EVENT REPORT

RE-ENVISIONING AN ENERGY STRATEGY FOR MANITOBA: PLANNING FOR 2030 AND BEYOND

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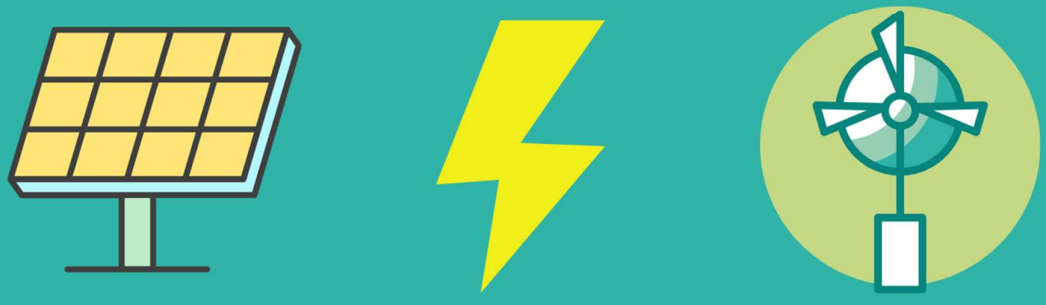

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1.0 Introduction

On March 10, 2020 the Re-envisioning an Energy Strategy for Manitoba: Planning for 2030 and Beyond workshop was held at The University of Winnipeg. The purpose of the event was to initiate a discussion amongst Manitobans about energy in the province. In doing so, it brought together people with a variety of energy-based perspectives and interests, including consumers, researchers, students, Indigenous peoples, energy providers, entrepreneurs, decision-makers, and members of the public interested in the future of energy use in Manitoba.

This event was organized by The Community Appropriate Sustainable Energy Security (CASES) Partnership, the Manitoba Branch of The Consumers' Association of Canada (CAC), The Public Interest Law Centre (PILC), and Amanda Gelfant. Additional information about the organizing team is found in Appendix A.

The objectives of the workshop were to:

> 1) Encourage members of the community to come together to discuss the future of our energy in Manitoba;
>
> 2) Hear from experts working on energy-based initiatives;
>
> 3) Hear from participants regarding interest in, and factors that drive interest in, various energy sources and models (including but not limited to hydro-electricity, distributed energy resources, etc.); and,
>
> 4) Identify and prioritize which factors should be taken into consideration in a forward-thinking energy strategy (e.g. greenhouse gas emissions, local control, range of alternatives, etc.).

The workshop consisted of two sessions. Each included presentations from a panel of speakers, a round of questions and answers, and an audience focused workshop. Between the two sessions, results from a provincial wide survey on Manitobans' perspectives on energy were presented to the audience.

87 participants attended the event. Additionally, 10 people participated via the livestream on the CAC Manitoba Facebook page. As of June 18, 2020, the video of the event had a view count of 688 (https://www.facebook.com/119395024836293/videos/201046687905220/).

This report summarizes key aspects of the event, following a chronological format. Section 2.0 focuses on the afternoon session. Section 3.0 summarizes the events of the evening session. Section 4.0 outlines the conclusion at the end of the event. Supplementary information can be found in the appendices.

2.0 Afternoon Session

2.1 Opening Remarks by Elder Florence Paynter

The event began with an opening address by Elder Florence Paynter, who is from Sandy Bay First Nation and is a band member of Norway House Cree Nation. Beginning in Anishinabe, Elder Florence acknowledged the Creator, and all that the Creator has provided for us. She acknowledged the importance of this workshop, and what a great opportunity it was to bring

people together to discuss the topic of energy in Manitoba. Elder Florence's address explored keys themes that resonated throughout the day.

One of these themes situated energy in the context of human rights. Elder Florence described how Manitobans experience unequal access to affordable and reliable energy, questioning if current policies that see those in the southern portion of the province receiving the best service are race-based. She emphasized the impacts of hydro development on northern First Nation communities, which includes impacts on water quality. Although the right to water has recently been recognized as a human right, people in many of these communities still do not have access to clean and safe running water. Elder Florence called for a shift in thinking about where hydroelectricity is produced in Manitoba, and where it is transmitted to, in order to address these important human rights issues.

This need for a shift in thinking was woven throughout Elder Florence's address, as she called upon everyone to work together and join her in changing the narrative, with a reminder that the Treaties are the basis for all present and future agreements. Elder Florence noted the importance of working together to protect the resources that we have as they are currently being depleted. She emphasized that we must all come together and build relationships based on trust, and use our unique gifts and skill sets to build a better future for all of Manitoba.

Elder Florence advocated for the importance of local ownership and control of energy sources. In particular, she pointed to the need for First Nations communities to explore alternative energy sources as a mechanism for both sustainability and contributing to the local economy to reduce poverty. She emphasized the importance of thriving economies in communities, and that the key to achieving this is by the communities using their own environments to sustain themselves.

Elder Florence expressed her vision for the future of energy in Manitoba by illustrating the connection and energy between people through a story about an experience with a group of children. In the closing of her address, Elder Florence reminded everyone that we are all human, and that we can work together to make Manitoba prosper in a way that uses all of our combined energy.

Elder Florence Paynter and Holly Moore
Photo Source: Patricia Fitzpatrick

2.2 Panel 1 Presentations

The first panel was designed to provide expertise on the bigger picture of energy, both in Canada and internationally. Full biographies of the panelists can be found in Appendix B.

Dr. Andrea Kraj
Dr. Kraj's presentation focused on the need to shift energy paradigms around the world, emphasizing the need for innovation, as society cannot continue with the "business as usual" approach. She began by suggesting that energy security is the biggest threat to humanity, pointing to the falling oil stocks due to COVID-19, and the increase in natural disasters putting infrastructure at risk. In terms of what shifts need to be made, two prominent themes resonated: a shift in technology and a shift in scale. Looking to the technology side, the clean tech sector is rapidly growing in Canada, and solar and other renewable energy sources are dropping significantly in price. Technological solutions to address energy insecurity include distributed intelligent generation, which consists of microgrid systems and the use of multi-renewable energy generation.

