Foreword, Limitations, and Terms of Use

This report discusses the potential effects to First Nations of Efficiency Manitoba's 2020/2023 Efficiency Plan Submission to the Public Utilities Board, dated October 25, 2019. The report is based on three main sources of information: (1) a review of the publicly available and scholarly literature on energy and energy efficiency plans and programs for First Nations; (2) a review of the publicly-available statistics on First Nation socio-economic indicators in Manitoba; and (3) a review of the Plan and related documents, including the responses to the information requests made by the Assembly of Manitoba Chiefs. Because of the condensed timelines for regulatory submissions, there was inadequate time for a full and comprehensive review. As such, this report should be considered *highly preliminary and should be interpreted with caution*.

Acknowledgments

Willow Springs Strategic Solutions is a social science and management consulting company with offices in Cochrane and Fort McMurray, Alberta. We specialize in community-based historical research, the assessment of socio-economic and cultural impacts to Indigenous peoples from industrial projects and public policy, needs assessments and gap analyses, third-party technical reviews, strategic planning, and organizational capacity-building.

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Introduction and Objectives

Efficiency Manitoba (EM) is a new Crown Corporation created to promote and support energy efficiency in the Province of Manitoba. Efficiency Manitoba replaces Manitoba Power Smart, run by Manitoba Hydro. As per Bill 19, The Efficiency Manitoba Act ("the Act"), EM has developed and submitted a three-year plan to the Public Utilities Board (PUB) for review. The 2020/23 Efficiency Plan ("the Plan") is the first submission by EM to the PUB. According to EM, the Plan contains the elements required for regulatory review specified within the Act and the Efficiency Manitoba Regulation ("the Regulation"), and is consistent with both the mandate letter issued by the Premier of Manitoba to the Minister of Crown Services dated October 18, 2018, and the framework letter issued by the Minister of Crown Services to the Chair of the EM Board of Directors on April 24, 2019.

The Assembly of Manitoba Chiefs intends to intervene on the following issues, as stated in the Act and the Regulation: (1) whether EM is reasonably achieving the aim of providing initiatives that are accessible to all Manitobans; (2) the appropriateness of the methodologies used by EM to select or reject DSM initiatives; (3) the benefits and cost-effectiveness of the initiatives proposed in the Plan; (4) whether the Plan adequately considers the interests of residential, commercial and industrial customers; (5) the impact of the Plan on rates and average customer bills; (6) whether, if it is practical to do so, at least 5% of EM's budget for DSM initiatives is allocated to initiatives

targeting low-income and hard-to-reach customers; and (7) consideration of the non-energy benefits of electric and natural gas DSM portfolios.[1]

The Assembly of Manitoba Chiefs is concerned with how the initial plan may impact First Nations people in Manitoba and has solicited a report that outlines potential impacts, concerns, and recommendations to mitigate potential negative effects and enhance potential positive effects so as to ensure that energy efficiency programs provide adequate support to First Nations in the province and contribute to the reduction of energy poverty and energy injustice. To address these concerns, the Assembly of Manitoba Chiefs contracted Willow Springs Strategic Solutions to review the Plan and produce a report to be submitted to the PUB that highlights key concerns and makes recommendations related to the potential impacts of the Plan on the First Nations of Manitoba. Willow Springs Strategic Solutions (WSSS) Inc. is a social science and management consulting company with offices in Cochrane and Fort McMurray, Alberta. WSSS specializes in community-based historical research, the assessment of socio-economic and cultural impacts to Indigenous peoples from industrial projects and public policy, needs assessments and gap analyses, third-party technical reviews, and organizational capacity-building.

As requested by the Assembly of Manitoba Chiefs, the objective of this report will be to review the Plan and answer the following questions:

- How will Efficiency Manitoba's 3-year plan affect First Nation ratepayers?

- With a focus on the energy poverty and housing issues generally experienced by First Nations ratepayers, what opportunities, challenges, and burdens will First Nation ratepayers (both residential and general, and those on-reserve and in urban and rural areas) face with respect to the Demand Side Management (DSM) programs contained in Efficiency Manitoba's 3-year plan?
- Will Efficiency Manitoba's 3-year plan sufficiently address the energy burden faced by First Nation ratepayers?
- Drawing on already existing programs and knowledge, is there a more effective way to address or add to EM's DSM initiatives for First Nations ratepayers?
- Will Efficiency Manitoba's 3-year plan create affordability implications or contribute to an increase in a significant rate burden on First Nation ratepayers?
- What are the implications of the non-energy benefits (including environmental, economic development, the use of NGOs, and the private sector) in Efficiency Manitoba's plan on First Nations?
- Is there any additional information relevant to the general or socio-economic effects that Efficiency Manitoba's Plan will have on First Nation ratepayers that will assist the PUB in fulfilling its review of the Plan?

To answers these questions, WSSS has examined a variety of publicly available and proprietary sources, including but not limited to statistical sources available on the socio-economic conditions and relative energy poverty of First Nations in Manitoba; secondary literature on comparable

programs in Manitoba and other jurisdictions; and the Act, the Regulation, and the Plan. Because of the condensed timelines for regulatory submissions, there was inadequate time for a full and comprehensive review. As such, this report should be considered highly preliminary and should be treated with caution.

The body of this report is divided into five main sections, followed by a conclusion. The first section provides an overview of the historical, socio-economic, and policy contexts for the Plan, including a review of key socio-economic indicators of First Nation in Manitoba, both on and off-reserve, and the policy context. The second section summarizes the proposed DSM programs in the Indigenous bundle contained within the Plan. The third section examines concerns related to the design, implementation, and evaluation of the DSM programs for First Nations, with consideration given to both on and off-reserve First Nation ratepayers. The fourth section provides a preliminary assessment of the potential impacts of the Plan on First Nations, including the direct impacts on First Nation ratepayers, the impacts of the Plan compared to the previous Power Smart Program administered by Manitoba Hydro; the relative impacts of the Plan to First Nation and non-Indigenous ratepayers; and the potential non-energy benefits. The fifth and final section makes recommendations to EM and the PUB to help improve the Plan, as well as improve future plans with the objective of ensuring that DSM programming in Manitoba adequately supports First Nations and addresses the existing energy inequality in the province. The conclusion will summarize the main findings of the report.

Socio-Economic, Energy, and Policy Contexts

The design and implementation of public policy do not take place in a vacuum. Public policies and their effects are shaped by the distribution of resources and the exercise of political authority. For the purposes of this review of the Plan, this section will summarize the comparative socio-economic background and characteristics of First Nations in Manitoba, both on and off reserve, the energy profile of First Nations, and the relative energy burden faced by First Nation ratepayers in Manitoba, as well as the policy context that has shaped the design, implementation, and evaluation of the Plan, including legislation, regulation, and the mandate and framework letters from the Premier of Manitoba and the Minister of Crown Services.

Socio-Economic Background[2]

The historical context that shapes the place of First Nations in Canada is well documented, including colonialization, the reserve system, residential schools and discriminatory child welfare policies, and the infringement of Treaty rights, among other factors. This context has resulted in socio-economic characteristics for contemporary First Nations that are considerably less favourable than those of the general population. This section will not present an exhaustive summary of these socio-economic inequalities, but will instead focus upon several key measures that are relevant to the subject matter of this report: levels of economic participation and income; income distribution and poverty measures; and housing conditions.

