



NorthWestern Energy's 2026 Montana IRP (DRAFT)

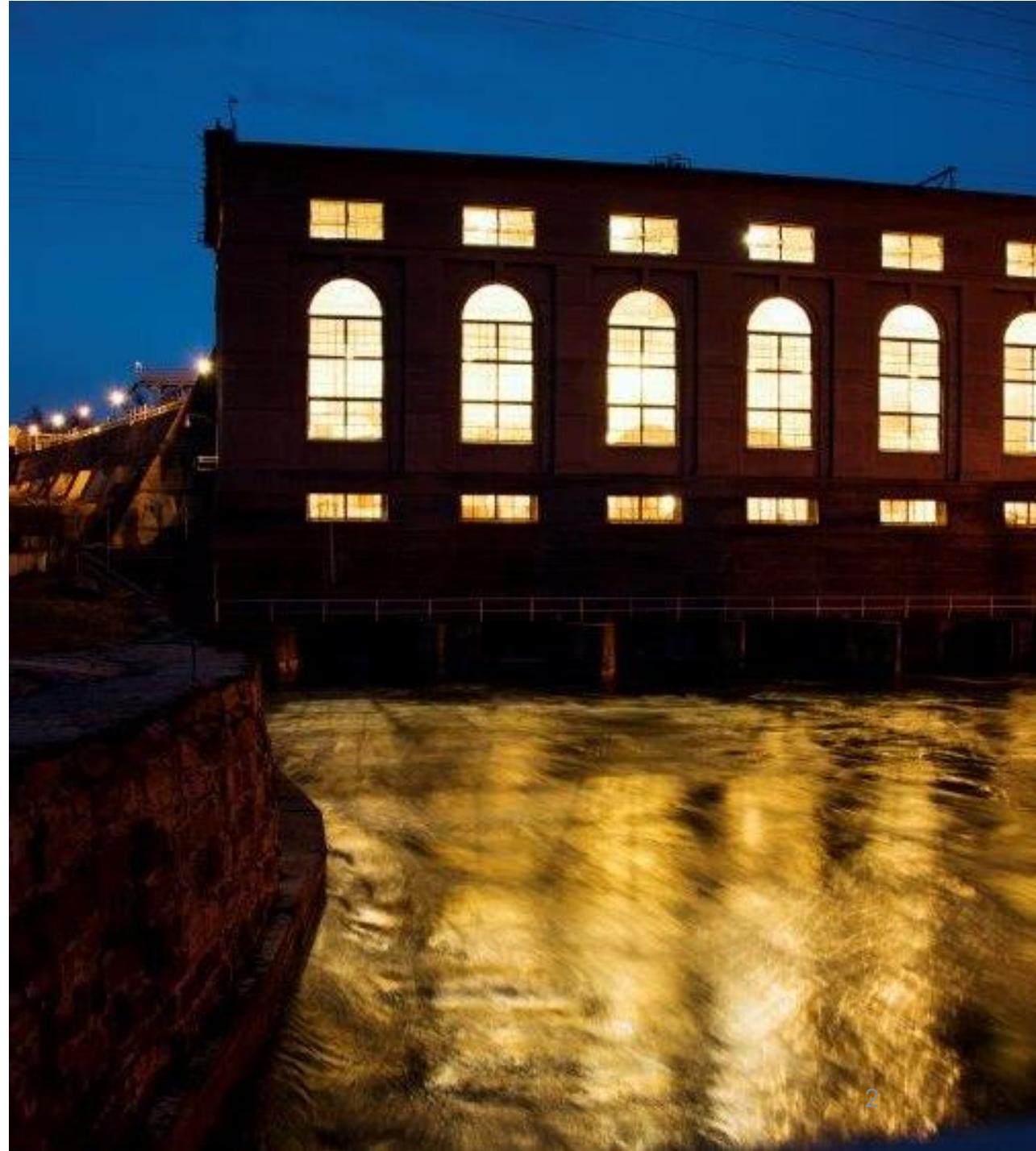
ETIC

January 15th 2026

Results in this presentation may
change on final draft release
(Jan 16th).

Agenda

- IRP Overview & Current Status
- Modeling Overview
 - What are we trying to solve?
- Modeling
 - Capacity Position
 - Inputs
 - Constraints
- Results
 - Scenario Result
 - Summary of Builds
 - Comparison of Portfolios



What is an Integrated Resource Plan?

What the IRP does do?

- Forecasts future electricity demand and energy for retail/native load
- Evaluates existing and potential energy resources
- Tests different future scenarios and risks

What the IRP does NOT do?

- Does not approve or build specific projects
- Does not set electric rates
- Does not lock in a single path

Based on 2023 Rules
Transitioning from Resource Adequacy to Integrated Resource Planning

How Is Resource Adequacy Currently Defined for NorthWestern?

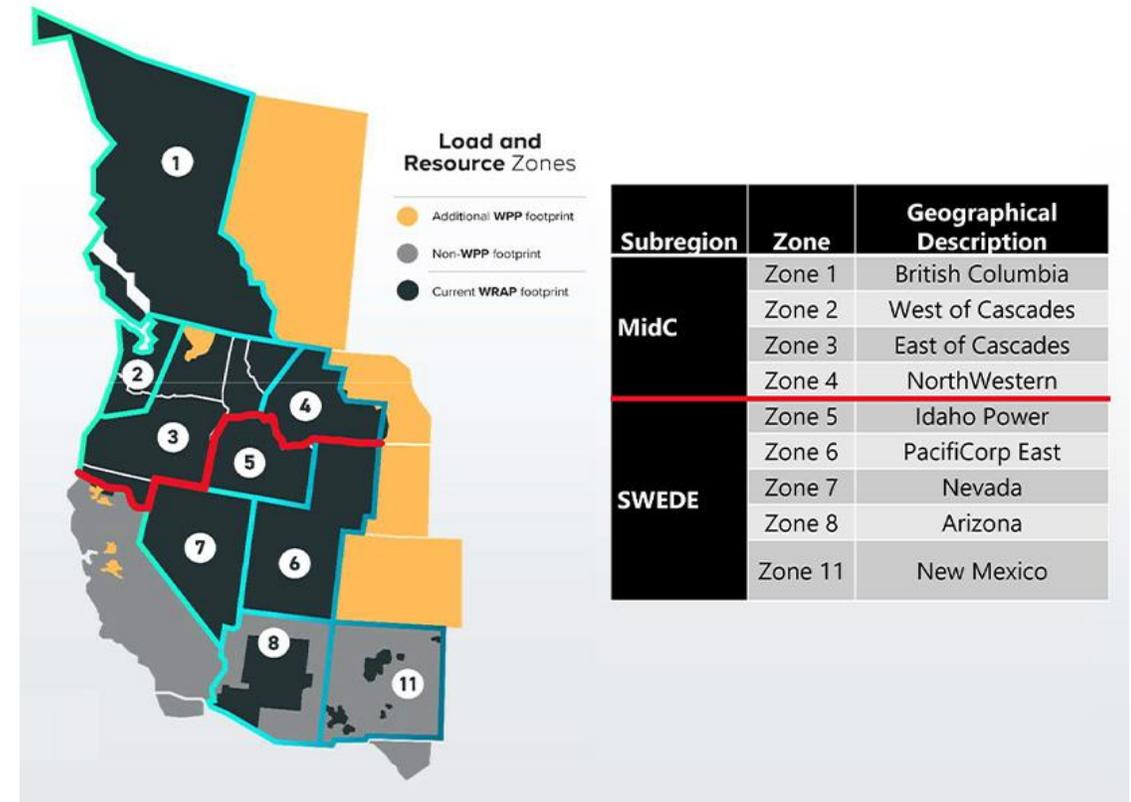
Reliability means having enough power available when customers need it most — especially during cold winter peaks.

