



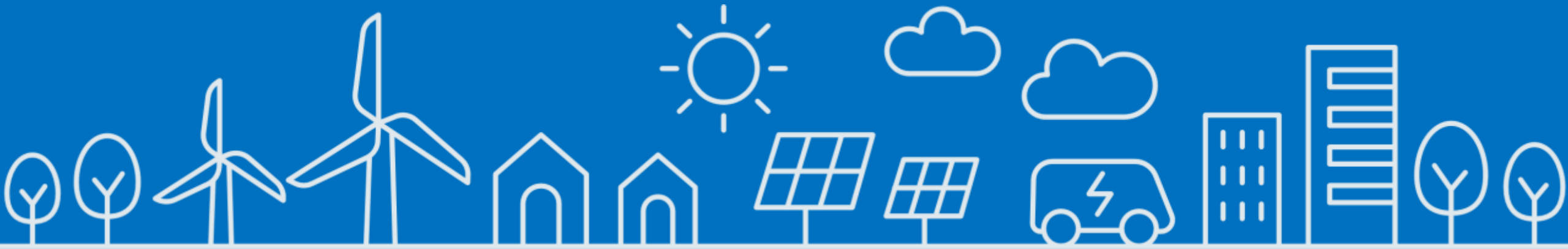
Integrated Resource Plan (IRP)

