

Terry Miles:

Hi everyone, and welcome to a presentation on Integrated Resource planning at Manitoba Hydro. My name is Terry Miles, and I'm the Director of Integrated Resource Planning Division in the Asset Planning and Delivery Business Unit at Manitoba Hydro. I'm responsible for overseeing the development of Manitoba Hydro's Integrated Resource Plan.

Today, I will be providing some background on integrated energy planning at Manitoba Hydro. Why does Manitoba Hydro undertake energy planning? At Manitoba Hydro, we supply electricity and natural gas. [00:00:30] We want to ensure there is a sufficient supply of this energy to meet demand in the province of Manitoba.

We need to plan, as our landscape and customer needs are constantly changing. Today, we will be discussing how we are planning to serve customers many years into the future. And we do not just plan for energy supply. We must also plan for the infrastructure that delivers the energy and interacts with the customers.

There are many factors influencing change. Recently, these changes have been framed [00:01:00] by the three Ds. Decarbonization is the reduction of the use of energy sources that result in emissions. This is also referred to as electrification and using alternative fuel sources like renewable natural gas and hydrogen. The focus on reducing greenhouse gas emissions is accelerating the pace of electrification. You see it in the federal government's climate plans and net zero targets, conversion of industrial processes to use electricity, increasing sales of electric vehicles, and the electrification [00:01:30] of public transportation in fleets.

Decentralization means more non-Manitoba Hydro alternatives, such as customers providing their own generation. A less centralized energy grid in Manitoba leads to a future where Manitoba Hydro may no longer be your only option. Companies will bring solar, wind, and other non GHG-emitting alternatives to Manitoba to offer new sources of renewable energy.

We need to prepare for this growing reality. We will need to ensure we can maintain [00:02:00] reliability of the grid, so it's there when customers need it, while allowing for a two-way flow of power.

Digitalization will define the way we use energy and interact and share information. We will have to adapt to changes in technology so we can support and serve our customers when and how they need it.

Manitoba Hydro has had to think about these changes and change with them. As our world looks to reduce greenhouse gas emissions and move to a cleaner energy future, and as your energy [00:02:30] needs and expectations change, Manitoba Hydro has to be ready. The impacts of the changes in front of us will take time to develop and evolve. We need to look at least 20 years into the

future and assess the timing and pace of these changes and how they may impact existing infrastructure and drive the need for new infrastructure to meet customer requirements.

Our long-term energy strategy, Strategy 2040, is about preparing and positioning Manitoba Hydro for the opportunities and challenges these global shifts are creating. [00:03:00] It's about ensuring we efficiency meet your needs, not just in today's energy environment, but tomorrow's as well. And it's about putting the work in now to build an energy future that's in the best interest of all Manitobans.

As part of Strategy 2040, Manitoba Hydro made a number of changes related to integrated resource planning. One significant change was creating a new division, focused on integrated resource planning. And we are moving forward with a new integrated resource planning process.

[00:03:30] Integrated resource planning is a structured process that will help us develop an understanding of how the future may unfold and help us to prepare and plan in advance. As there will likely be a number of ways the future may unfold, the process helps to create pathways to allow for multiple approaches to a broad future.

This process will consider all energy supply and grid delivery infrastructure, including natural gas, electricity generation, transmission, distribution, non-Manitoba [00:04:00] Hydro assets, efficiency Manitoba programming, as well as other factors, such as policy standards and mandates.

Using a range of scenarios provides the ability to assess and compare customer needs and infrastructure, in worlds that unfold differently, and provides some structure to analysis, enabling incremental comparisons.

The process includes engagement with customers and stakeholders to inform the analysis and ensure plans ultimately meet customer needs. The process is not a one-time process and is [00:04:30] expected to be completed on a recurring basis. This is Manitoba Hydro's first comprehensive Integrated Resource Plan process, and it will form the basis for subsequent integrated resource plans.

The Integrated Resource Plan is frequently referred to as the IRP. There is essentially five key steps in the IRP process. The process begins with defining and contextualizing key inputs, which help frame the development of scenarios. The scenarios form the basis for modeling and analysis, which [00:05:00] looks at the energy demand over time and assesses potential supply alternatives and infrastructure impacts.

From the modeling and analysis, a roadmap for the potential futures can be developed, which will help guide any near-term actions that may be required to

assess options in more detail and undertake additional studies to support any potential decision.

Now, I want to spend a bit more time on some key definitions. Defining inputs and scenarios at the start of the process is key. There are many potential inputs [00:05:30] to the analysis that are driven by the energy landscape and changes happening around us. We have defined key inputs as those that are significant drivers having the most influence and that can be used to provide the means to frame the future energy landscape and develop scenarios. Scenarios represent a combination of key inputs resulting in a specific energy future. Scenarios also provide boundaries to describe the potential range of the future energy landscape.

They are key to setting up the analysis and evaluation framework, [00:06:00] and it is important they are defined clearly at the beginning because the resulting modeling is quite comprehensive. And due to the comprehensive nature of the integrated energy system, modeling and analysis is extensive. Therefore, it is important to get things as right as possible at the start.

This will help in creating a more robust roadmap. A roadmap allows us to respond to what may happen in the next 20 years, recognizing there are near-term actions required to prepare for and potentially shape the future. [00:06:30] A roadmap helps define where we want to or may need to go and defines a number of ways we could get there, knowing that we could change direction and pathways as the future unfolds.

With a roadmap defined, it is expected that actions in the near term will be required to help interpret results, develop a more detailed understanding of potential strategies, define the steps for informing potential major decisions in infrastructure development and/or investment, and preparing for the next IRP.

[00:07:00] Engagement complements the development process of the IRP, and engagement phases are aligned with key IRP development milestones. This slide outlines our four phases of engagement. The engagement process for the IRP began with an initial conversation in the form of a survey in the fall of 2021. The results of the fall survey informed the IRP scope and process development, as well as the development of engagement for key inputs and scenarios.

The next two engagement phases are timed with review [00:07:30] of initial modeling results, and then review of preliminary findings prior to finalizing the IRP report. So in summary, the IRP is a planning process that is forward-looking over a 20-year-time horizon. It is a start of and foundation for Manitoba Hydro's energy planning process that is informed by engagement with customers and stakeholders.

It identifies a broad range of inputs for considering changes in the future. It identifies a broad range of options and keeps options on the table. [00:08:00]

And it provides a roadmap, not a specific development plan. It leads to near-term actions to help interpret results, develop a more detailed understanding of potential strategies, define the steps for informing potential major decisions in infrastructure development and/or investment, and preparing for the next IRP.

That concludes the introductory presentation on integrated resource planning at Manitoba Hydro. The integrated resource planning process will continue over the next year to develop Manitoba Hydro's first comprehensive Integrated Resource Plan. [00:08:30] Ongoing engagement with customers and stakeholders is an essential part of the process to ensure Manitoba Hydro can continue to meet the evolving energy needs of its customers.