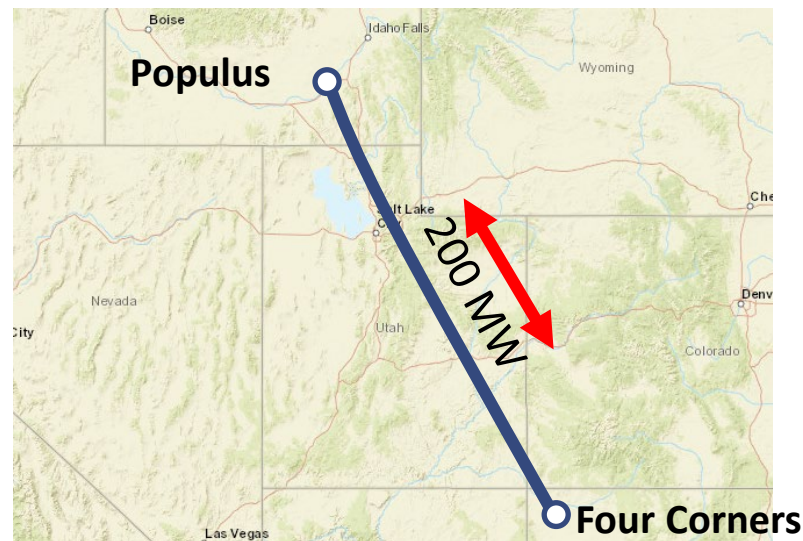
Idaho Power — PacifiCorp

Transaction Joint Purchase and Sale Agreement

Idaho Power to PacifiCorp (Assets)



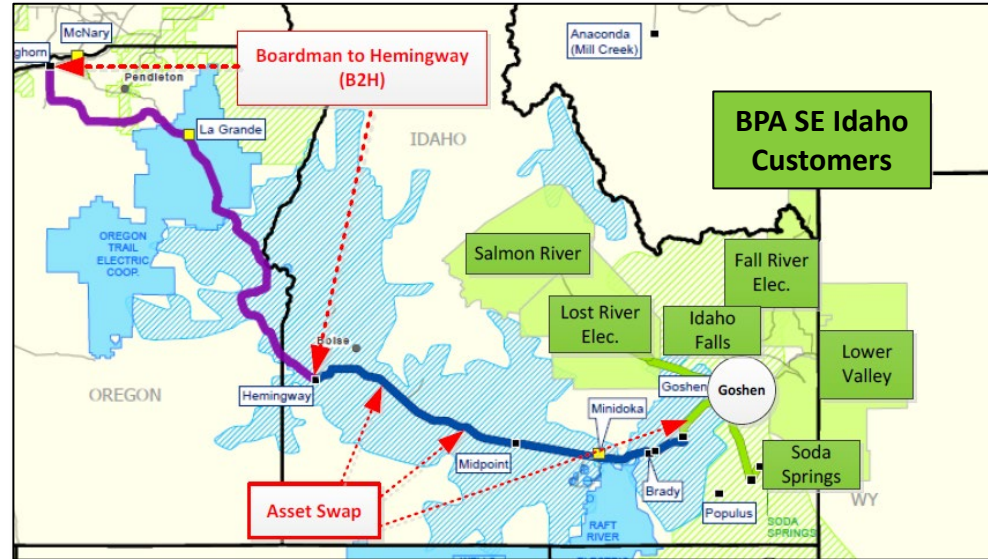
PacifiCorp to Idaho Power (Assets)



BPA SE Idaho Load Customers

New Idaho Power Transmission Network Customers with B2H

1. City of Idaho Falls
2. Lower Valley Energy
3. Fall River Rural Electric Cooperative
4. City of Soda Springs
5. Salmon River Rural Electric Cooperative
6. Lost River Electric Cooperative