In terms of shifts in scale, Dr. Kraj echoed Elder Florence in emphasizing the north/south divide, including recognizing that four communities in northern Manitoba continue to rely on diesel fuel for heat and electricity. Technology cannot just be deployed into a community, community led operation of that technology is needed. Now is the time for First Nations communities to reconnect with the land to gain energy sovereignty and build resiliency. By shifting the scale from big systems to smaller ones, communities will have the power to empower themselves to produce energy that is efficient, affordable and reliable. The benefits of community level energy systems are significant, and include local job creation, less foreign reliance, and higher returns on investment.

Dr. Mark Winfield
Dr. Winfield's presentation focused on the North American energy sector context, and the changes in landscape that are occurring within it and will have implications for Manitoba's energy future. Key changes which must be addressed include: climate change, economic restructuring, technological revolutions, Indigenous peoples, and the fossil fuel market.

Beginning with climate change, we are now moving beyond projecting impacts to actually experiencing them first hand. Increased floods, wildfires, and other natural disasters are examples. In terms of economic restructuring, there have been market changes, including a flatlining of energy demand despite economic and population growth, likely due to structural economic changes such as a shift from manufacturing to service based activities. With this in mind, utilities will have to adapt and think about what future models will look like, as business as usual assumptions about demand no longer apply. Dr. Winfield brought up many of the same points as Dr. Kraj regarding technological revolutions in the energy sector. Key points included the convergence of renewables and storage developments, changes in the fossil fuel sector, and developments around smart grids. The benefits of Community Energy Plans for both urban and remote First Nations are among important aspects within the change in landscape around Indigenous peoples. Finally, in terms of changes in the fossil fuel market, fracking developments are altering the landscape, and the decrease in cost for natural gas is leading to a decline in demand for coal. In addition, we are seeing changes in political dynamics surrounding energy transportation and infrastructure. Recent pipeline protests are an example of such changes.

Sadie-Phoenix Lavoie
Sadie-Phoenix Lavoie's presentation focused on the work of Wa Ni Ski Tan: An Alliance of Hydro-Impacted Communities and the impacts of hydro-development in Manitoba. Wa Ni Ski Tan's work

focuses on the impacts and community responses to hydro power, as well as the implications of hydro power in Manitoba, across Canada, and in the United States. Wa Ni Ski Tan does community led research, education and mentorship, history and documentation, as well as other forms of action. Wa Ni Ski Tan aims to bring together hunters, trappers, Elders, youth, and others to learn how they are being impacted by hydro development.

Hydro development in Manitoba has various environmental and social implications. Considering the environmental impacts, hydro development has impacted the five largest lakes in the province, has led to shoreline erosion, and a decline in biodiversity. These environmental impacts are directly linked to the social impacts. For example, shoreline erosion has led to high mercury levels affecting the health of communities, as well as the loss of animals of cultural significance. Other social impacts include the damages to local fisheries impacting community level economies, increased poverty and unemployment leading to substance abuse and suicides, as well as many food related health problems such as diabetes and heart disease.

Sadie-Phoenix Lavoie concluded their presentation by stating that they are not necessarily against hydro development, but many changes need to be made in terms of how it is approached. These changes include considering the ways in which mega dams affect communities, and the rights to water. In addition, there is a need for a shift in framework for how Manitoba Hydro engages with Indigenous communities, as the majority of the current agreements they have are non-monetary. Moving forward, we need to center our relationship with Indigenous communities, to use the potential of renewable energy in a way that benefits everyone.

Terry Miles

Mr. Miles' presentation came from Manitoba Hydro's utility perspective, and outlined the ways in which the crown corporation is planning to move forward over the next decade and beyond. He acknowledged that this is not an easy topic in Manitoba due to many issues that were brought up by the other panelists that must be dealt with in order to move forward. Three main disruptors that will drive change and impact the world of tomorrow were identified: the three D's of decarbonization, decentralization, and digitalization.

Decarbonization, refers to the increasingly important role of renewables as governments seek to lower their emissions. Changes in legislation like the carbon tax are driving this change, as well as the improvements to battery technology creating shifts in the transportation sector. This creates challenges for utilities, for example in terms of how ownership and distribution of charging stations will work. Regarding decentralization, Manitoba Hydro undertook a pilot project that saw considerable interest in self generation. Technological improvements are leading to cost declines, and it may therefore become cheaper for people to generate their own power rather than buy it from the grid. This in turn will lead to an increase in people unplugging from the grid, therefore leading to higher costs for those who are still grid connected. Clearly a challenge for utilities, Manitoba Hydro will have to manage a two-way flow of energy, while also keeping it reliable. The third and final disruptor was digitalization. With more automation and individual control, customer expectations are changing. They are now expecting immediate access to information, immediate responses via social media, and to be able to monitor energy use through smart phones. This is creating changes in the way in which Manitoba Hydro needs to interact with customers, in order to ensure they are getting what they want at the best value.

Manitoba Hydro is working to develop long term plans, that will give customers more choice about where they get energy. Due to the three disruptors, utilities need to adapt and change the way they interact with customers. The long-term plan will have a customer focus, and will adapt to changes in technology while maintaining affordable rates.

Dr. Greg Poelzer
Dr. Poelzer's presentation began with the statement that there are three big challenges currently facing the energy sector: grid modernization, energy security, and climate change. His presentation focused on Manitoba's advantage of having a large and growing Indigenous population when thinking about the future of energy within the province. Investing in Indigenous peoples and communities can have positive economic impacts for the province, and increase energy security in those communities.

There are many opportunities to invest in Indigenous owned companies, especially when the New West Partnership is considered. Indigenous peoples tend to spend money locally, and are also the most entrepreneurial class in Canada (Indigenous entrepreneurs/small businesses are growing and outperforming the rest of Canada), therefore investing in them would significantly grow Manitoba's economy. In terms of where energy fits in, there is a need to go beyond infrastructure and cents per kilowatt-hour and prioritize partnerships with communities. There is an important connection between energy and food security, and as such, there is a need to leverage new economic opportunities that also improve health and social outcomes in Indigenous communities. The key to a sustainable energy future in Manitoba is partnerships with communities, such as the CASES partnership.