Regional Analysis - Western Resource Adequacy Program (WRAP)

- Plans for about one day in ten years, on average.
- NorthWestern within MidC Subregion
- Accredited Capacity & Planning Reserve Margin

Does New Transmission Add WRAP Reliability?

- Yes and No:
 - Regional solutions need to be evaluated by the regional program (ie. reduce PRM).
 - Subregion solutions within Mid C does not change WRAP reliability metrics.



How reliable is NorthWestern's Supply today?

Reliability Action	What It Provides
Yellowstone County Generating Station (YCGS)	175 MW of new, dependable natural gas capacity available during winter peaks
Colstrip Acquisition (Avista Share)	222 MW of firm, always-available capacity from an existing Montana resource

1,557 MW

WRAP Winter
Accreditation

1,211 MW

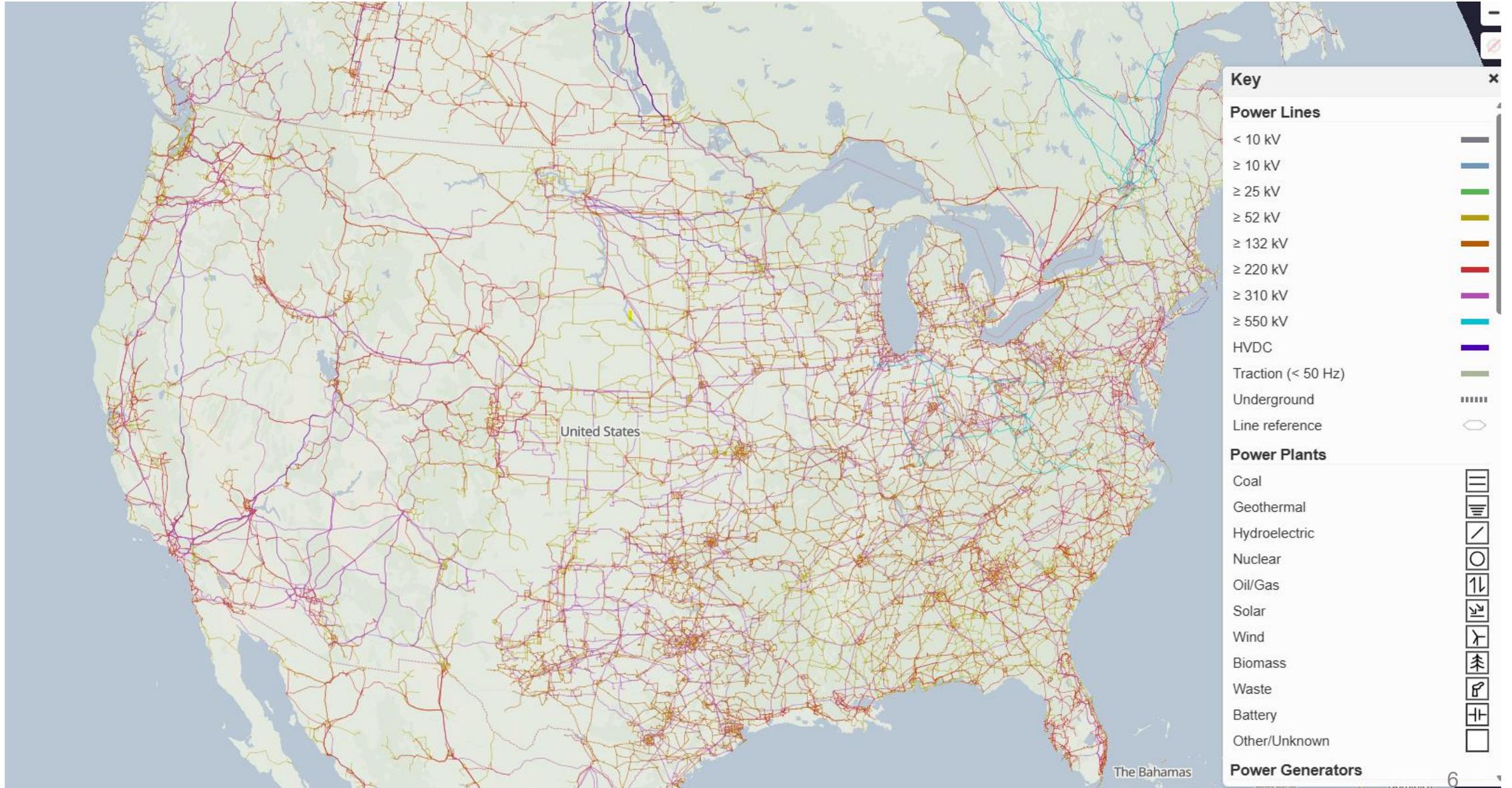
Estimated Peak Load
(winter 2026)

1,465 MW

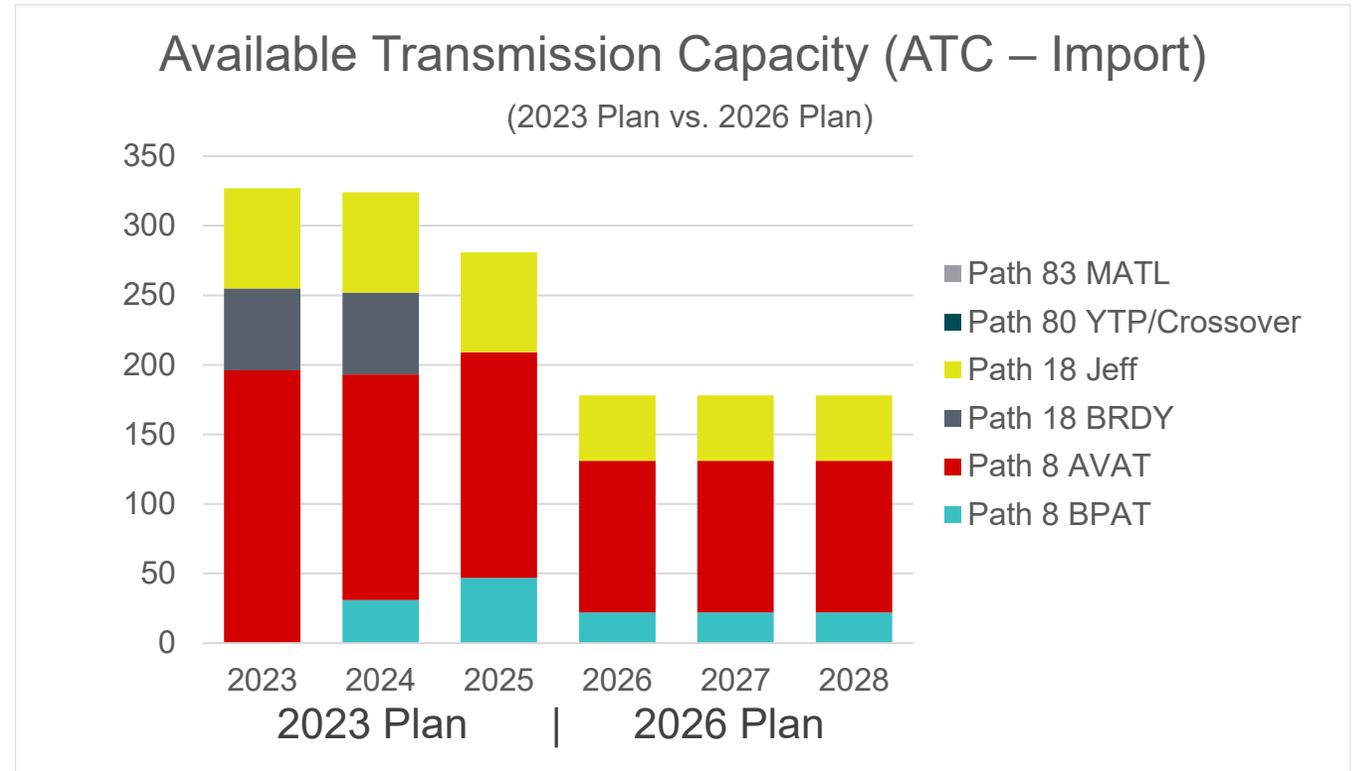
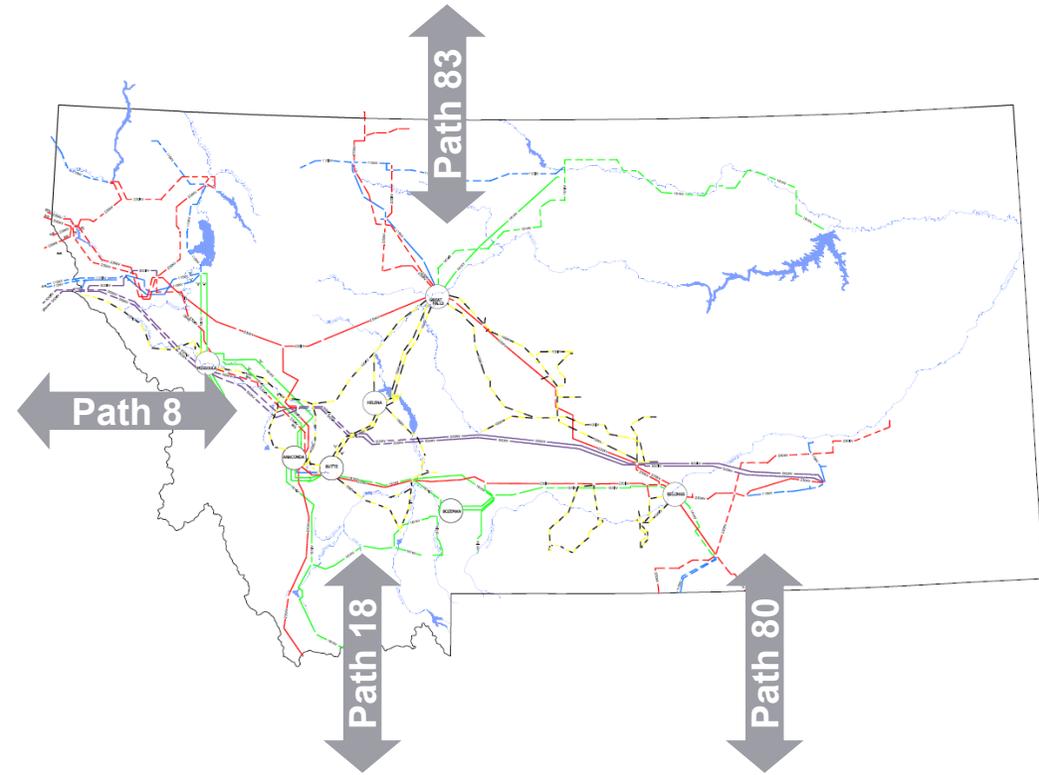
Peak Load With WRAP Planning
Reserve Margin