Update

TJ Otto

Strategic Accounts

July 24, 2024

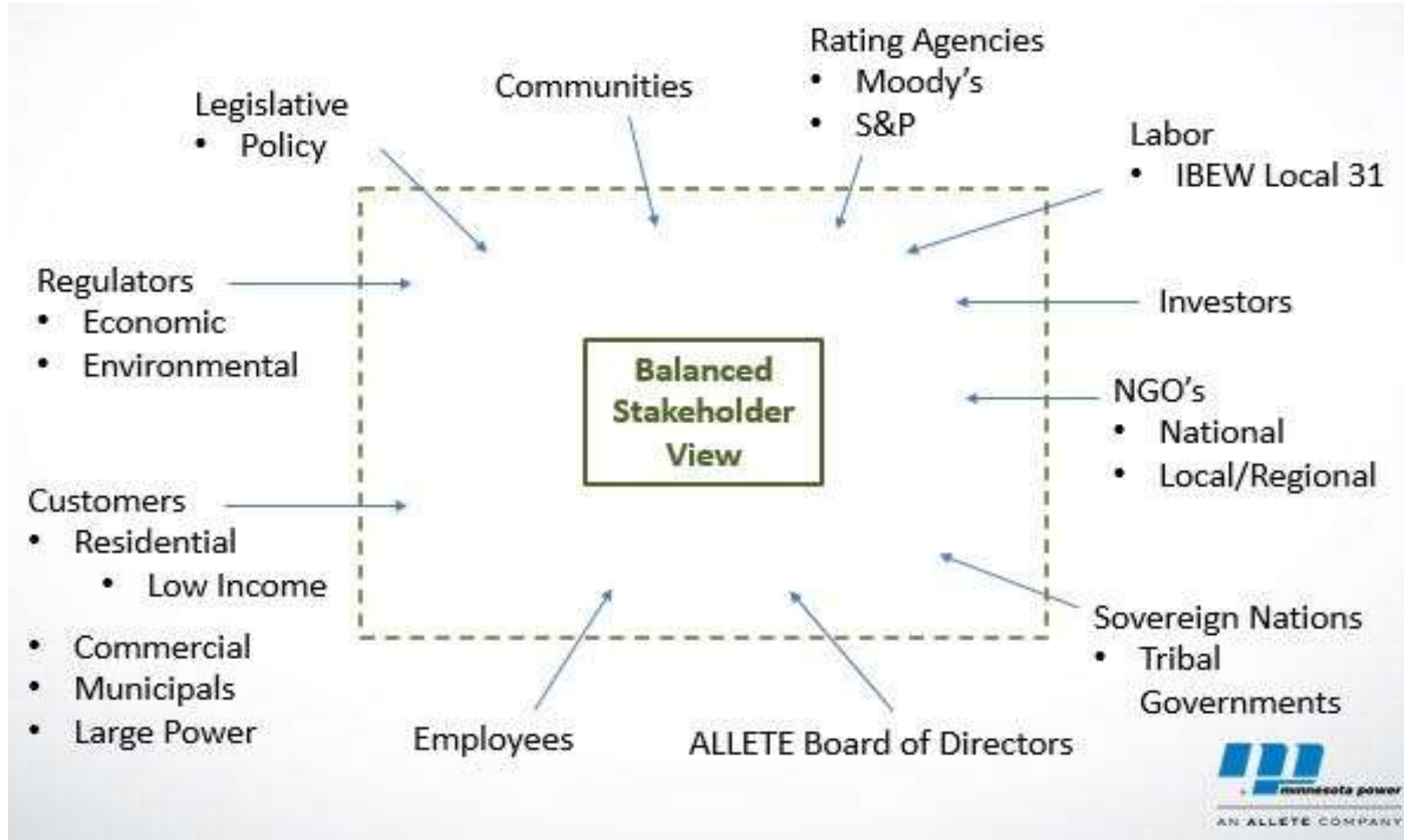


Integrated Resource Plan (IRP) Defined

- An electric **Integrated Resource Plan** (also known as an IRP) explains how a utility plans to generate electricity for their customers for the next 15 years.
- The utility is required to file with the MPUC roughly every 2 years.
- The IRP looks at current and future generation (this has expanded to other options).
- Plans factor in state laws about renewable energy resource use, carbon emissions reductions, affordability, and reliability.
- Load forecast models used to determine what generation is needed to meet customer demand.
- The utility submits its preferred plan to the Commission for approval.
- Opportunity for Stakeholders to comment.
- MPUC Approves (“as is” or with revisions).



Who Can Influence an IRP?