2.3 Panel 1 Questions

Following the first panel presentations, there was an opportunity for participants to ask questions of the panelists. Unfortunately, due to the presentations running long, the question period was cut shorter than had originally been planned.

Key themes from this question period included:

Community consultation:

The panelists were asked about the future of consultation in order to protect communities and their resources. It is important to be prepared for climate change related events and ensure that everyone is adequately represented at decision making tables. In addition, Canada needs to improve in undertaking strategic environmental assessment that includes ongoing consultation and builds public literacy and trust.

Legislation challenges in Manitoba:

Several participants were concerned with limitations imposed by legislation and/or policy in Manitoba. These concerns included the inability for individual producers to sell power back to Manitoba Hydro, which in turn impedes forward progress in improving Manitoba's energy system. Terry Miles acknowledged that while Manitoba Hydro is considering these things, the province has responsibility for the legislation.

2.4 Workshop 1

In the workshop sessions, participants were broken into small table groups and were presented with three questions:

- What are the strengths and weaknesses of Manitoba's current energy system?
- What limitations face Manitoba's energy system as we look forward to 2030 and beyond?
- What aspects do you think should be used to frame an energy plan for our province?

The responses were collected and analyzed for common themes using NVivo 12.

Question 1: What are the strengths of Manitoba's current energy system?

The most common responses were grouped in to the four following themes, presented in order of most to least prominent:

Environmental Strength:

The low carbon footprint of Manitoba's energy system was identified as an environmental strength. Low reliance on carbon for heat and electricity throughout much of the province is positive, as it results in low greenhouse gas emissions. However, this low level of carbon usage does not include the transportation sector of Manitoba's energy system, which is still heavily reliant on fossil fuels. Many potential opportunities to increase the use of several renewable energy sources such as biomass, solar, wind and geothermal were identified.

Reliable:

Consistent access to reliable power was identified as a strength of Manitoba's energy system. However, the level of reliability varies in different parts of the province. For example, there is a greater reliability in large urban areas.

Available:

The consistent availability of hydro power was identified as another strength of Manitoba's current energy system. There should be a focus placed on using what hydro power is already available in the province for heating and transportation, as well as the opportunity to export to places like Saskatchewan.

Affordable:

Affordability was identified as a strength of Manitoba's current energy system. The cost per kilowatt hour is much lower in Manitoba compared to other provinces like Ontario, especially for those living in Winnipeg and the southern portion of the province with more energy efficient housing

Question 2: What limitations face Manitoba's energy system as we look forward to 2030 and beyond?

The most common responses have been grouped in to the following four themes, presented in order of most to least prominent:

Legislative/Regulatory Limitations:

Many legislative and regulatory limitations facing Manitoba's energy system were identified. The centralized monopoly model of Manitoba Hydro may be a barrier moving forward, as the single supplier system is inflexible, and leads to a lack of diversification within the province's energy system. Additionally, the centralized system limits the ability to adapt to new technologies without financial consequences to the existing hydro system. Furthermore, the Manitoba Hydro Act gives Hydro the exclusive right to sell, which limits innovation and diversification of energy sources as individual producers face difficulty in selling back to the grid. Issues with licensing and

lack of environmental assessment under the Water Power Act, leading to negative social and environmental outcomes, was also identified as a legislative limitation.

Social Limitations:

Social limitations were another common topic of discussion during the workshop. A major limitation for Manitoba's energy system moving forward is the lack of reconciliation between Manitoba Hydro and the many First Nations communities that have and continue to experience devastating impacts due to hydro development. In order to move forward, Manitoba Hydro and the provincial government need to recognize these impacts and change the way they engage with Indigenous communities. Additionally, the continued reliance on diesel fuel in several northern communities is a problem, as it limits social and economic outcomes in those communities.

Financial Limitations:

A range of financial limitations facing Manitoba's energy system moving forward were identified including:

- a lack of subsidies and incentives to support alternative energy projects;
- the low price of natural gas and hydroelectricity; and,
- limited funding for community energy projects.

Environmental Limitations:

A variety of environmental limitations were identified, including:

- continued dependence on fossil fuels for transportation and heating;
- reliance on imported energy in the transportation sector;
- environmental damage caused by hydro dams; and,
- the use of diesel fuel in remote communities

Question 3: What aspects do you think should be used to frame an energy plan for our province?

The workshop groups came up with many aspects that should be used to frame an energy plan for Manitoba. The most common responses have been grouped in to the following six themes, presented in order of most to least prominent:

Environmental Aspects:

Environmental aspects were identified as important in framing a provincial energy strategy. These aspects included:

- climate considerations;
- sustainability and conservation;
- environmental rights; and,
- the promotion of alternative energy sources.

Reconciliation:

Reconciliation was another important aspect to workshop participants. Manitoba Hydro needs to consider the ways in which it has treated Indigenous communities in the past, in order to make

changes to this relationship moving forward. Additionally, the need for Indigenous knowledge to be included in the development of a provincial energy strategy was identified.

Local control:

Participants also identified the need to include opportunities for local control over energy production in a provincial energy strategy. This included opportunities for community ownership through co-op models, and addressing the idea of energy sovereignty.

Legislation/Regulations:

Within the theme of legislation and regulations, several aspects that should be considered when framing a provincial energy plan were identified. These included the need for better legislation relating to environmental assessment and monitoring, taxing activities that increase greenhouse gas emissions, as well as the recognition and inclusion of environmental rights and Indigenous rights. Additionally, a strategy should be long term and take a comprehensive approach.

Education/Engagement:

Another important consideration for developing an energy strategy is the inclusion of public education and engagement. There is a need for an increase in public education and community discussions that would bring engagement to the forefront of policy development. The development of a provincial strategy should not come exclusively from the provincial government and Manitoba Hydro, but should bring in values and priorities directly from the public.

Affordability:

Affordability is another aspect that was identified to be included in the framing of an energy strategy. While general costs to consumer are of concern, greater importance should be placed on social equity, or fair pricing for lower income and on reserve consumers.

