

# Round 1 Questions and Answers

The following are responses to questions received throughout Round 1 conversations in our 2025 Integrated Resource Planning Process.

## Climate Risk

This section focuses on questions related to climate change or climate risk.

### **How are projected climate change impacts considered in the IRP?**

Climate change has the potential to impact Manitoba Hydro through its effect on the water supply used for generating hydropower and through its effect on demand for capacity and energy. As part of the 2023 IRP, a sensitivity analysis explored a range of potential impacts of climate change on the selection of resources, greenhouse gas emissions, and costs (See page 68 [2023 IRP Appendix 5 – Analysis Results](#)).

The 2025 IRP will include a climate change sensitivity as it relates to water flow conditions. As a result of the 2023 IRP analysis findings, climate change impacts on the load projections are expected to be modest and have not been included within the load assumptions for 2025 IRP.

## Greenhouse Gas Emissions & Net-Zero

This section focuses on questions asked about greenhouse gas emissions, including how net-zero is considered within the IRP.

### **Many communities have energy and emissions plans. Can these plans be incorporated?**

Manitoba Hydro is continually working to understand community planning initiatives and how these may impact the energy needs of Manitoba. These energy needs are incorporated into the 2025 IRP analysis.

### **What does net-zero mean?**

Net-zero refers to a state where some greenhouse gas emissions (GHGs) will continue to be emitted, but these emissions are balanced by removing the same amount of GHGs from the atmosphere. For further information on GHGs, please see [Manitoba Hydro's GHG web page](#).

## **Why is it assumed that emitting systems that are operational and not at end-of-life would be permissible under net-zero requirements?**

It is possible to meet net-zero emission targets while continuing to operate emitting systems by offsetting those emissions. The 2025 IRP aligns with the Federal Government's Clean Electricity Regulations, which set limits for emitting resources and require all emissions to be offset beginning in 2050.

## **Is it reasonable to assume that direct air carbon capture will be able to account for any remaining emissions in the late 2040s to meet net-zero by 2050, rather than relying on other means earlier and reducing emissions more gradually over the 2025 IRP study period?**

Achieving a net-zero economy in Manitoba requires deep reductions in the use of fossil fuels and substantial reductions in other non-fossil fuel related GHGs. It is expected that negative greenhouse gas emission technologies will be needed to offset any remaining emissions (such as agricultural and fugitive emissions) in Manitoba that cannot be removed by 2050. An example of a negative greenhouse gas emission technology (i.e., GHG removal) is direct air carbon capture and storage; these technologies are expected to have a large electrical load.

For the purposes of the 2025 IRP analysis, the characteristics of direct air carbon capture and storage are used to model the electrical load of negative emission technology. Due to high costs associated with building, operating, and powering direct air capture and storage technology, it was assumed that this technology would only begin operation as we approach the 2050 target of a net-zero economy.

## **Electric Vehicles (EVs)**

This section focuses on questions related to the electrification of transportation.

### **How do overall transportation mode shifts play a role beyond electrifying vehicles? What are the indicators for these types of shifts in transportation, for example taking a bus vs. taking a car?**

The 2025 IRP does not factor transportation modal shifts into the planning assumptions of the load projections. This is something we continue to actively monitor through key indicators such as vehicle registrations and sales trends across vehicle categories (light, medium, heavy duty and buses). We also track government actions, such as the Federal Government's 'Electric Vehicle Availability Standard,' which mandates progressively higher sales of zero-emission vehicles (ZEVs) — including battery electric vehicles, plug-in hybrids, and hydrogen fuel cell vehicles — as a percentage of total sales.

In Manitoba, electric bikes are included in the overall energy consumption for off-road vehicles. However, we do not explicitly highlight electric bikes as part of planning assumptions in the 2025 IRP as the electricity demand of an electric bike is significantly less than that of an electric vehicle.

We report on these trends in our [Signpost Updates](#).

## Evaluation Metrics

This section focuses on questions related to the evaluation process within the IRP.

### **Are there different weightings allocated to each evaluation metric? Or are they equally weighted?**

Through engagement, we asked customers and interested parties what factors are important to consider in energy planning. The feedback heard will help us understand how the different trade offs between the evaluation metrics, or the different weightings of the evaluation metric, will have to be considered.

## Import & Exports

This section focuses on questions related to energy market assumptions within the IRP.

### **Does the IRP assume Manitoba Hydro will continue to export power, or that power exports will become undesirable or prohibited?**

Manitoba Hydro intends to fulfill all of its current obligations under firm long-term export contracts.

The 2025 IRP assumes no new future long-term firm (capacity or energy) export contracts and that existing long-term firm export contracts will not be renewed when they expire as that capacity and energy is required for Manitoba load.

Wholesale trading of electricity is expected to continue to be an important aspect of power system operations. The 2025 IRP assumes that when Manitoba Hydro has surplus energy, it will be offered to the short-term opportunity export market and that imports are available to provide a dependable supply of energy for use during low water conditions.

