

Key Inputs and Scenarios

ABOUT THE 2025 INTEGRATED RESOURCE PLAN

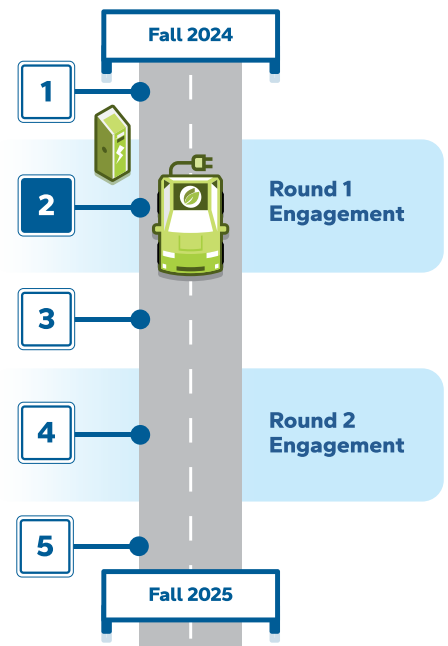
The energy transition has begun in Manitoba. How energy is made, how it's delivered, and how it's used are changing. We've started to develop our 2025 Integrated Resource Plan (IRP) — a repeatable process that helps us prepare for the energy world of tomorrow.



Key inputs and scenarios: step 2 of our 2025 IRP development process

The second step in our [2025 IRP development process](#) is to determine the key inputs and scenarios in our analysis. Key inputs include load projections and resource options strategies, which have significant uncertainty impact on the analysis. Planning assumptions underpin the development of the key inputs and the scenarios.

Scenarios represent specific energy futures. Each scenario is a likely combination of a load projection and a resource options strategy.



