



Northwestern Energy ETAC Meeting # 10

2026 MT IRP Planning Cycle

February 25, 2026





Agenda

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1. Introduction/Welcome (5 min)



2. Public Session Presentation (25 min)



3. Portfolio Results Summary (60 min)



4. Public Comment Themes (60 min)



5. Round Table Discussion (60 min)



Public Presentation



NorthWestern Energy's 2026 Montana Integrated Resource Plan (DRAFT for Public Comments)

Final plan to be filed with the Montana Public Service Commission in April 2026

Public Meetings on DRAFT IRP

Setting the Context for This IRP



Diverse Perspectives are Expected

- Affordability
- Reliability
- Risks
- Climate and Clean energy
- Local vs. Regional Solutions

All perspectives are valid

What is an Integrated Resource Plan?

The Integrated Resource Plan Does Not:

- Set electric rates
- Lock in a single path
- Select a specific technology for construction
- Approve or build specific projects

The Montana IRP is a modeling exercise at least every 3 years that:

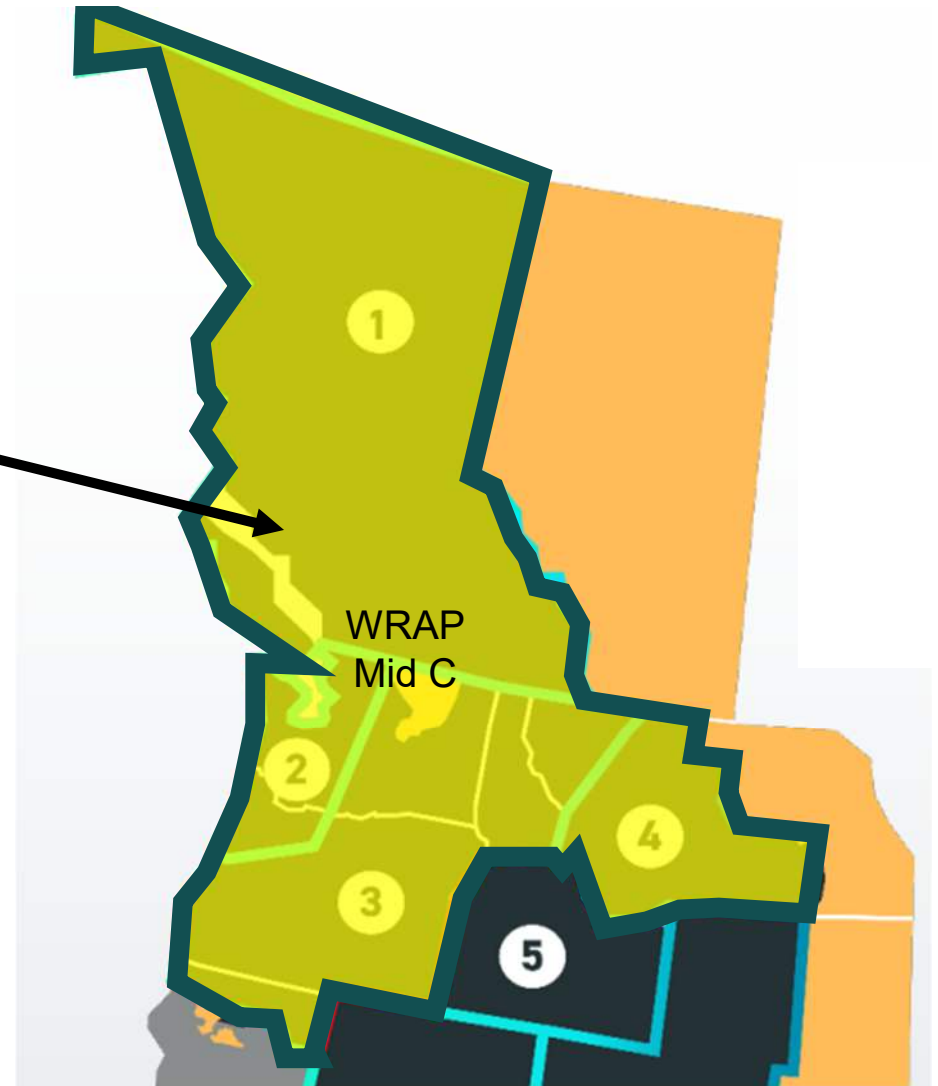
- Uses a regional reliability program (ie. regional sharing)
- Solves for the lowest-cost of capacity across scenarios and constraints
- Meets regional reliability and balances affordability and sustainability
- Works with Electric Technical Advisory Committee, Stakeholders, and has a process for public input.