Idaho Power/BPA Seasonal Needs Puzzle Pieces

**Idaho Power
Customer B2H Needs**

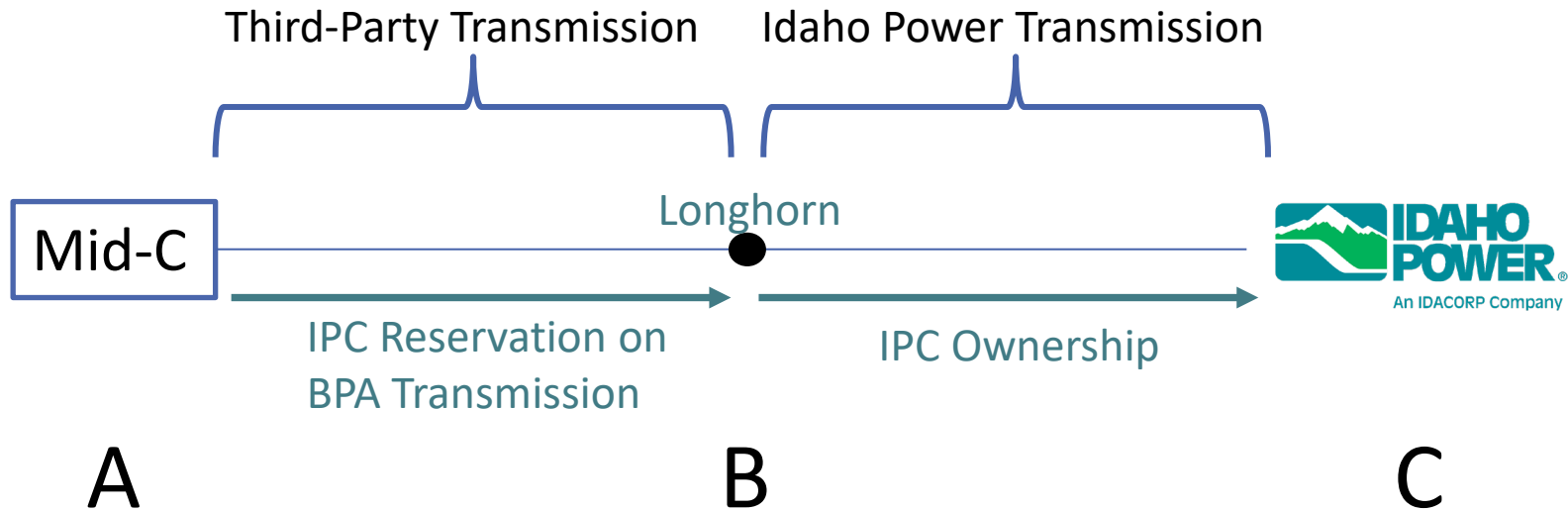
**Summer: 500 MW
Winter: 200 MW**

**BPA Transmission
Service B2H Needs**

**Summer: 250 MW
Winter: 550 MW**

B2H Mid-C Market Connection

Mid-C to Longhorn PTP Agreement



Contribution to Planning Reserve Margin Existing Transmission

PRM Contribution



Summer



Winter

**Total Third-Party Firm
PTP Reservations**

380 MW

380 MW

330 MW

**CBM (Emergency
Transmission)**

330 MW

200 MW

0 MW

Total

580 MW

330 MW

