2025 Integrated Resource Plan

Technical Advisory Committee
Fall 2024 – Meeting 2

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Manitoba Hydro
energy for life

Land acknowledgment

Manitoba Hydro has a presence right across Manitoba – on Treaty 1, Treaty 2, Treaty 3, Treaty 4 and Treaty 5 lands – the original territories of the Anishinaabe, Cree, Anishininew, Dakota, and Dene peoples and the homeland of the Red River Métis.

We acknowledge these lands and pay our respects to the ancestors of these territories. The legacy of the past remains a strong influence on Manitoba Hydro's relationships with Indigenous communities today, and we remain committed to establishing and maintaining strong, mutually beneficial relationships with Indigenous communities.

Agenda

Purpose:
Seek member feedback on planning assumptions that inform key inputs

Topics

1. Updates from TAC meeting #1
2. Terms of Reference - Updates
3. 2025 IRP Proposed Load Projections
   - Development Approach
   - Load Projections
   - Planning Assumptions
4. Resource Inventory & Proposed Resource Option Strategies

A note about information included in this document

All information included in this documented is presented as proposed, draft, and/or preliminary. Discussion and feedback is welcomed to inform finalized versions of this information.

Manitoba Hydro is committed to continuing to ensure transparency of our energy planning process. This includes engaging with customers and interested parties in the development of the IRP, so it is informed by feedback heard.

Finalized key inputs, scenarios, and evaluation metrics will be communicated after the planned engagement concludes, including how feedback was incorporated.

Load Projections and Resource Options

For today's conversation

INFORM & ENGAGE

Load Projections

- Anticipated electrical demand and natural gas demand.
- Based on planning assumptions.

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INFORM

Resource Options Strategies

- Represents potential policy impacts that limit what resources can serve future demand.
- Based on planning assumptions.

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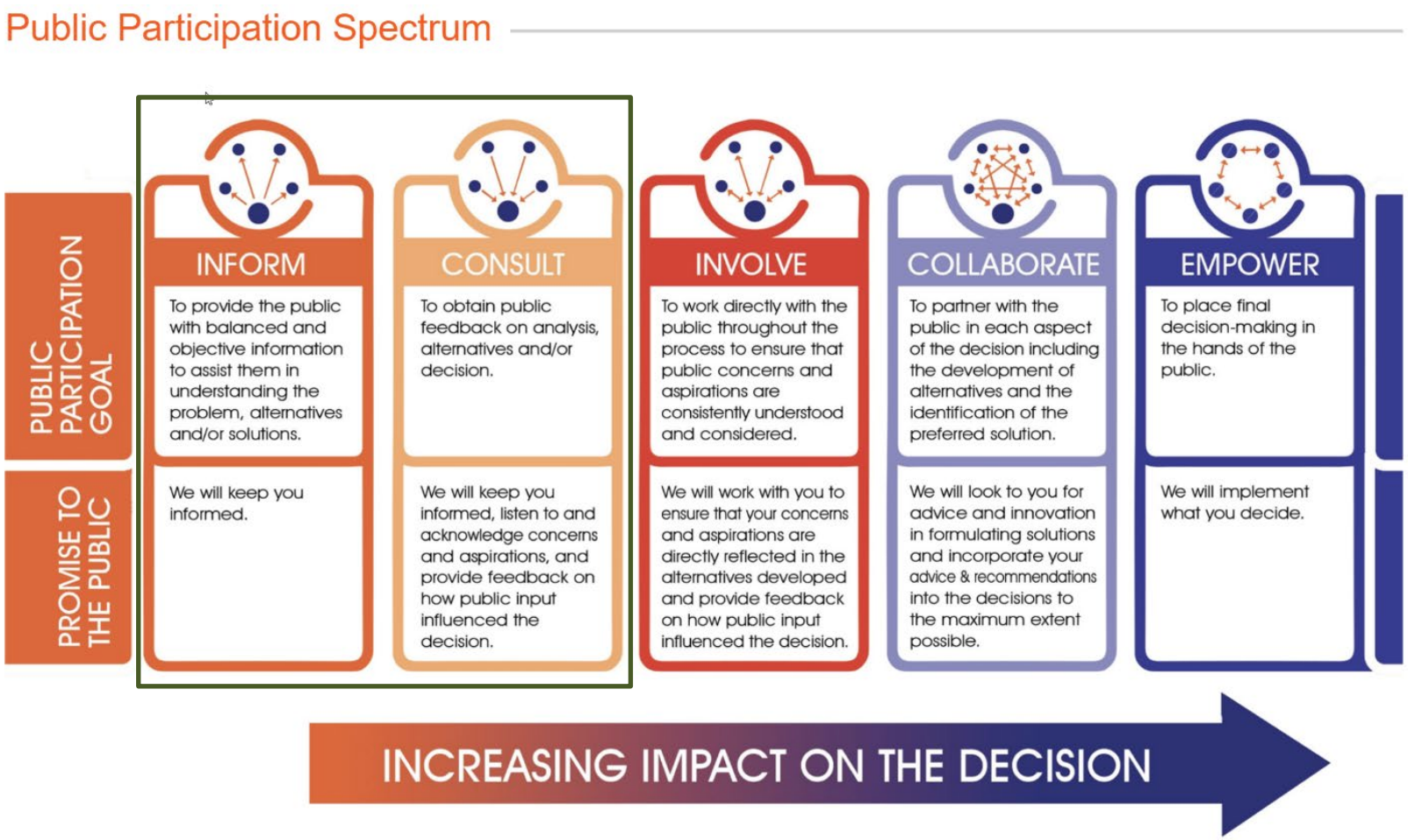
Scenarios

- Represents a specific energy future.
- It is a likely combination of a Load Projection and a Resource Options Strategy.

Key Inputs

Updates from TAC Meeting #1

Engagement in the 2025 IRP



Terms of Reference - Updates

Proposed changes based on discussion

Purpose

What we heard:	Proposed Changes

• Need to clarify TAC purpose & expectations of members:
  • Are representative or independent perspectives sought. Impacts demands of group members.
  • Group members to provide engagement feedback that Hydro will use to inform decision-making.
  • Group members will not be required to reach consensus or make formal recommendations.
  • Participation of members is considered engagement - not Crown consultation.
	The 2025 IRP will ~~result in a road map, which includes a recommended development plan,~~ **be** ~~-~~informed by TAC ~~feedback~~ and other ~~public~~ engagement ~~feedback~~. The TAC is ~~intended to provide~~ **designed to gather** feedback **from representative organizations across Manitoba, with members sharing their knowledge and expertise from their role(s) within the organization** ~~the group~~ they represent. Feedback shared from the TAC will be considered by Manitoba Hydro along with feedback heard through other 2025 IRP engagement. The TAC will not be required to reach consensus and will not be responsible **or accountable** for decisions **or determining a recommended development plan** within the 2025 IRP. **Participation on the TAC is an engagement effort and is not considered Crown Consultation.**

Purpose

What we heard:	Proposed Changes

• Need to clarify TAC purpose & expectations of members:
  • Are representative or independent perspectives sought. Impacts demands of group members.
  • Group members to provide engagement feedback that Hydro will use to inform decision-making.
  • Group members will not be required to reach consensus or make formal recommendations.
  • Participation of members is considered engagement - not Crown consultation.
	The TAC will bring together a range of perspectives and foster comprehensive dialogue on various components of the 2025 IRP. ~~Consultation~~ **Engagement** with the TAC is one part of province-wide engagement to seek feedback more broadly with the public, customers and interested parties in Manitoba.

Membership Criteria

What we heard:	Proposed Changes
• It's important to clarify if group members are bringing their individual expertise or a collective perspective from their organization. • Consider how participants' organizations may be impacted by Manitoba Hydro's energy planning. • "Aids" should be changed to "impacts".	**TAC** membership includes ~~a cross-section of~~ knowledgeable participants that have significant interest or experience with Manitoba Hydro's Integrated Resource Planning processes. Specifically, membership is chosen considering the following criteria: • Can bring a representative ~~or collective~~ perspective to the discussion. • Have a broad focus and interest (based on **the organization's** mandate or research) on long-term energy planning, or knowledge of key factors that could influence energy use in Manitoba. • ~~Having~~ **Have** an understanding of **how** Manitoba Hydro's long-term energy planning aids **and/or impacts** their organization's mandate and objectives. • Have a demonstrated interest in Manitoba Hydro's long-term energy planning through involvement in previous Manitoba Hydro IRPs by and/or Public Utilities Board processes.

Responsibilities of Membership and Group Protocols

What we heard	Proposed Changes
• The level of expectation around participation and alternates should be clarified.	• Members are ~~expected~~ **asked** to attend all scheduled meetings **to ensure consistent participation and build the team.** If unable to attend, members ~~should~~ **may** provide an alternate attendee and ~~brief them~~ **share** previous ~~discussions and~~ **TAC** materials **with the alternate**.
• It should be clarified if this is a requirement or if relevant materials will be reviews in the meetings.	• **To support the discussion, Manitoba Hydro may provide materials in advance of the meetings.** Members ~~should take time~~ **are** encouraged to review **this** material~~s~~ provided **in advance** to enable active participation ~~in discussions~~.
• This bullet should be split into two parts. The first part should focus on a two-way dialogue, the second should focus on creation of a safe space to share those perspectives.	• Members ~~should~~ **are encouraged to** actively **and respectfully** participate in discussions ~~and must communicate respectfully, enabling a two-way dialogue~~. **Not all members may be able to participate in every discussion.** • **Members should strive for** a welcoming and inclusive environment ~~for diverse perspectives~~.