WRAP Reliability

Enough
Resources
To Meet
~1 Shortfall in 10 Years
In the Mid C subregion

Regional WRAP Capacity Accreditation:

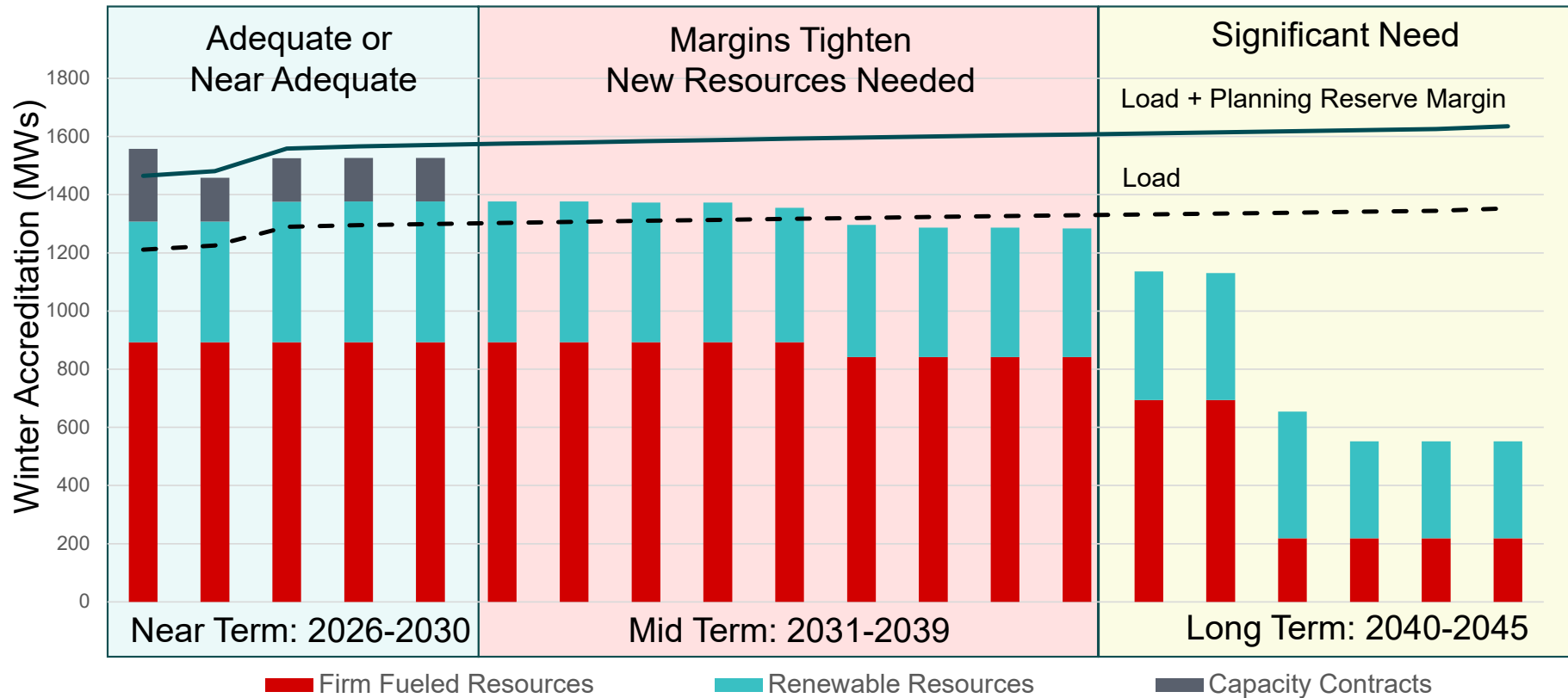
- Regional performance during extreme events
 - i.e. top hours of max regional load
- Summer and winter defined separately
- Montana is solving for winter-time need.