Contribution to Planning Reserve Margin

B2H Project & Asset Exchange



Summer





Winter

B2H Project & Asset Exchange

	Mid-C	Four Corners
Summer	500 MW	0 MW
Winter	0 MW	200 MW

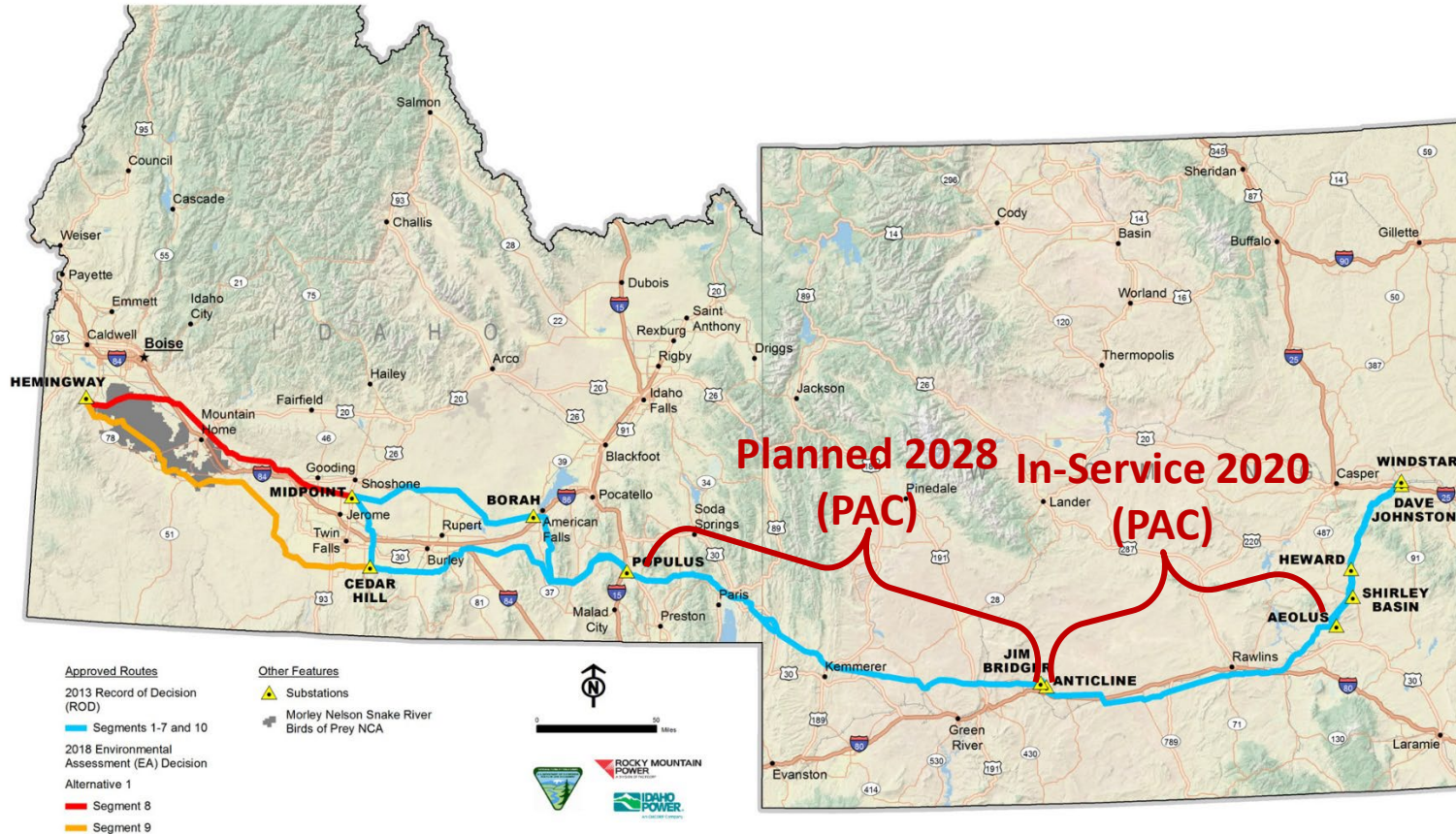
Contribution to Planning Reserve Margin Existing Transmission + B2H and Four Corners

	PRM Contribution	
	 Summer	 Winter
Total Third-Party Firm PTP or Ownership	880 MW	530 MW
CBM (Emergency Transmission)	330 MW	0 MW
Total	1,080 MW	530 MW

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Gateway West Transmission Project