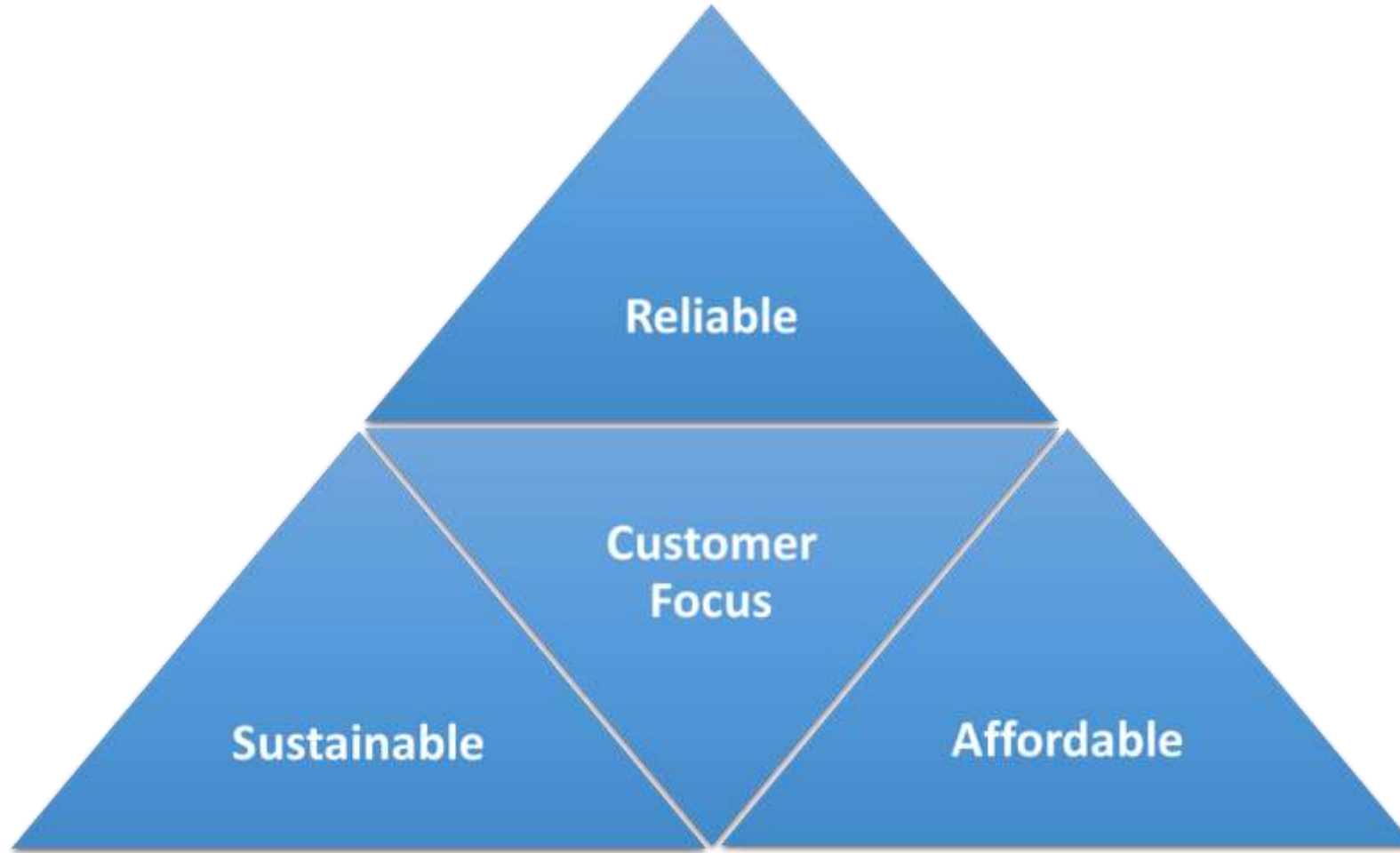




2021 IRP Order

- Requires MP to:
 - Acquire at least 300 MW and up to 400 MW of wind, with at least 200 MW in-service by 2026.
 - Acquire up to 300 MW of regional solar, in-service by 2026.
 - Cease coal operations for Boswell Units 3&4 by 2030 & 2035.
 - Explore Storage of 100 MWh up to 500 MWh.
 - Additional Long-term contracts for Demand Response programs with LP/LLP Customers.

Energy Trilemma



100% Carbon-free by 2040

Signed into law Feb 7, 2023 (22nd state)

Reliability and affordability remain top concerns:

- Existing hydropower counts as renewable
- Clarity included that one REC can meet both the RES/Carbon-free
- Open docket to decide what energy generation will be considered carbon free (i.e. Biomass)

Carbon-Free Standard:

IOUs		Munis/Coops	
2030:	80%	2030:	60%
2035:	90%	2035:	90%
2040:	100%	2040:	100%

Renewable Energy Standard:

- **All Utilities 55% by 2035**



Governor Tim Walz @GovTimWalz · Feb 8

This bill is an essential investment in our future that will pay off for generations to come. Minnesota will continue to lead the way on combatting climate change – all while creating more clean energy jobs in the process.