Responsibilities of Membership and Group Protocols

What we heard	Proposed Changes
• It's important to clarify if group members are bringing their individual expertise or a collective perspective from their organization.	• Each member of the ~~Committee~~ **TAC** shall conduct themselves honestly, fairly, ethically and with integrity and be respectful of one another, Manitoba Hydro staff and group facilitators. Potential conflicts of interest must be ~~identified~~ **reported to the Chair and will be disclosed** to the ~~group~~ **TAC**.
	• Clarified under group purpose section: ~~Each member must bring the perspectives of the organization or sector they are representing and commit to sharing back to the organization they represent. All members are required to be respectful of other TAC members and perspectives raised throughout the process.~~ • **Consultants of the Public Utilities Board are participating as observers. While they may provide guidance on the scope of matters to be included in the IRP, they will not provide substantive advice or recommendations on how Manitoba Hydro should meets its resource needs.**

Responsibilities of Manitoba Hydro

What we heard	Proposed Changes
• Important to clarify what "where appropriate" means. In what situations would feedback not be considered appropriate?	• Review **the** feedback ~~from~~ **by** TAC ~~members~~ and be accountable to share ~~back~~ **what was heard, what we did and the rationale.**~~be accountable to share back how it was considered within the IRP where appropriate.~~ **For example, feedback may be considered in the IRP or other Manitoba Hydro work.**
• Post all TAC meeting materials and presentations to the Manitoba Hydro public website.	• Post all TAC ~~meeting~~ materials~~, presentations,~~ **and external meeting notes** to the Manitoba Hydro public website. **Materials will not attribute comments to individual TAC members or the organizations they represent.**

Responsibilities of Manitoba Hydro

What we heard	Proposed Changes
• Include the same conduct responsibilities for Manitoba Hydro that are in the member section.	**Added:** • **Actively participate in discussions and must communicate respectfully, enabling a two-way dialogue.** • **Ensure a welcoming and inclusive environment for diverse perspectives.** • **Conduct themselves honestly, fairly, ethically and with integrity and be respectful of one another, TAC Members, other Manitoba Hydro staff and group facilitators. Potential conflicts of interest must be identified to the group.** • **Be respectful of other TAC members and perspectives raised throughout the process.**

Committee Feedback

What we heard	Proposed Changes
• Clarify what is meant by the term “formally”	**Move to “Member Responsibilities” section:** TAC ~~membership~~ **members** are **invited** to ~~formally communicate~~ **provide feedback** during ~~the scheduled~~ meetings. **If TAC members would like feedback specifically noted in meeting notes, please advise Manitoba Hydro either during the meeting or by email at IRP@hydro.mb.ca. Additional feedback may also be provided by email.** ~~any feedback or recommendations for Manitoba Hydro to review so it can be documented in the meeting notes.~~

INFORM

Proposed Load Projections

Guiding Principles and Development Approach

Guiding Principles for the 2025 IRP Load Projections

- Capture a **broad range of potential futures** for both electricity and natural gas.
- **Leverage key learnings from 2023 IRP** in developing planning assumptions for each load projection.
- **Limit the premature removal of existing systems** that have not reached end of life.
- Develop a **baseline projection** with limited changes to how Manitobans use electricity and natural gas.
- Ensure **two load projections support** achieving a **net-zero economy by 2050**, highlighting different pathways to a net-zero economy by 2050.

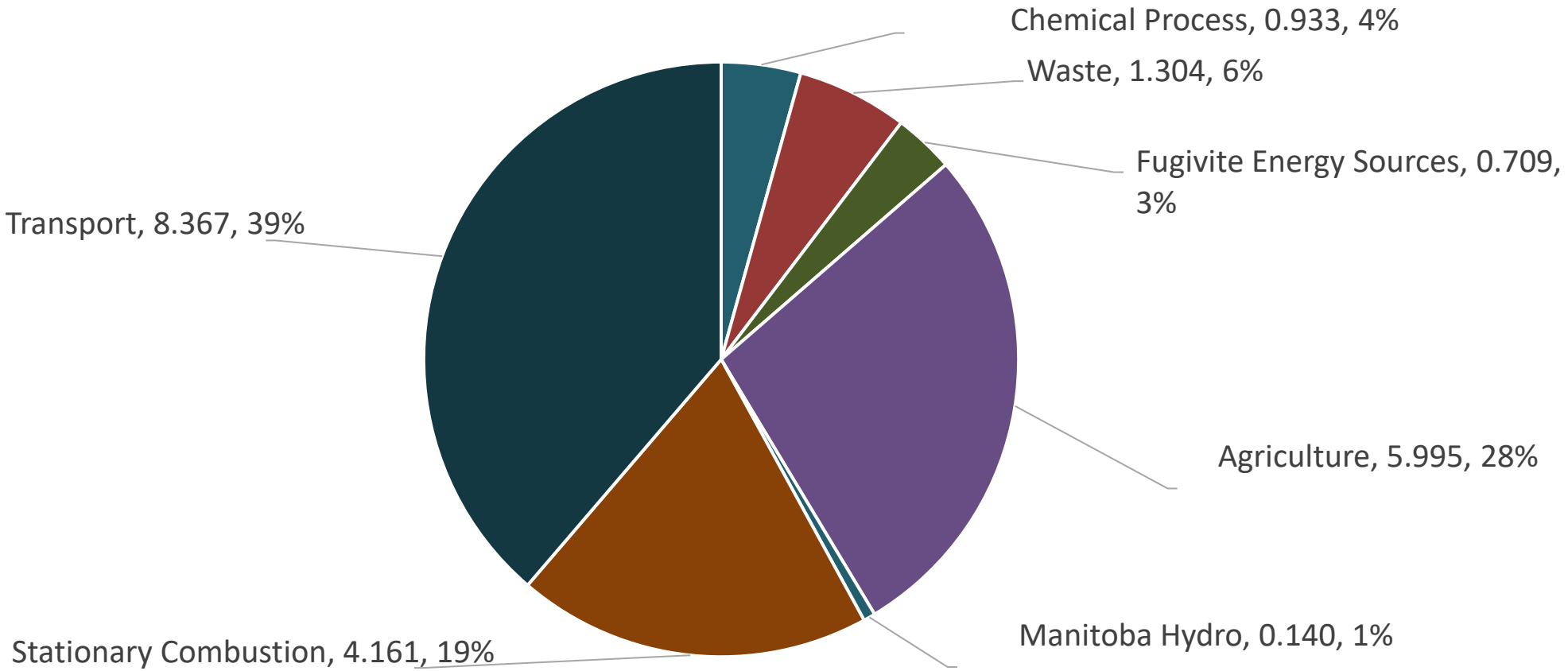
Assumptions to Achieve a Net-Zero Economy in Manitoba

Assumed that a net-zero economy by 2050 in Manitoba will…

1. Have **lower fossil fuel** use than current levels.
2. Have **lower non-combustion emissions** than current levels.
3. Rely on **Manitoba produced biofuels and hydrogen.**
4. Rely on **Manitoba based offsets and CO_2 removals.**
5. Net **any remaining** fossil fuel combustion emissions, and non-combustion emissions, to zero in 2050.

Manitoba Greenhouse Gas Emissions

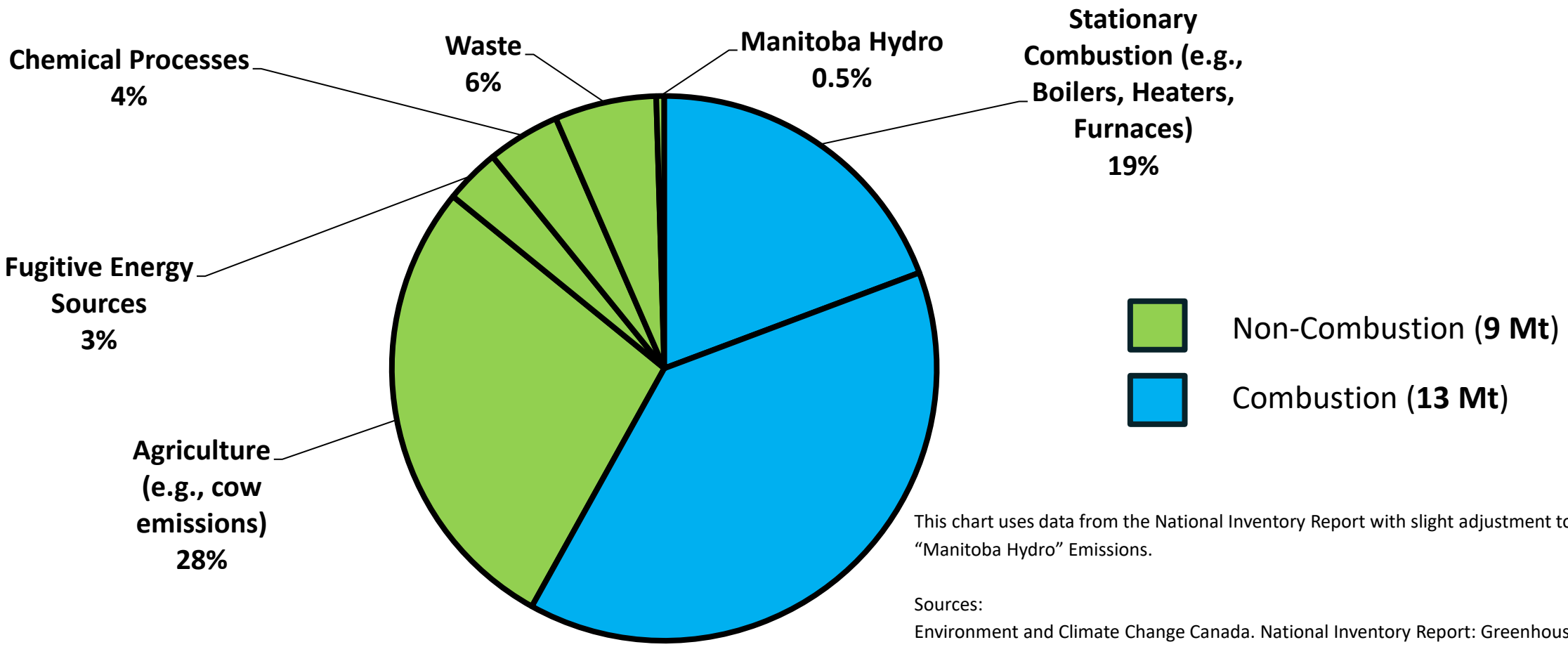
Average Manitoban GHG Emissions Between 2018 - 2022 (21.6 Mt per year)



Further descriptions of the categories and subcategories found in Table A9-1 in the NIR Part 3 https://publications.gc.ca/collections/collection_2024/eccc/En81-4-2022-3-eng.pdf

Economy Wide Emissions That Would Need To Be Netted To Zero

Manitoba Emissions (2018-2022 average)



This chart uses data from the National Inventory Report with slight adjustment to separate out "Manitoba Hydro" Emissions.