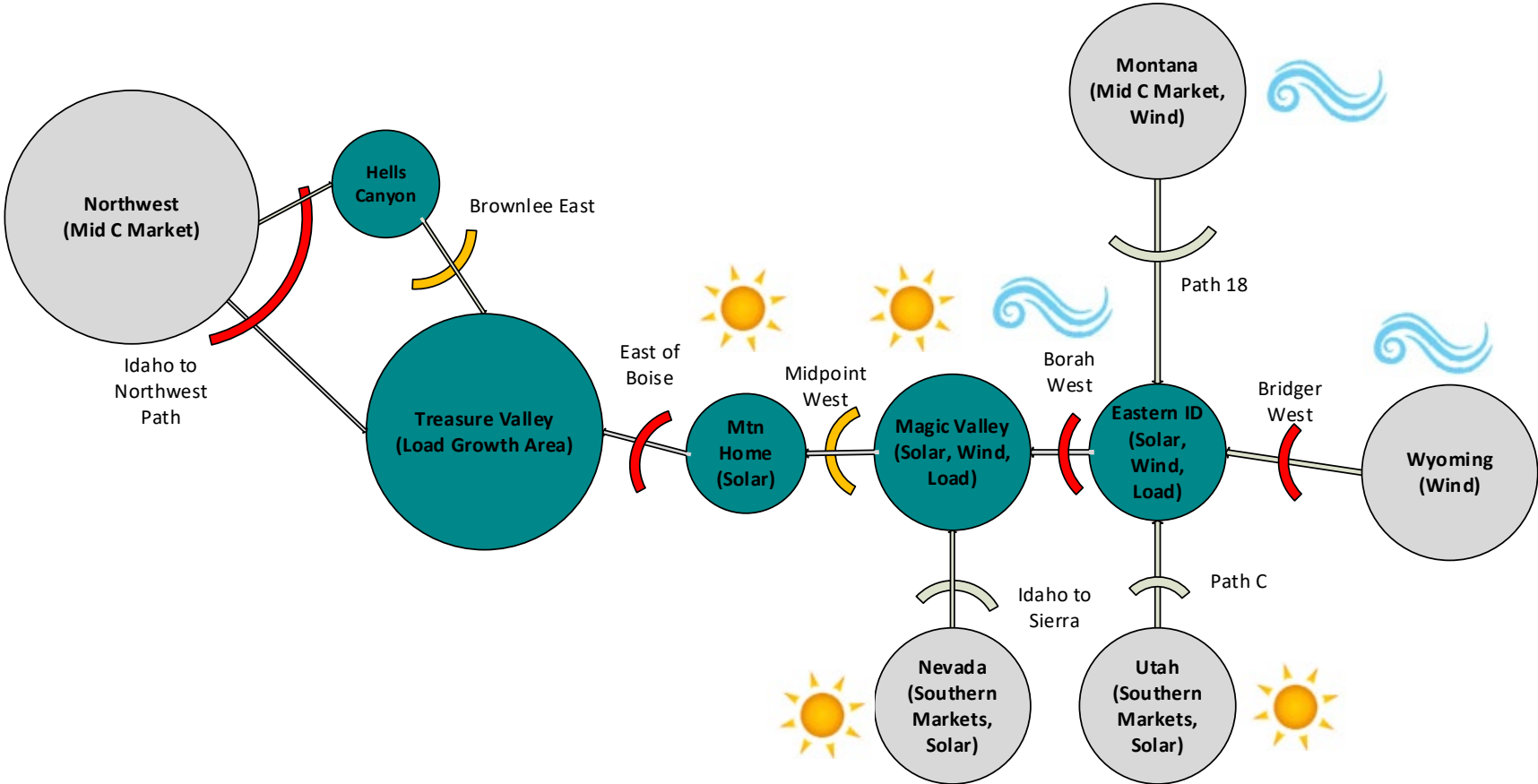
Idaho Power Gateway Projects

1/3 Permitting Interest

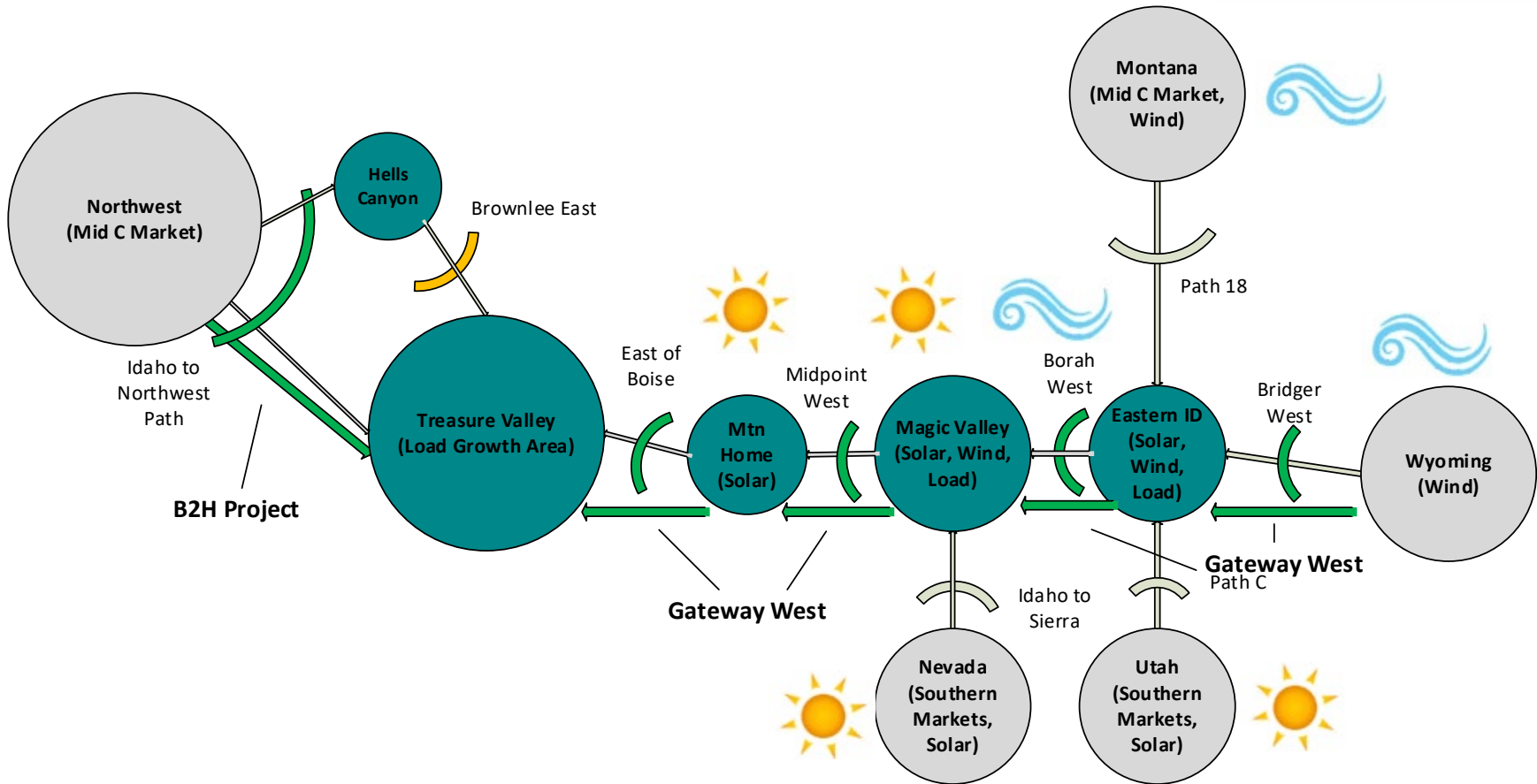
- Hemingway — Midpoint 500 kV
- Hemingway — Cedar Hill 500 kV
- Midpoint — Cedar Hill 500 kV



Resource Integration



Resource Integration



Gateway West Modeling for 2023 IRP



Gateway West Phase

Incremental Capacity Created for Resources

Phase #1 (Seg 8)