3.0 Evening Session

3.1 Survey Results

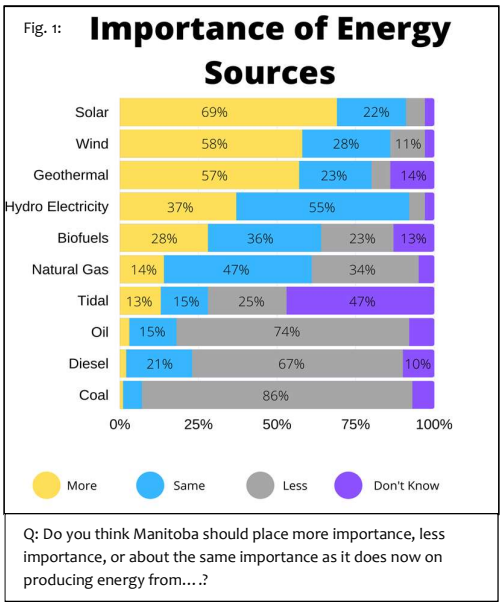
Following the first half of the event, select results from a survey commissioned by the organizing team were presented by Gloria Desorcy. Prairie Research Associates (PRA) conducted the survey through their online panel from February 25 to 28, 2020. One thousand Manitoban's participated in the survey. Some of the key results that were presented during the event are summarized below. A full report on the survey will be released (tentatively scheduled for Fall 2020).

Importance of energy sources:

When considering the future of Manitoba's energy portfolio, the majority believed that more importance should be placed on alternative sources, including solar (69%), wind (58%), and geothermal (57%).

Most believed that less importance should be placed on fossil fuels including coal (86%), oil (74%), and diesel (67%) energy production.

Fig. 1:



Q: Do you think Manitoba should place more importance, less importance, or about the same importance as it does now on producing energy from….?

Considerations for energy production decision makers:

Manitobans felt that the most important considerations when making energy production decisions should be:

- impact on water, land, vegetation and animals (72%);
- cost to ratepayers/taxpayers (63%);
- climate change (55%); and,
- greenhouse gas emissions (47%).

Difficulty paying electricity bill:

69% of Manitobans believed there should be some type of support for consumers who have difficulty paying their energy bill. The most common choice for the type of support was that more resources should go into programs to help lower income consumers make their homes more energy efficient (40%). About 31% of respondents believed that all consumers should pay the same rates for the energy they use.

Future home energy use:

Respondents were asked to consider what changes they would like to make in their home energy use over the next 10 years. Installing LED or more LED lights (47%) was the most commonly mentioned change Manitobans would like to make. Other common responses were improving insulation (40%), installing new windows or doors (39%), supplementing energy with an additional energy source (39%), installing a more efficient furnace (28%), and producing one's own energy (27%).

Future transportation energy use:

When asked what changes they would like to make in their transportation energy use over the next 10 years, the most common responses were switching to an electric automobile (40%) and cycle, walk or use transit rather than using an automobile (37%). 29% of respondents said they would like to consider environmental impact when making travel plans.

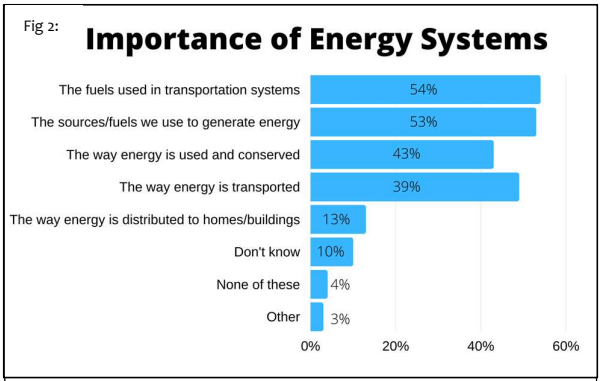
Future energy use strategy:

Respondents were asked to consider which systems they would like to see changed as a part of an energy strategy over the next 10 years. The top piorities for respondents were for change in the fuels used in transportation systems (58%), the sources/fuels we use to generate energy (56%), and the way energy is used and conserved in public spaces, buildings, and roadways (54%).

Importance of energy systems:

According to respondents, the most important changes for Manitoba's energy system over the next 10 year were fuels used in the transportation systems (54%) and the sources/fuels we use to generate energy (53%). These were followed by the way energy is used and conserved (43%) and the way energy is transported (39%).

Fig 2:



Q: Thinking about your community, neighbourhood, and the province as a whole, which of the following systems would you like to see changed as part of an energy use strategy over the next 10 years?

Future energy use decision making:

When considering what could help Manitoba make important energy use decisions moving forward, respondents felt that having access to information is most helpful as the most common responses were information about economic costs and benefits (76%), environmental challenges and benefits (66%), or alternative energy systems (57%).

3.2 Panel 2 Presentations

This panel was designed to focus on the Manitoba context, including on-the-ground projects and initiatives. Full biographies of the panelists can be found in Appendix B.

Kyle Macdonald BSc, PMP, LEED AP BD+C O+M

Mr. Macdonald's presentation provided insight into renewable energy in the Winnipeg context, using the many initiatives he has led as the Executive Director of Facilities at The University of Winnipeg as examples. He noted that although technically-speaking, a lot of the energy produced in Manitoba is renewable, the province imports energy. There is a need to shift our imported energy towards renewables. Additionally, there is a need to reduce overall energy usage (i.e., total consumption).

The University of Winnipeg has reduced its natural gas intensity by almost half since 1990. In its 2017 Sustainability Strategy, the energy related goals include becoming net zero by 2035. Reaching this goal will require the use of many types of renewables, such as biomass, hydro, and solar. The University recently installed 540 solar panels on the roof of the Recplex, and also uses a biomass system to heat three buildings with wood pellets.

Mr. Macdonald discussed several challenges associated with making the switch to renewables in Winnipeg. These challenges included storage of solar energy and cheap hydroelectricity making solar difficult to sell. He also pointed out several logistical challenges he has encountered, including permitting and inspection processes which have not been updated to reflect renewable energy.