Sources:
Environment and Climate Change Canada. National Inventory Report: Greenhouse Gas Sources and Sinks in Canada (1990-2022). 2024, https://publications.gc.ca/site/eng/9.506002/publication.html
https://www.hydro.mb.ca/environment/greenhouse-gas/
https://www.hydro.mb.ca/corporate/operations/generation/#brandon

Reducing Fossil Fuel Emissions Impacts Loads

GHG Reduction Option	Impact on Electrical Load	Impact on Natural Gas Load
1. Energy Efficiency (e.g., insulation)	Decrease ↓	Decrease ↓
2. Electrification	Increase ↑	Decrease ↓
3. Alternative Fuels (e.g., H_2)	Increase ↑	Decrease ↓
4a. Bioenergy with Carbon Capture & Storage (BECCS)	Decrease ↓	Neutral
4b. Other CO_2 Removal (e.g., Negative Emission) Technologies	Increase ↑	Neutral

Note: Options #1, #3 (and usually #2) do not reduce non-combustion emissions

Proposed Load Projections & Planning Assumptions

- Load projections show the energy demand Manitoba Hydro might be required to serve.
- Planning assumptions are common between electricity and natural gas.
- The net-zero economy by 2050 future is uncertain and could result in a range of electricity and natural gas demand that needs to be served by Manitoba Hydro.
- Three proposed load projections:

Baseline Load Projection
Assumes minimal changes from current policies and customer decisions.

Medium Load Projection
Assumes moderate impact from government actions and customer decisions and achieves economy wide net-zero by 2050.

High Load Projection
Assumes significant impact from government actions and customer decisions and achieves economy wide net-zero by 2050.

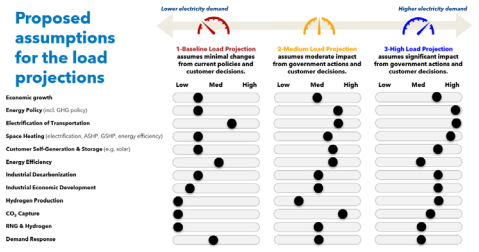
Key Planning Assumptions

Baseline	Medium	High
• Assume slightly lower economic growth	• Assume average economic growth	• Assume slightly higher economic growth
• Assume natural gas remains a viable option for Manitobans	• Strategically use natural gas to mitigate peak load implications	• Restricting the use of natural gas
• Limited industrial economic development and decarbonization by way of electrification	• Assume medium levels of industrial economic growth and decarbonization by way of electrification	• Assume higher levels of industrial economic growth and decarbonization by way of electrification
• No use of negative emissions technologies	• Achieve economy wide net-zero by 2050 with the use of negative emission technologies	• Achieve economy wide net-zero by 2050 with the use of negative emission technologies

Methodology for the 2025 IRP Load Projections

Key Planning Assumptions

- Key Assumptions that have the potential of changing how customers use energy into the future
- Include emerging technologies where models leveraging historical information may not capture



Load Forecast Modelling

- Economic Inputs from external Economic Forecasters
- Industry Standard Forecast Models by Customer Sector
- Hourly Zonal Forecasts developed
- Peak Forecasts based on Hourly Models

Load Projection

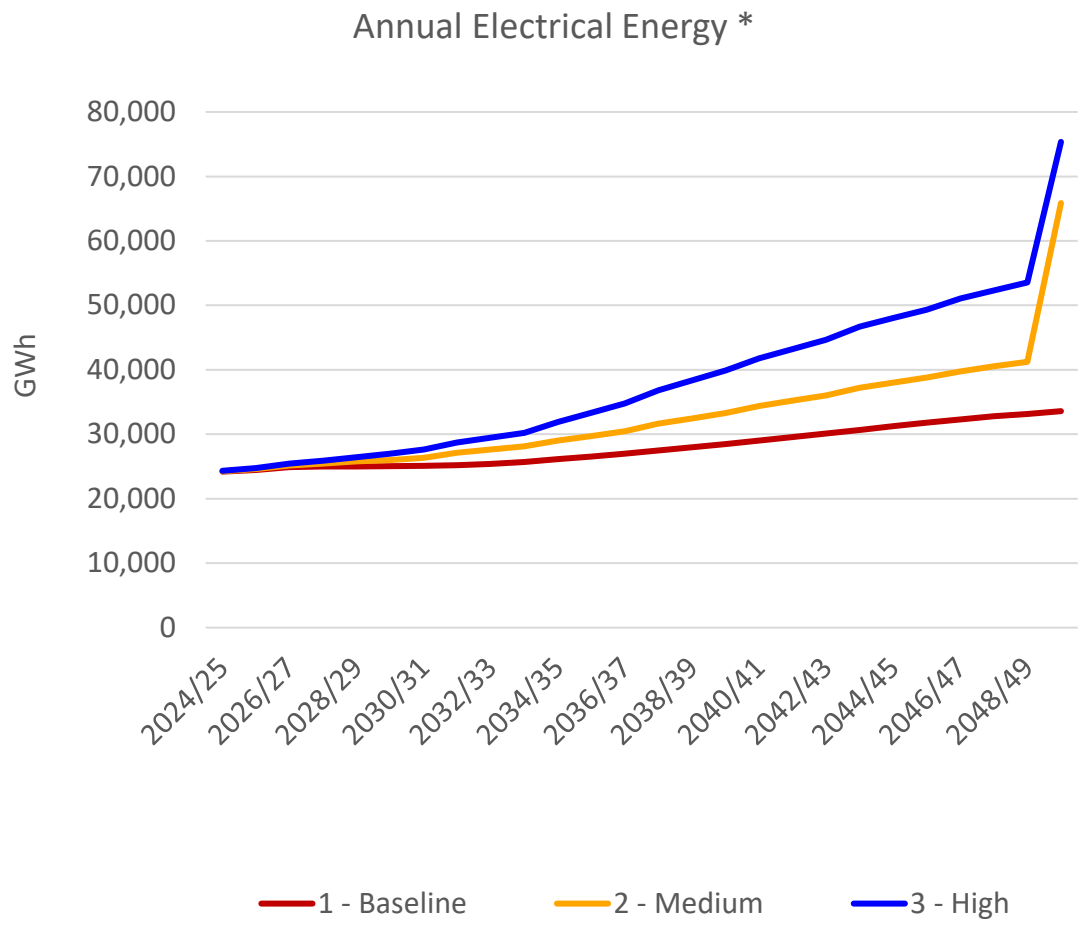
- IRP Electric Load Projection
- IRP Natural Gas Volume Projection