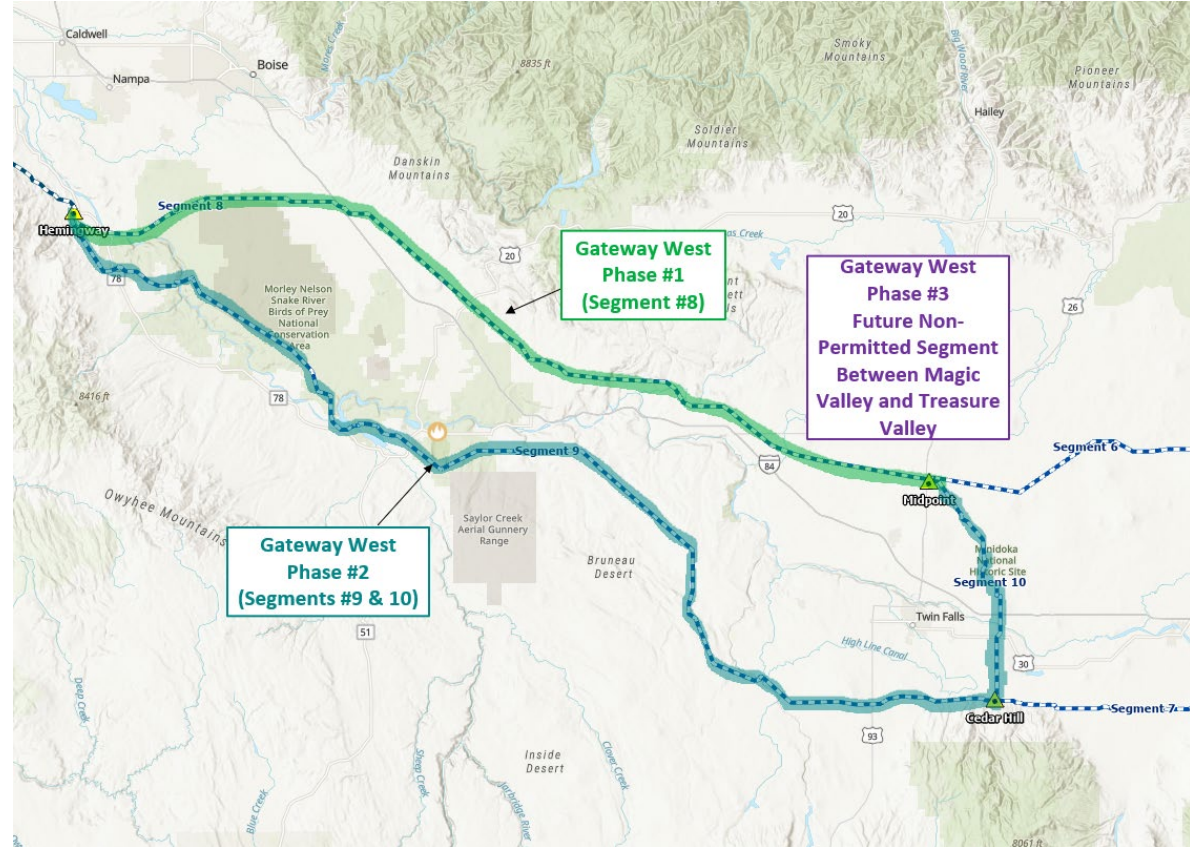
1,000 MW

Phase #2 (Seg 9 & 10)

1,000 MW

Phase #3 (Future Seg)