Figure 1 presents the participation rate, the employment rate, and the unemployment rate in Manitoba for First Nations (on reserve and in total) and non-Indigenous populations in the province.[3] A clear pattern emerges in which the economic indicators for First Nations are significantly worse than those of the non-Indigenous population, with the on-reserve population in turn evidencing even poorer indicators than the off-reserve First Nation population. The participation rate – which measures the percentage of the population that is in the labour force – for the non-Indigenous population is 43% higher than for First Nations and 66% higher than the on-reserve population. Similarly, the employment rate – which measures the employed population – is 73% higher for the non-Indigenous population than for First Nations and more than double that of the on-reserve population. Finally, and most strikingly, the unemployment rate for First Nations is nearly four times higher than the rate for the non-Indigenous population and nearly five times higher in the case of the on-reserve population.

Figure 1 - Economic Indicators: First Nations and Non-Indigenous Populations in Manitoba, 2016

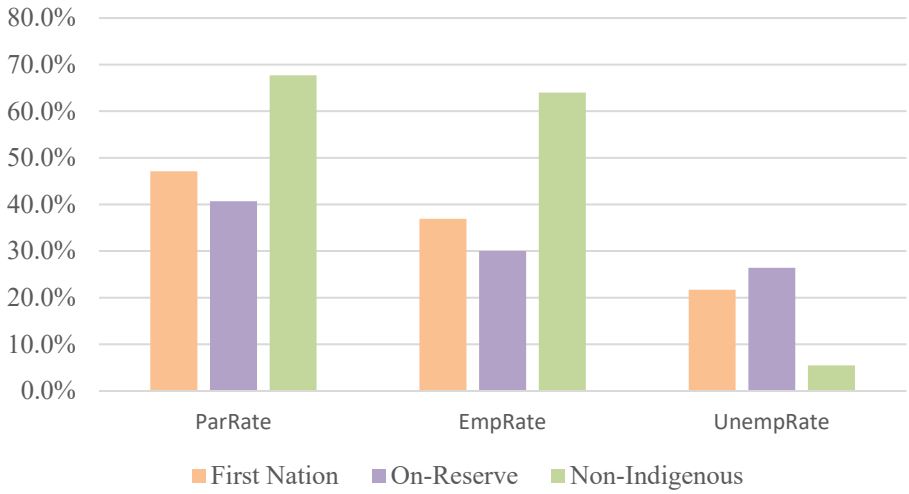


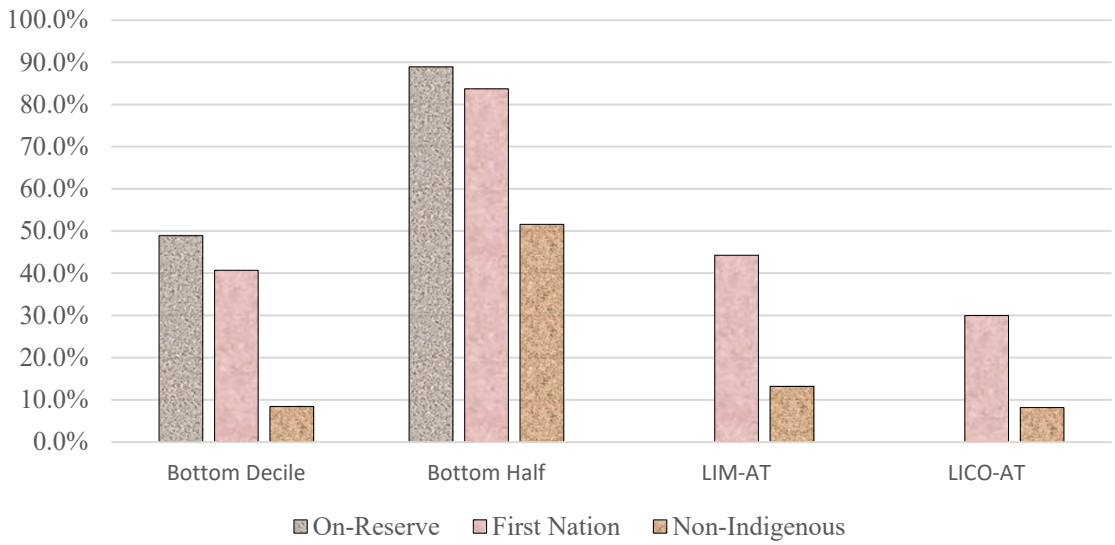
Figure 2 - After-Tax Income: First Nation and Non-Indigenous Populations in Manitoba, 2016

Discrepancies in levels of economic participation are reproduced in average and median incomes. Figure 2 compared the after-tax incomes of the First Nation (on reserve and in total) and non-Indigenous populations in Manitoba. The after-tax income of the First Nation population is a mere 60% of the non-Indigenous population. This figure falls to under 50% for the on-reserve population. The median income of the First Nation population is only 54% of the non-Indigenous population, while the median income of the on-reserve population is just over 40% that of the non-Indigenous population.

The statistics on income distribution and poverty evidence the deep inequalities that exist between the First Nation and the non-Indigenous populations in Manitoba. As Figure 3 demonstrates, while 8.4% of the non-Indigenous economic families are located within the bottom decile of the income distribution, that figure rises to more than 40% for First Nations nearly 50% for on-reserve First Nation economic families. Put another way, on-reserve First Nation families are nearly 6 times more likely than non-Indigenous families to be located within the bottom decile of the income distribution. Likewise, while approximately half of the non-Indigenous population is located

within the bottom half of the income distribution, those figures rise to more than 80% for First Nations economic families and nearly 90% for on-reserve families.

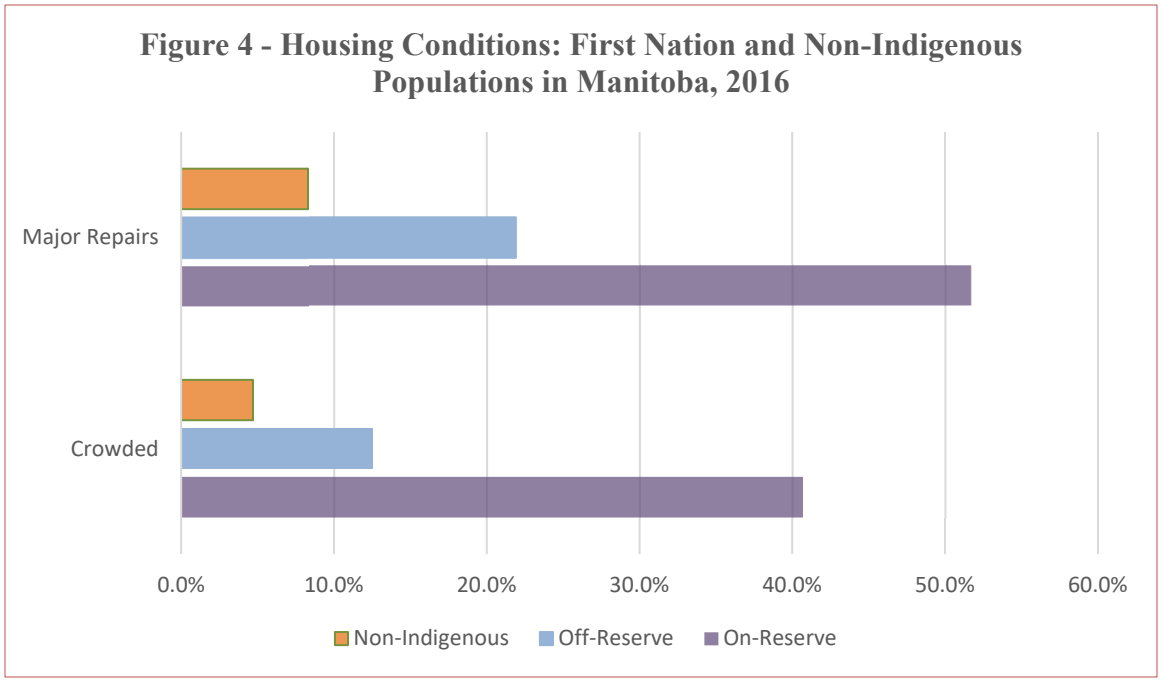
Figure 3 - Select Income Distribution and Poverty Measures: First Nation and Non-Indigenous Economic Families, 2016



Poverty measures tell a similar tale. First Nation economic families are nearly 3.5 times more likely to fall under the Low-Income Measure After-Tax (LIM-AT), which measures poverty as a fixed percentage (50%) of the median after-tax income, adjusted for household size. Utilizing the Low-Income After-Tax Cut-off, which defines poverty as spending 20% more than average of after-tax income on food, shelter, and clothing, the First Nation population is 3.7 times more likely to be classified as low-income than is the non-Indigenous population.