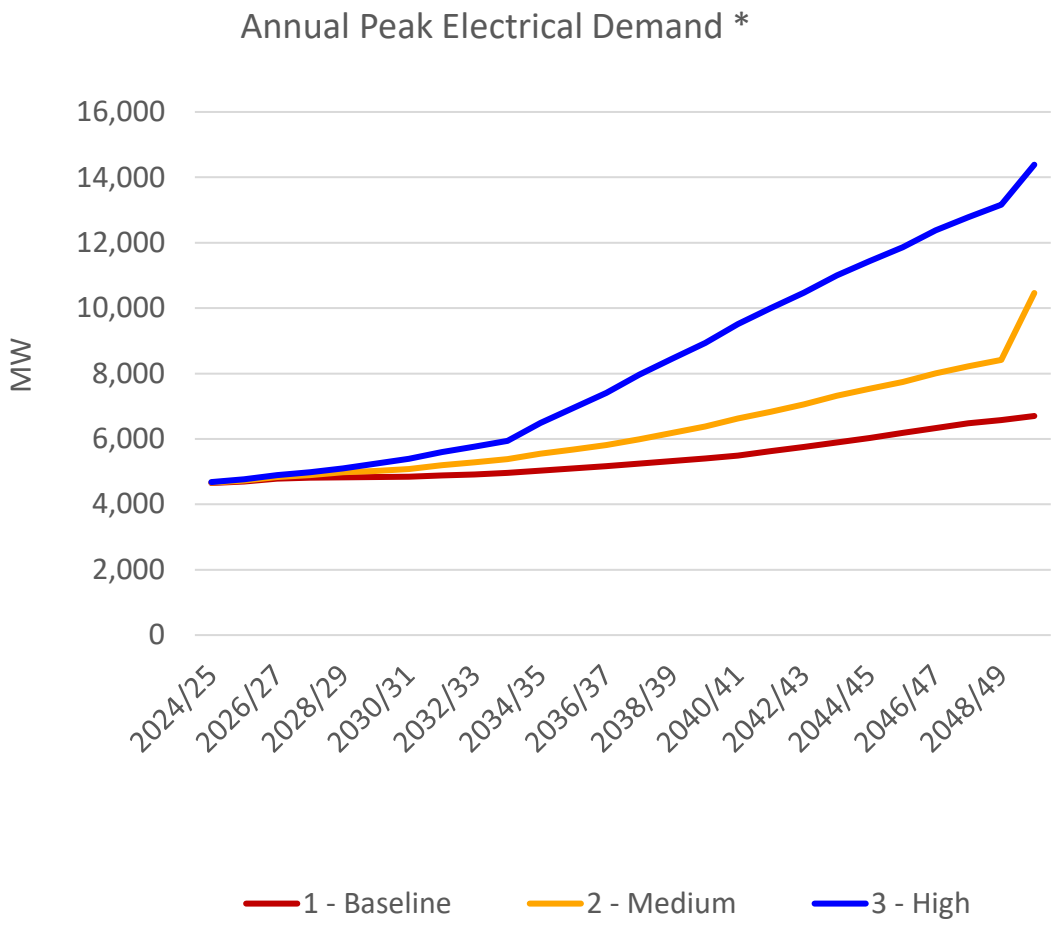
ENGAGE

Proposed Load Projections

Including Planning Assumptions

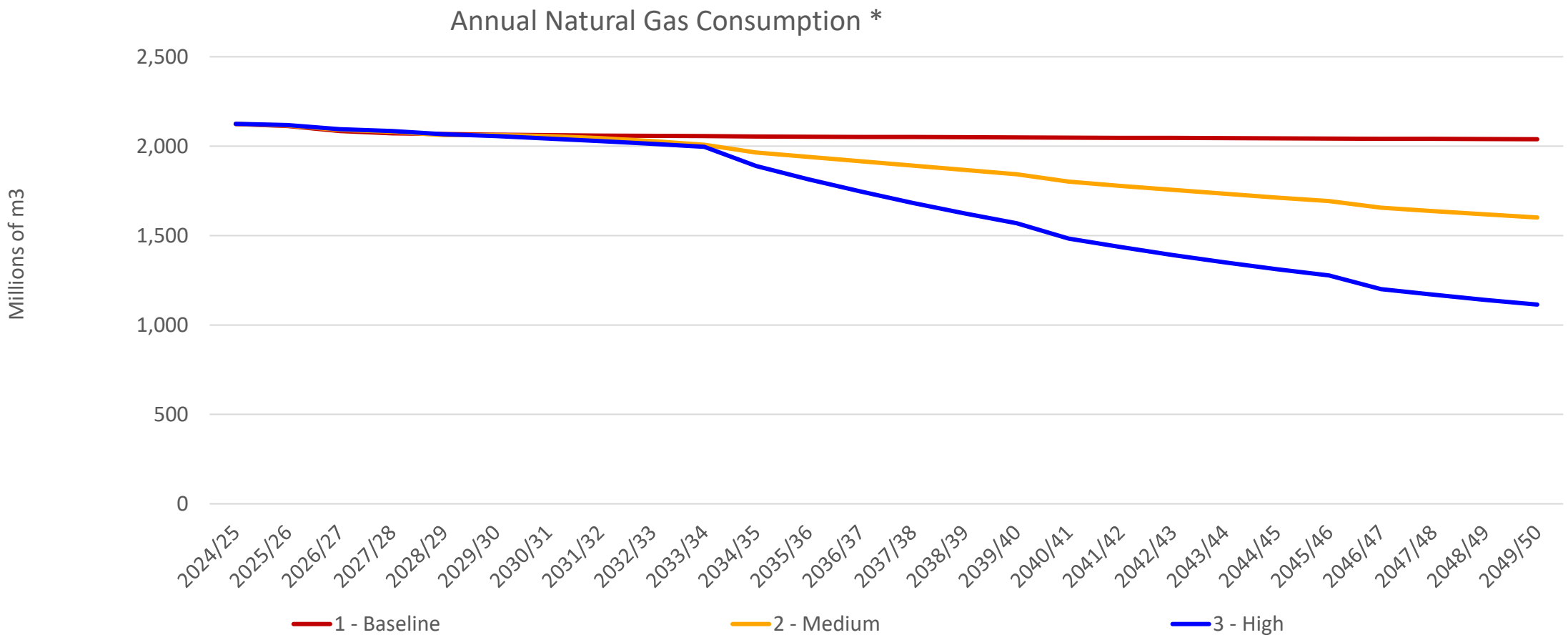
Electrical Energy and Peak Demand





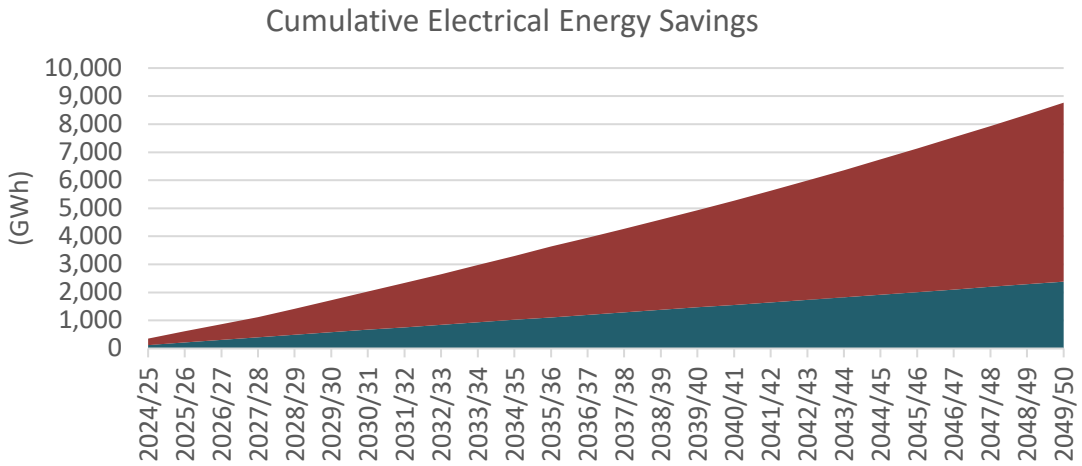
* Net of Energy Efficiency savings

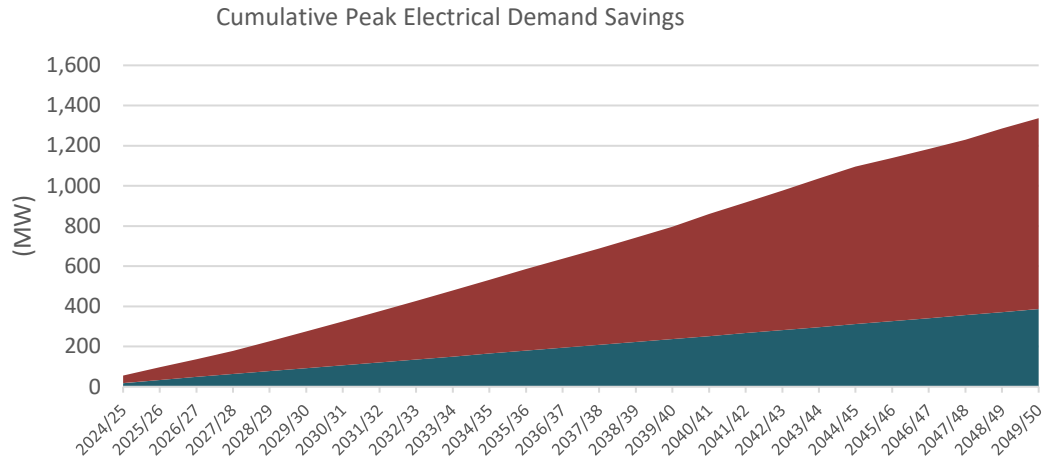
Natural Gas

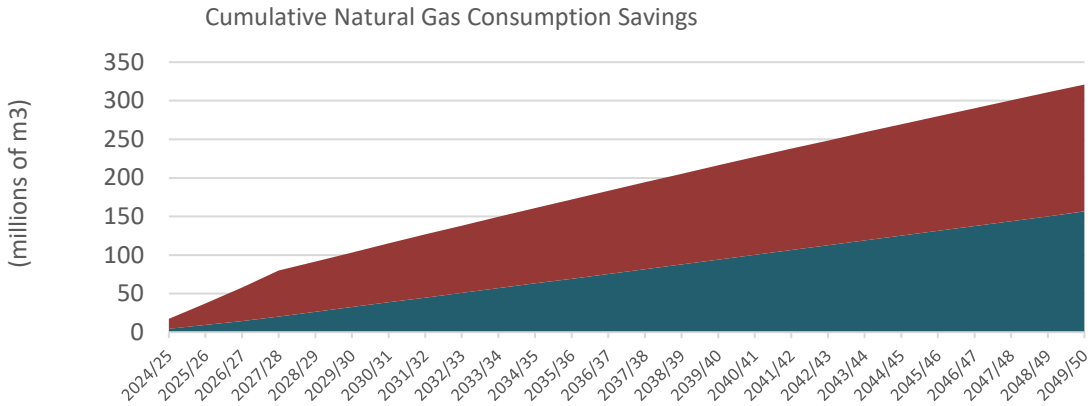


* Net of Energy Efficiency savings

Energy Efficiency







Note: Natural gas savings in the Medium and High Load projections have been adjusted to reflect the reduced natural gas volumes included in the Medium and High Load projections

Planning Assumptions

We are looking for your feedback:

- To make sure we have captured a broad enough range in our load projections.
- To understand the factors that could impact the load projections.
- Key Planning Assumptions – 5 Breakout Discussions:
  - Electrification of Transportation
  - Space Heating
  - Industrial Decarbonization / Economic Development
  - Customer Self-Generation / Storage
  - Direct Air Carbon Capture

Explore key planning assumptions at each station:

- **What does [key planning assumption] look like in Manitoba leading up to 2050?**
- **What factors might influence [key planning assumption] in Manitoba?**
- **Are there any obstacles/barriers that could influence [key planning assumption]?**
- **Are there other factors we should be considering for [key planning assumption]?**

Are there other planning assumptions you would like to provide feedback on?