Biomass Heating System at The University of Winnipeg
Photo Source: The University of Winnipeg News Centre

Michael Stocki

Mr. Stocki's presentation focused on the importance of energy efficiency, and the role of Efficiency Manitoba. He began his presentation by stating that energy efficiency and conservation needs to come first and foremost in an energy strategy for Manitoba. He outlined the economic, environmental, and social benefits of this efficiency first approach.

Looking at the economic benefits, energy efficiency is the lowest cost energy resource, and energy efficiency creates many local employment opportunities for contractors, electricians, and others. The environmental benefits include the direct reduction of greenhouse gas emissions through reductions in fuel use, as well as indirectly through things like manufacturing and installing solar panels. If overall consumption is reduced, there is less of a need to invest in capital intensive infrastructure. Additionally, the reductions in water and waste promotes recycling and conservation culture. Regarding the social benefits, the incorporation of energy efficient measures can lead to better home comfort, increased property values, as well as increased productivity for businesses.

In terms of Efficiency Manitoba, it is a new crown corporation with a mandate to save 1.5% on electricity and 0.75% on natural gas per year following its launch on April 1st, 2020. It has begun some test programs so far, and its three-year plan is now before the government for final approval. The plan is cost effective, as about 70% of its budget goes back to consumers in the form of incentives, and it will create savings for Manitoba Hydro which will then be passed on to consumers through fewer rate increases. Looking to the future, the development of federal building codes that are more stringent in terms of energy consumption, leading to super-efficient smart homes, and integrated building designs and retrofits is critical. There is a need to first drive down consumption, and then to look at decarbonization and decentralization.

Scott Beaton

Mr. Beaton's presentation focused on the role that farms can play in the future of energy in Manitoba. The two biggest forms of energy use on Manitoba farms are nitrogen fertilizer which is produced through the burning of natural gas, and diesel fuel. By tackling the issue of nitrogen fertilizer, farms could greatly reduce their energy use, as it is a major contributor to Manitoba's emissions, and is not necessary for farming. Mr. Beaton explained that he doesn't use nitrogen fertilizer on his farm as he is an organic producer. As an alternative, farms can use nitrogen fixing crops. In addition to this change, farms can reduce their energy use in the fields by switching to electric vehicles, which includes farm equipment, to reduce their fuel consumption.

Farms are well positioned to consume less energy, as they are more permanently established compared to average people who may move several times over their lifetime. With this in mind, farms can benefit greatly from long term investments in energy conservation measures, and in renewable technologies. Mr. Beaton cited his own farm as an example, where he has installed solar panels on his shed which more than offset their current usage while also leaving room for future expansion.

Dr. Patricia Fitzpatrick

Dr. Fitzpatrick's presentation outlined her vision for the future of energy in Manitoba, based on her years of experience as a professor and listening to what people have to say about energy at numerous hearings. It has become very clear that there is an appetite to diversify Manitoba's energy portfolio, and people on the ground are working very hard to do this, but there is often a disconnect between policy and decision makers and what is happening on the ground.

This disconnect is illustrated by the siloed approach towards energy in Manitoba, that has emerged due to Manitoba Hydro being a crown corporation. Whenever we talk about energy we immediately talk about Manitoba Hydro, often forgetting many other aspects that need to be a part of the discussion, such as the public. The recent mandate letters to the provincial ministers have charged Manitoba Hydro with developing a provincial energy strategy, but this responsibility should not fall solely to Hydro, and there is likely a better approach that can be taken.

Looking forward, there is a need to move beyond this siloed approach, to diversify and create more opportunities for others to have input in an energy strategy for the province. Communities play an important role as they each have different resources and needs. This is demonstrated through the CASES partnership, which works with communities to identify and map their energy usage. While communities may have different resources and needs, they have a lot in common in terms of motivations. Communities and survey respondents identified climate change, greenhouse gas emissions, and costs as their top priorities for an energy strategy. Additionally, communities want agency and control over what they're using and buying. Overall, Dr. Fitzpatrick's vision for 2030 and beyond consists of local projects across the province addressing electricity, heating, and transportation in ways that benefit communities.

Councillor Leo Dettanikkeaze

Councillor Leo's presentation outlined the various energy initiatives that Northlands Denesuline First Nation has undertaken recently. Northlands is a fly in community in northern

Manitoba. The community of around 1000 people relies on diesel to heat homes, that is trucked in on winter roads. There are negative impacts of relying on diesel, including high costs, damage to the land, and health impacts due to fuel contamination.

In terms of energy initiatives in the community, they began with a feasibility study to determine the cost of connecting the community to the grid via Lynn Lake. The costs were too high so they remain off-grid. The renewable energy system that they have implemented in the community consists of biomass, in-lake geothermal, and solar. The biomass system uses burnt wood leftover from forest fires to produce heat. Additionally, harvesting the wood creates local jobs. The biomass project was funded by INAC, and can be monitored remotely from Winnipeg. As for the in-lake geothermal system, it uses the lake's energy for heating, and the installation was done entirely by local workers. Finally, the solar system consists of 1100 panels, and they are just waiting on the final agreement with Manitoba Hydro to go through in order to turn the power on. Councillor Leo also expressed the importance of partnerships, as Northlands Denesuline First Nation has worked with many partners including Aki Energy, Boke Consulting, and INAC on these projects.

3.3 Panel 2 Questions

Following the second panel presentations, participants had the opportunity to ask questions of the panelists. Panelists also asked questions of each other during this time. This question period was longer than the one that followed the first panel presentations.

Key themes from this question period included:

Technical Questions:

Panelists expanded upon several technical aspects of their work, including the impacts of biomass on air quality, and the requirements for employing geothermal technologies in northern environments.

Regulatory Challenges:

Similar to the first question period, participants were interested in the legislative challenges associated with energy innovation in Manitoba. Multiple panelists explained experiencing frustration with inspectors from Manitoba Hydro and the City of Winnipeg, in terms of delays and inconsistencies in interpretation of the rules.