Finally, Figure 4 presents the 2016 Census results for the housing conditions of the First Nation and non-Indigenous populations of Manitoba. More than 50% of on-reserve housing in Manitoba is in need of "major repairs", which is nearly 30% higher than for on-reserve housing in Canada.

Figure 4 - Housing Conditions: First Nation and Non-Indigenous Populations in Manitoba, 2016



The 51.7% of on-reserve First Nation housing that is in need of major repairs is compared to the only 8.3% of non-Indigenous housing that is in need of "major repairs". It is worth noting, moreover, that off-reserve First Nations also suffer from disproportionately inadequate housing, with 22% of homes requiring "major repairs". On-reserve housing likewise suffers from overcrowding, with more than 40% classified as "crowded", compared to under 5% for the non-Indigenous population. And again, while the off-reserve housing of the First Nation population was less likely to be crowded than on-reserve (12.5% to 40.7%), it was more than 2.5 times more likely to be crowded than non-Indigenous housing.

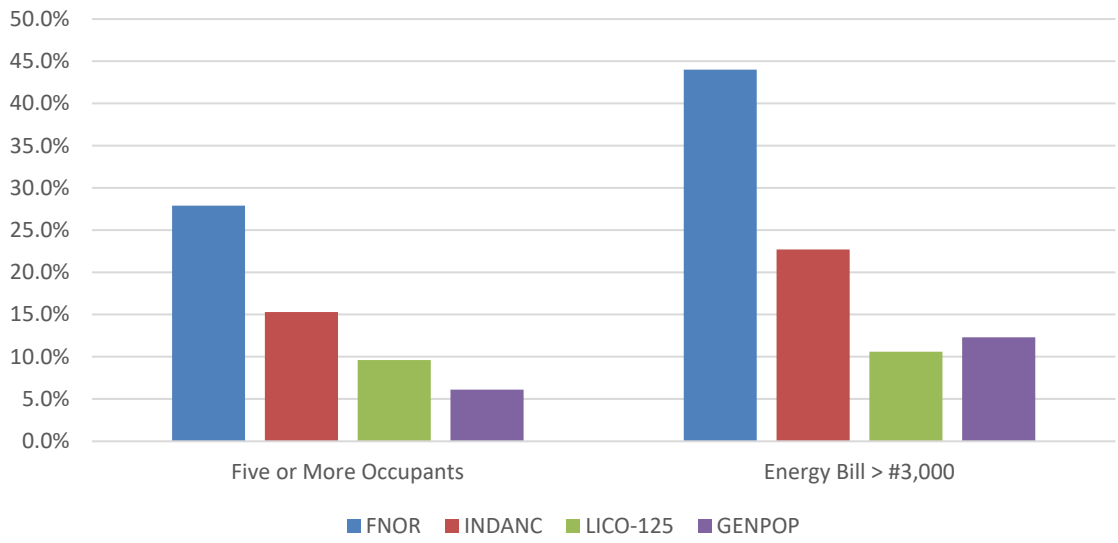
This brief review of the socio-economic characteristics of First Nations provides valuable context with which to assess the Plan. The First Nation population has significantly lower levels of economic participation and incomes, and is far more likely to be in the lowest income decile and the qualify as low-income. These economic and income measures suggest that the First Nation population faces significant economic adversity and is more likely, all things equal, to experience energy poverty. While the socio-economic indictors of the off-reserve First Nation population are better than those on-reserve, they remain appreciably worse than the non-Indigenous population. The significantly poorer condition of the housing stock and higher levels of crowding faced by First Nations, moreover, are both important variables in the consumption of energy (inadequate housing is more likely to be energy inefficient while overcrowded homes are likely to utilize more energy). Taken together, these measures suggest that First Nations in Manitoba could potentially benefit the most from the energy efficiency programs proposed in the Plan.

Energy Poverty and Energy Justice

The abovesection establishes the basic socio-economics disadvantages faced by First Nations in Manitoba and the wide discrepancies between the First Nation and the non-Indigenous populations. Energy poverty, however, is conceptually distinct from general poverty because it is based on factors such as energy prices, the energy efficiency of homes, and the number of people living in homes. The major causes of energy poverty are low incomes, high energy prices, and quality of the housing stock (its energy efficiency). The consequences of energy povery are significant and wide ranging, including poor health, reduced consumption of basic necessities and

an inability to meet basic needs; homelessness and mortality, constrained economic development in energy poor areas or regions, financial burden on utilities and general ratepayers, and increased health care expenditures. [4]

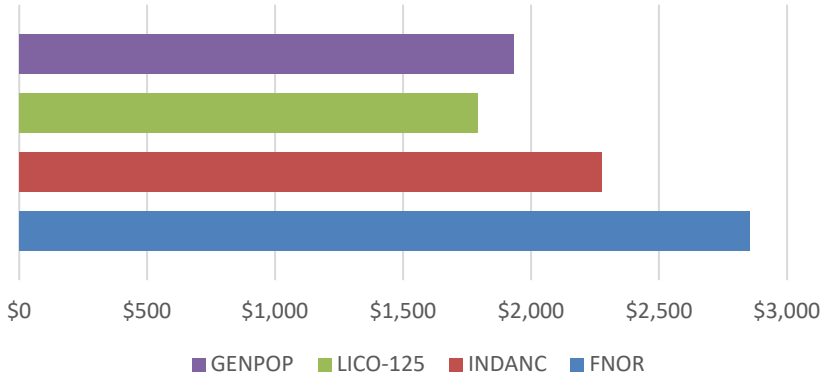
Figure 5 - Percentage of Homes with 5 or More Occupants and Energy Bills Above $3,000 by Demographic Group



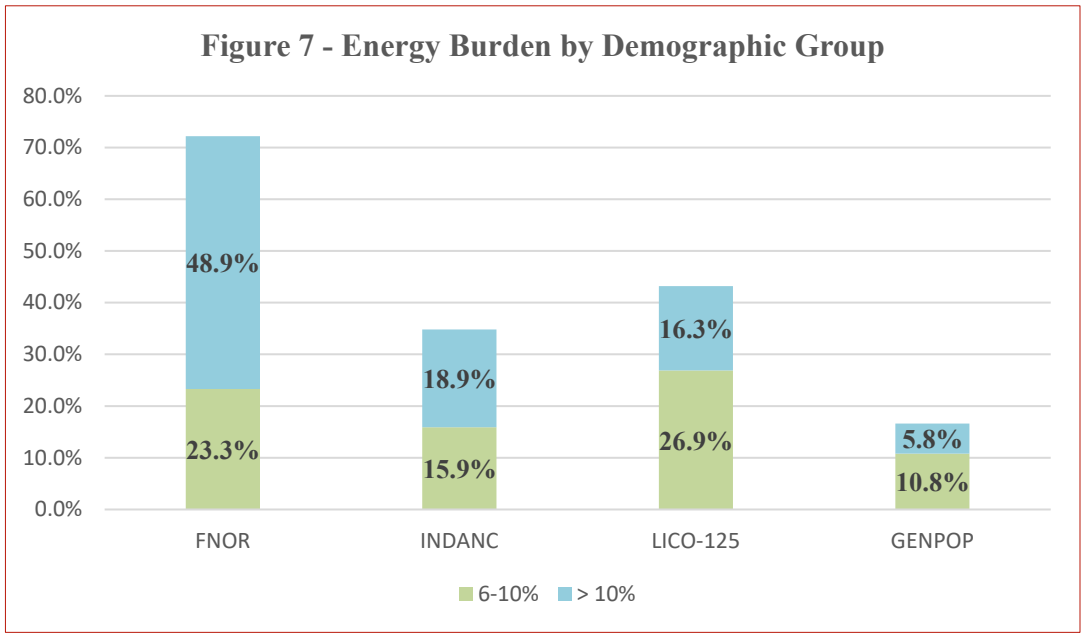
The available evidence suggests significant levels of energy poverty among First Nations, as well as significant inequality in the distribution of energy burdens between the First Nation population and the general population of the province. In addition to low incomes and poor housing conditions, on-reserve First Nation homes are more than four times more likely to have five or more occupants than the general population and are more than three times more likely to have annual energy bills in excess of $3,000.[5] Given the concentration of on-reserve First Nation ratepayers in the highest energy-bill segment, it is not surprising that on-reserve First Nation