1,000 MW

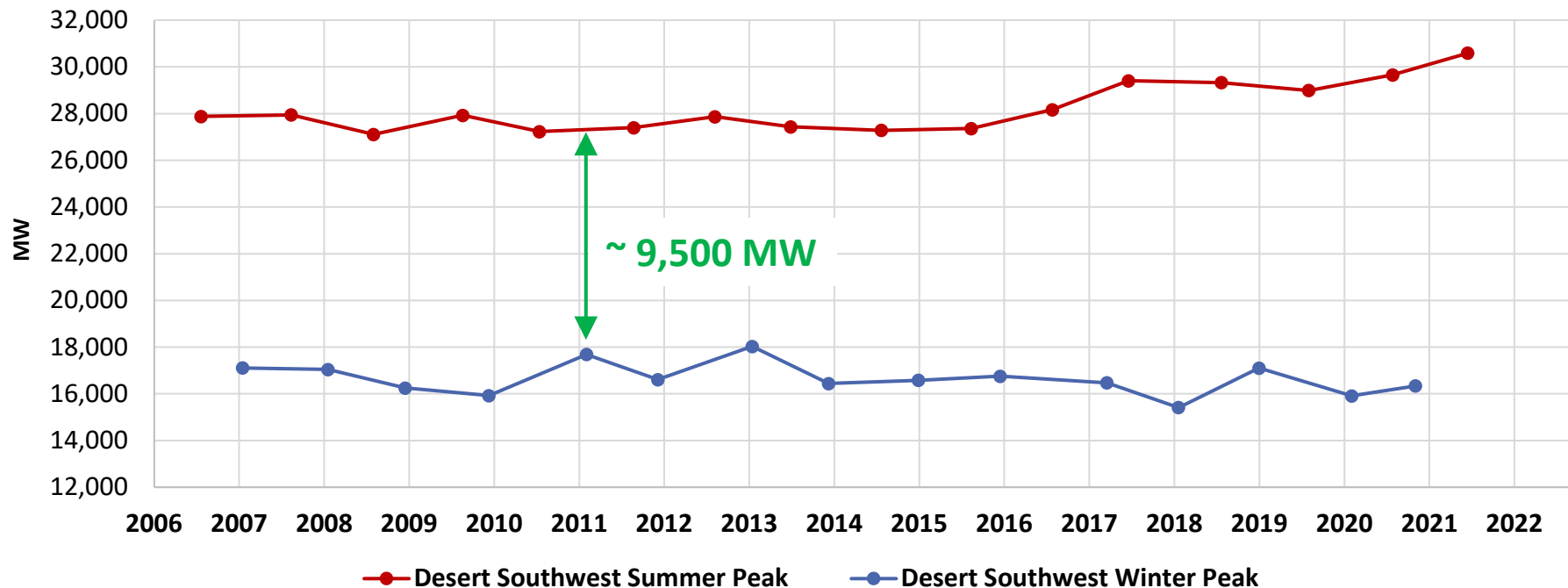


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Southern Markets Opportunity

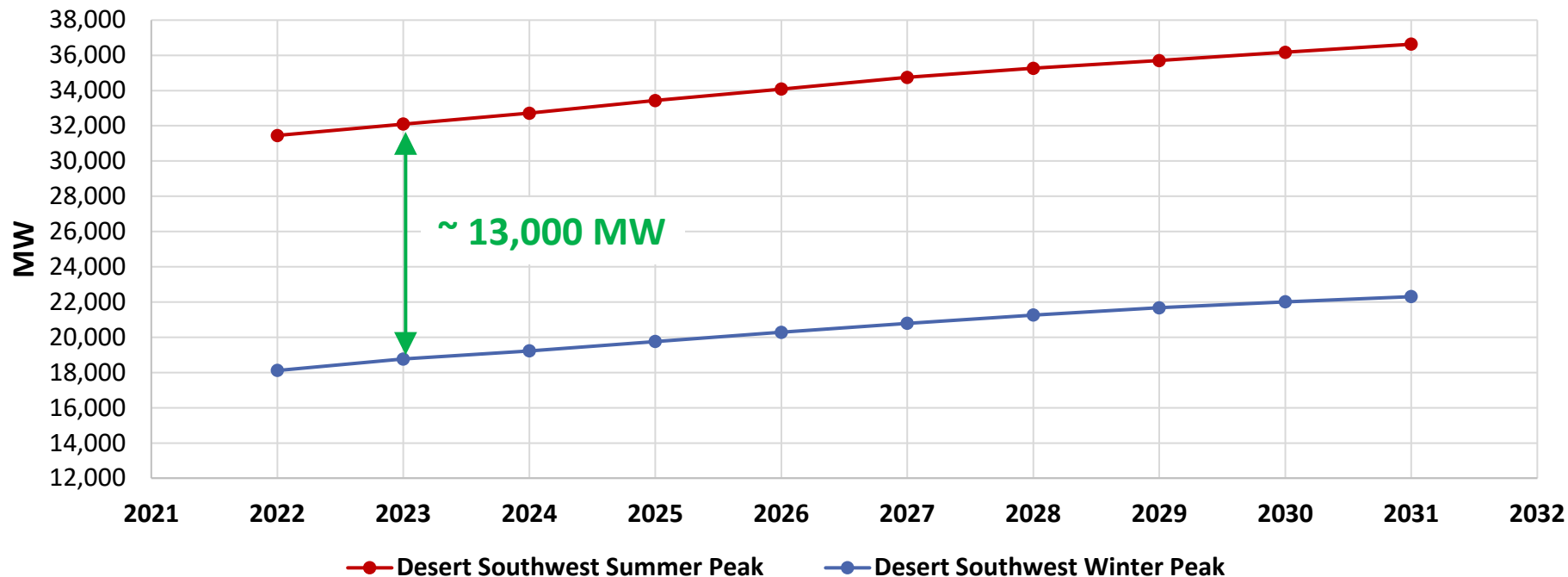
Historical Desert Southwest Summer and Winter Seasonal Peaks



*2021 FERC Form 714 BAA Data Desert Southwest = Arizona Public Service + Tucson Electric Power + Nevada Energy + WAPA Lower Colorado + Public Service New Mexico + El Paso Electric