Efficiency Manitoba:

Several participants asked questions about Efficiency Manitoba's future plans. For example, when asked about specific programs for remote and northern communities, Michael Stocki of Efficiency Manitoba stated that lots of opportunity to make positive social impacts exist within that customer segment, but they will need to do more work to develop community specific approaches. Additionally, participants were interested to hear about how Efficiency Manitoba could be involved in the development of a provincial energy strategy. Michael Stocki expressed that they could provide the efficiency perspective, which could include cost-benefit analyses to illustrate the long-term benefits of various efficiency measures for Manitoba.

3.4 Workshop 2

The second workshop session followed the same format as the first. The three questions were:

- What barriers confront Manitobans who seek alternative energy sources?
- What are the opportunities that could be used to support Manitobans who seek alternative energy sources?
- What are your top three priorities for framing an energy strategy?

Question 1: What barriers confront Manitobans who seek alternative energy sources?

Workshop groups came up with several barriers that Manitobans seeking to access alternative energy sources face. The responses have been grouped into the following four themes, presented from most to least prominent:

Legislative/Regulatory Barriers:

Several legislative and regulatory barriers that are currently in place in the province were identified, the biggest being the Manitoba Hydro Act impeding smaller scale producers from selling power back to the grid system. Additionally, several participants noted experiencing issues with inspectors interpreting codes for solar and biofuel installations inconsistently. A delay in the rate that policies are being updated compared to the advancement in renewable technologies was also identified as a barrier.

Financial Barriers:

Several financial barriers were also identified. These included the high costs of renewable technologies, as well as the length of the payback period following the initial investment in alternatives. The low costs to consumers within the current energy system are also a financial barrier, as they reduce incentive to switch to alternative sources.

Education and Information Barriers:

A lack of education and information was identified as a barrier for Manitobans who seek alternative energy sources. For example, a lack of readily available information on programs available to assist with the switch to alternative sources, as well as a lack of the specific skills needed to implement these technologies.

Accessibility:

The accessibility of alternative energy sources is also a barrier. Many products are not commercialized or scalable to the needs of small scale or individual energy producers

Geographic Barriers:

The climate in Manitoba can be a barrier, as not all alternative energy technologies can operate effectively in harsh winters. Additionally, the great distance between communities is a geographic barrier, as it creates challenges for transmission and transportation.

Question 2: What are the opportunities that could be used to support Manitobans who seek alternative energy sources?

The workshop groups identified many potential opportunities that could be used to support Manitobans who seek alternative energy sources. These opportunities have been grouped in the following six themes, presented from most to least prominent:

Legislation/Regulatory Changes:

As many legislative and regulatory barriers were identified in the previous question, solutions to these problems were also identified. These solutions included changing legislation to allow for decentralization of the energy system, allowing for multiple grids and utilities to operate in the province. Additionally, updating building codes to increase efficiency, increasing consistency in applying the electrical code, and allowing community energy projects to sell power at the local level.

Incentives:

The need for subsides and incentive programs to facilitate alternative energy projects was identified. Funding should be provided for energy innovators who are leading the way, and affordability in the north should be increased.

Carbon Pricing:

Carbon pricing was identified as another opportunity to support Manitobans who are interested in alternative energy sources. Participants supported the idea of long-term carbon pricing, that sees revenue going to support alternative energy projects. Additionally, there is a need to stop subsidizing the oil and gas industries as a way to facilitate the transition to renewable energy across all sectors.

Education:

An increase in education was also identified as an opportunity to support Manitobans seeking alternative energy sources. It is necessary to increase the accessibility of educational materials, such as energy maps, and use different tools to educate people about the use of alternative energy, such as YouTube videos.

Investment:

The need for more government level investment into alternative energy projects was identified. For example, using geothermal or biomass for heating, and district heating for large scale institutions.

Collaboration:

Another area of opportunity identified is an increase partnerships and collaborations between industry, communities and academics to do research and create opportunities for renewable energy projects.

Question 3: What are your top 3 priorities for framing an energy strategy?

Prior to the start of the second workshop session, two University of Winnipeg students complied and coded the responses from the third question of the first workshop session (see Appendix C). The dominant responses were presented to the participants on a screen, and the groups were encouraged to identify their top three priorities for framing a provincial energy strategy. As some

groups chose more than three, the responses have been grouped into the following five themes, grouped from most to least prominent:

Environmental Considerations:

This includes conservation, lowering greenhouse gas emissions, comprehensive environmental assessment, and other climate considerations.

Indigenous Inclusion:

This includes reconciliation on the part of Manitoba Hydro for past and present damage to communities, as well as the inclusion of Indigenous knowledge in shaping the energy strategy.

Education and Engagement:

This includes an increase in opportunities for public education, such as community forums and other events, and ensuring that public input contributes to the development of the energy strategy.

Long-term Planning:

Ensuring that the strategy is holistic, in the sense that it includes a variety of perspectives and considerations, and is also long term was very important among participants.

Decentralization:

Decentralization of the province's energy structure is also a priority.

4.0 Conclusion

The closing remarks were made by Byron Williams, director of the Public Interest Law Centre. He offered a concise summary of the day, pointing out several highlights and prevalent themes. He began by recalling the great start to the day with Elder Florence's address, emphasizing that the energy she started the event with could still be felt in the room. The highlights of the first panel were described using the letter 'D'. First of all, diversity, which was reflected in the perspectives of the panelists and participants. Followed by disruption, which includes the disruption of climate change, economic and technological disruptions, and the disruptions to Indigenous communities caused by hydroelectric activity. Next were the 3 D's of decarbonization, digitization, and decentralization. Finally, democracy, which was reflected in the consumer survey that showed a desire for more choice for consumers.

Byron outlined the highlights of the second panel which included a need for a long-term view regarding energy in the province, a desire for agency over production, and the inspiring real-world stories of what people are doing on the ground in Manitoba. Additionally, there was a common theme relating to the intersection of policy barriers and opportunities, for example carbon pricing, that can be used strategically to drop the competitive advantage to natural gas. Byron concluded his remarks by emphasizing the need to get out from the siloed approach that has been dominating Manitoba's energy sector.