ratepayers have the highest average annual energy bills. As Figure 6 demonstrates, on-reserve First Nation ratepayers have the highest annual energy bills of any population surveyed in the 2017 Residential Energy Use Survey. The on-reserve First Nation customers pay nearly 50% more than the average ratepayer in the province and pay nearly 60% more than the Low-Income Cut-Off (LICO-125) population in Winnipeg.

Figure 6 - Average Total Energy Bill by Demographic Group



When the realities of low incomes, poor quality housing, geographic isolation, and high energy costs for on-reserve First Nations are combined, the result is energy burdens for on-reserve First Nation ratepayers that well exceed those of other populations, including the low income ratepayers. Figure 7 breaks down the energy burden utilizing the 6% and 10% thresholds. While the most common threshold for the measurement of energy poverty is 10% of income, Rezaei contends, based on the Survey of Household Spending administered by Stastistics Canada, that the 10% figure is too high and that a threshold of 6% is more appropriate for the Canadian context.[6]



There are several salient features of Figure 7. The first is the significantly higher energy burden faced by on-reserve First Nation ratepayers, even when compared to other vulnerable groups. Utilizing the 6% threshold, more than 72% of on-reserve First Nation ratepayers are energy poor. This figure is more than four times the energy poverty rate for the general population, more than double the rate for self-identified Indigenous peoples, and nearly 70% higher than LICO-125 ratepayers in the City of Winnipeg. It is important to note, moreover, that these 'snap-shot', quantitative measures of energy poverty potentially *underestimate* its extent. This is because energy poverty is not static but rather dynamic and experience-based. For instance, families may respond to energy poverty by reducing temperatures, but this does not reduce the energy burden so much as it shifts the burden from energy costs, which are captured by the simple energy costs-income calculus, to the form of colder homes, which are not.[7]

A second notable feature is the distribution of ratepayers within the energy poverty continuum. Whereas the percentage of ratepayers whose energy burden falls in the 6-10% range is larger than those over 10% for the general population and the LICO-125 ratepayers, the opposite is true for on-reserve First Nations. Utilizing the 10% threshold, the rate of energy poverty among on-reserve First Nation ratepayers is more than eight times higher than the general population, more than three times higher than LICO-125, and two-and-a-half times higher than the self-declared Indigenous population. This greater concentration within those who spend more than 10% of their income on energy evidences the extreme nature of energy poverty faced by on-reserve First Nations.

There is one additional matter to address in this section: off-reserve First Nation ratepayers. At present, it is very challenging to find information on the energy profile of off-reserve First Nation ratepayers in Manitoba. One exception is the *Indigenous Voices Omnibus Survey 2017*, which was conducted by Manitoba Hydro. A clear caveat: one must be very careful in the interpretation of these findings because of the small sample sizes, but the survey provides preliminary evidence that suggests off-reserve First Nation ratepayers likewise suffer from disproportionately high levels of energy poverty. According to the survey, 46% of off-reserve First Nation ratepayers are energy poor utilizing the 6% threshold (compared to 75% for on-reserve First Nations, which is close to what the more reliable 2017 REUS found).[8] While this finding must be treated with great care, it is broadly consistent with the socio-economic profile of the off-reserve First Nation population and would suggest there is value in beginning to collect more reliable information on the energy profile and poverty of the off-reserve First Nation population.

Numerous studies have demonstrated that energy efficiency programs can contribute to reductions in energy poverty, as well as the secondary effects of energy poverty, including mortality, physical and mental health, nutrition, relationships and isolation, and wellbeing and quality of life.[9] What this research generally does not address, however, is the distribution effects of energy efficiency programs on inequality between socio-economic and demographic groups. While the distributional impacts of energy efficiency programs remain underexamined, preliminary evidence suggests that such programs can increase inequalities between groups if they are not designed and implemented explicitly to counteract these effects.[10] The potential for energy efficiency progams to *exacerbate* inequality results from the greater capacity of middle and upper-income segments to afford energy efficiency improvements, difficulties in outreach and uptake among low-income and other disadvantaged groups, and other participation obstacles, such as the split incentive problem for rental properties and the barriers posed by the quality of housing stock.

A greater emphasis upon energy justice, as opposed to the narrower concept of energy poverty, can help to address the potential negative effects of energy efficiency programs on distributional equity. Energy justice focusses on the net distribution of benefits and costs within an existing energy system and how energy inequalities are constructed and embedded within a broader system of political, economic, and social-cultural inequalities.[11] There are two dominant views on energy conservation: the "efficiency" school, which states the objective should be to maximize the aggregate conservation gains per dollar spent; and the "equity" school, which contends that one must consider not simply the magnitude of conservation but its distribution as well.[12] Within the equity school, there are in turn two kinds of equity: horizontal, which states that equals should be

treated equally, i.e., the distribution of benefits should equal the distribution of the population; and vertical equity, which states that unequals should be treated unequally, i.e., that the disadvantaged should receive a greater proportion of benefits to offset their disadvantage.[13]

Best practices in energy efficiency from the perspective of energy justice suggest that "Equity should be built in by design, not as an afterthought."[14] Designing equity into energy efficiency programs requires that equity be explicitly identified as a core objective; that dedicated and stable funding be allocated to ensure equity; and that program evaluation include metrics not simply for energy savings and cost but for equity objectives, such as metrics for participation by target populations.[15] A balanced set of metrics that are used to design programs, allocate budgets, and evaluate 'success' is critical, moroever, because programs that focus on equity tend to be more complex, time consuming, and costly.[16] To achieve these ends, however, energy justice and equity must be integrated at the level of public policy.

Regulatory and Policy Context

The Path to Reconciliation Act ("the Reconciliation Act"), assented to March 15, 2016, lays out the Government of Manitoba's commitment to advancing reconciliation with Indigenous peoples. The Reconciliation Act commits the Government of Manitoba to reconciliation, which it defines as "the ongoing process of establishing and maintaining mutually respectful relationships between Indigenous and non-Indigenous peoples in order to build trust, affirm historical agreements, address healing and create a more *equitable* and inclusive society.[17] The Reconciliation Act states

that "Each member of the Executive Council is to promote measures to advance reconciliation through the work of the member's department and across government."[18] Under the terms of the Reconciliation Act, then, it is the responsibility of each Minister, including the Minister Crown Services, to advance reconciliation within their respective departments and across the government.

