

**Efficiency Manitoba 2020/2023 Efficiency Plan Application  
MKO/COALITION I-1**

<b>Document:</b>	December 9, 2019 Testimony of Dr. Patricia Fitzpatrick re: Efficiency Manitoba's 2020/2023 Efficiency Plan	<b>Page No.</b>	N/A
<b>Topic:</b>	Engagement Strategy		
<b>Sub Topic:</b>	Engagement with First Nation customers		
<b>Issue:</b>	Accessibility of Efficiency Plan to Manitobans, including consideration of the engagement strategy for low income and hard-to-reach customers, including First Nations customers		

**PREAMBLE TO IR (IF ANY):**

In section 2 of Dr. Fitzpatrick's evidence, Dr. Fitzpatrick provides a short primer on public participation, including important components of participation plans which can contribute to more meaningful processes.

In section 3 of Dr. Fitzpatrick's evidence, Dr. Fitzpatrick examines stakeholder and public participation in the development of Efficiency Manitoba's 2020-2023 Efficiency Plan.

**QUESTION:**

1. Dr. Fitzpatrick, are there examples of better public participation models than the process used by Efficiency Manitoba in the development of the Plan, including public participation with First Nations, low-income and hard to reach customers?
2. If so, please provide examples.

**RATIONALE FOR QUESTION:**

To explore options for ways in which Efficiency Manitoba can improve upon currently used engagement processes with low income and hard-to-reach customers, including First Nations customers.

## **RESPONSE:**

1. To address this question, I undertook a limited review of a random selection of North American Energy providers and/or DSM agencies. There are a variety of different methods that these organizations employ to engage stakeholders, including the public, low-income and hard to reach customers.

2. My response to this question is based on a desktop review of company websites and publicly available information. A more thorough analysis would involve contacting key informants, including those involved in program design, delivery and participants. With that in mind, here are three examples of participation methods used in the development of plans.

Yukon: To update its 20-year Resource Plan<sup>1</sup>, which includes DSM, Yukon Energy Corporation implemented an 18-month engagement strategy. Specific activities included (but are not limited to):

- A Technical Advisory Committee, with representatives of stakeholder groups ;
- A survey sent to 4,500 households (with response rate of 63%) canvassing areas related to environment, costs, reliability and social responsibility (p.vii);
- Engagement with Yukon First Nations, including meetings with Chief and Council
- Three sets of public meetings in six communities, “chosen based on population, connection to the Yukon grid and proximity to potential energy projects” (p. viii);
- An active communication strategy including an interactive website, social media and mailers; and,
- An issues response table (see Table 3.4 of the report)

Additional information is available in the report cited above.

Massachusetts Joint Statewide Electric and Gas Three-Year Energy Efficiency Plan (2019-2021) <sup>2</sup> facilitated public input through a variety of ways, including:

- The existence of a 15-member Energy Efficiency Advisory Council;
- Annual open houses for trade allies
- Best practices working groups (made up of a subset of residential contractors) which meet monthly;
- An opportunity for any third party to propose a program;
- Public presentations
- Interaction with energy efficiency organizational peers

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<sup>1</sup>[http://yukonutilitiesboard.yk.ca/pdf/YEC\\_2017-18\\_GRA/Yukon\\_Energy\\_2016\\_Resource\\_Plan\\_Part\\_1.pdf](http://yukonutilitiesboard.yk.ca/pdf/YEC_2017-18_GRA/Yukon_Energy_2016_Resource_Plan_Part_1.pdf)

<sup>2</sup> <http://ma-eeac.org/wordpress/wp-content/uploads/September-Plan-9-14-18.pdf>

Nova Scotia: In 2008, as directed by the Nova Scotia Utility and Review Board, the province began the process of creating a stand-alone DSM Agency (Efficiency One – Efficiency Nova Scotia).<sup>3</sup> This process was facilitated by the *DSM Collaborative*<sup>4</sup>, which engaged the public in a variety of ways, including:

- A stakeholder session (November 1, 2007), with a subsequent opportunity for written feedback on preliminary issues to be considered;
- Written submissions following the issue of an Updated Administrative Issues Analysis (December 11, 2007);
- Stakeholder session (January 11, 2008)

Copies of the comments are provided in the second volume of the report.<sup>5</sup> “Legislation establish[ing] Efficiency Nova Scotia Corporation” was introduced in 2010.<sup>6</sup>

The 2020-2020 application<sup>7</sup> makes reference to the DSM Advisory Group, interview, surveys, site visits, one-on-one interactions, and an omnibus survey. In addition, Nova Scotia Power continues to actively engage the public through its integrated resource planning process.

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<sup>3</sup> <https://www.encyone.ca/>

<sup>4</sup> [https://www.nspower.ca/docs/default-source/pdf-to-upload/dsm-2008-01-31-collaborativereport---volume-i.pdf?sfvrsn=e4cc215e\\_0](https://www.nspower.ca/docs/default-source/pdf-to-upload/dsm-2008-01-31-collaborativereport---volume-i.pdf?sfvrsn=e4cc215e_0)

<sup>5</sup> [https://www.nspower.ca/docs/default-source/pdf-to-upload/dsm-2008-01-31-collaborativereport---volume-ii.pdf?sfvrsn=e4cc215e\\_0](https://www.nspower.ca/docs/default-source/pdf-to-upload/dsm-2008-01-31-collaborativereport---volume-ii.pdf?sfvrsn=e4cc215e_0)

<sup>6</sup> <https://www.encyone.ca/who-we-are/>

<sup>7</sup> <https://www.encyone.ca/wp-content/uploads/2019/09/2020-2022-EfficiencyOne-DSM-Resource-Plan-Application.pdf>

**Efficiency Manitoba 2020/2023 Efficiency Plan Application  
MKO/COALITION I-2**

<b>Document :</b>	December 9, 2019 Testimony of Chris Neme re: Efficiency Manitoba’s 2020/2023 Efficiency Plan	<b>Page No.</b>	11-15
<b>Topic:</b>	Heat Pumps		
<b>Sub Topic:</b>	Potential DSM initiatives		
<b>Issue:</b>	Appropriateness of the methods to select or reject DSM initiatives		

**PREAMBLE TO IR (IF ANY):**

At page 12 of Mr. Neme’s evidence, Mr. Neme describes electric heat as “almost certainly the largest residential electric end use in the Province.” Mr. Neme then goes on to discuss the unrealized potential benefits of heat pump promotion – both geothermal heat pumps and cold climate air source heat pumps – which “offer the potential for substantial reductions in electricity consumption relative to electric resistance heating systems.”

At page 13 Mr. Neme also notes a contradiction in Efficiency Manitoba’s conclusions that low income customers are not good candidates for heat pumps because they are in predominantly “gas available” areas, and provides an example from the Manitoba Hydro, 2017 Residential Energy Use Survey (“2017 REUS”) to highlight this contradiction.

**QUESTION:**

1. Mr. Neme, using data from the 2017 REUS with respect to electric heating for First Nation On Reserve customers, including specifically the complete lack of availability of gas heat on First Nations, please discuss whether, in your opinion, First Nation On Reserve customers would be “good candidates” for heat pumps.
2. Please discuss the potential impacts to First Nation On Reserve customers and to Efficiency Manitoba of a significant heat pump promotion targeted at First Nation On Reserve customers, in concert with promotion of building envelope improvements.

