

Presentation for Order No. 162/19

EFFICIENCY MANITOBA'S 2020/23 EFFICIENCY PLAN SUBMISSION

Daniel Friesen and Anna Weier

Manitoba Energy Justice Coalition

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We are representing MEJC, a volunteer run climate justice activism group that mobilizes on the principles of social justice, community organizing, and grassroots campaigning.

It is a glaring omission that climate change is not a central aspect of the Efficiency Manitoba (EM) proposed 3 year plan. The Intergovernmental Panel on Climate Change projects that we have until 2030 to reduce our emissions by half to avoid uncontrollable, catastrophic climate change. Instead, Manitoba's emissions increased by almost 700,000 metric tonnes of CO<sub>2</sub>e in 2017, triple the national increase of 1.1%. Canada is tied for highest emissions per capita globally. Climate change is the defining issue of our lifetime and responding to it requires immediate, drastic changes. We have the capital, technology and resources to change this. It is inaction, not impossibility, that stops us from achieving necessary reductions.

MEJC understands that EM and the PUB are bound to the limited mandate given by the province, but that should not stop those who have power from doing everything they can to shift policy in a direction that responds to the real, existential threat of the climate crisis. It also happens that the cheapest policy options to help EM achieve its natural gas mandate are regulatory, and within the PUB's mandate to recommend to the provincial government.

To that end, we are calling on the PUB to regulate that:

- No new buildings or major renovations be constructed using natural gas
- No new investment be made in natural gas infrastructure
- EM broaden and emphasize incentives for building owners to transition off of natural gas

Reduction of GHG emissions through the secession of investment in natural gas in favour of renewables is related to issues 1 through 5 of Appendix A of the procedural order. The alternatives proposed by this presentation are both more cost effective for both EM and the consumer (Issue 2 d and f), use new technologies to improve efficiency (1 d), are more stable and affordable for rural, indigenous and low income customers (3 a, b, c and 4), and have the non-energy benefits of reducing Manitoba's GHG emissions, decreasing economic leakage of roughly \$4 billion per year in fossil fuel imports, improving the financial health of Manitoba Hydro through increased revenue, and working towards lessening the impacts of the climate crisis (5).<sup>1</sup>

"Stationary combustion sources, energy used for residential and commercial heating, in electricity generation, in the oil and gas industry, and in the manufacturing and construction industries, account for 20% of Manitoba's GHG emissions."<sup>2</sup> To meet the bare minimum laid out by the IPCC, we need to reduce emissions by 7.6% annually. Manitoba's current building emissions have been steadily rising each year. We must reverse this trend through an immediate shift in priorities. The technology and capacity for GHG free space

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<sup>1</sup> <http://www.pubmanitoba.ca/v1/proceedings-decisions/orders/pubs/2019-orders/162-19.pdf>

<sup>2</sup> <https://www.edu.gov.mb.ca/k12/esd/emissions/emissions.pdf>

and water heating already exist and have been proven in test markets such as geothermal installations on reserves by Aki Energy and Manitoba Hydro's solar energy pilot program.

Any further investment in natural gas creates both an environmental and financial liability for Manitobans by committing them to an unsustainable fuel source. Manitoba Hydro's annual reports indicated an increase of over 8,100 new natural gas customers from 2015-2018. An average of 2,700 new customers per year. Importantly, 2,700 customers is 0.95% of the current total; EM's natural gas reduction mandate is 0.75%. Though not all customers will consume the same amount, it is nevertheless plausible that EM's entire annual natural gas mandate can be met - at no cost to government - with this single regulatory measure. The regulations governing EM clearly say that the impact of changes to building codes, etc, can be counted towards annual targets for energy efficiency.<sup>3</sup> Ceasing additional natural gas consumption, combined with the creation of incentive programs to transition to renewable heating methods will allow EM to achieve its demand side management goals in a way that make financial and environmental sense.

The high efficiency furnace replacement program creates a liability for building owners by committing them to natural gas for longer than we can ethically afford to rely on fossil fuels and requiring higher costs for necessary conversions to emission free heating in the future. EM must create incentive and retrofit programs to switch to emission free heating, instead of increasing our reliance on fossil fuels.

Natural gas production results in the leakage of methane, a greenhouse gas 34 times stronger than CO<sub>2</sub>.<sup>4</sup> While the combustion of natural gas for heating creates fewer emissions than burning coal or oil, we need to be considering the full impact of our consumption. Using natural gas creates an environmental impact, even if the majority of emissions are not created in province.

Transitioning off of fossil fuels also creates an opportunity for Manitoba to become a leader in green energy technologies and keep the money that is currently being sent out of province to natural gas producers, in Manitoba. The Manitoba Geothermal Energy Alliance lists nearly 30 accredited installers on their 2019 list of members in good standing. The capacity exists for Manitoba to invest in geothermal as an alternative to natural gas. Geothermal is cheaper, more efficient, and has a lower environmental impact than both natural gas and hydro electricity. The life expectancy of a natural gas furnace is 20 years<sup>5</sup> whereas the low end life expectancy of an earth energy system is 20 - 25 years.<sup>6</sup>

Community scale geothermal heating and cooling is an excellent way of mitigating the initial high capital-cost barrier of single-facility systems. EM would finance the installation of a community scale ground loop (CSGL) and then collect fees for its use. A CSGL could be implemented in areas where housing density would preclude the use of single-house ground