Bill 19, *The Efficiency Manitoba Act* ("the Act") creates Efficiency Manitoba (EM) and defines its mandate and powers; determines savings targets and requires efficiency plans; and establishes the role and responsibilities of the Public Utilities Board (PUB), among other matters. For our purposes, there are several key points to highlight regarding the Plan. First, the chief mandate of EM is to implement and support Demand-Side Management (DSM) initiatives to meet the savings targets stipulated in the Act. There is nothing in the mandate that requires EM to prioritize cost-effectiveness. Second, as part of the considerations in fulfilling its mandate, EM may target specific locations or areas and aim to provide initiatives that are accessible to all Manitobans. These clauses clearly permit EM to take measure to target specific geographic areas and population to ensure the accessibility of DSM programs to all. And third, the Act requires that the PUB consider the benefits (there is no language restricting the consideration just to energy benefits) and cost-effectiveness of the Plan and whether EM is reasonably achieving the aim that its initiatives be accessible to all Manitobans.

The Efficiency Manitoba Regulation ("the Regulation"), for its part, further stipulates the powers of EM and the review of EM's efficiency plans by the PUB, among other matters. Of primary interest for this report as the "Additional Factors to be Considered by PUB", section 11. Here the

Regulation requires the PUB to consider (1) the appropriateness of the methodologies used by EM to select or reject DSM initiatives; (2) whether at least 5% of EM's budget for DSM initiatives is allocated to low-income and hard-to-reach customer programs; (3) and the reasonableness of EM's internal retrospective performance assessment on future efficiency plans.

Finally, EM designed the Plan in response to two letters of direction: the first from the Premier of Manitoba to the Minister of Crown Services, dated October 18, 2018; and the second from the Minister of Crown Services to the Chair of Efficiency Manitoba, dated April 24, 2019. While the letter of direction from the Premier charges the Minister to launch EM as a smaller and more efficient DSM agency than the Power Smart program, it similarly tasks the Minister with "Advancing reconciliation with Indigenous Manitobans". The letter of direction from the Minister of Crown Services, on the other hand, places clear emphasis upon cost-effectiveness in the delivery of DSM programs. And yet, the letter likewise notes that "Government is committed to advancing reconciliation with Indigenous Manitobans" and that "All government organizations are expected to contribute to reconciliation in their interactions with Indigenous communities and individuals."

As will be discussed below, there is concern that the Plan leans too far in the direction of cost reduction and cost-effectiveness in the design, implementation, and evaluation of programs. The Indigenous program offers important first steps in the design of balanced DSM portfolios, but their limited scope and funding raises questions about the commitment to reconciliation and the degree to which DSM offers are accessible to all in an equitable fashion. Efficiency Manitoba (EM) claims that "Reconciliation and an appreciation for the important role Efficiency Manitoba will

play towards affordability in Manitoba was thus given important consideration relative to other priorities including cost effectiveness,"[19] but the term "reconciliation" fails to appear even once in the nearly 600-page document, compared to the 163 references to "cost-effectiveness". One of the principal concerns of this report is that this elevation of quantified measures of cost-effectiveness over reconciliation, equitable access, distributional equity, and other non-energy benefits has and will continue to bias the allocation of resources away from the more resource-intensive First Nation programs, particularly if the energy saving in the first three years are lower than anticipated as these programs are set-up within a new organization.

The Plan for First Nations

Appendix A – Section A6 of the Plan outlines the proposed Indigenous Programs. This section will review the main programs and measures of the Indigenous customer segment offer, as well as the enabling and implementation strategies and the anticipated non-energy benefits.

Demand-Side Management Programs

DSM initiatives consist of three major programs for First Nations: (1) Insulation and Direct Install Offers, (2) Small Business Offers, and (3) Community Geothermal. Two of these programs, the Insulation and Direct Install and Community Geothermal, are existing programs run by Manitoba Hydro that will be transferred to EM with enhancements. The Small Business Offers program is a new program. Each program description consists of a savings and cost summary, overview and

objectives, technologies, marketing approach, and implementation. This report will not review the Metis Income Qualified program, as First Nations are not eligible to participate.

The First Nation Insulation and Direct Install Offers include home energy efficiency upgrades that include insulation, direct install measures (low-flow showerheads, faucet aerators, hot water tank pipe wrap, and LED bulbs), smart thermostats, and energy efficient clothes washers. Over the three years of the Plan, an estimated 430 First Nation homes will participate in this program, with a combined budget of $724,000. The marketing approach will work through Indigenous partner organizations, as well as building relationships with Housing Managers at the band level. Implementation will target homes with high energy consumption. Upgrades are to be performed by a qualified local community member where possible, with training and support offered.

The Small Business Offers will implement energy efficiency measures for an estimated 100 Indigenous small business buildings, consisting of free, easy-to-install devices, such as faucet aerators, a lighting assessment, and an incentive on qualifying lighting retrofits. Businesses must be 10,000 square feet or less and the total budget is $1,155,000. The program will be made available to First Nation on reserve businesses, as well as urban reserves and Metis small businesses. EM did not provide an estimated breakdown of the participants between First Nation and Metis businesses. Marketing will work through Indigenous governments and organizations and implementation will be delivered through a third-party service provider that will be responsible for the installation of free energy savings measures, assessing lighting systems, and establishing

lighting upgrade opportunities, including sourcing materials and installation. Third-party contractors are to work with Indigenous electrical contractors whenever possible.

The third and final program for First Nations within the Indigenous bundle is the Community Geothermal Program. This program will retrofit First Nation homes using electric furnaces to energy efficient geothermal heat pumps. The program will benefit an estimated 230 homes over the three years of the Plan with a budget of $1,343,000. The program will be marketed by a First Nation-managed social enterprise, Aki Energy, which will also onboard First Nations and coordinate training activities for local First Nation members on installation and maintenance.

Enabling Strategies

In addition to Indigenous programs, EM has identified five enabling strategies to support energy efficiency on First Nation reserves. The first strategy is a data-driven approach, whereby EM will work with First Nations to target the highest energy users for participation in programs. The second strategy is Community-Led DSM, consisting of First Nation definition of energy efficiency goals and cultivating community champions to support uptake and implementation. EM states that the funding of a formal "Energy Advocate" position within the First Nation is an alternative. The third strategy is the development of culturally relevant educational resources, including components for schoolchildren beginning at kindergarten. The fourth strategy is Establishing Partnerships, which will involve coordination with First Nation governments and organizations, including through the continuation and expansion of the Energy Efficiency Advisory Group, as

well as Indigenous Services Canada, Natural Resources Canada, and the Canadian Mortgage and Housing Corporation (CMHC). The fifth and final enabling strategy is the development of Community Energy Efficiency Plans / Community Energy Plans. It is not clear, however, whether EM is referring to the former or the latter, as the Plan uses both terms.[20]

Non-Energy Benefits

Appendix A – Section A6 concludes with a brief discussion of the non-energy benefits of the Indigenous program bundle. Among the potential non-energy benefits of the programs to First Nations beyond energy savings, EM identifies training, employment, and contracting opportunities on reserve; increased comfort and enjoyment of the home; and a reduction in water consumption and in the number of inefficient lightbulbs in landfills. There are, however, numerous potential non-energy benefits to First Nations that are not captured in this review but that are documented in the relevant literature, including energy security, self-sufficiency and self-determination, environmental and cultural preservation, health, and climate change mitigation.[21] This relative exclusion from consideration of non-energy benefits can potentially bias program selection and resource allocation away from the more expensive First Nation programs.

Design, Implementation, and Evaluation

This section consists of three components. The first will examine the priorities that have guided the design of DSM programming and the allocation of resources. The second section will provide

an overview of implementation strategies and will review lessons learned from energy planning and efficiency programs with First Nations in other jurisdictions. The third and final component will highlight the evaluation frameworks utilized to design and assess the Plan, with an eye on how these may bias the design and assessment processes away from First Nation programming.