## RATIONALE FOR QUESTION:

### RESPONSE:

#### Question 1:

As I stated in my testimony, many Manitoban customers would likely be good candidates for heat pumps. However, a number of factors suggest First Nation on Reserve customers would be particularly good candidates. To begin with, First Nation on Reserve customers are much more likely to be heated with electricity (96%) than other residential customers in the province (40%).<sup>8</sup> Second, the vast majority of those electrically heated First Nation on Reserve customers use inefficient forms of electric heat (i.e. electric resistance heating).<sup>9</sup> Third, electrically-heated First Nation on Reserve Customers appear to use far more electricity per square foot (33.1) than other electrically-heated Manitobans (20.3). Indeed, the average electrically heated on Reserve customer appears to consume nearly 10,000 more kWh per year for space heating – on the order of 80% more<sup>10</sup> – than other electrically-heated Manitoban customers; their resulting electricity bills are on the order of \$700 per year higher.<sup>11</sup> To the extent that First Nation on Reserve customers experience more severe winters, the efficiency of air source heat pumps will be a little lower and therefore the *percent savings* per heat pump would be a little lower than for other electrically heated Manitobans. However, any reduction in the savings percentage would be far more than offset by the 80% higher heating load – i.e. the *absolute amount of kWh savings* per heat pump, even if it is less efficient, would likely be much greater for MKO homes than the average Winnipeg home.<sup>12</sup> In short, at least from the perspective of electricity savings potential, First Nation on Reserve Customers would appear to be good candidates for heat pump retrofits.

That said, I cannot address the relative *cost-effectiveness* of heat pump retrofits for First Nation on Reserve Customers because I do not have data

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<sup>8</sup> Manitoba Hydro, 2017 Residential Energy Use Survey, p. 26.

<sup>9</sup> Manitoba Hydro, 2017 Residential Energy Use Survey, pp. 30-31.

<sup>10</sup> The response to MKO MH I-8 states that the average Winnipeg single detached electrically heated home consumed about 26,000 kWh/ year over the three-year period from 2013/14 through 2015/16. If the average baseload electricity consumption was 11,000 kWh per year (roughly the average for gas heated homes per Manitoba Hydro, 2017 Residential Energy Use Survey, p. 26), and the average electrically heated home also consumed 3000 kWh per year for water heating, that would translate to an average annual heating consumption for the Winnipeg homes of 12,000. The response to MKO MH I-8 also states that the average MKO single detached home consumed nearly 36,000 kWh per year over the same three-year period. Assuming the same 11,000 kWh baseload consumption and 3000 kWh for water heating, that means the average MKO home consumed nearly 22,000 kWh per year for heating – or 80% more than the 12,000 kWh/year for Winnipeg homes.

<sup>11</sup> Response to MKO MH I-8.

<sup>12</sup> See response to PUB-3 for discussion of differences in performance by climate.

regarding potential differences in the value of avoided energy costs on Reserve (versus for other Manitobans) or any potential cost differences for heat pump installations for on Reserve customers (relative to costs for other Manitobans).

**Question 2:**

As noted in the response to the first question (above), the absolute amount of electricity savings that could be achieved per home from heat pump retrofits in on Reserve homes is likely to be very large, with correspondingly large economic benefits to on Reserve households (from electric bill savings).

With respect to the impacts on Efficiency Manitoba (EM), there could be several. First, with respect to the impact on budget, the effect of a significant heat pump promotion to on Reserve customers would depend on whether other elements of Efficiency Manitoba's efficiency plan were scaled back (i.e. if Efficiency Manitoba aimed to achieve the same level of electricity savings as in its filed plan) and, if so, which elements were scaled back. For example, if the savings from additional on Reserve heat pumps (beyond those in EM's plan) were used to displace some residential lighting savings, EM's budget would undoubtedly go up because savings from heat pumps would be more expensive than savings from efficient light bulbs. On the other hand, the savings from heat pumps would be more substantial and noticeable on customers' electric bills. They would also be much longer-lived. And, as noted in my testimony, they would be acquired through a technology that has not been widely deployed in the province, enabling EM to gain a better understanding of future savings potential, possibly lowering costs and therefore potentially positioning EM to be better able to capture savings in the future.