Lindsay Melvin: Hello everyone. My name is Lindsay Melvin, and I am the Manager of the Integrated Resource Planning Policy and Coordination Department at Manitoba Hydro. The introduction to integrated resource planning video provided background on key inputs and scenarios and their role in the integrated resource plan process.

Today, I am going to be speaking about the key inputs proposed for discussion as part of developing the integrated resource plan. You can also check out our separate [00:00:30] video on proposed scenarios. The following presents our proposed key inputs. These key inputs were reviewed in Manitoba Hydro's phase two engagement. I'll outline the proposed key inputs, including how we came up with the list and factors or considerations influencing those key inputs. All of what you were about to see, the proposed list of key inputs along with potential factors, were proposed to start a conversation, these are not final.

[00:01:00] A key input is an input with potential to have significant impact on future energy needs. Key inputs are not an exhaustive list of all inputs and assumptions that go into the analysis. We are looking to identify and discuss the key inputs as those which have the most influence or are most influenced by our evolving energy landscape. The list shown here is developed based on our phase one engagement and represents inputs likely to have significant potential [00:01:30] to influence energy use in Manitoba. To develop the key inputs we consider drivers and factors in the Manitoba energy landscape. Each of these inputs is seen as changing over the time period of our study. Further, the rate of change for these inputs is unknown and could vary significantly. I will now review each of the proposed inputs along with the factors that may be creating uncertainty or influencing that key input.

[00:02:00] Economic growth is proposed as a key input because economic growth captures several influencing factors and can in turn impact other trends and changes. You'll see in the following slides on the key inputs, that we've included some data to provide general context alongside each input. This data is publicly available, usually from a federal source and those sources are noted on the slides.

We looked for data that is generally related to the key input proposed for discussion and [00:02:30] that may give a general representation. It is interesting to note that energy use in Manitoba is spread over several sectors and this graph categorizes those sectors. Economic growth can impact varying sectors in varying ways. Conversely, growth in a sector may impact the economic situation in Manitoba. We also note, this graph represents energy use and it is not limited to electricity.

Decarbonization [00:03:00] refers to reducing carbon emissions, which in turn lowers greenhouse gas emissions. It is noted here that greenhouse gas emissions occur across numerous sectors in Manitoba. Decarbonization is not limited to decarbonizing the electricity sector, but is much broader. Understanding policy around decarbonization is important as this policy may

drive changes in any of these sectors, which may in turn create an increased need for non-emitting [00:03:30] electricity. Decarbonizing across Manitoba could have broad impacts and we'd like to understand how sectors may change or evolve as a result of decarbonization policy. Policy could be at any level, federal provincial or municipal. We follow policies that are proposed as well as those that are implemented. Any of these policies can influence decisions and behavior in the energy landscape.

Transportation is a sector [00:04:00] identified when discussing economic growth and decarbonization policy. Therefore, electric vehicles are proposed for an input. Electric vehicles include light duty, medium duty and heavy duty vehicles. Light duty vehicles include passenger cars and light commercial vehicles. Medium and heavy duty vehicles are often part of a fleet of vehicles and can require different charging infrastructure.

This data on the proportion [00:04:30] of zero emission vehicles in Canada indicates that some change is happening. The future rate of adoption is unknown. We could see a gradual trend as shown here. However, a step change or dramatic update could also occur. Some considerations include costs or incentives as well as charging infrastructure and adequacy in terms of the supply of electric vehicles or in terms of the range and service provided by those vehicles. [00:05:00] Policy could also be a catalyst to cause a step change in the use of electric vehicles.

The input natural gas changes was intended to capture broad considerations for the evolving role of natural gas in our energy landscape. As shown here, natural gas is one of several fuels that is used for energy in Manitoba. Natural gas changes can refer to the end use of natural gas, but is also intended to capture the role of the natural [00:05:30] gas system, including its infrastructure and its role in meeting peak space heating in Manitoba.

Choices happen for various reasons. Cost can be one driver. And in this case, the cost of alternative infrastructure and the cost of the fuel itself may be factors. Access to a dual fuel program for electricity and natural gas may be a factor, in addition to the viability of alternative fuels and processes. Policy that could influence natural gas could [00:06:00] be related to energy, but it could also be related to climate or environmental policy.

Electricity in Manitoba is provided by numerous sources shown here. Some of which are not supplied by Manitoba Hydro. Customer self-generation refers to customers owning and using equipment to produce and serve all or a portion of their energy needs. This can also be referred to as, behind the meter. When the energy is generated and used on a customer site [00:06:30] without passing through a meter. The rate and pace of adoption of customer self-generation could be influenced by the cost and availability of technology or the comparable cost of electricity provided through a meter as well as electricity rates, incentives, and policies.

This concludes our discussion on proposed key inputs. We hope we've given you insight into some of the biggest influencers in the Manitoba energy landscape. [00:07:00] We identified five potential key inputs as having significant impact in the Manitoba energy landscape. We also attempted to capture a few of the factors or considerations that may influence each of these key inputs. Thanks for joining us in this important step in developing the integrated resource plan.