Design Priorities

One area of potential concern from the perspective of First Nations is the priorities that have shaped the design of the Plan and the distribution of resources and benefits across its programs. In particular, there is concern regarding the relative distribution of priorities between the efficiency perspective, which seeks to maximize global energy efficiency gains per dollar spent, and the equity perspective, which focusses on the distribution of burdens and benefits among socio-economic groups.[22] While EM has clearly attempted to consider both perspectives, there is a notable predominance of global savings targets and cost-effectiveness within the Plan that has potentially skewed the distribution of costs and benefits too strongly away from the more costly and time-consuming initiatives aimed at First Nations, despite the fact that these initiatives can produce the greatest residential per ~~person~~customer energy bill savings and make the greatest contribution to reconciliation, equitable access, and an equitable distribution of benefits.

As discussed above, both the Act and the Regulation provide a reasonably flexible framework within which to balance efficiency and equity concerns. Of greater concern is the direction provided by the government, which quite clearly prioritizes cost reductions and cost effectiveness.

In a letter to the Chair of EM dated April 24, 2019, the Minister of Crown Services outlines four key priorities for EM, that are in turn reproduced verbatim in the Plan:

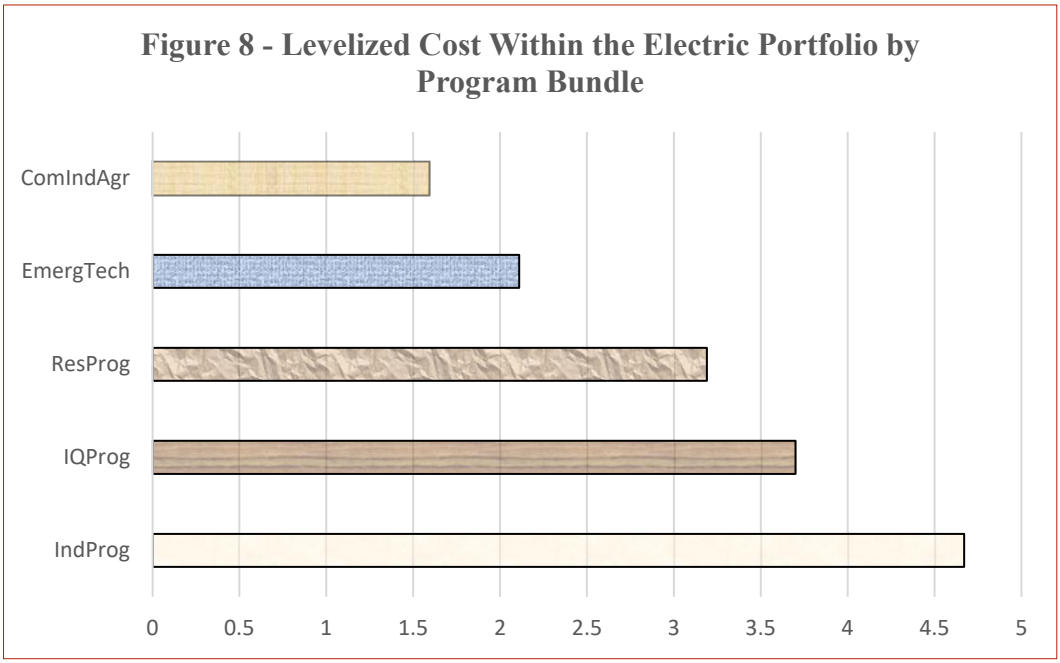
- Establish the structure of the new corporation ensuring a leaner, more streamlined organization to deliver energy efficiency programs;
- Develop and submit for review and approval your initial 3-year plan for demand-side management initiatives to meet your mandated savings targets, while optimizing value for the money;
- Work with the Public Utilities Board to develop streamlined processes, in an effort to reduce overall costs to ratepayers of regulatory hearings;
- Find ways to obtain the same or better outcomes as formerly obtained under the 'Power Smart' program, but at a significantly smaller percentage of the cost and materially less labour costs."[23]

All four of these priorities are related to relative cost reductions, vis-à-vis the existing energy efficiency programming, and cost effectiveness. Cost effectiveness is of course a legitimate objective of program design and delivery. From a First Nation perspective, however, an excessive emphasis upon cost-effectiveness could undermine programming directed towards those energy customers who face the greatest energy burden, i.e., First Nation ratepayers.

Figure 8 summarizes the estimated levelized costs within the electric portfolio (natural gas is omitted as there are no First Nation-targeted programs within the Indigenous bundle). As one can see, the Indigenous programming is significantly less cost effective when compared with

alternatives within the portfolio. Indigenous programs are nearly three times less cost effective than Commercial, Industrial, and Agricultural Programs and nearly 50% less cost effective than Residential Programs. Even when compared to the IQPs, Indigenous programming is more than 25% less cost effective. The Insulation and Direct Install offer for First Nations is the least cost-effective offer in the portfolio, with a levelized cost nearly 60% higher than the IQPs and more than 80% higher than the Residential program bundle.

Figure 8 - Levelized Cost Within the Electric Portfolio by Program Bundle



Again, the question here is not whether cost-effectiveness is a legitimate objective of the Plan. Rather, the concern is that there exists an imbalance between cost effectiveness and other priorities that has and will continue to prejudice program design and budgetary allocations against the more costly and time consuming First Nation programming.

In response to Information Requests regarding the priorities used to determine the distribution of resources and benefits, EM stated that reconciliation and equity were key considerations. As regards reconciliation, EM wrote: "Reconciliation and an appreciation for the important role Efficiency Manitoba will play towards energy affordability in Manitoba was thus given important consideration relative to other priorities including cost effectiveness."[24] With respect to equity, EM responded: "Equity and access, one of Efficiency Manitoba's guiding principles, was a fundamental consideration in development of the three-year plan."[25] The predominance of cost-effectiveness in the text of the Plan, however, is clear. Whereas the terms 'reconciliation' and 'equity' appear zero and three times respectively in the body of the Plan, the term 'cost-effectiveness' appears more than 160 times. While the Plan does meet the 5% threshold outlined as an objective in the Regulation, it does so largely via the IQP and within the Natural Gas portfolio, which contains no First Nation programming within its Indigenous bundle.

Implementation Strategies

A review of First Nation energy planning and energy efficiency programming in other jurisdictions suggest there are three main barriers to energy conservation programs for First Nations: program design and implementation, First Nation capacity, and partnerships. The Plan contains many components, including community-led planning, educational initiatives, the use of Energy Champions and Energy Advocates, and the establishment of an Indigenous Energy Efficiency Advisory Group, that are very encouraging and consistent with best practices. This section will discuss the experiences of other jurisdictions in the implementation of First Nation energy

conservation programming in order to shed light on issues for EM to consider in the implementation of the Plan and for the design and implementations of future iterations.[26]

Challenges related to program design and implementation include misalignment of objectives, inadequate and unstable funding, lack of information and knowledge of programs, lack of flexibility in program timelines and performance criteria, culturally appropriate marketing and outreach, and a reliance upon outside experts. One significant challenge in First Nation energy conservation programming is the alignment of priorities. For First Nations in other jurisdictions, there are many motivations for energy conservation beyond the financial savings, including self-sufficiency, energy security, governance capacity, economic and business development, healthy communities and families, reduced environmental impact, and reconciliation in terms of respect for Treaty rights and the contribution First Nations to the existing energy system. These frames are significant because they influence the degree to which First Nations will actively participate in energy conservation and thus to program success.