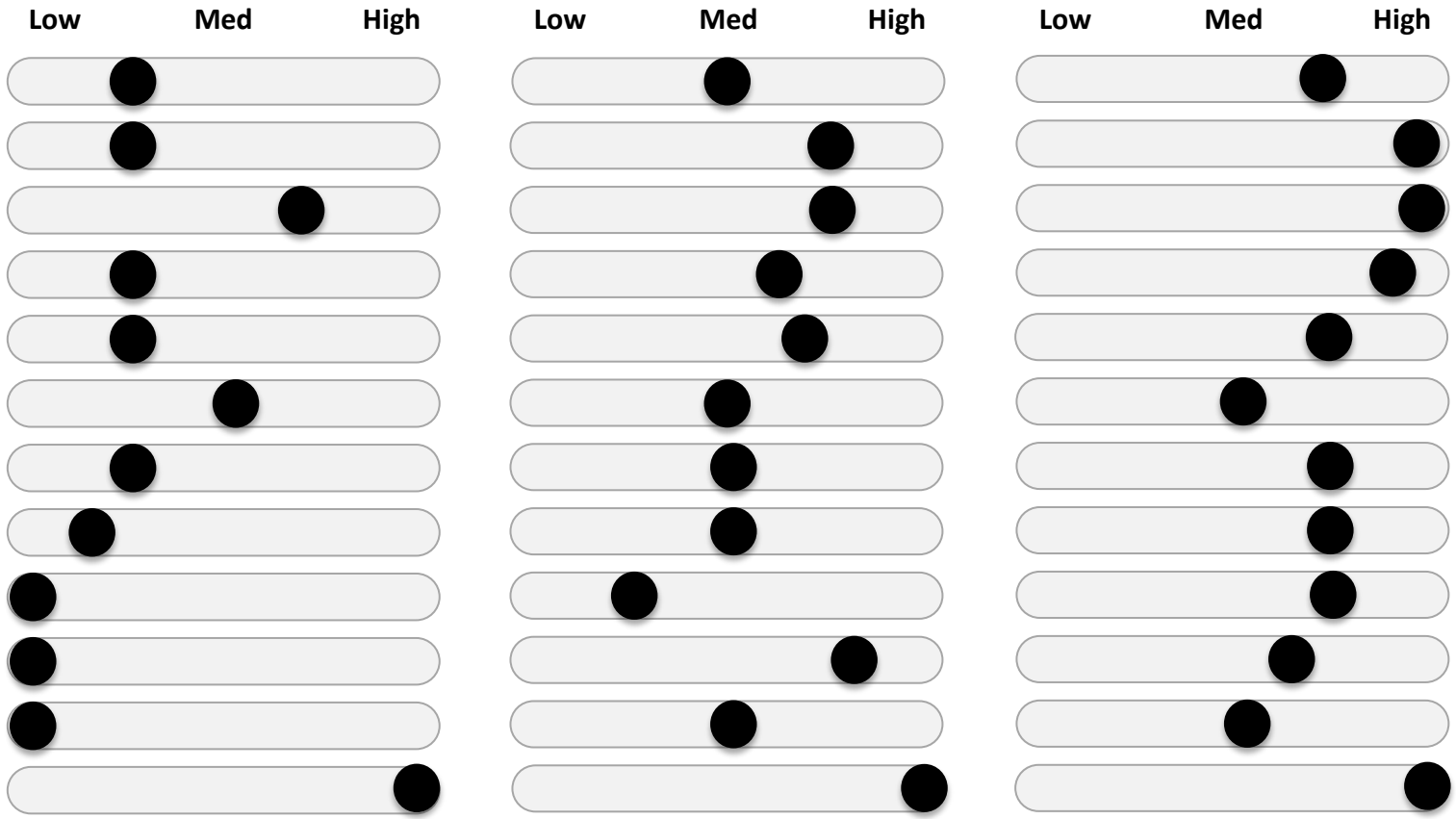
Proposed Planning Assumptions

Lower electricity demand — *Higher electricity demand*

1-Baseline Load Projection
assumes minimal changes from current policies and customer decisions.

2-Medium Load Projection
assumes moderate impact from government actions and customer decisions.

3-High Load Projection
assumes significant impact from government actions and customer decisions.



Electrification of Transportation

Zero-emission vehicle sales assumptions

	Baseline		Medium		High	
Type	**2034/35**	**2049/50**	**2034/35**	**2049/50**	**2034/35**	**2049/50**
Passenger Cars	100%	100%	100%	100%	100%	100%
Light Trucks	100%	100%	100%	100%	100%	100%
Medium	25%	80%	25%	90%	25%	100%
Heavy	10%	50%	18%	75%	25%	100%
Buses	40%	100%	40%	100%	40%	100%

To produce hydrogen through electrolysis, over twice the amount of electricity is required for the same level of km driven

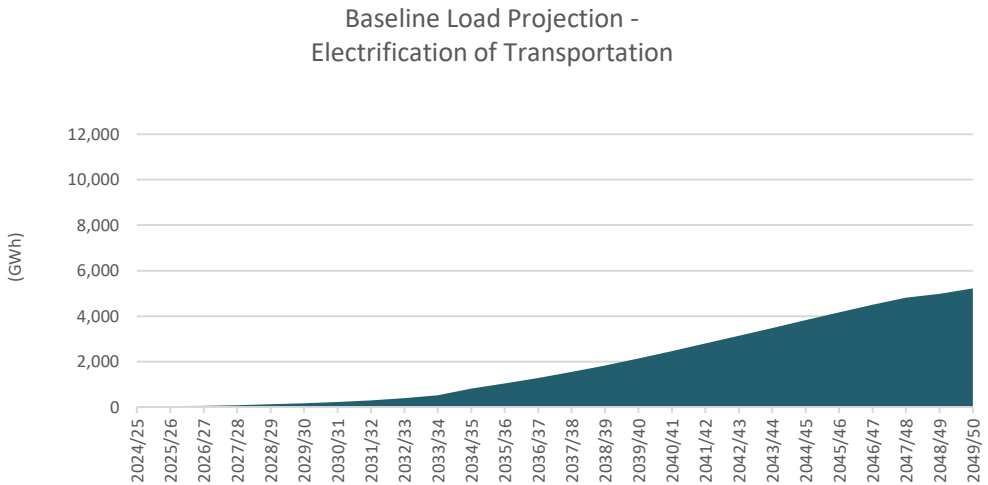
Medium and High Load Projections include the introduction of Hydrogen vehicles starting in 2034/35

Overall projections include:

- Electricity required to charge electric vehicles
- Electricity required to produce hydrogen to power H_2 vehicles

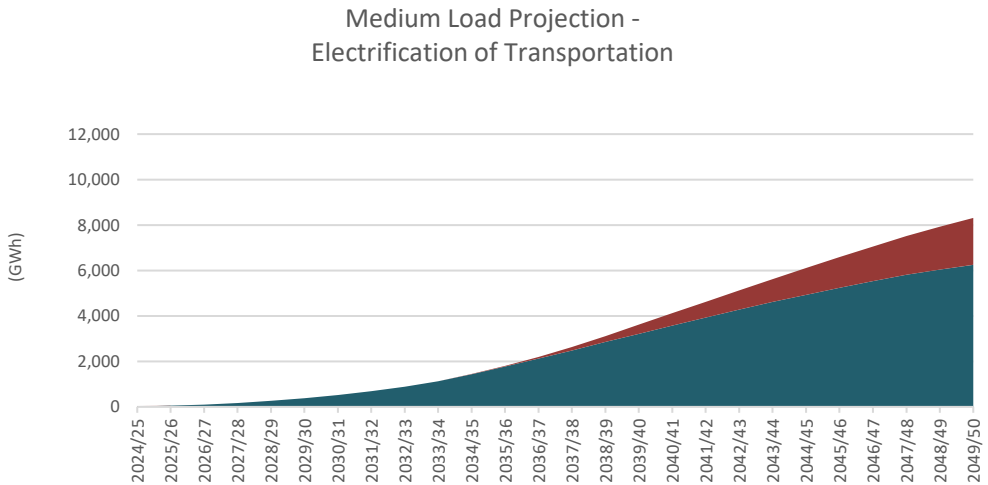
Type	Annual km driven	Annual kWh
Passenger Cars	15,000	3,225
Light Trucks	15,000	4,473
Medium	14,260	7,812
Heavy	88,615	135,612
Buses	55,000	78,160

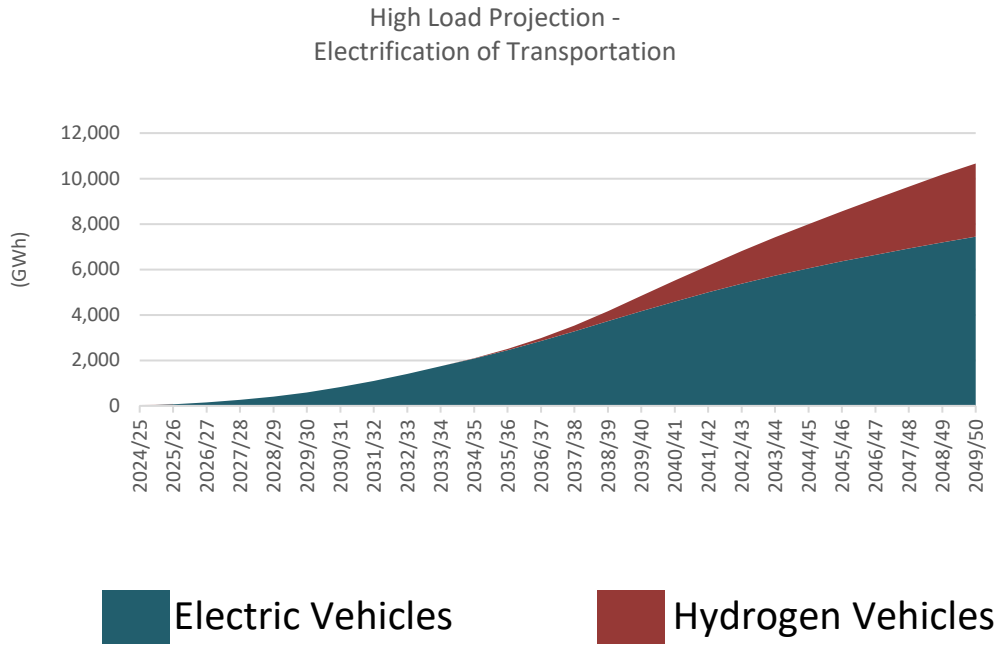
Electrification of Transportation



Projected forecast by 2049/50

	Baseline Load Projection	Medium Load Projection	High Load Projection
MW	+650	+1,040	+1,330
GWh	+5,200	+8,300	+10,650
Millions of m^3	n/a	n/a	n/a