Jan 1st 2026 marks the first time that NorthWestern's resource portfolio is fully adequate to meet customer needs.

Transmission Map



What does Transmission look like today?



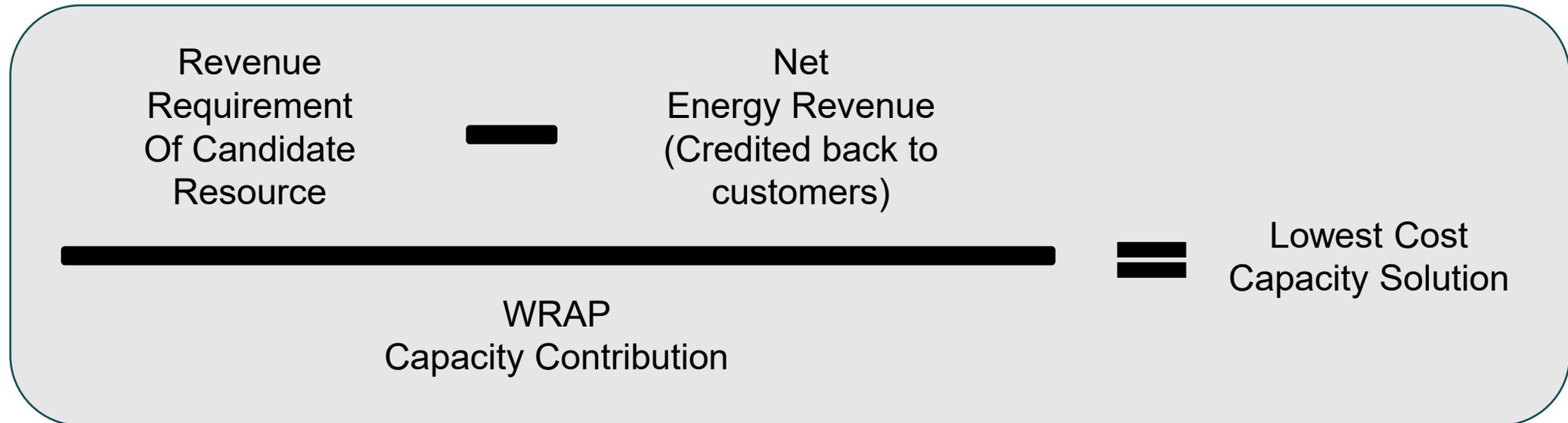
- Electric transmission consists of ~6,900 miles.
- Four interconnected paths.
- NorthWestern’s retail/native load consists of ~2/3 of the BA load with the rest being made up of:
 - Electric supply choice customers, electric cooperatives, and federal power marketing agencies.
- Latent capacity is diminishing.



Modeling Overview

What is the modeling trying to solve?

Identifying the **lowest-cost capacity** to meet the peak load and PRM in a variety of future scenarios and sensitivities.



Solving for an 80MW Winter Capacity Need.

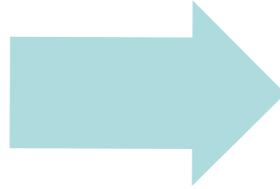
Resource	Winter Accreditation*	Interconnection/Nameplate Required
Solar	~8%	~1,000 MW
Wind	~24.5%	~327 MW
Gas	~98.5%	~81 MW

*Estimated Gas and Electric Transmission are included in the Revenue Req.
Electric Transmission based on Average OATT (\$/MW)
Gas Transmission also included based on high level assumptions (\$/MW)

What are the tools?

Automated Resource Selection (ARS)

- **Least Cost of Capacity.**
 - Meet WRAP + PRM Capacity Requirement
 - Solving for: Least Cost of Capacity for each year of need, based on input assumptions and constraints.