Capacity restrictions and partnerships represent additional barriers to First Nation energy conservation programs. A lack of dedicated staff and financial resources (both at the band and individual levels) can hamper levels of interest and undermine program implementation. Remote geographies and legacies of the past failures of externally imposed plans, including economic development plans, can further complicate programs. In this context, unstable funding and program flux can serve as a further deterrent and inadequate funding levels can cause competition and tension both within and between First Nations. Multiple jurisdictions and a lack of

coordination, both between those organizations providing supports and services to First Nations, as well as between First Nation participants in energy conservation programs, can further impede program implementation and success.

There is evidence that Community Energy Plans (CEPs), which have been implemented by First Nations in several provinces, can help to increase energy conservation. CEPs can address challenges related to power asymmetries and trust through the co-production of plans that are consistent with community values and control, that take into account the social, economic, and political context of First Nations, and that integrate energy and energy efficiency planning within the existing and future planning structures of the First Nation, i.e., infrastructure, land use, et cetera. The Plan does discuss the formation of community plans, but it is not entirely clear whether these are Community Energy Plans or Community Energy Efficiency Plans, as both terms are used in the Plan. The former would be preferable to the latter as it is more comprehensive. Moreover, in response to an IR from the Assembly of Manitoba Chiefs, EM revealed that the three-year budget for community plans was $247,000, which would allow two First Nations to participate in the design of a community plan and would provide an allocation of $25,000 per annum for up to two First Nation Energy Advocate Positions.[27] While a valuable first step, the limited funding means that the vast majority of First Nations will not have access to these key enabling components. In effect what is being proposed for community energy planning is a pilot project. While valuable, such an approach runs the risk of undermining future efforts if the pilot is unsuccessful. Lessons from other jurisdictions suggest that a more significant and stable funding package for community energy planning is required if the program is to be successful.

Though preliminary, the review of First Nation energy efficiency and planning programs in other jurisdictions in Canada provide the following lessons for EM as it implements and modifies the Plan and develops future iterations:

- Long-term, stable funding and programming can contribute to First Nation participation and program success; it is useful to have funding per First Nation rather than a global budget to reduce competition and ensure that all interested First Nations can participate in energy efficiency planning and programs;
- Flexible timelines can help address the logistical and capacity challenges of designing and implementing energy efficiency programs for First Nations;
- Community control and branding of energy conservation programs can help improve participation and success;
- While programs can prioritize specific households within communities, this can likewise create tension within communities and undermine program success; funding should be adequate to provide programs to all those on a First Nation reserve who wish to participate;
- Community Energy Plans can help to improve information, facilitate applications (which should strive for a one-stop-shop model), coordinate distinct funding streams from multiple jurisdictions;

- A dedicated and adequately funded Energy Advisor, either within each First Nation or for a wider region, is important to build awareness and support, ensure proper implementation, and embedded plans and programs;
- Mechanisms to facilitate knowledge transfer, peer networking, and benchmarking between First Nations (workshops, conferences, online portals, et cetera) have been of interest and benefit to First Nations in other jurisdictions;
- Programs should prioritize First Nation contractors and contractors who have experience working with First Nations;
- Programs should prioritize relationship building, flexibility, and social learning, as well as First Nation capacity building;

Another area of concern from a First Nation perspective is the lack of programming for off-reserve First Nation ratepayers. Off-reserve First Nation individuals represent approximately 51% of the total First Nation population in the province. Although we do not have access to reliable information on the energy profile and burdens for off-reserve First Nations at the time of writing, we do have data from the 2016 Census of Canada, as well as from the *Indigenous Voices Omnibus Survey 2017*, which was conducted by Manitoba Hydro. These sources suggest that the off-reserve First Nation population likewise exhibits socio-economic indicators (employment, income, housing) that are well below the non-Indigenous population of the province and is more likely than the non-Indigenous population to experience energy poverty.

One response to this concern is that off-reserve First Nation ratepayers are eligible to participate in both the Residential and the Income Qualified Programs offered in the Plan. However, there is a lack of information about the potential barriers to off-reserve First Nation participation in these programs (for instance how the document requirements will affect First Nation participation) and about the degree to which off-reserve First Nation ratepayers will in fact participate, including statistics on the levels of off-reserve First Nation participation in similar programs run by Manitoba Hydro. Because a considerable portion of the budget and benefits for low-income and hard-to-reach customers is dedicated to IQPs, particularly in the Natural Gas portfolio, there is a risk that First Nations will miss out on many of the most significant opportunities for energy efficiency improvements offered in the Plan.

The existence of a Metis Income Qualified Program is recognition of the potential value of working with Indigenous governments to target energy efficiency programs to Indigenous ratepayers in urban centres and non-reserve rural areas. EM would be well served by working with interested First Nation governments and organizations to identify potential off-reserve participants, developing and disseminating culturally-relevant marketing and outreach materials, and considering an Off-Reserve First Nation Income Qualified Program in future plans.

The final topic in implementation strategies is non-energy benefits. While it is often challenging to quantify particular non-energy benefits, i.e., cultural preservation, this is not the case for potential economic benefits. As discussed above, First Nations in Manitoba, both on and off reserve, generally exhibit poor socio-economic indicators. Levels of economic participation and

employment are well below those of the non-Indigenous population, while unemployment is significantly higher. Similarly, the median income of the First Nation population is only 54% that of the non-Indigenous population, while the median income of the on-reserve population is just over 40% that of the non-Indigenous population. First Nations likewise lived in homes that are far more likely to be crowded and in-need of major repairs.

Given these socio-economic disparities and the references to reconciliation in the letters of direction from both the Premier to the Minister of Crown Services and from the Minister of Crown Services to the Chair of EM, an equity perspective would suggest that there exists an opportunity for EM and energy efficiency programming to ensure that programs provide non-energy economic benefits. Some of the benefits are already built into existing programming, such as the training of on-reserve First Nation individuals to perform upgrades. What is lacking is clarity on the extent of the potential economic benefit and clear plans and targets to ensure that programs provide the greatest benefit possible to the most vulnerable populations.

In response to IRs from the Assembly of Manitoba Chiefs, EM stated that "Efficiency Manitoba has not yet established any employment targets for First Nations staff hires" and that "A specific strategy for off-reserve First Nation businesses has not been defined."[28] Outside of AKI Energy, a First-Nation-managed business, no First Nation contractors were identified in the Plan. As for EM staff, it would be beneficial for EM to work with Indigenous governments and organizations to develop hiring targets for First Nation staff and dissemination information regarding opportunities to potential First Nation applicants. This would help to increase the economic benefit

of the Plan for First Nations and could potentially contribute to improved participation by off-reserve First Nation ratepayers in the Residential and Income Qualified Programs. Similarly, EM should work with First Nation governments and organizations to identify First Nation contractors that could potentially participate in program delivery.

Evaluation Methodologies and Frameworks

The final area of concern in this section is the evaluation methodologies and frameworks used to design programs, measure performance, and allocate resources. In Ontario, First Nations identified inflexible performance criteria as a ~~review of Indigenous~~barrier to greater energy ~~planning found a problem with inappropriate evaluation frameworks~~efficiency in First Nation communities.[29] The question of evaluation methodologies and frameworks is critical because these both reflect and shape priorities, and tend to privilege either existing quantitative measures or variables that can be quantified relatively easily. While this preference for quantitative measures is understandable, when working with First Nation populations an over-reliance upon quantitative measures can fail to capture negative impacts (say the effect of industrial development of the transmission of Indigenous knowledge) or potential benefits (say the increase in comfort or improved health) that are either difficult to quantify or for which reliable data is difficult to gather.