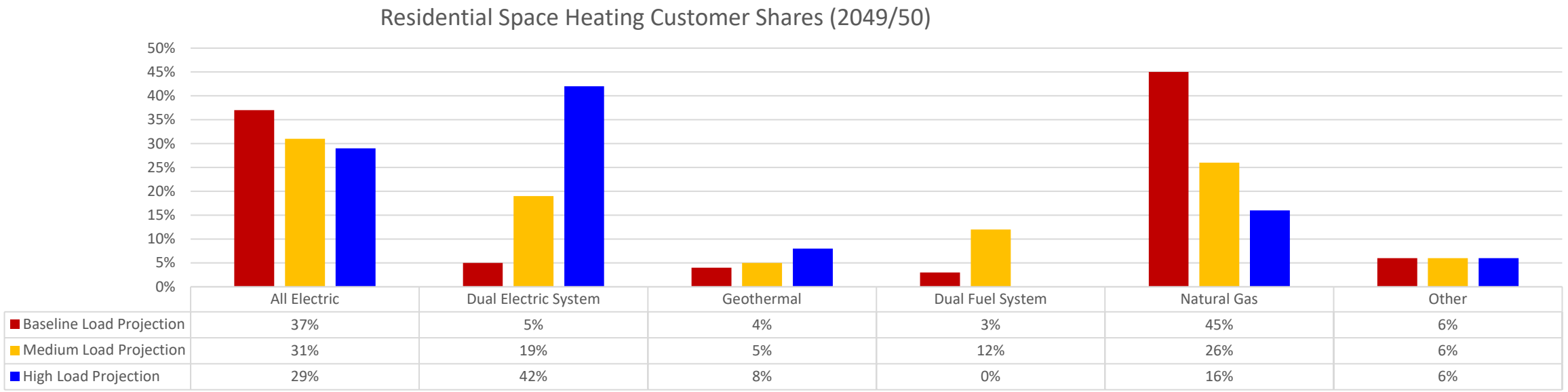


Space Heating

- **Baseline Load Projection** - Customers are still selecting natural gas space heating and reflects an increase in the adoption of alternative technologies such air source heat pumps and cold climate air source heat pumps.
- **Medium Load Projection -** Customers are moving away from traditional gas space heating and reflects an increase in the adoption of alternative technologies such air source heat pumps and cold climate air source heat pumps
- **High Load Projection** - Customers are moving away from traditional gas space heating and reflects a greater increase in the adoption of alternative technologies such air source heat pumps and cold climate air source heat pumps

Projected fuel switching forecast by 2049/50

	Baseline Load Projection	Medium Load Projection	High Load Projection
MW	+150	+1,010	+4,320
GWh	+350	+2,980	+8,240
Millions of m^3	-40	-460	-1,080



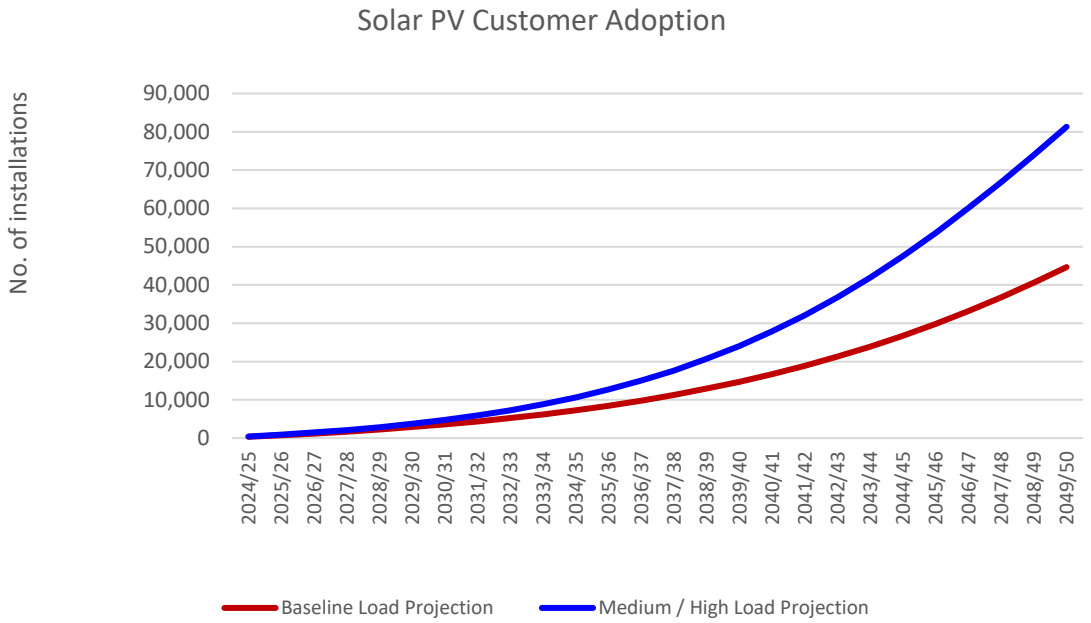
	All Electric	Dual Electric System	Geothermal	Dual Fuel System	Natural Gas	Other
Baseline Load Projection	37%	5%	4%	3%	45%	6%
Medium Load Projection	31%	19%	5%	12%	26%	6%
High Load Projection	29%	42%	8%	0%	16%	6%

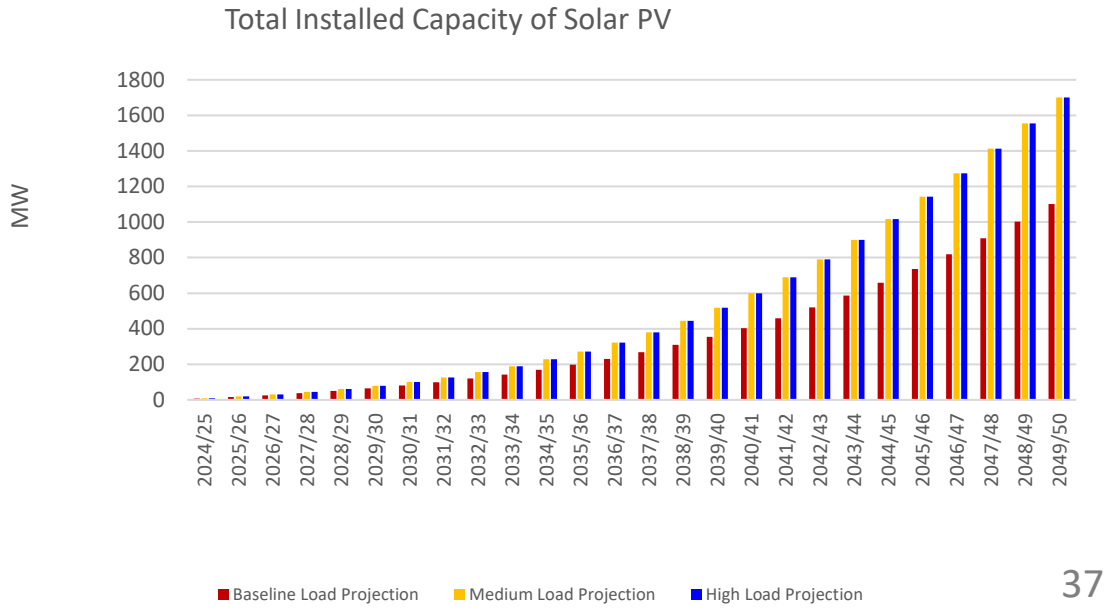
Customer Self-Generation & Storage

- **Baseline Load Projection -** Assumes all customer self-generation is through solar generation (i.e., Solar PV) with a low rate in customer adoption of Solar PV technology
- **Medium Load Projection -** Assumes all customer self-generation is through solar generation (i.e., Solar PV) and reflects moderate rate in customer adoption of Solar PV technology
- **High Load Projection –** Assumes all customer self-generation is through solar generation (i.e., Solar PV) and consistent with the adoption rates assumed in the medium load projection.

Projected forecast by 2049/50

	Baseline Load Projection	Medium / High Load Projection
No. of installations	44,655	81,319
Total installed capacity (MW)	1,100	1,700
Annual electrical energy (GWh)	1,280	1,980
Total consumed by the customer (GWh)	510	790
Total sold back to the grid (GWh)	770	1,190





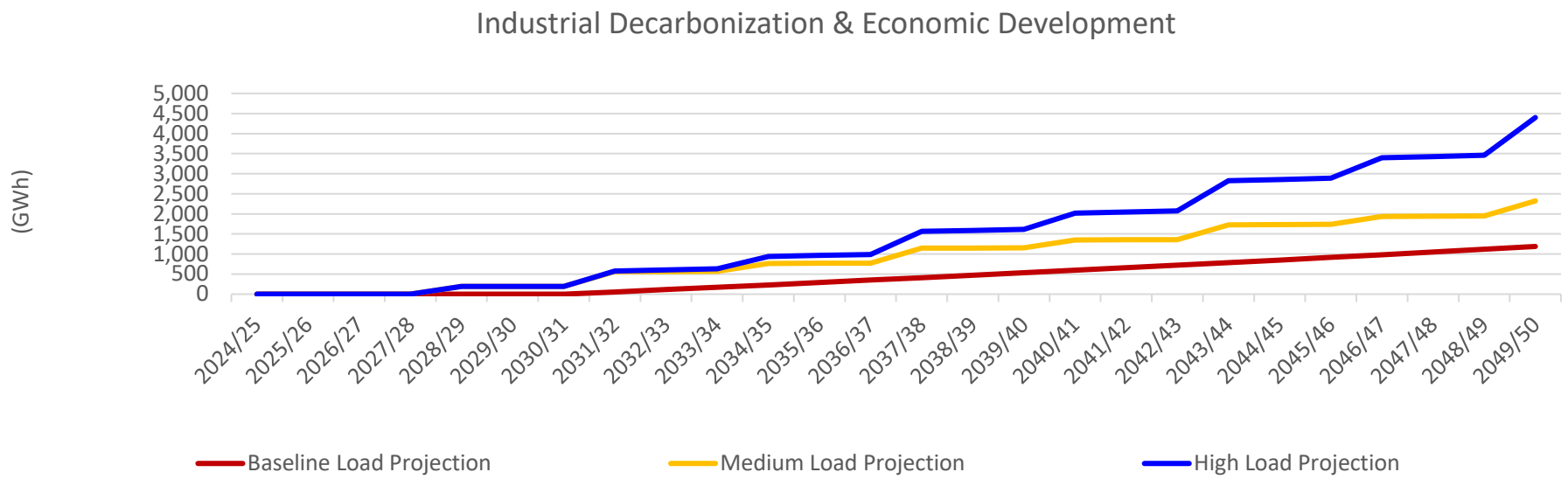
Industrial Decarbonization & Economic Development

- **Baseline Load Projection**
  - Long-term assumes existing Potential Large Industrial Load modeling approach
- **Medium Load Projection**
  - Decarbonization efforts by way of electrification every 6 years (50MW, 50MW, 50MW, 50MW) starting in 2028/29
  - Economic development efforts by way of electrification every 6 years (50MW, 50MW, 50MW, 50MW) starting in 2031/32
- **High Load Projection –**
  - Decarbonization efforts by way of electrification every 6 years (50MW, 75MW, 100MW, 125MW) starting in 2028/29
  - Economic development efforts by way of electrification every 6 years (50MW, 75MW, 100MW, 125MW) starting in 2031/32