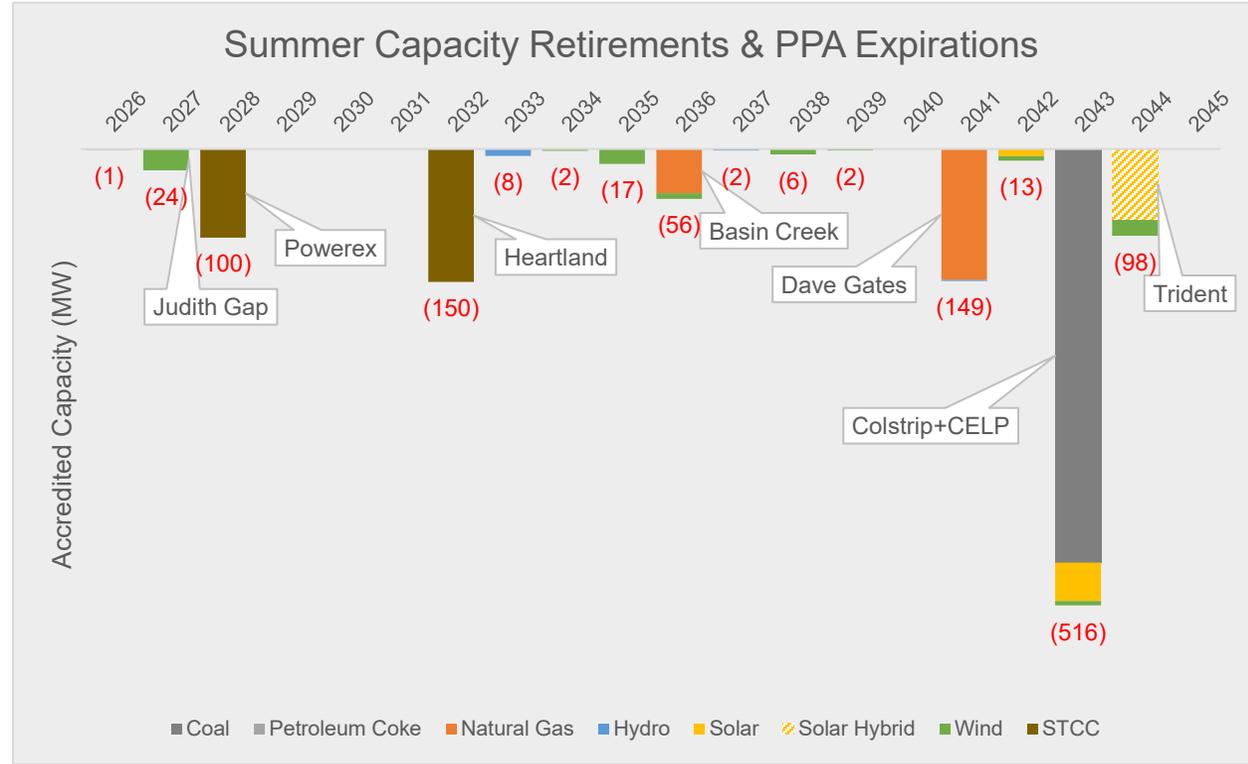
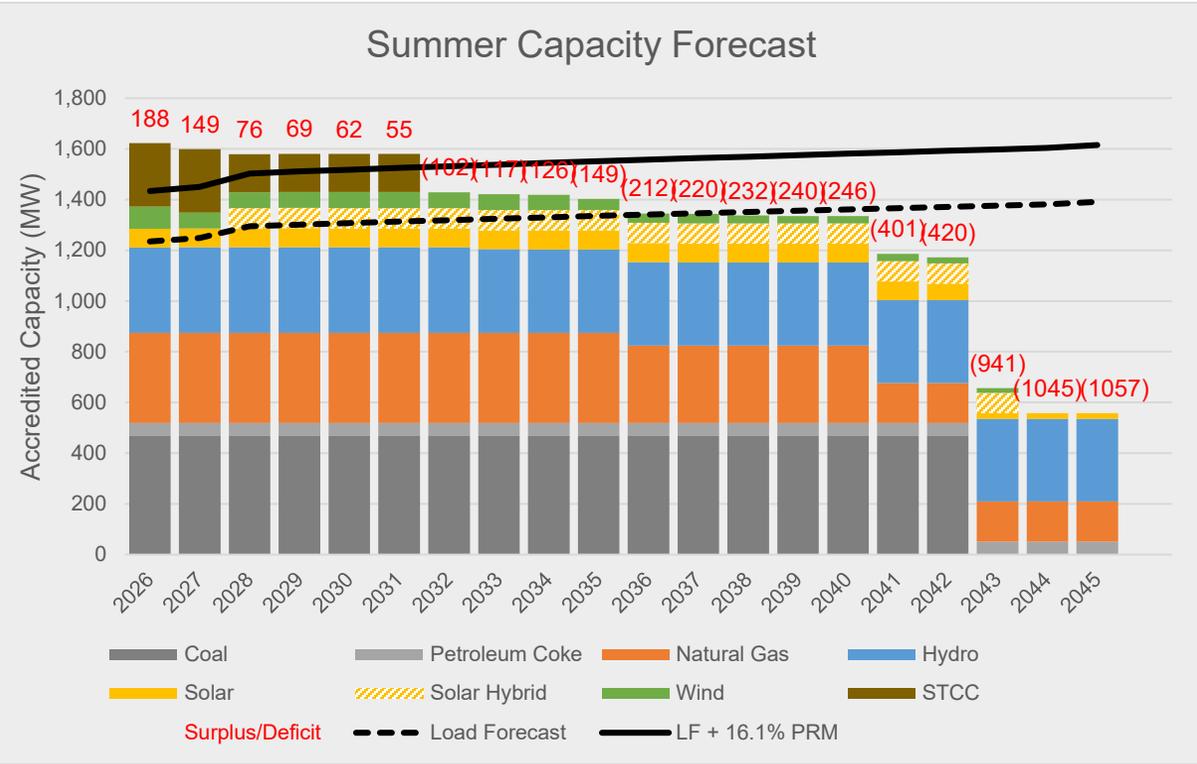
Production Cost Model (PCM)

- **Overall Cost of Portfolio**
 - The overall 20-year NPV portfolio cost and unit production.
 - Optimize dispatch to serve load at least cost while accounting for transmission limits.