As directed by the Province of Manitoba, Manitoba Hydro is reviewing all export sales to the United States and will seek approval of the Lieutenant Governor in Council to enter into any new major power purchase or export sale contracts, or extend such contracts, with any party in the United States.

## Integrated Resource Plan

This section focuses on questions related to the scope and purpose of the Integrated Resource Plan. Learn more about our [2025 Integrated Resource Plan process](#).

### **What is an Integrated Resource Plan?**

An Integrated Resource Plan (IRP) is a tool that utilities use to understand and prepare for future energy needs. Developing an IRP is a repeatable process. The IRP can be updated as future conditions evolve. For Manitoba Hydro, it accounts for both our electricity and natural gas systems and reflects combinations of customer needs, service territory, the energy products offered to customers, existing assets, and policy drivers. A key part of an IRP is that it includes engagement with customers and interested parties as part of its development to ensure openness and transparency in the energy planning process.

### **Why is Manitoba Hydro developing a new Integrated Resource Plan so soon after that last one in 2023?**

Manitoba Hydro is responsible for supplying Manitobans with safe and reliable energy. The energy transition, and particularly decarbonization, is increasing demand for electricity — and Manitoba Hydro's supply is

limited. Since the last IRP – the 2023 IRP – Manitoba Hydro’s ongoing analysis shows that new capacity supply could be needed as early as 2029/30.

The 2025 Integrated Resource Plan will include a recommended development plan that will outline a series of specific actions Manitoba Hydro can take to meet future energy needs. Manitoba Hydro has a legislated requirement through the Province of Manitoba’s [Manitoba Hydro Act](#) to develop an IRP, informed through engagement, to identify the proposed development of any major new facility.

## Load Projections

This section focuses on questions related to the three proposed load projections which were developed to evaluate a broad range of future electricity and natural gas demand up to the year 2050.

### **Are the different load projections considering diverse geographical locations and differences among demographics?**

We have developed zonal forecasts which breaks down the Manitoba aggregate load into six zones across the province, but the IRP maintains a province-wide, holistic view. Simply stated, we do not consider diverse geographical location differences within the IRP.

### **How does population growth/population change fit into the model?**

Each of the scenarios establishes a certain estimate of the growth of the provincial population which influences load.

## Policy

This section focuses on questions related to policy considerations within the IRP.

## **Will the 2025 IRP be aligned with the Province of Manitoba’s Affordable Energy Plan?**

An IRP accounts for existing and highly anticipated policy from all levels of government, including federal, provincial, and municipal. This includes the Government of Manitoba’s Affordable Energy Plan.

## Rates

This section focuses on questions related to how rate impacts are considered within the IRP.

### **You say managing the energy future will mean making investments. How much could electricity rates increase?**

Ultimately, [rates](#) are set according to orders from our regulator, the Public Utilities Board through a process separate from the IRP. The 2025 IRP provides analysis that will determine what investments will be needed, which will inform future rate setting processes and will likely be just one input into the regulatory rate-setting process.

## Reconciliation

This section focuses on questions related to how reconciliation is considered within the IRP process.

### **Does the 2025 IRP go beyond economic considerations and look at other aspects such as economic reconciliation? How does reconciliation fit into the IRP modelling process?**

Manitoba Hydro is committed to respecting and supporting Indigenous peoples in all aspects of our business. We support the advancement of reconciliation with Indigenous peoples in Manitoba.

The evaluation metrics will include themes of reliability, cost, environmental, and socio-economic considerations in the recommended development plan. Economic reconciliation is considered as part of this process.

For further information on Manitoba Hydro's Indigenous Relations, please see the [Indigenous Relations webpage](#).

## Resource Options

This section focuses on questions related to specific resource options used by Manitoba Hydro today or considered to meet future energy needs. The [resource options inventory](#) for the 2025 IRP can be found on Page 26.

### **How does Manitoba Hydro decide what resources to consider for meeting future energy needs?**

Manitoba Hydro actively monitors and maintains an inventory of resource options that have a high potential to meet Manitoba's future electricity needs and help reduce peak demand. Each resource option has specific characteristics that contribute to the resource options' capability to potentially serve future demand.

#### ► **Energy Efficiency & Efficiency Manitoba Programs**

**How are Efficiency Manitoba's targets and programs built into the model?**  
**Are investments in energy efficiency considered as an alternative to new generation?**

Electricity and natural gas savings achieved through Efficiency Manitoba's programming is being considered in two ways in the 2025 IRP. Efficiency Manitoba provided Manitoba Hydro with a long-term projection of electric and natural gas savings, based on its current Energy

Efficiency Plan to achieve their legislated targets. This forecast of electric and natural gas savings was subtracted from the load forecasts of all IRP scenarios. Efficiency Manitoba also identified the energy efficiency groupings it could focus on to advance or achieve more energy savings than identified in its long-term projection of savings. This extra energy efficiency potential was estimated based on a market potential study. In select sensitivities, the model can select these extra energy efficiency groupings alongside other resource options.