Projected forecast by 2049/50

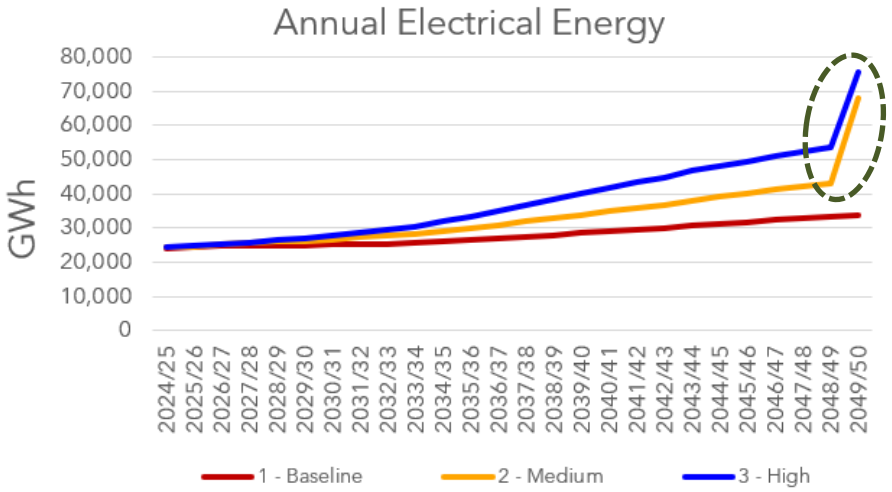
	Baseline Load Projection	Medium Load Projection	High Load Projection
MW	+160	+370	+690
GWh	+1,190	+2,320	+4,400
Millions of m^3 *	0	-70	-130

* Note: Reflects reduction in natural gas consumption as customers decarbonize through electrification of processes



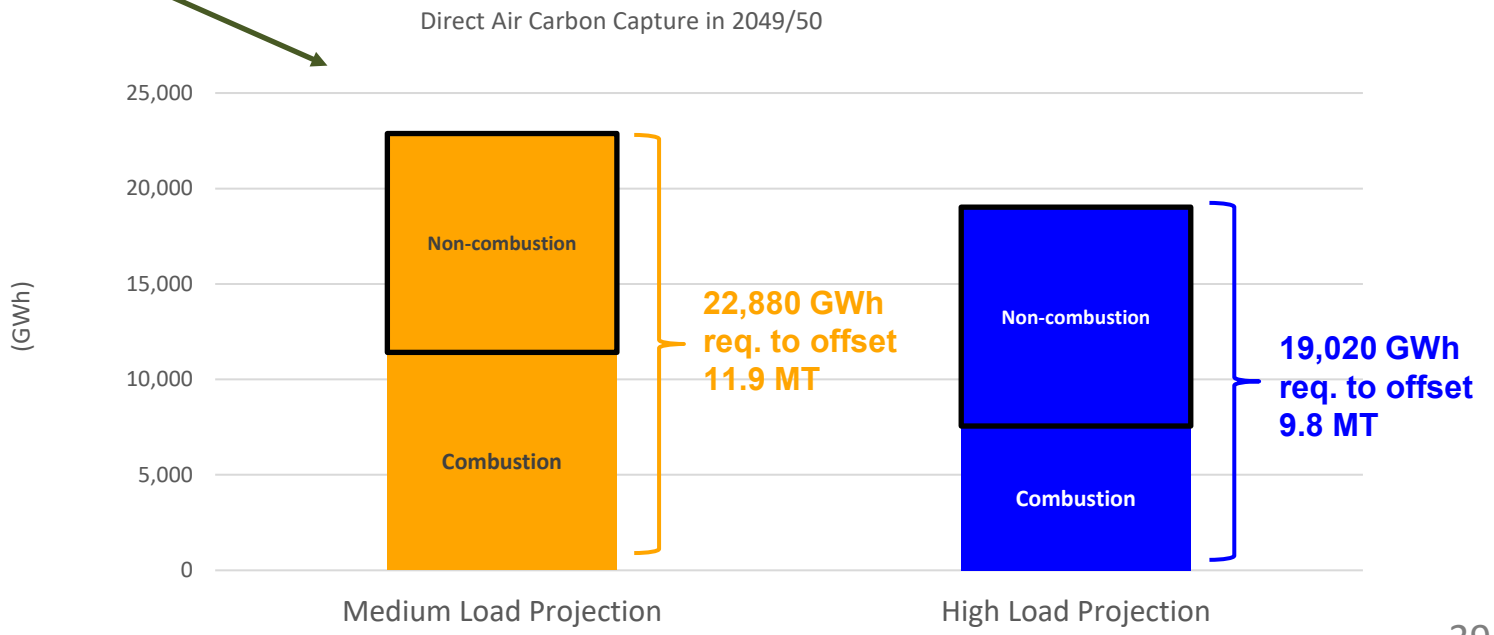
Direct Air CO_2 Capture

The Medium and High load projections meet the objective of achieving net-zero economy by 2050 through negative emission technologies.



Projected forecast by 2049/50

	Baseline Load Projection	Medium Load Projection	High Load Projection
GWh	0	+22,880	+19,020
Installed Capacity (MW)	0	+3,900	+3,250
Peak Demand (MW)	0	+780	+730



We are looking for your feedback:

- To make sure we have captured a broad enough range in our load projections.
- To understand the factors that could impact the load projections.
- **Key Planning Assumptions – 5 Breakout Discussions:**
  - Electrification of Transportation
  - Space Heating
  - Industrial Decarbonization / Economic Development
  - Customer Self-Generation / Storage
  - Direct Air Carbon Capture

Explore key planning assumptions at each station:

- **What does [key planning assumption] look like in Manitoba leading up to 2050?**
- **What factors might influence [key planning assumption] in Manitoba?**
- **Are there any obstacles/barriers that could influence [key planning assumption]?**
- **Are there other factors we should be considering for [key planning assumption]?**

Are there other planning assumptions you would like to provide feedback on?

How breakout discussions will work:

- Each station will have a facilitator and subject matter expert to support discussion.
- 30 minutes total – Feel free to move around the stations.
- Dinger every five minutes – to mentally signal opportunity to shift
- Share back at end - Facilitators/group members

INFORM

Resource Options Inventory & Proposed Strategies

Discussion Objectives

Our goal is to share information about our resource options inventory and proposed resource options strategies.

This information provides the foundation for future discussion on the modelling and analysis of the 2025 IRP, including scenarios and sensitivities.

Resource Options Inventory Introduction

Manitoba Hydro monitors and maintains an inventory of resource options that have the potential to meet Manitoba's future electricity needs.

This inventory consists of a range of different technologies including:

- Utility scale generation,
- Enhancements to existing generating stations,
- Distributed generation, and
- Energy efficiency (demand side management) measures.

Each of these resource options is considered and evaluated in the planning process based on their technical and economic characteristics.

The Range of Resource Options

The inventory is developed from a range of different information sources including:

- Publicly available reports
- Internal reports
- Consultant reports

The resources are at a range of different stages of planning and technological maturity

The resource inventory reflects a diversity of:

- Fuel types
- Dispatchability
- Technological maturity
- Costs
- Greenhouse gas (GHG) emissions

Planning is a continually evolving process with improvements or the addition of new resource options regularly made over time. Manitoba Hydro continuously monitors the state of developing technologies for readiness, including new resources in our models when there is sufficient information and confidence levels available for the technology.

Resource Options Inventory

Dispatchable & Mature | Intermittent & Mature | Dispatchable & Emerging

All **resources have different** characteristics such as **cost, emissions, dispatchability, maturity, and time to in service.**

This list shows all potential resource options available; however, some may not be available under specific Resource Options Strategies.

Selectable Energy Efficiency and Demand Response

Selectable Energy Efficiency

- Selectable energy efficiency is additional energy efficiency programming **above and beyond what is included in the Efficiency Manitoba plan**.
- Integrated resource planning evaluates selectable energy efficiency options on a **level playing field with generation resources**.
- Selectable energy efficiency options **reduce energy consumption**. If that energy reduction coincides with Manitoba's peak demand, then it can also **reduce the required capacity**.

Demand Response

- **Demand response** options (direct load control, curtailable load, etc.) will also be evaluated as a resource to reduce peak demand.

Resource Options Have Different Characteristics

Characteristics captured in our modelling include:

- **Installed Capacity**
- **Firm Capacity**
- Operating Parameters
- **Dependable Energy**
- Development Timelines
- **Economic Life**
- Capital Costs
- Transmission Costs
- Fixed Operating Costs
- Variable Operating Costs
- Fuel Costs
- GHG Emissions

Characteristics define how each resource can operate within the energy supply system.