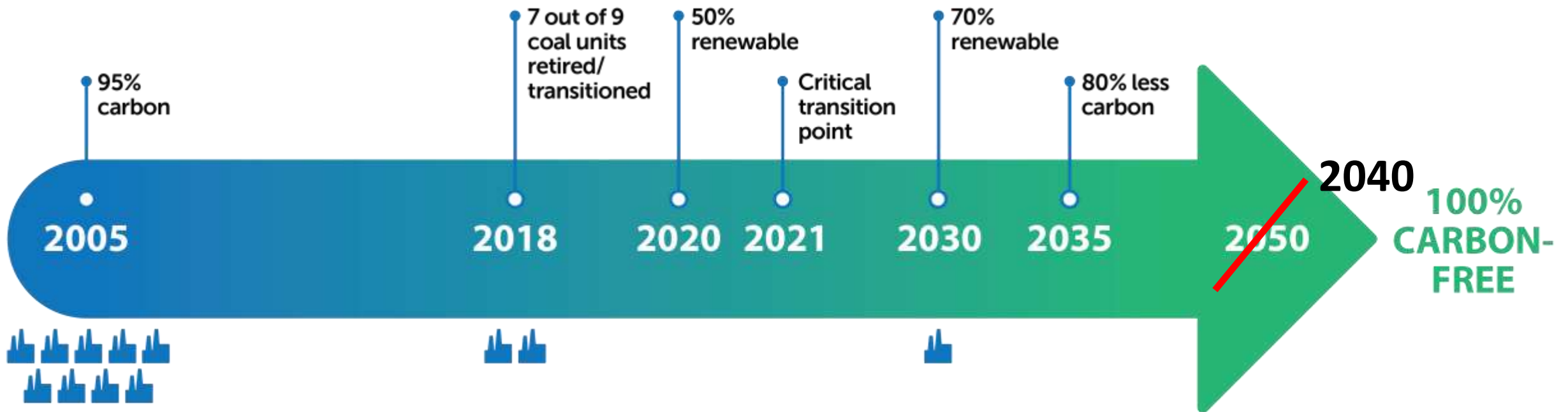


cbsnews.com

Gov. Walz signs "100 Percent by 2040" energy bill into law
The Minnesota Senate overnight passed a bill setting new climate goals for Minnesota. It will require all utilities to offer 100% clean energy by ...

WE ARE COMMITTED TO MAKING A SUSTAINABLE & JUST TRANSITION

to a reliable, affordable and carbon-free energy mix for our customers.



Integrated Resource Planning

IRPs consider full range of power sector investments to meet new demand for electricity in affordable manner.

- New generation sources
- Demand Response and Dual Fuel
- Energy efficiency and conservation
- Transmission and distribution

IRPs incorporate society-wide perspectives and public participation to find outcomes that balance economic, environmental, and social considerations while maintaining a reliable electric system.

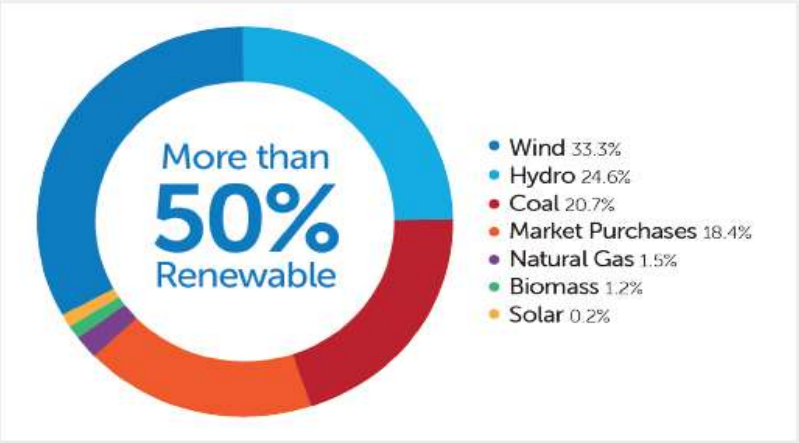
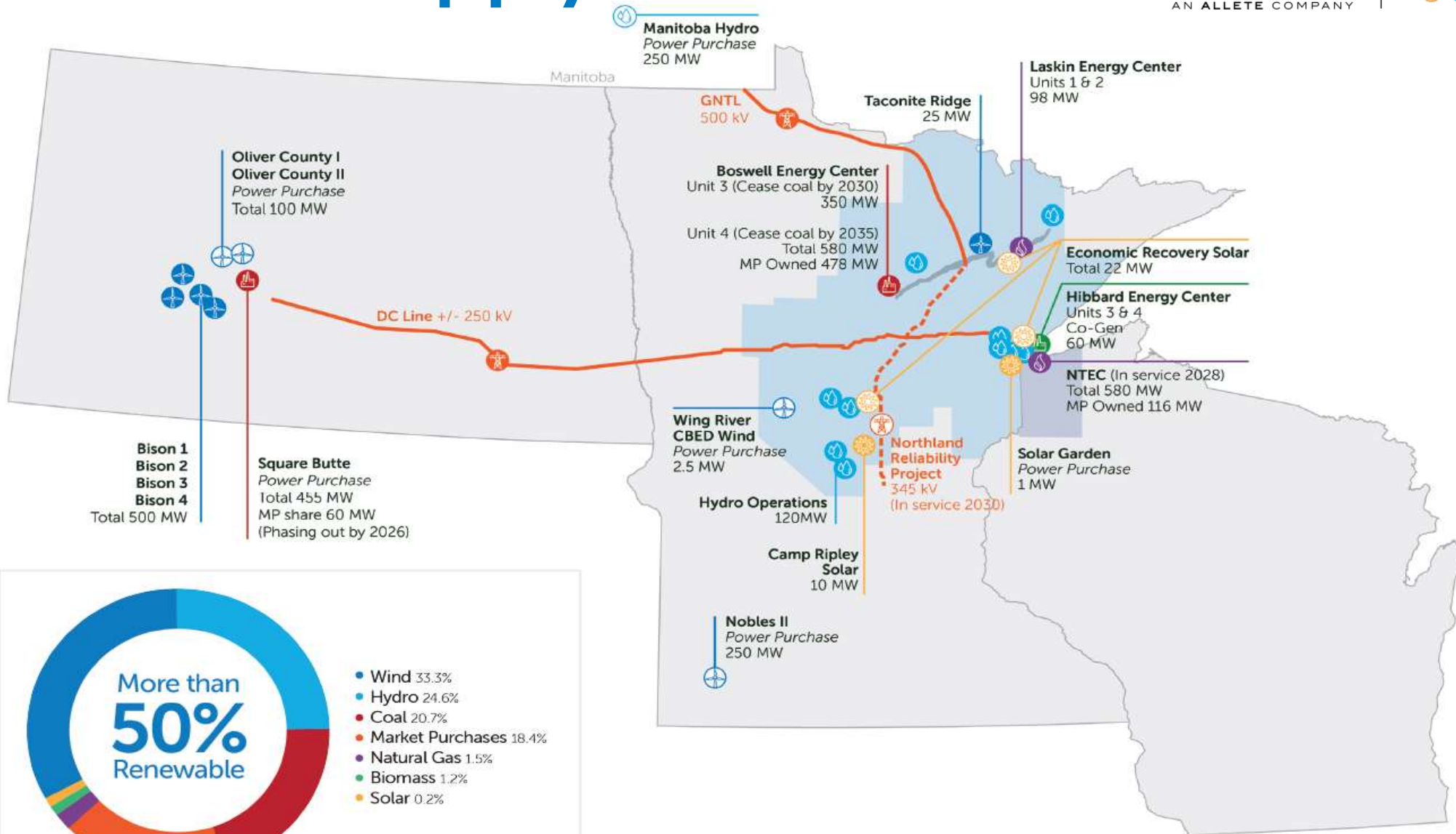
2025 IRP: Key Areas of Focus