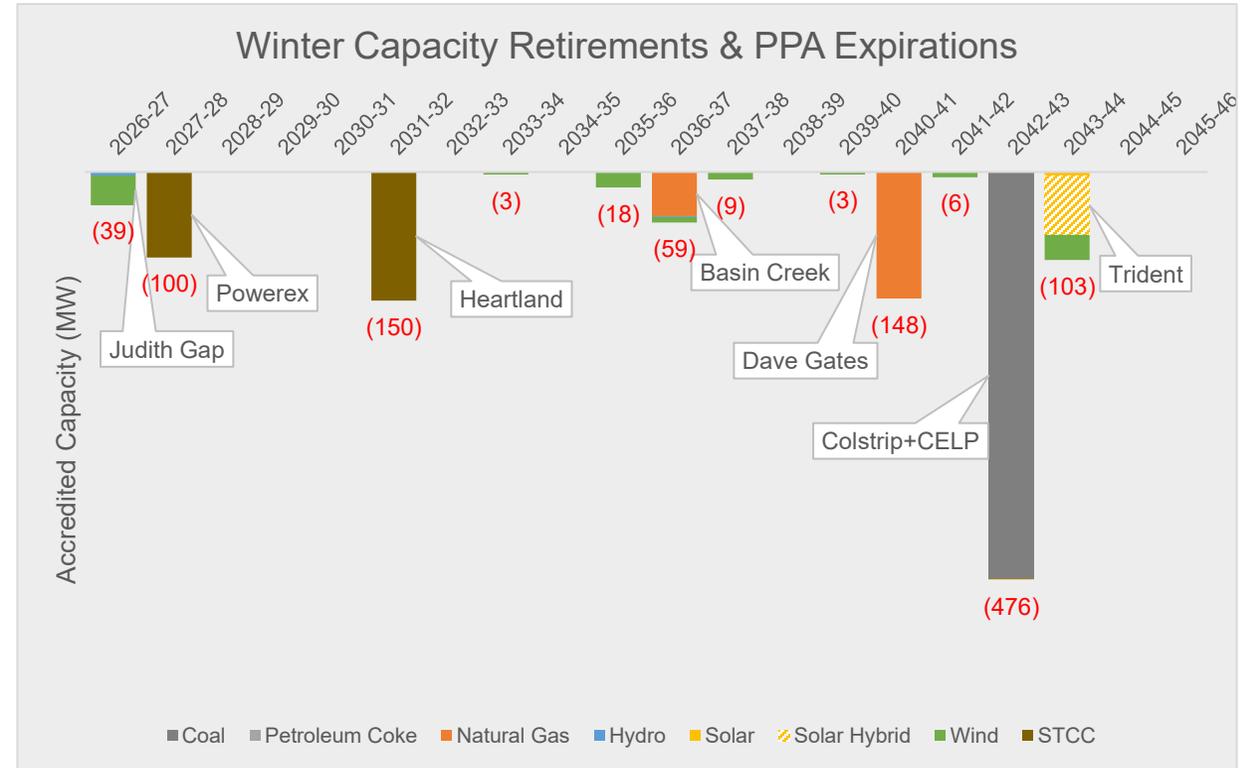
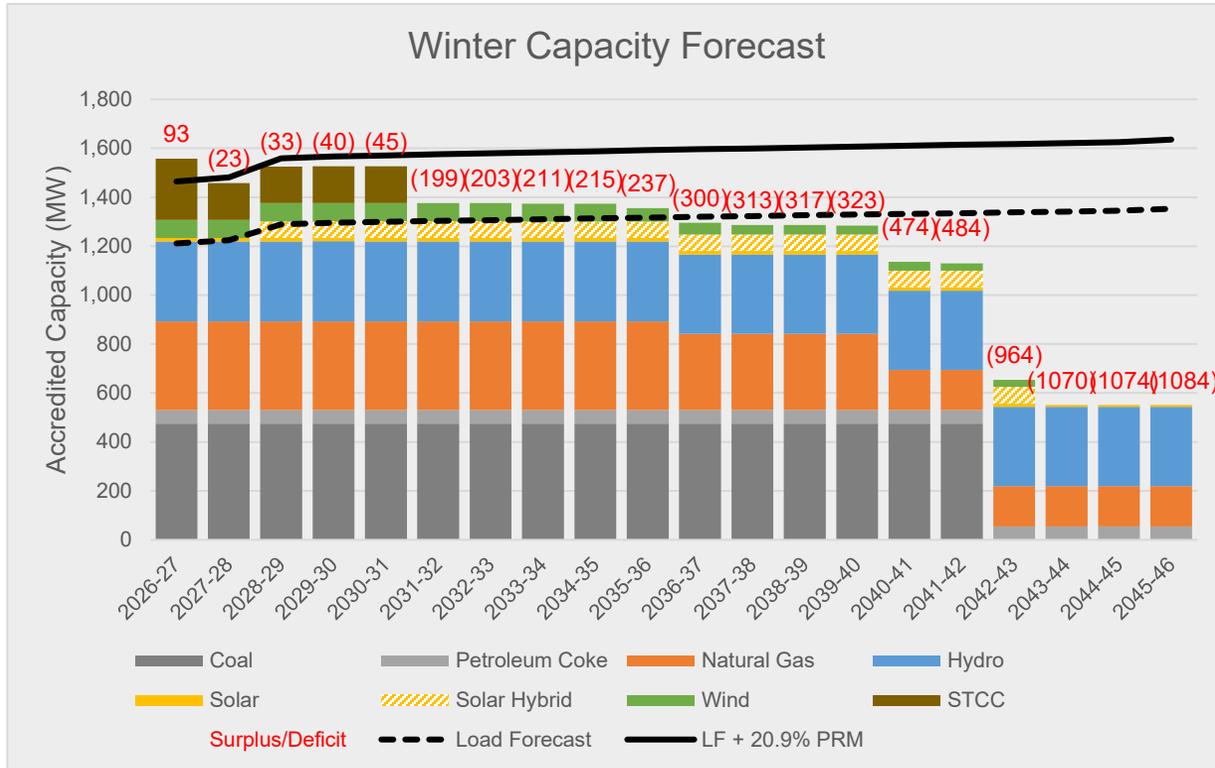
Modeling Inputs and Assumptions

Model Inputs – Summer Net Capacity Position



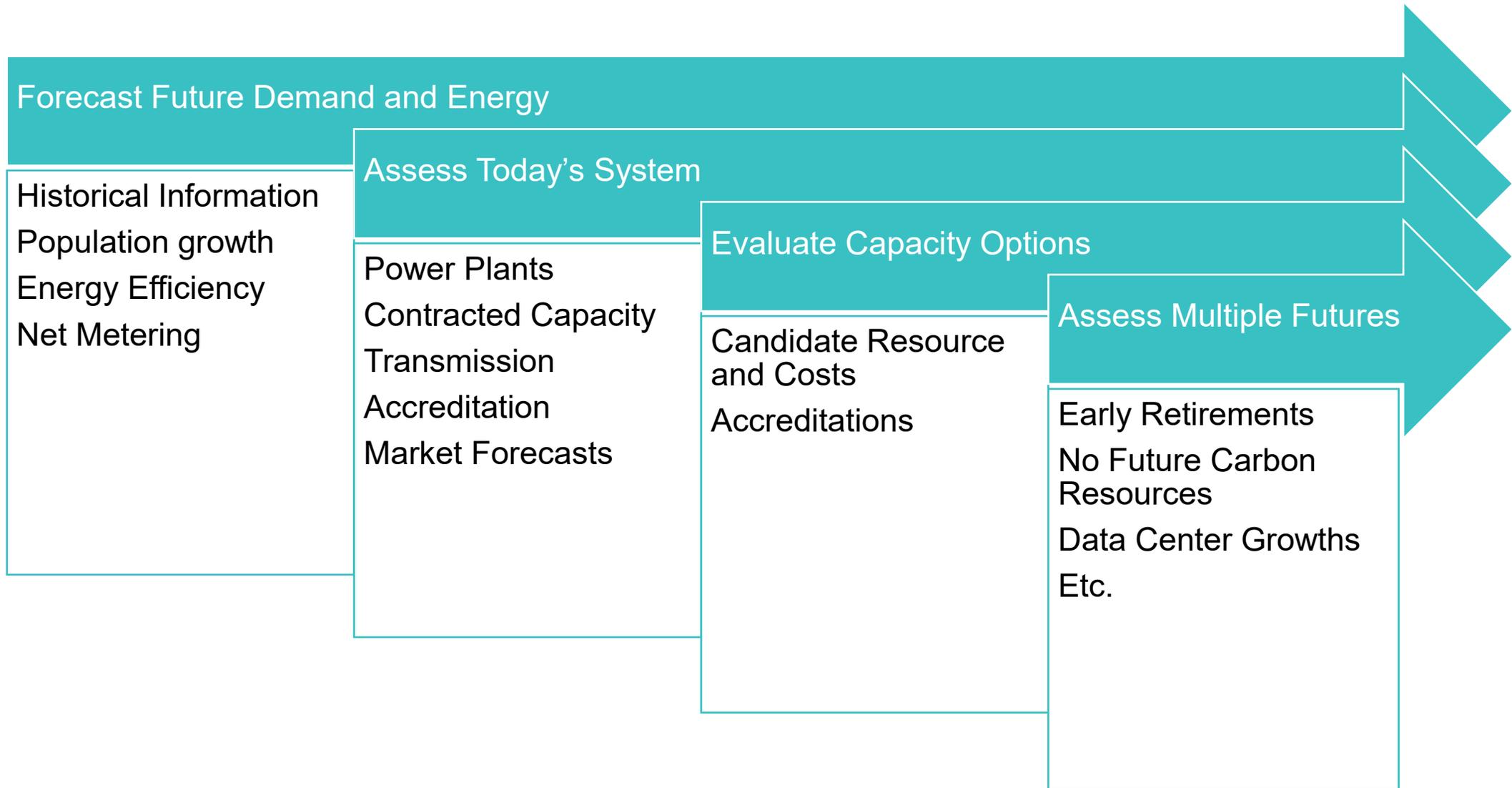
- Summer - Capacity sufficient through 2031 using NWE's 2025 planning assumptions and forecasts.
- **1 GW** of book life retirements are studied in this IRP.

Model Inputs - Winter Net Capacity Position:



- Winter - Capacity sufficient through fall 2027 using NWE's 2025 planning assumptions and forecasts.
- **1 GW** of book life retirements are studied in this IRP.