At the end of the event, participants were asked to complete feedback forms to share their thoughts on the workshop format and purpose. A summary of this feedback can be found in Appendix D.

This report will be shared with all panelists and participants, as well as key decision makers in Manitoba. Additionally, the report will be publicly available on the CAC Manitoba website.

Appendix A: About the organizers

CASES - The **C**ommunity **A**ppropriate **S**ustainable **E**nergy **S**ecurity (**CASES**) Partnership is a SSHRC-funded project with the goal of reimaging energy security in northern and Indigenous communities by co-creating, with communities, and sharing the knowledge, understanding and capacity to design, implement and manage renewable energy systems that support and enhance social and economic values. It is hosted by the University of Saskatchewan and jointly led by an international team of northern researchers and partner organizations from Canada, including the University of Winnipeg, the United States (Alaska), Sweden, and Norway.

Consumers' Association of Canada – Manitoba – Formed in 1947, CAC Manitoba is a volunteer, non-profit, independent organization working to inform and empower consumers and to represent the consumer interest in Manitoba. It is a branch of the national Consumers' Association of Canada but is financially separate and separately incorporated. CAC Manitoba represents the interests of consumers across Manitoba in a number of areas including financial services, food safety and security, patient rights, environmental sustainability and the regulatory review of utilities and Crown's delivering services and products to consumers.

Public Interest Law Centre – PILC is an independent office of Legal Aid Manitoba which represents groups and individuals on issues affecting the environment, human rights, Indigenous people, consumers and low-income persons. We are here to assist those who are far too often silenced in legal and public policy debates by providing high quality, evidence-based advocacy.

Amanda Gelfant – is an independent researcher and consultant in the areas of Clean Technology.

Organizing Committee: From Left to Right – Jaqueline Wasney, Gloria Desorcy, Amanda Gelfant, Kate Robb, Patricia Fitzpatrick, Katrine Dilay

Appendix B: Panelist Biographies

Panel 1 Biographies

Professor Greg Poelzer

Dr. Greg Poelzer, is a Professor in the School of Environment and Sustainability (SENS) at the University of Saskatchewan. He is the Co-Director of a multi-million-dollar SSHRC Partnership Grant (2019-2026), Community Appropriate Sustainable Energy Security (CASES), which spans 15 Indigenous and Northern communities across Canada, Alaska, Norway, and Sweden. He also is the Lead of the Renewable Energy in Remote and Indigenous Communities Flagship Initiative at the University of Saskatchewan and Lead of the UArctic Thematic Network on Renewable Energy. He is the co-lead of the International, Fulbright Arctic Initiative III. Dr. Poelzer serves as an Advisor and Negotiator for SaskPower, working toward a global settlement with a major First Nation in northern Saskatchewan that will resolve historical issues and build new relationships going forward. A political scientist by training, his deep connections with industry, government, NGO's and Indigenous communities in Canada and across the circumpolar states are successfully driving both initiatives.

Professor Mark Winfield

Dr. Mark Winfield is a Professor of Environmental Studies at York University. He is also Co-Chair of the Faculty's Sustainable Energy Initiative, and Coordinator of the Joint Master of Environmental Studies/Juris Doctor program offered in conjunction with Osgoode Hall Law School. He has published articles, book chapters and reports on a wide range of climate change, environment and energy law and policy topics. Professor Winfield has acted as an advisor to the Environmental Commissioner of Ontario and federal Commissioner for Environment and Development. He is a member of the Conseil d'administration (board of directors) of Transitions energetique Quebec, a Crown corporation established in 2017 to implement an energy transition strategy for Quebec.

Terry Miles, Director of Power Planning, Manitoba Hydro

Terry is a civil engineer with over 25 years of experience with Manitoba Hydro in the areas of planning, operation and maintenance of generation assets.

His responsibilities have included monitoring of the future business environment from energy, environmental, climate change and GHG policy perspectives as well as the provision of water resources and environmental engineering support and environmental management and monitoring services.

Professor Andrea Kraj, Core Renewable Energy

Dr. Andrea Kraj is a leader in developing advanced, multi renewable energy systems. She is a practicing professional engineer (Engineers Geoscientists Manitoba), with 22 years of experience, specialized in Microgrid Energy Systems and Smart Grid Technology. Her work focuses on the application of intelligent energy systems for improved management of multiple renewable energy systems (wind, solar, biomass, storage etc.) for remote electrification. She holds degrees in Mechanical and Manufacturing Engineering with Aerospace Specialization and is a pioneering

leader in developing sophisticated computer modeling and simulation of advanced energy systems.

She is an accomplished author and speaker (TEDx), having published several articles on energy policy, community energy development, and remote power systems. Dr. Kraj also created and hosts the podcast, Fempower, with the intention of celebrating women, especially focused on representing women in the T.E.A.M.S. fields.

Sadie-Phoenix Lavoie

Sadie-Phoenix Lavoie is an Anishinaabe Two-Spirit from Sagkeeng First Nation located in Treaty 1 territory. They graduated in 2017 at the University of Winnipeg with a BA in Indigenous Studies and Political Science. They are currently the Community Coordinator at Wa Ni Ska Tan: An Alliance of Hydro-Impacted Communities, and Co-Founder of Red Rising Magazine, an Indigenous-led magazine that aims to give Indigenous youth a platform to share their perspectives and experiences to a broad audience.

Sadie-Phoenix worked on numerous student-led initiatives including the Indigenous Course Requirement and the Fossil Fuel Divestment Campaign, as well attended the UN COP22 in Marrakech, Morocco on behalf of the Canadian Climate Youth Coalition. They were also one of the 100 youth arrested on Parliament Hill protesting the Kinder Morgan Pipeline, and have been on the front lines of Standing Rock.

Sadie-Phoenix strives to honour their traditional roles of the Turtle Clan, spreading truth to all corners of society, and organizes action through a matriarchal approach of Indigenous leadership.