Pathways to achieve 100% Carbon Free energy by 2040 while maintaining reliable and affordable energy:

- Post BEC 3 & 4 Coal Operations
 - Viable replacement technologies
 - Just transition for workers & host community
- Baseload retirement study for Hibbard
- Customer programs and products
- Changing demand and load
- Technological readiness and costs
- Transmission to support the transition



Generation Supply



Minnesota Power calculates and reports carbon emissions based on the GHG Protocol. Details in ALLETE's Corporate Sustainability Report (allete.com/sustainability).

Reliability: A Core Issue Facing Today's System...MN Power Integrating Reliability Criteria into Long-Term Planning Process



NERC Winter Reliability Assessment:



MISO 2023 OMS Survey:

Committed Capacity shows declines over survey window with potential resource deficits starting in PY 2025/26

Process Timeline

Engagement Meetings February – October 2024

Process Summary Nov - Dec 2024

IRP Filing Mar. 1, 2025

IRP 101 Webinar:
Build a shared understanding of Minnesota Power and the IRP Regulatory Process

Meeting 1:
Level-setting for the process; discuss “customers and host communities” considerations.

Meeting 2:
Level-setting for the process; discuss “environment and utility” sections of the issue map.

Meeting 3: Review advisory groups’ findings and recommendations, discuss cross-cutting issues, and provide final input to the resource plan.

IRP 101 Webinar
February 21

Joint Meeting 1
May 7
(Grand Rapids)

Joint Meeting 2
June 3
(Duluth)

Joint Meeting 3
October
(TBD)

GPI to develop process summary and send to participants for review
Nov - Dec

IRP Filing

Technical Advisory Group (TAG)
Monthly meetings; March – September

Societal Cost-Benefit Advisory Group (SAG)
Three meetings; May - September

MODELING AND ANALYSIS



GREAT PLAINS INSTITUTE



NOTE: Dates and topics are subject to change to meet the group's needs.



EnergyForward



Questions?

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