Resource Options Have Different Characteristics

100 MW of a new resource will bring different value to the electrical system, depending on the resource.

	Wind	Solar	Hydro	Natural Gas Combustion Turbine
Installed Capacity (MW)	100	100	100	100
Winter Firm Capacity (MW)	20	0	90	100
Annual Dependable Energy (GWh)	381	188	830	720
Economic Life (years)	30	25	72	30

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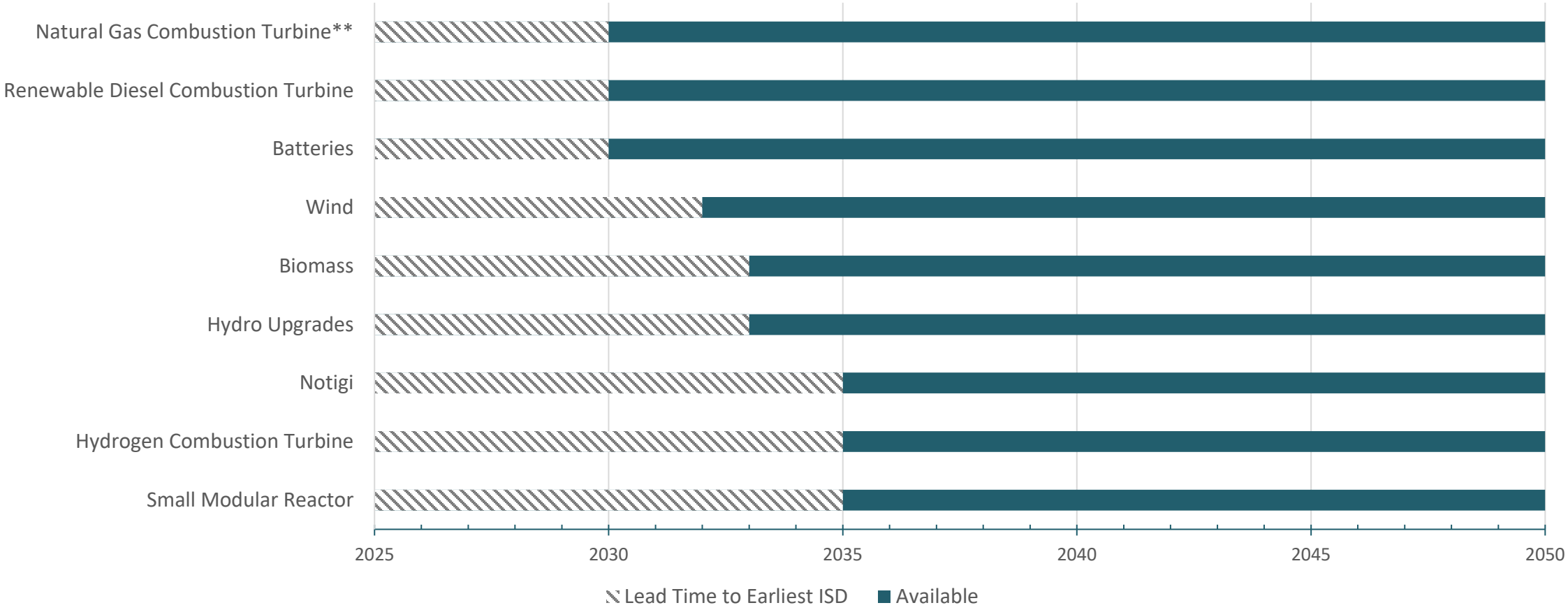
Examples of Earliest In Service Dates (ISD)

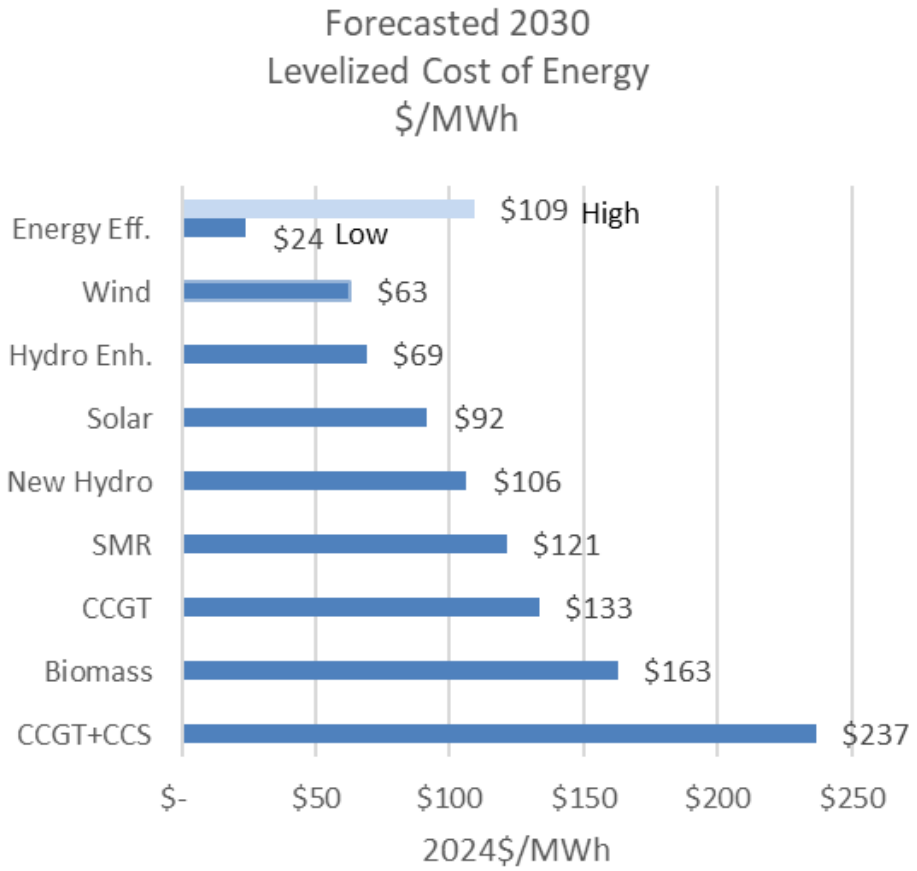
These are examples of earliest ISDs that will be assumed in the 2025 IRP, based on the best information currently available*. As planning progresses and technologies mature, earliest ISDs may adjust.

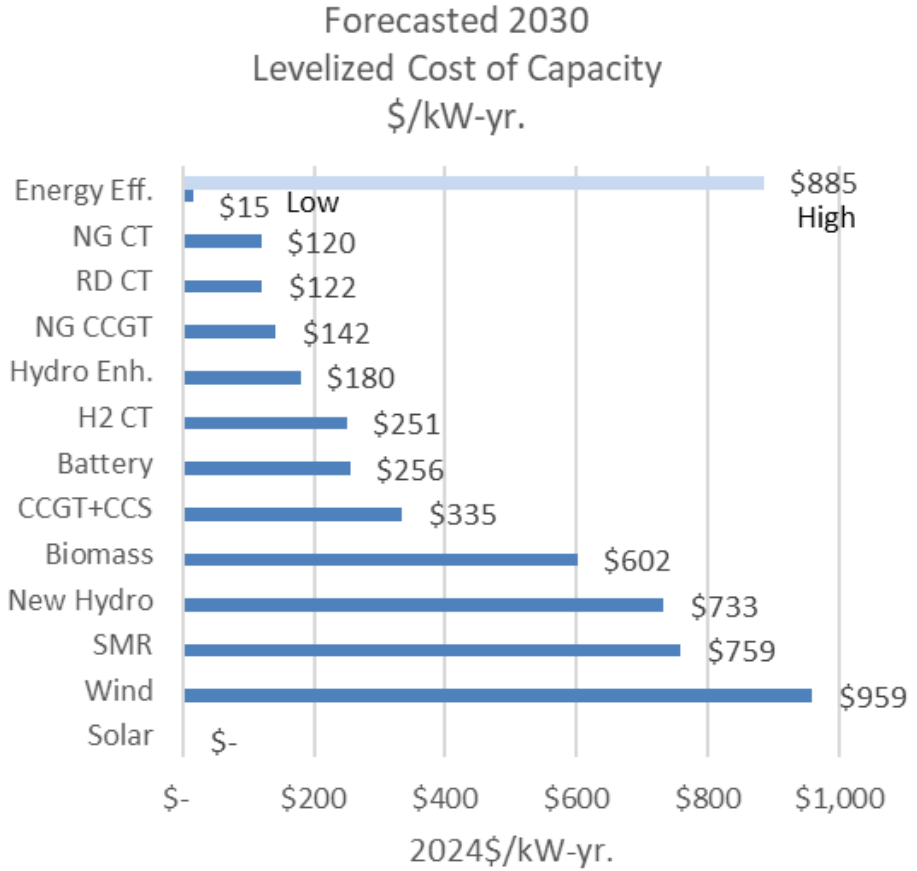


*The earliest in-service dates listed represent only a subset of resource options.
**Actual in-service dates for specific Natural Gas Combustion Turbines technologies may vary.

Economic Competitiveness of Resource Options

Levelized costs represent the estimated cost of producing energy and capacity but **are not indications of the overall value of a resource to the system.**





Proposed Resource Options Strategies

Four proposed strategies and their assumptions

Resource Options Strategies		Assumptions
A	Technology Neutral	Compliant with federal Clean Electricity Regulations.
B	Net-Zero Grid 2035	Strategy A, plus requirement that electricity grid is net-zero by 2035.
C	Near Term Wind Generation Projects	Strategy B, plus up to 600 MW of Indigenous majority owned wind with dispatchable resources for reliability.
D	No Fuel-Based Resources	Strategy B, plus requirement of no fuel-based combustion turbines post 2035 (i.e., no natural gas, hydrogen, biofuel, or biomass generation).

Resources Included Under Each Strategy

Resource Type	RESOURCE OPTIONS STRATEGY				
	A. Technology Neutral	B. Net-Zero Grid 2035	C. Near-Term Wind Generation Projects	D. No Fuel-Based Resources	
				Pre 2035	Post 2035
New Hydropower	✓	✓	✓	✓	✓
Upgrade Existing Hydropower	✓	✓	✓	✓	✓
Wind	✓	✓	✓	✓	✓
Solar	✓	✓	✓	✓	✓
Energy Efficiency	To be evaluated through sensitivities				
Batteries	✓	✓	✓	✓	✓
Natural Gas Fueled CT	✓	✓	✓	✓	✗
Natural Gas Fueled CT with Carbon Capture	✓	✓	✓	✓	✗
Renewable Diesel Fueled CT	✓	✓	✓	✓	✗
Biomass Fueled Steam Turbine with Carbon Capture	✓	✓	✓	✓	✗
Biomass Fueled Steam Turbine without Carbon Capture	✓	✓	✓	✓	✗
Hydrogen Fueled CT	✓	✓	✓	✓	✗
Market Purchases (Capacity Imports)	✓	✓	✓	✓	✓
Small Modular Reactors	✓	✓	✓	✓	✓

Next Steps

Next Steps: shaping our energy future together

What's next?

Dec 2 - TAC meeting 3 – Modelling, analysis, and evaluation

Let's talk about the future

Complete our survey by December 18, 2024: hydro.mb.ca/future
Questions or comments? Email us at: IRP@hydro.mb.ca

Thank you!

Hydro.mb.ca/future

Email us at: IRP@hydro.mb.ca

To request accessible formats visit hydro.mb.ca/accessibility.

Manitoba Hydro
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