Keeping the lights on during the coldest winter days

Today's Portfolio Meets Near-Term Winter Reliability

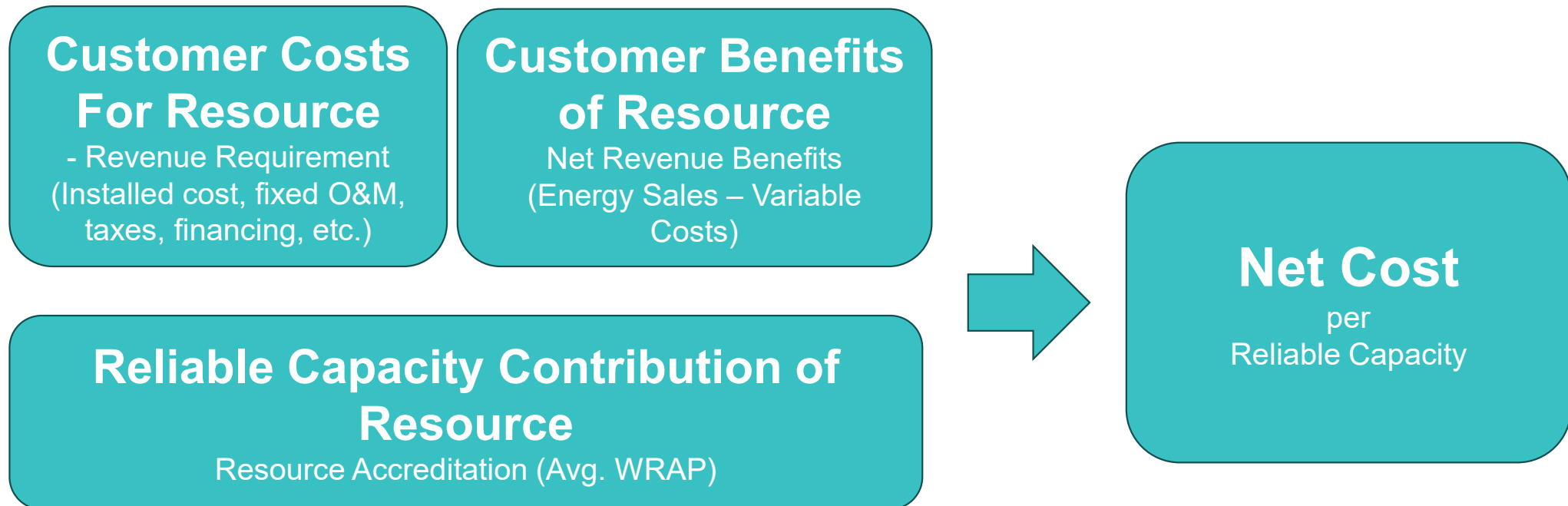
Based on current resources and WRAP 2025 accreditation assumptions



Recent additions drive near term resource adequacy

Driven by Yellowstone County Generation Station (YCGS) and additional shares of Colstrip

How Capacity Cost Tradeoffs Are Evaluated in Model (Conceptual)



All resources are evaluated the same way.

What Futures Were Tested?

- **Futures Tested Include (Ie. Scenarios):**

- **Base Case:**
 - Generation fleet operates through book life
 - Contracted capacity ends per contract terms
 - Commodity Sensitivities are tested
 - 50% and 150% Power or Gas Price
- **Colstrip:**
 - Colstrip retirements 2029, 2032, 2035
 - Colstrip bag house requirement in 2032
 - No Avista Share (222MW share)
 - With Puget's Share (370 MW share)
- **Data Center Growth:**
 - Data Center Growth w/ 370MW additional Colstrip Capacity (150MW, 650MW, 1160MW).
- **Emission Scenarios:**
 - No additional fossil fuel builds
 - Allowing fossil fuel resources to be selected (ie. removing no fossil fuels after 2035 constraint)
- **Other:**
 - Northern Plains Connector – Energy Value
 - Increased DSM and Net Metering Value