Southern Markets Opportunity

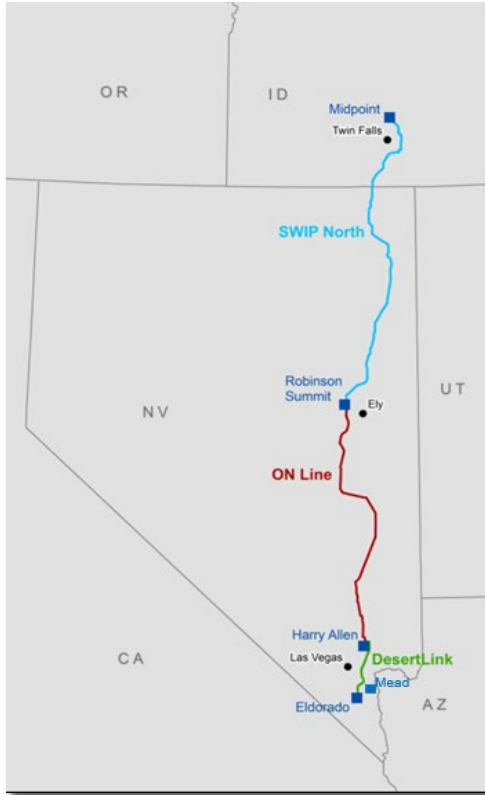
Forecasted Desert Southwest Summer and Winter Seasonal Peaks



*2021 FERC Form 714 BAA Data Desert Southwest = Arizona Public Service + Tucson Electric Power + Nevada Energy + WAPA Lower Colorado + Public Service New Mexico + El Paso Electric

Southwest Intertie Project

– North (SWIP-N)



- Developer: Great Basin Transmission, LLC (affiliate of LS Power)
- Midpoint to Robinson Summit
- ~2000 MW Capacity
- Addition would also unlock capacity on the existing One Nevada Line to Harry Allen (Las Vegas area)
- Idaho Power participation could provide transmission access (across congestion on NV Energy's system) to a southern market hub

SWIP-N Expected Capacity



N→S Capacity

S→N Capacity



1,117.5 MW

1,072.5 MW

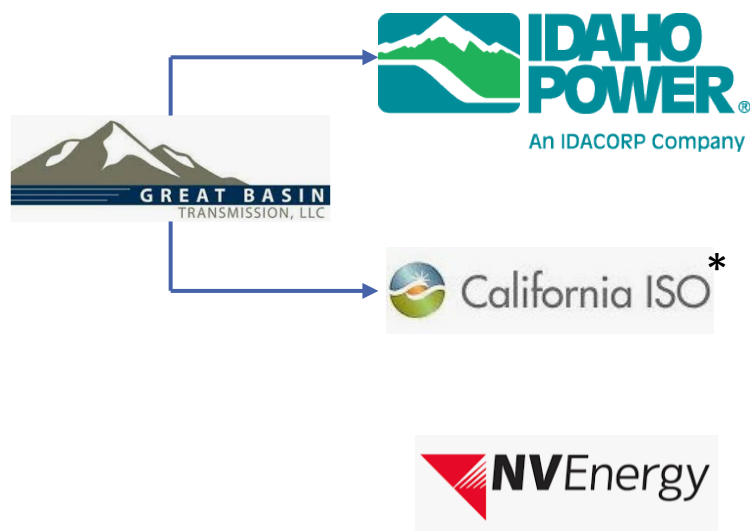


952.5 MW*

847.5 MW*

*NV Energy is entitled to capacity across SWIP-N due to Transmission Use Agreement (TUA) between Great Basin and NV Energy.

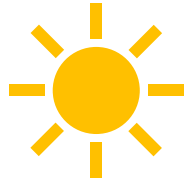
SWIP-N Potential Interest in Capacity



N→S Capacity	S→N Capacity
0 MW	? (up to 1,072.5 MW)
1,117.5 MW	0 MW
952.5 MW	847.5 MW

**Idaho Power's understanding based on California ISO's draft transmission plan. Subject to change.*

SWIP-N Contribution to Planning Reserve Margin Modeling



Summer

SWIP-N

0 MW



Winter

500 MW





Thank You!