Modeling Input and Assumptions *(a snapshot in time)*



Constraints

Capacity Need and Timeline

- Capacity needs are set by WRAP and Peak Load Forecast
- New resources cannot be built before 2030
- Nuclear not available until 2035

Overbuild Controls

- Penalty applied for 150MW of excess capacity.
 - Keeps from building resources early from market conditions
- Short Duration Energy Storage capped at 250MW
 - Avoids a new winter peak
- Long Duration (100 hr) Energy Storage capped at 150MW

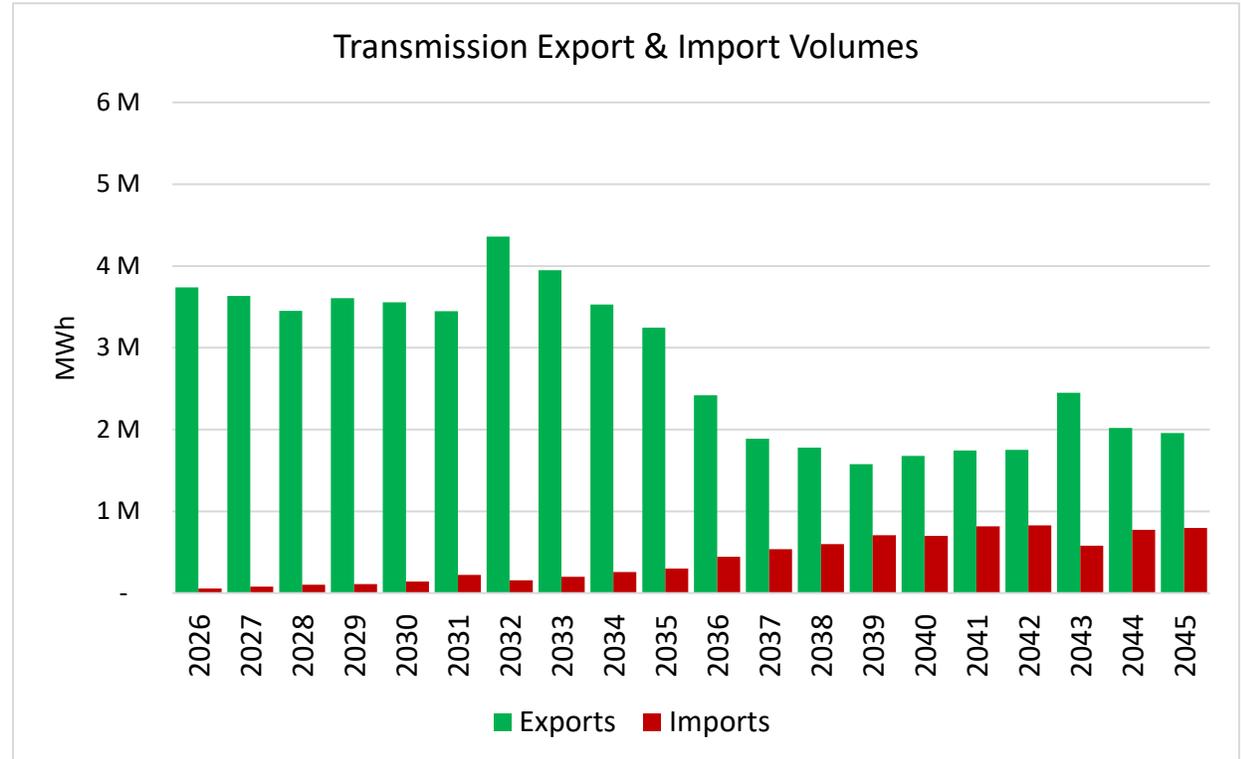
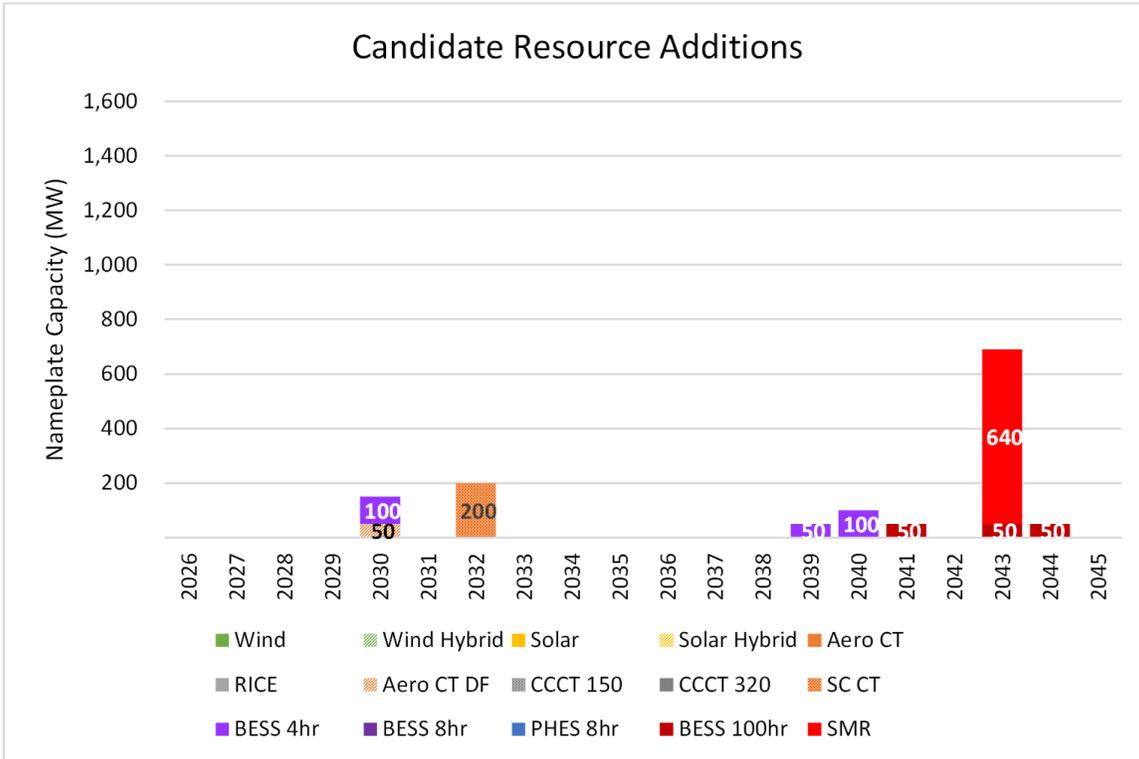
Policy Limits

- Net zero goal applied in main scenarios
 - No new fossil fuels after 2035 (pending available technology)
 - Constraint removed in sensitivity