- **Modeling Constraints:**

- **No fossil fuels after 2035**
 - Part of NorthWestern's net zero by 2050 goal, if technology is available.
- **Storage Limits:**
 - 4 Hour storage limited to 250 MW. No additional winter peak.
 - Long duration storage limited to 150 MW.
- **Overbuild Penalty:**
 - Adds penalty to model so that capacity is built when needed, and not early for the market only benefits.

What We Learned Across Many Reliable Futures

High Level Results:

- No single resource meets reliability needs alone
- Energy storage appears all portfolios (short duration followed by long duration).
- Firm, dispatchable resources remain critical for winter reliability
- Transmission can increase access to low-cost energy (currently assessing WRAP reliability for NPC).
- Across some lower-cost futures, moderate load growth improved utilization of existing assets and lower levelized portfolio cost per MWh delivered. High growth requires new generation and transmission.

Tradeoffs Observed in Draft IRP

Lower Cost Futures Tend to Have:

- Greater reliance on existing assets
- Higher power prices, reducing overall portfolio costs.
- Higher emissions

Lower Emission Futures Tend to Have:

- Early replacements of existing assets
- Higher portfolio costs

Questions We Often Hear and How the IRP Addresses Them

Are resource's winter performance (ie. accreditation) accurate?



WRAP provides regional accreditation for currently operating resources

Does this favor gas or nuclear?



Model solving for lowest-cost resource to meet capacity need

Why is 4-hour storage limited in model to 250 MW?



Over 250 MW of grid charged storage may cause a new winter peak

Why doesn't transmission count towards reliability as a resource?



NorthWestern requested WRAP to provide updated reliability metrics with the Northern Plains Connector

Why are candidate resource costs high?



Cost estimates are based on real-world data from projects that are already built, under construction today, or bid into recent RFPs. Data provided by 3rd party vendor.

Why doesn't the IRP model future capacity contracts?



Pacific Northwest is short on capacity as early as 2028. We are unsure of costs and ability to extend or acquire capacity contracts for IRP modeling.

Last Items

Key Findings

- We are resource adequate in winter of 2026-2027.
- Across modeled futures, earlier Colstrip retirement generally increased customer costs.
- Northern Plains Connector (NPC) provides energy benefits to customers.
- Large customer growth can lower average energy costs but still requires new generation and transmission investments.

Additional Information in IRP

- NorthWestern's Action Plan
- Regional Capacity Needs
- Accreditations of Existing and Potential Resources.
- 2024 Emissions by Individual Resource
- Estimated Resource Costs
- Power and Natural Gas Price Estimates
- Projected Emissions of all Modeled Portfolios

Where to find more information & how to comment:



Public Comments

- Accepted until
 - **Thursday March 12, 2026**
- Online Form (via website)
 - Limited to 1250 characters
- Email: IRP@northwestern.com
- Public Comments:
 - Attend Public Meeting
 - 3 min per comment

Website

- Watch IRP Video(s)
- Learn more about an IRP
- Download Draft IRP
 - Executive Summary
 - 300 pages+ of technical information including cost assumptions, portfolio emissions, modeling details etc.
- Access all ETAC documents
- Access all Stakeholder documents