LOAD PROJECTIONS

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



RESOURCE OPTIONS STRATEGIES

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



SCENARIOS

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



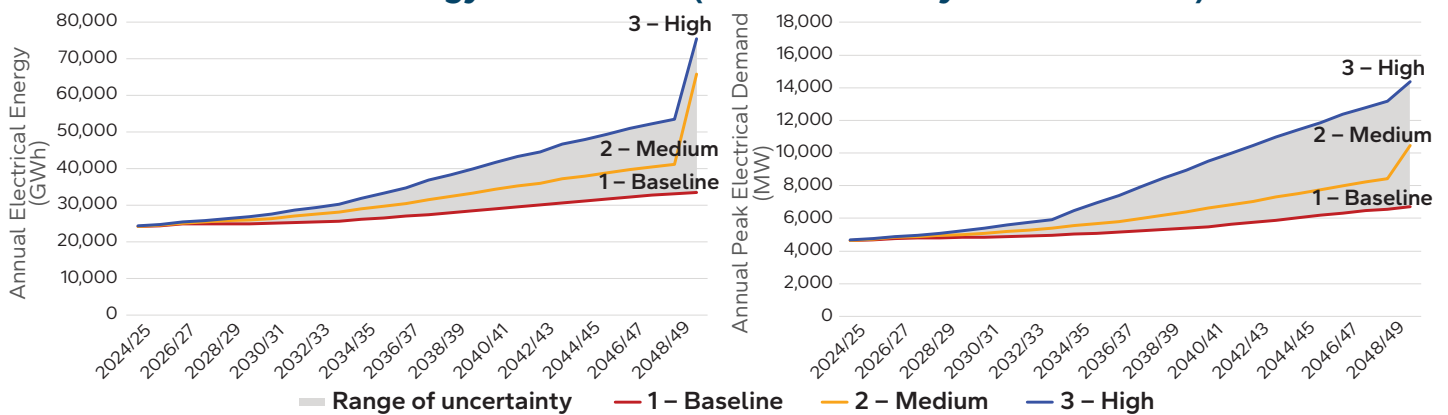
KEY INPUTS



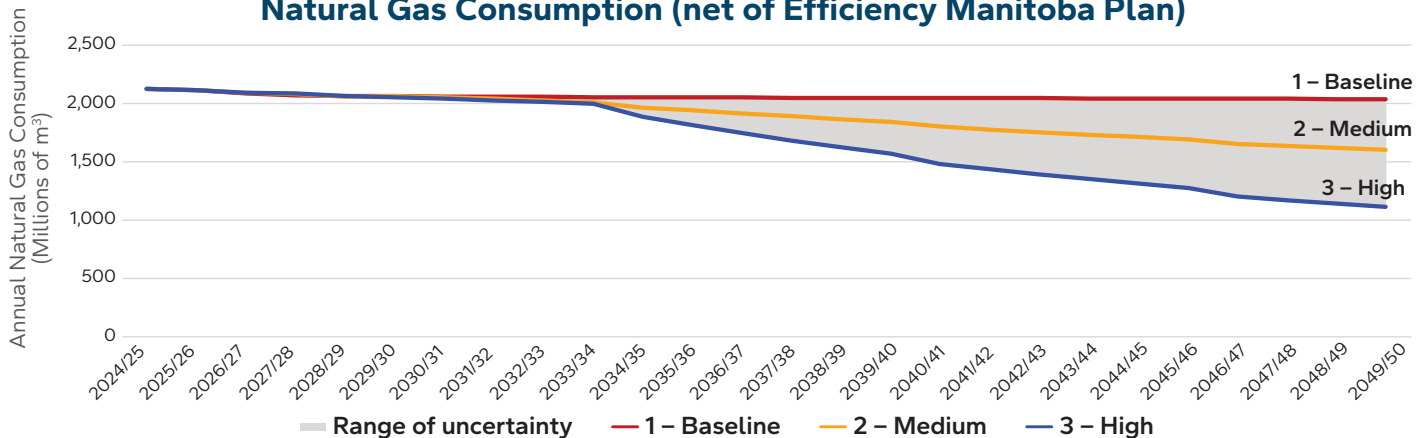
Key Inputs LOAD PROJECTIONS

Load projections represent future energy demand of natural gas and electricity that Manitoba Hydro might have to supply. The load projections in our IRP are influenced by how Manitobans might achieve a net-zero economy by 2050. To address the range of uncertainty surrounding the amount and pace of change to both electric and natural gas consumption, we developed three load projections from now to 2050. These load projections will explore different combinations of potential policy and customer decisions. Load projections vary due to assumptions and uncertainty surrounding inputs like economic growth, space heating, electrification of transportation, energy efficiency, and decarbonization, and are common between the electric and natural gas load projections.

Electric energy and demand (net of Efficiency Manitoba Plan)



Natural Gas Consumption (net of Efficiency Manitoba Plan)





Key Inputs

RESOURCE OPTIONS STRATEGIES

Resource options strategies reflect the potential resources available to meet those demands. Four resource options strategies are used to reflect assumptions on policy and its potential to impact resources available for selection. These range from a technology neutral strategy (current policy) to a progressively more restrictive strategy with no fossil fuel-based resources.

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 Fossil Fuel-Based Resources	Strategy B, plus requirement of no fossil fuel-based combustion turbines post 2035 (i.e. no natural gas generation).

Manitoba Hydro keeps an inventory of resource options to meet future energy needs. These resource options can include building new generation, like wind turbines, and/or creating programs to promote reducing consumption, like energy efficiency programs. Each resource has different characteristics, like costs, emissions, dispatchability, maturity, and in-service dates. The resource options strategies narrow the available resources from this full inventory.



SCENARIOS

Combining a load projection with a resource options strategy results in a scenario. Eight scenarios will be analyzed, where Scenario 1A and 3D are bookends. Scenario 1A has the least restrictive energy policy and Scenario 3D has the most restrictive energy policy. The scenarios represent a reasonable range of possible energy futures in Manitoba, so unlikely combinations will not be studied.

Resource Options Strategies	1 – Baseline Load Projection	2 – Medium Load Projection	3 – High Load Projection
A – Technology Neutral	Scenario 1A	-	-
B – Net-Zero Grid 2035	Scenario 1B	Scenario 2B	Scenario 3B
C – Near Term Wind Generation Projects	Scenario 1C	Scenario 2C	Scenario 3C
D – No Fossil Fuel-Based Resources	-	-	Scenario 3D



SENSITIVITIES

Sensitivity analysis, or “What-if” analysis, tests how a change to one planning assumption impacts the results. Sensitivities can include adjustments to energy market prices, capital costs, resource option lead times, or further resource option restrictions. Sensitivity analysis provides additional information for [evaluating potential development plans](#).