Modeling Results

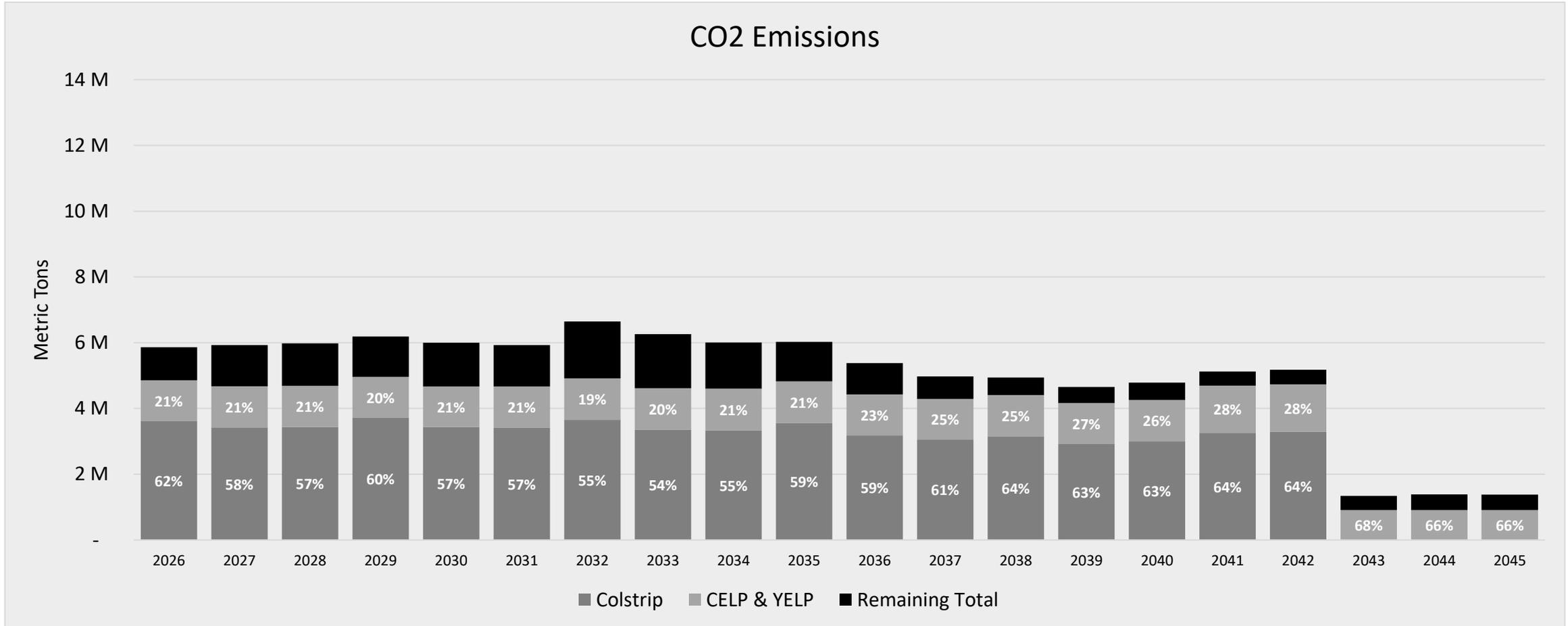
Scenario Result Overview



- Automated Resource Selection Builds:
 - 4 hour energy Storage, AERO CT, and Simple Cycle CT prior to 2035 (net zero goal)
 - Additional 4 hour energy storage, long duration energy storage, and nuclear after 2035.

- Production Cost Model & Market
 - Portfolio exports energy in beginning years
 - Excess + low-cost dispatch according to market forecast
 - Portfolio imports more in future years
 - Natural gas prices rise in later years, resulting in reduced exports. Load also increases.

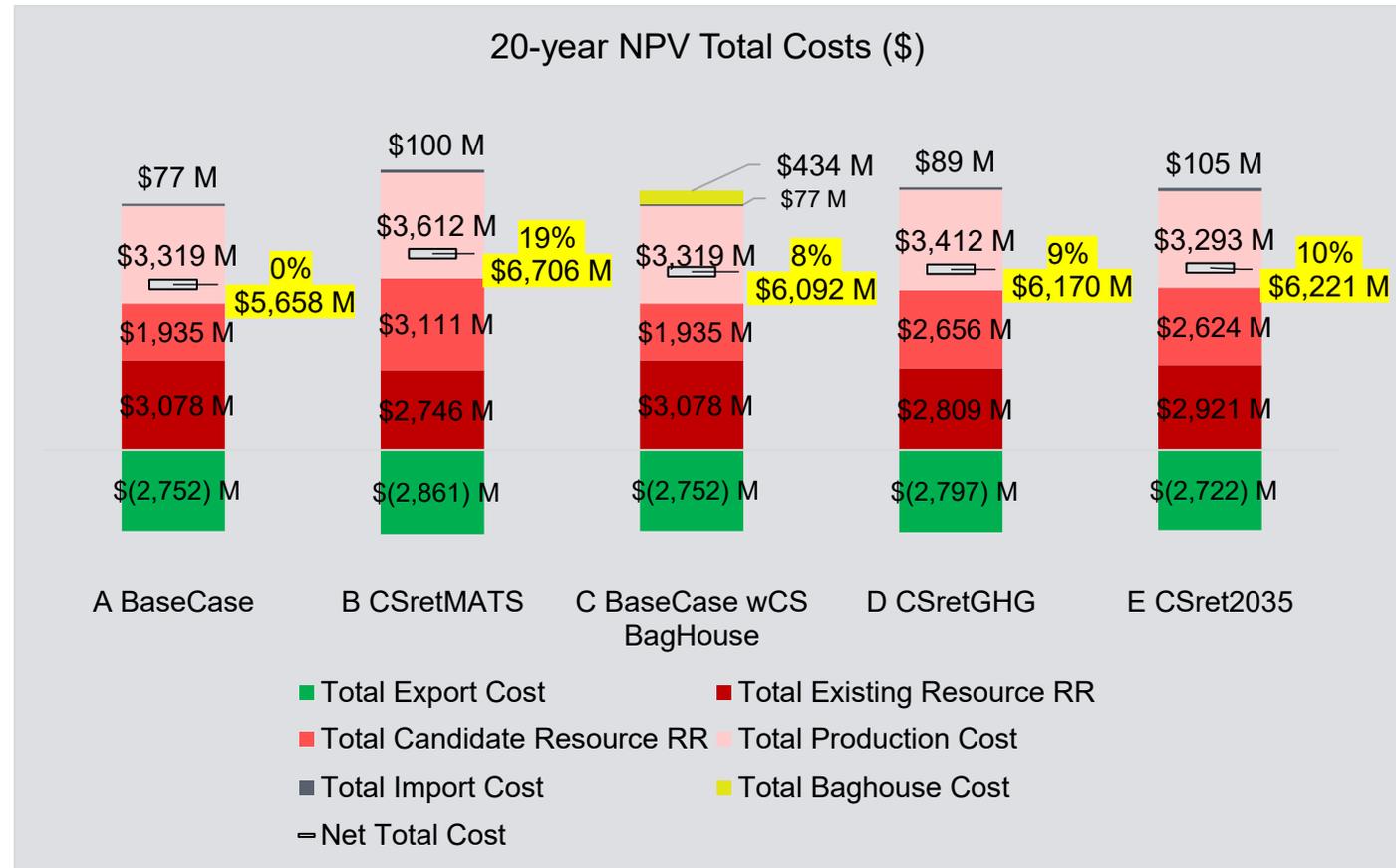
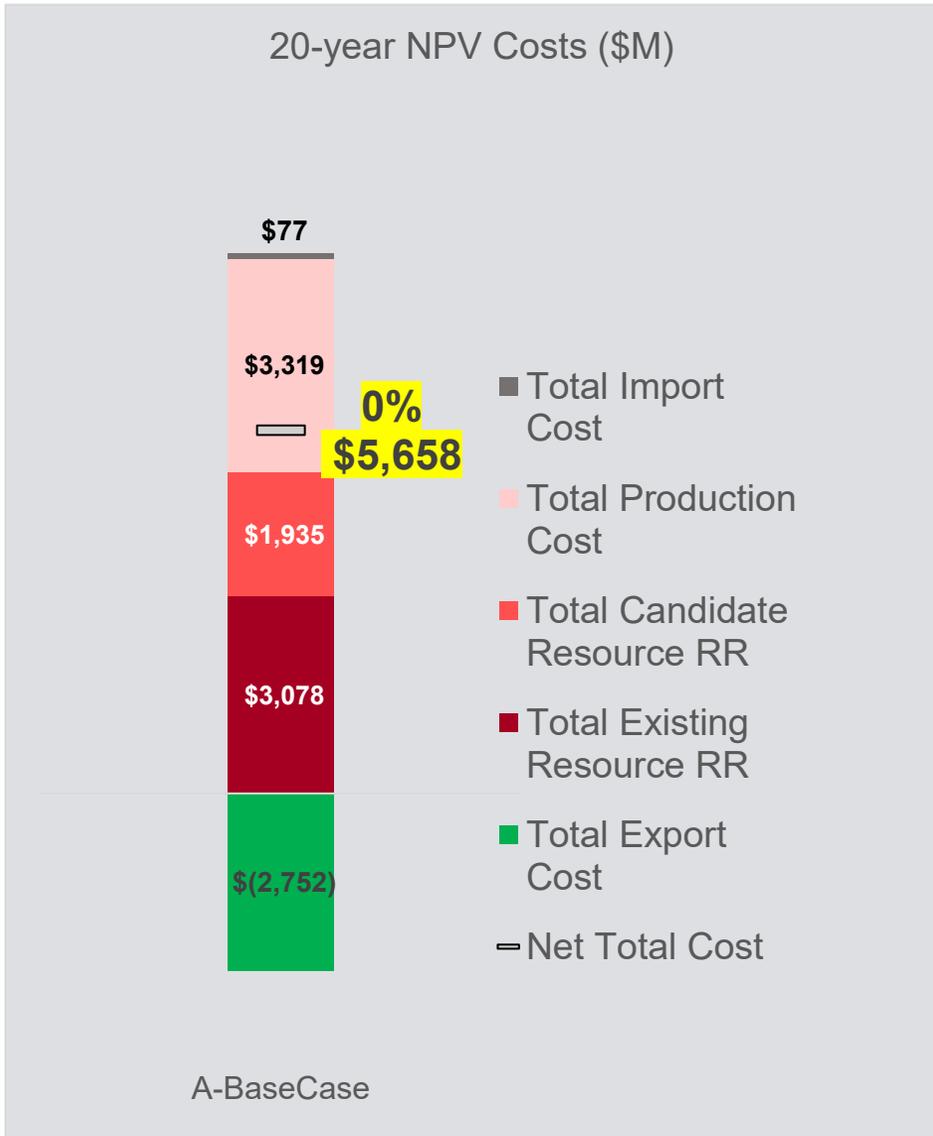
PCM: Emissions