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<sup>3</sup> [https://web2.gov.mb.ca/laws/regs/current/\\_pdf-regs.php?reg=119/2019](https://web2.gov.mb.ca/laws/regs/current/_pdf-regs.php?reg=119/2019)

<sup>4</sup> <https://www.ucsusa.org/resources/environmental-impacts-natural-gas>

<sup>5</sup> [https://eppdscrmssa01.blob.core.windows.net/cmhcprodcontainer/sf/project/cmhc/pdfs/content/en/63171\\_en\\_w\\_acc.pdf](https://eppdscrmssa01.blob.core.windows.net/cmhcprodcontainer/sf/project/cmhc/pdfs/content/en/63171_en_w_acc.pdf)

<sup>6</sup> <https://www.nrcan.gc.ca/energy/publications/efficiency/heating-heat-pump/6833>

loops. “A CSLG can take advantage of diversity in users’ heating and cooling profiles and a high diversity can significantly reduce loop field size compared to multiple single-facility systems. Additional thermal capacity can be added to a CSLG distribution system as needed.”<sup>7</sup> EM should commit to a CSLG pilot program immediately. CSLGs should be set as the standard for new developments and should be encouraged as a retrofit option for neighbourhoods and communities.

Manitoba already has ample data that solar is a viable option from Manitoba Hydro’s pilot program. We cannot wait two additional years to take renewable energy seriously. The solar rebate program must be reinstated as a part of the upcoming plan and invested in to create a stable base of installers. Solar installations will also help make Manitoba’s power grid more climate resilient. The severe storm in October 2019 that left several communities without power for weeks should be a wakeup call that Manitoba’s power grid is not resilient to the types of severe weather that will only become more common as storms become more extreme and unpredictable.

Another underused strength that already exists in Manitoba is expertise in High-Performance Buildings. This approach to new buildings and retrofits corrects the pervasive systemic mistake of separating capital and operating costs. Putting capital costs and operating costs in separate silos, leads to poorer quality design and construction. This results in much higher operating costs for the 50-100 year life of the building. Made-in-Manitoba software tools such as SEEFAR can examine multiple design and construction techniques and their operating costs to show the true total cost of ownership.<sup>8</sup> This inevitably leads to the construction and/or retrofit of much more efficient and environmentally sustainable buildings.

Investing in renewable energy is cheaper in the long run. The creation of a “rotating green fund” and the expansion of Manitoba Hydro’s existing Pay as You Save (PAYS) financing program will allow EM to fund green energy projects with minimal overall cost to EM and minimal upfront investment needed from the consumer.

Through Manitoba Hydro’s existing PAYS program, the estimated annual savings from efficiency upgrades is used to pay for all or part of the upgrade. The monthly financing payment for the homeowner is set to be less than the estimated annual energy savings averaged out on a monthly basis. Currently, this financing can be used for residential space heating equipment, insulation, and residential water heating and conservation.<sup>9</sup> It also allows upgrades to high efficiency gas furnaces and boilers, but only allows upgrading to electrical heating when replacing a propane or fuel oil system<sup>10</sup> The PAYS program needs to be expanded to prioritize lowering a building’s carbon footprint and not allow for the installation of natural gas systems.

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<sup>7</sup> <https://aceee.org/files/proceedings/2012/data/papers/0193-000349.pdf>

<sup>8</sup> <https://seefar-valuation.com/>

<sup>9</sup> [https://www.hydro.mb.ca/your\\_home/pays/](https://www.hydro.mb.ca/your_home/pays/)

<sup>10</sup> [https://www.hydro.mb.ca/your\\_home/pays/qualifying\\_upgrades/](https://www.hydro.mb.ca/your_home/pays/qualifying_upgrades/)

PAYS financing is significantly cheaper than subsidies because all the money invested returns to EM and the majority of the cost is paid by the consumer, using their new energy efficiency savings, over time. Financing programs also encourage green energy companies to invest and grow in communities instead of “fly by night” operations hurriedly creating infrastructure to take advantage of the subsidies and leaving once the program has ended.

The PAYS program should seek out participants and set annual participant targets. This is a proven way to make the program more successful as demonstrated by the How\$mart program in Kansas. Seeking participants resulted in a 55% uptake from approached customers. The high level of uptake was credited to a simple and streamlined process for participants.<sup>11</sup> PAYS financing should also be offered to multi-residence building owners and made available as an option to finance new construction.

To conclude: EM’s three year plan must respond to the reality of the climate crisis by making a meaningful contribution to reducing Manitoba’s GHG emissions and reducing reliance on fossil fuels. There are several types of debt and Manitoba is accruing a large debt to the climate that we will be forced to pay sooner than later. MEJC and all those concerned about the future of our planet urge EM and the PUB to do everything in their power to make this plan one that takes our debt to the climate seriously by ceasing to invest in natural gas and encouraging alternatives that will ultimately lead to a more sustainable future, and set Manitoba as an example for others to follow on what needs to be done to respond to the climate crisis.<sup>12</sup>

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<sup>11</sup> <http://lup.lub.lu.se/luur/download?func=downloadFile&recordId=4699056&fileId=4699057>

<sup>12</sup> Thanks to Rob Altemeyer and Chris Klassen for their editing help and contributions