www.northwesternenergy.com/irp



Portfolio Results Summary

Portfolio Results Summary

Category	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	A-BaseCase	0%	\$5,658	0%	0%
	B-CSretMATS	-8%	\$6,706	19%	-30%
	C-CScompMATS	0%	\$6,092	8%	0%
	D-CSretGHG	16%	\$6,170	9%	-26%
	E-CSret2035	-4%	\$6,221	10%	-18%
Commodity	F-Power50	-7%	\$6,467	14%	-4%
	G-Power150	-8%	\$4,304	-24%	-3%
	H-NatGas50	-4%	\$5,192	-8%	-3%
	I-NatGas150	1%	\$6,124	8%	0%
Data Center	J-DC150	5%	\$5,804	-13%	18%
	K-DC650	84%	\$9,515	-2%	11%
	L-DC1160	119%	\$13,288	4%	3%
Resource	M-NoCO2Lim	-12%	\$5,528	-2%	5%
	N-CO2Free	27%	\$5,955	5%	-3%
	O-wPseCS	27%	\$4,812	-15%	18%
	P-NoAvaCS	8%	\$6,303	11%	-17%
Other	Q-AddNPC300	3%	\$5,557	-2%	2%
	R-IncDsmNem	16%	\$5,090	-4%	1%



Public Comment Themes

Public Comment Themes

- **1. Affordability and Ratepayer Protection**
 - **Core theme:** Stakeholders want assurance that the IRP represents a least-cost, least-risk plan for existing customers, not a pathway to higher rates driven by capital expansion.
- **2. Data Centers and Large-Load Development**
 - **Core theme:** Large data center growth is widely viewed as the primary risk in the IRP because it could drive costly new infrastructure needs and increase rates for existing customers.
- **3. Modeling Assumptions and Resource Selection**
 - **Core theme:** Commenters believe the IRP's modeling assumptions skew resource choices by undervaluing clean energy and demand-side options while overstating the reliability and economic advantages of fossil resources.

Public Comment Themes

- **4. Climate, Environmental, and Public-Health Impacts**

- **Core theme:** Commenters want climate impacts and emissions costs to play a central role in the IRP, arguing that climate risks, health effects, and constitutional environmental protections must be fully integrated into long-term planning and resource evaluation.

- **5. Reliability, Resource Adequacy, and Grid Strategy**

- **Core theme:** Stakeholders believe reliability can be achieved through modern, clean, and flexible technologies, not by continued dependence on aging coal and gas units. They want the IRP to evaluate a broader set of resilient, future-focused reliability solutions.

- **6. Transparency, Trust, and Public Process**

- **Core theme:** Stakeholders are concerned that the IRP process lacks transparency and meaningful public participation, leading to distrust that input is considered and that planning decisions are genuinely open.

Stakeholder Working Group Comment Themes

- **1. Modeling Assumptions**

- **Core theme:** Modeling assumptions are perceived to bias results by overstating fossil reliability and understating the value of clean energy and demand-side resources.

- **2. Interconnection Costs**

- **Core theme:** Uniform, high interconnection and upgrade costs are seen as distorting resource selection and blocking cost-effective renewables and storage.

- **3. Capacity Contributions**

- **Core theme:** The IRP undervalues the reliability provided by storage, hybrids, and transmission, skewing portfolios toward additional thermal capacity.

- **4. Demand-Side Resources**

- **Core theme:** DSM and load flexibility are considered underutilized, leading to inflated estimates of future supply-side needs.

Stakeholder Working Group Comment Themes

- **5. Thermal Generation Risk**

- **Core theme:** Stakeholders believe the IRP downplays economic, regulatory, and reliability risks associated with continued coal and gas reliance.

- **6. Decarbonization Alignment**

- **Core theme:** There is a call for clearer alignment between decarbonization commitments and modeled resource pathways, including emissions treatment and retirements.

- **7. Emerging Technologies**

- **Core theme:** Stakeholders seek consistent, transparent treatment of emerging technologies, rather than preferential or restrictive modeling.

- **8. Transparency & Process**

- **Core theme:** Stakeholders want clearer explanations of modeling choices and outcomes to build trust and improve engagement.



Round Table Discussion

Round Table Discussion

- IRP waivers
 - Admin. R. Mont. 38.5.2022(1)(c)
 - [a] description and graphical presentation of daily and seasonal electric demand and energy requirements for each major rate or service class, the variability of those requirements, and how the utility assessed historical trends, and the potential for future changes in the timing and variability of electric demand and energy requirements in the development of the plan.
- Timeline
 - Comments accepted until March 12, 2026
 - File Final Draft IRP with MPSC April 28, 2026
- Remaining ETAC Input



Questions/Comments?