What Drives Emissions:

- Emissions track how much energy a plant produces.
- Most emissions come from Colstrip and qualifying facilities (CELP and YELP).
- When these resources retire, emissions drop sharply.

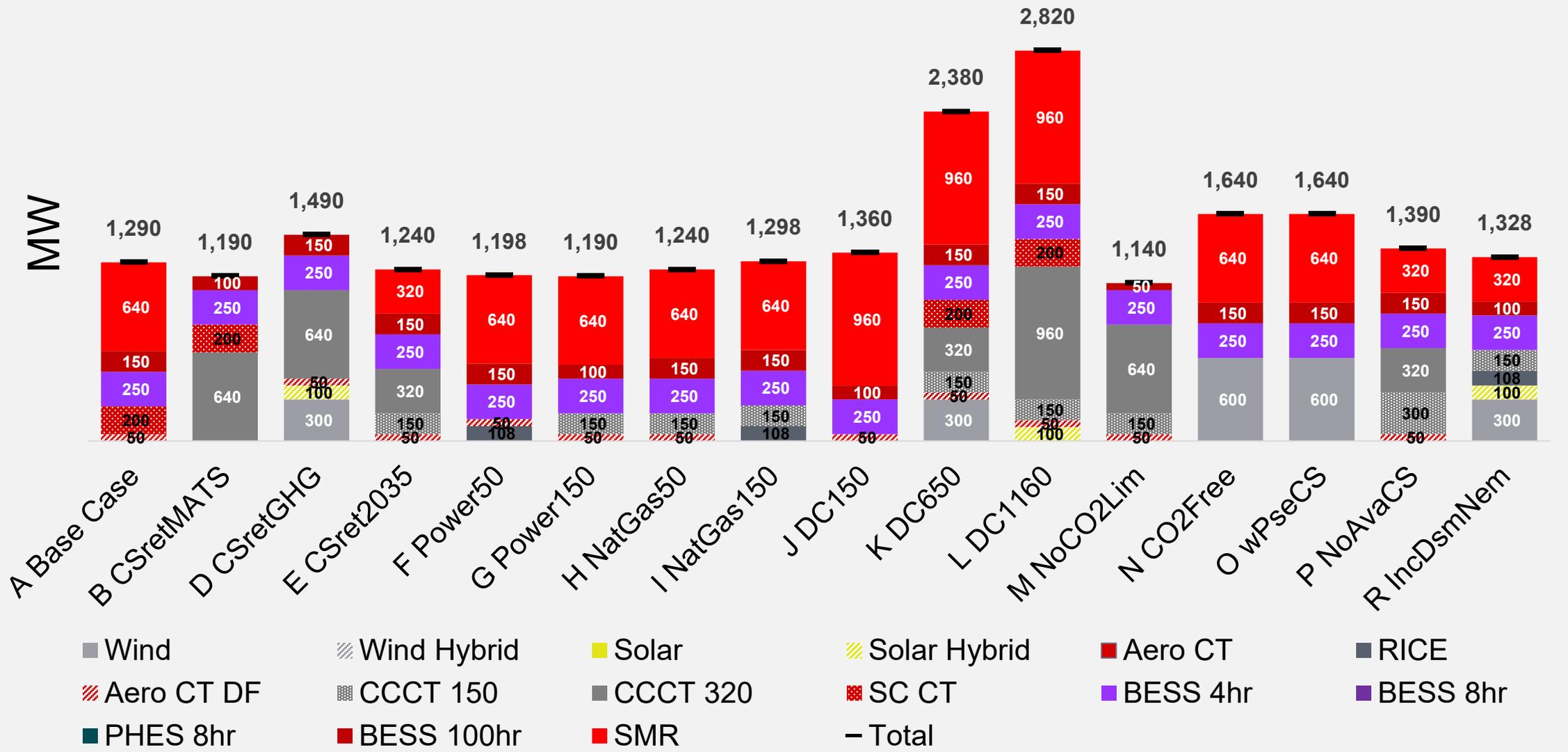
Portfolio Result: NPV and Production



How 20-year portfolio costs are compared.

IRP Build Summary

2026 MT IRP ARS Results



IRP Case Summary – Draft

Category	Last Year Colstrip Operates	Case	Total Added Nameplate Capacity % Difference from Base Case	20-yr NPV Cost (\$M)	20-yr NPV Cost per Total Load % Difference from Base Case	20-yr CO ₂ Intensity of Generation % Difference from Base Case
Base Case & Main Scenarios	2042	A-BaseCase	0%	\$5,658 M	0%	0%
	2029	B-CSretMATs	-8%	\$6,706 M	19%	-30%
	2042	C-CScompMATS	0%	\$6,092 M	8%	0%
	2031	D-CSretGHG	16%	\$6,170 M	9%	-26%
	2035	E-CSret2035	-4%	\$6,221 M	10%	-18%
Commodity	2042	F-Power50	-7%	\$6,467 M	14%	-4%
	2042	G-Power150	-8%	\$4,304 M	-24%	-3%
	2042	H-NatGas50	-4%	\$5,192 M	-8%	-3%
	2042	I-NatGas150	1%	\$6,124 M	8%	0%
Data Center (Includes 370MW CS)	2042	J-DC150	5%	\$5,804 M	-13%	18%
	2042	K-DC650	84%	\$9,515 M	-2%	11%
	2042	L-DC1160	119%	\$13,288 M	4%	3%
Resource	2042	M-NoCO2Lim	-12%	\$5,528 M	-2%	5%
	2042	N-CO2Free	27%	\$5,955 M	5%	-3%
	2042	O-wPseCS	27%	\$4,812 M	-15%	18%
	2042	P-NoAvaCS	8%	\$6,303 M	11%	-17%
Other	2042	Q-AddNPC300	3%	\$5,557 M	-2%	2%
	2042	R-IncDsmNem	16%	\$5,090 M	-4%	1%



Questions?



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