Panel 2 Biographies

Michael Stocki

Michael Stocki is the Vice President of Efficiency Programs at Efficiency Manitoba. Efficiency Manitoba is Manitoba's newest crown corporate devoted to energy conservation and our goal is to make saving energy and reducing your energy bills easy, affordable and satisfying. Michael is responsible for planning, design, administration and delivery of residential, income qualified, Indigenous, commercial, industrial & agricultural efficiency programming. Michael joined Efficiency Manitoba in March 2019, has a bachelors and master's degree in mechanical engineering and is a registered professional engineer with Engineers Geoscientists Manitoba.

Professor Patricia Fitzpatrick

Dr. Patricia Fitzpatrick (Trish) is an Associate Professor in the Department of Geography, and an Instructor in the Masters of Development Practice: Indigenous Development, at the University of Winnipeg. Trish's research focuses on different aspects of environmental governance surrounding energy and mining development in Canada. She is working with Churchill and York Factory on the CASES Partnership, a SSHRC-funded project with the goal of reimaging energy security in northern and Indigenous communities.

Kyle Macdonald BSc, PMP, LEED AP BD+C O+M

Kyle Macdonald is the Executive Director of Facilities at the University of Winnipeg where he is responsible for ongoing operations and campus infrastructure. His work at the University over the last several years has been focused on reducing energy consumption and driving change to meet numerous sustainability goals. He has significant professional experience in high performance building systems and retrofitting. Kyle regularly engages with many on and off campus to discuss green initiatives and build creative partnerships.

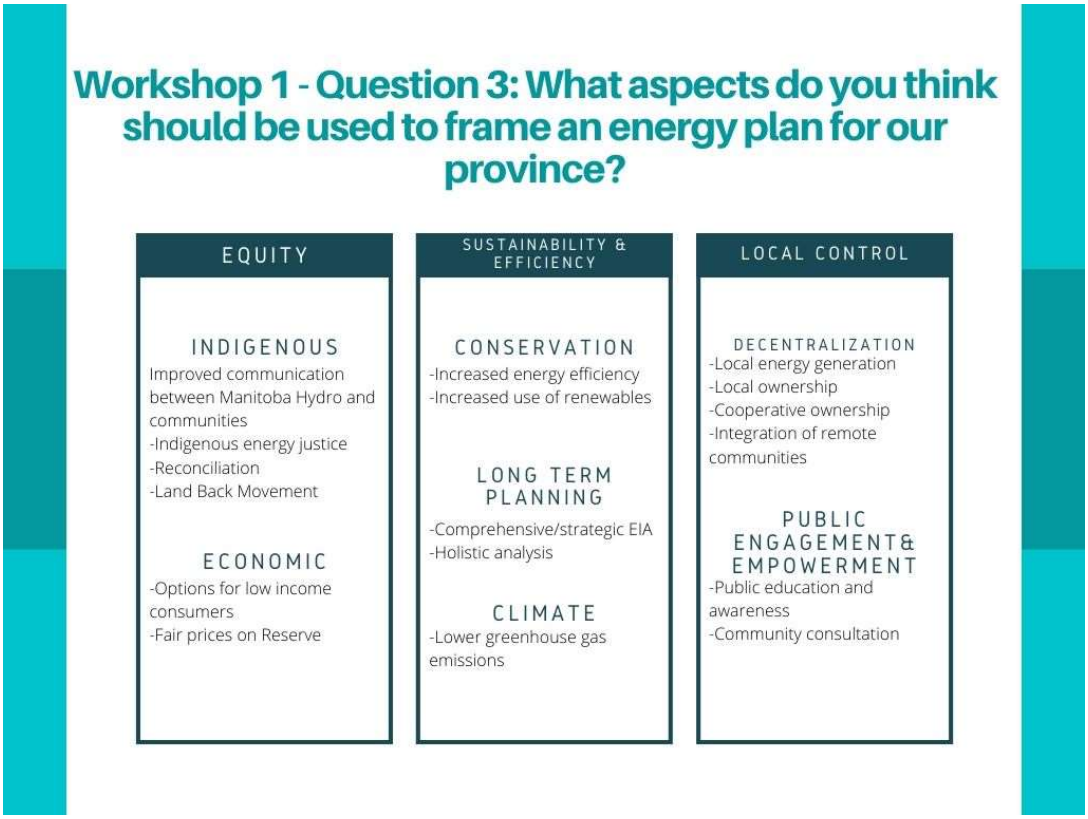
Councillor Leo Dettanikkeaze

Leo Dettanikkeaze is a band councillor overseeing capital projects on Northlands Denesuline First Nation, which is a diesel-powered, fly-in community that relies on winter roads. Councillor Dettanikkeaze has been self-employed in the construction industry for the last 20 years.

Scott Beaton

Scott is an organic farmer and conservationist. His farm is about 20 minutes North-West of Winnipeg, where they grow organic grains, raise grass-fed beef, and provide wildlife habitat, and clean water to downstream water users and the aquifer beneath their land through maintenance of riparian habitat, perennials on the landscape and wetland retention. As well, Scott works on wetland restoration, and conservation projects with Manitoba Habitat Heritage Corporation, a crown corporation, set up to preserve wildlife habitat for ecosystem services on private farmland within the province.

Appendix C: Workshop Themes



Appendix D: Summary of Participant Feedback

At the end of the event, participants were asked to provide feedback on provided forms. Organizers received 27 forms, a response rate of 31%.

The feedback forms asked participants for their opinions on the venue, refreshments and structure of the event. There was also space for participants to express what they enjoyed the most about the event, the least, and any other comments they may have had.

The feedback that was received was generally positive, as only 7 people filled out the section about what they enjoyed the least. 3 of those comments were about the venue and 2 were about the length of the event. One participant said that there was not enough focus on long term energy planning, and another said there was not enough contribution from Manitoba. 8 participants left comments expressing positive feedback about the panel presentations, and 2 left positive comments about Elder Florence's opening address. 3 participants left comments expressing interest in attending more events in the future.

When asked about the amount of time provided for audience questions, 22 participants said it was "just right" and 2 responded that it was "too short". 17 participants thought the length of the panel presentations was "just right", while 8 thought it was "too short". 20 participants responded "yes", when asked if the information presented by the speakers helped prepare them for the workshops.