#### ► **Hydrogeneration**

**Does this 2025 IRP mean Manitoba Hydro is looking to build Conawapa or exploring other hydroelectric development?**

There is no current plan or decision to build Conawapa. Our resource options inventory includes numerous potential resource options to meet future needs, including Conawapa and other potential hydroelectric development sites such as Notigi.

#### ► **Hydrogen**

**Is it always assumed that the hydrogen will be created using renewable energy sources (i.e. it will be green hydrogen and not gray/blue hydrogen)?**

Any new hydrogen in the 2025 IRP analysis is assumed to be generated locally in Manitoba using electrolysis.

## ► Imports & Exports

### **How are electricity imports treated as a resource option?**

Imports from other jurisdictions over existing transmission lines are a potential resource option available to meet capacity requirements. Manitoba Hydro currently has interconnections to our neighbours in Canada and the United States (U.S.), providing energy and capacity. Depending on evolving market conditions, Manitoba Hydro could import electricity to meet short-term capacity needs in the future. In the 2025 IRP, new firm-capacity import transactions are included in the resource options inventory as selectable up to 50 MW per year based on a 5-year commitment.

As directed by the Province of Manitoba, Manitoba Hydro will seek approval of the Lieutenant Governor in Council to enter into any new major power purchase contracts, or extend such contracts, with any party in the United States.

## ► Natural Gas

### **How does natural gas support the reliability of Manitoba Hydro's electricity grid?**

One way that natural gas supports the electrical system is by serving some of Manitoba Hydro's energy needs that would otherwise need to be served through the electricity system. Natural gas is the main heating source for 60% of homes in the province. On the coldest days in winter, natural gas provides the equivalent of 1.4 times the capacity of our existing

electrical system. The natural gas system also has long duration storage to support prolonged cold snaps.

Natural gas is also used to generate electricity and support the primary sources of electricity generation (97% hydrogenation and 3% wind generation). In these cases, natural gas electricity generation is used strategically to ensure reliability in our electricity generation system in certain conditions, such as: to meet capacity needs when electricity demands are especially high (like on the coldest days of winter); when we are experiencing low water conditions or the wind is not blowing; and, in case of emergencies affecting generating stations or the transmission system.

### **Does the 2025 IRP look at ways that Manitoba Hydro can reduce natural gas?**

The 2025 IRP includes analysis to meet the Province of Manitoba's objectives of a net-zero economy in 2050. Meeting this objective will likely include reductions in natural gas demand in Manitoba.

## ► Solar

### **Why doesn't Manitoba Hydro invest in utility-scale solar?**

Solar is included in the resource options inventory for the IRP. In Manitoba, solar generation does not provide firm (i.e. consistent, dependable) electrical capacity during our winter peak times, which limits its value as a utility-scale resource to serve Manitoba's needs.

## Social Considerations

This section focuses on questions related to how social and cultural aspects are considered in the IRP.

**Are cultural and social considerations such as consumer uptake and buy-in, as well as customer expectations, built into the modelling and analysis?**

Yes. Anticipated changes in consumer behaviour, such as the impact of incentives that affect the uptake of new self-generation technologies or electric vehicles, are considered in the assumptions used to develop the load projections.

## Technology

This section focuses on questions related to changes in technology.

**How is Manitoba Hydro going to be agile enough to move with technology when it is changing so quickly?**

The IRP is updated regularly given the pace of change and so it can consider evolving technologies as they mature. Through monitoring of what we call signposts, we keep updated on things like technology & market changes to ensure timely and informed outcomes.

## Links

- 2023 IRP Appendix 5 – Analysis Results (climate risk – page 68) [www.hydro.mb.ca/docs/corporate/irp/irp-2023-a5-analysis-results.pdf](http://www.hydro.mb.ca/docs/corporate/irp/irp-2023-a5-analysis-results.pdf)
- Manitoba Hydro's GHG web page [www.hydro.mb.ca/environment/greenhouse-gas/](http://www.hydro.mb.ca/environment/greenhouse-gas/)
- Signpost Updates [www.hydro.mb.ca/docs/corporate/irp/2023-irp-signpost-update-en.pdf](http://www.hydro.mb.ca/docs/corporate/irp/2023-irp-signpost-update-en.pdf)
- 2025 Integrated Resource Plan process [www.hydro.mb.ca/docs/corporate/irp/2025-irp-process-overview-en.pdf](http://www.hydro.mb.ca/docs/corporate/irp/2025-irp-process-overview-en.pdf)
- *Manitoba Hydro Act* [web2.gov.mb.ca/laws/statutes/ccsm/h190.php#38.1](http://web2.gov.mb.ca/laws/statutes/ccsm/h190.php#38.1)
- Rates [www.hydro.mb.ca/account/billing/rates/](http://www.hydro.mb.ca/account/billing/rates/)
- Indigenous Relations [www.hydro.mb.ca/community/indigenous-relations/](http://www.hydro.mb.ca/community/indigenous-relations/)
- Resource options inventory (page 26) [www.hydro.mb.ca/docs/corporate/irp/2025-irp-round-1-presentation-122024.pdf](http://www.hydro.mb.ca/docs/corporate/irp/2025-irp-round-1-presentation-122024.pdf)