In general, the evaluation frameworks and metrics employed in the Plan privilege the cost-effectiveness calculus of energy savings/cost at the expense of other priorities and non-energy benefits. For instance, the Program Administrator Cost Test (PACT) used to measure cost

effectiveness considers only Manitoba Hydro Marginal Values and excludes all other non-energy benefits from consideration. The Evaluation, Measurement, and Verification Framework (EM&V) has similar limitations in its capacity to capture and adequately measure the potential benefits to First Nations. While the EM&V report recognizes a wide range of potential non-energy benefits, such as energy security, higher property values, and improved air quality, the key performance metrics identified as part of the EM&V include are restricted to water savings and monetized benefit. Given the mandated savings targets and the comparative emphasis upon cost reduction and cost effectiveness, it is possible that programming for First Nations will not only be cut relative to the programs offered by Manitoba Hydro, but that these cuts will in effect be 'locked-in' by an evaluation framework that prioritizes quantitative measures and cost savings at the expenses of other priorities and potential benefits.

Assessment of Potential Impacts to First Nations

As discussed above, there are two dominant views on energy conservation: the "efficiency" school, which states the objective should be to maximize the aggregate conservation gains per dollar spent; and the "equity" school, which contends that one must consider not simply the magnitude of conservation but its distribution as well.[30] While there are potential complementarities between the efficiency and the equity schools, there are similarly tensions and trade-offs. A narrow focus on efficiency, for instance, could potentially lead program administrators to focus on the lowest-hanging fruit of the highest-return-to-cost programs. A focus on these programs, however, can

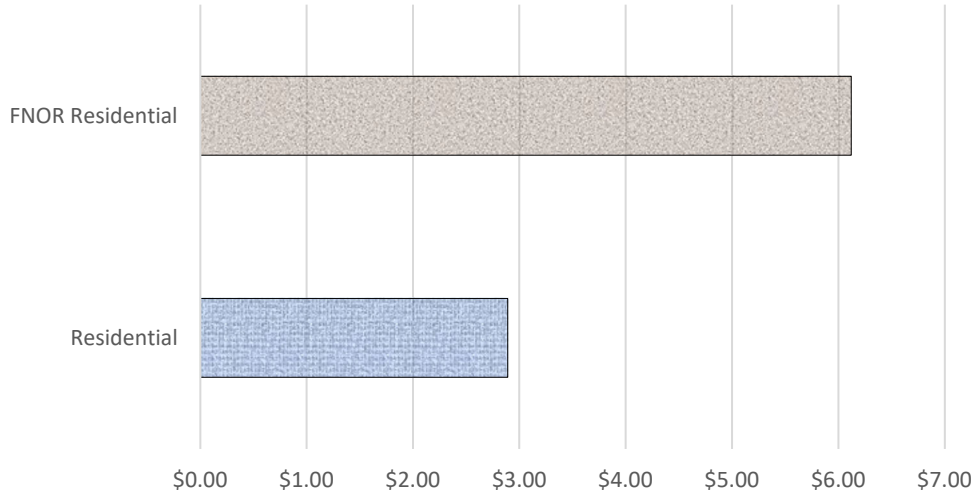
come at the expense of more expensive interventions, even when such programs can have greatest per person energy bill savings and non-energy benefits. The Plan clearly meets the efficiency criteria in that it reaches the required savings reduction within the allocated budget. Two related questions, however, are at what cost, and does the Plan meet either of the equity criteria outlined here? This section will examine the equity effects of the Plan on First Nations from two perspectives: (1) is the distribution of resources and benefits in relation to the distribution of First Nations within the province; and (2) is the distribution of resources and benefits for First Nations compared to the programs offered by Manitoba Hydro prior to the creation of EM.

Horizontal Equity

There are two distinctive ways to define equity: the first is horizontal equity, which proposes that equals should be treated equally, i.e., the distribution of benefits should equal the distribution of the population; and vertical equity, which suggests that unequals should be treated unequally, i.e., that the disadvantaged should receive a greater proportion of benefits to offset their disadvantage.[31] For our purposes here, the question is, does the Plan meet either of those criteria? Figure 9 depicts the average estimated annual electricity bill increase as a result of the Plan. The estimates are based upon the Lifecycle Revenue Impact (LRI) analysis contained in the Plan, as well as average electricity consumption for residential and First Nation on reserve ratepayers found in the Information Requests.[32] As one can see, the average one-year increase in annual electricity bills as a result of the Plan will be more than *twice* as high for First Nation On Reserve customers

compared to the average residential customer. Although the percentage increase in the annual bill may seem minor, one should take into account the relative financial burden of energy bills: First Nation On Reserve ratepayers as nearly *four-and-a-half* times more likely to have missed a hydro bill payment as a result of financial difficulties and are more than *three times* more likely to have missed four hydro payments or more over the past two years as a result of financial difficulties.[33]

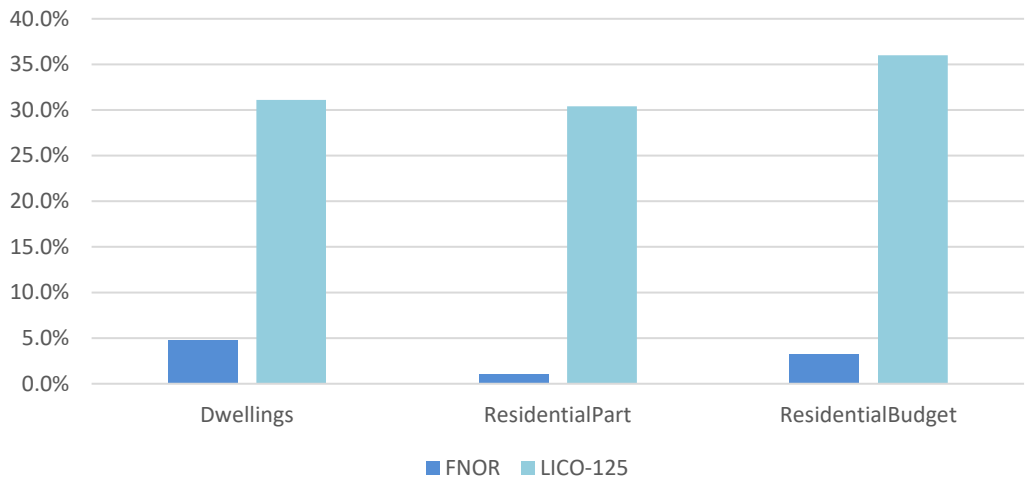
Figure 9 - Average Estimated Annual Increase in Electricity Bills for Residential Customers from the Plan



Given this inequitable financial burden posed by energy bills and the one-time increase in electricity rates as a result of the Plan, are the potential benefits of the Plan distributed equitably? Figure 10 presents data ~~on~~from the 2017 REUS and the Plan on First Nation On Reserve and Low-Income (LICO-125) shares of the ~~Manitoba population, the total program budget~~residential dwellings (premises under the residential rate class, adjusted for average household size), participation in residential programs, and the residential program budgets contained in the Plan.[34]

As one can see, while the First Nation ~~share~~On Reserve dwellings account for nearly 5% of ~~the provincial population is approximately 80% that of~~ premises under the ~~LICO-125 population, the Income Qualified Program (IQP) occupies more than *seven times* the share of the total program budget in the Plan and more than *eleven times* the residential budget, compared to~~residential rate class (adjusted for household size), residential programs for First Nation on Reserve customers account for 1.1% of estimated participants in residential programs (excluding participants in the product rebate and kits and education offers), and account for only 3.2% of the costs for residential programs.

Figure 10 - First Nation on Reserve and Low-Income Shares of Dwellings and Residential Programs



~~While it is true that an important segment of the LICO-125 population consists of First Nation households and that First Nation ratepayers are eligible to participate in the IQP, there is no data of which we are aware that show the breakdown of beneficiaries from the IQP between First Nation and non-First Nation households, nor does EM have a marketing and outreach strategy specifically for First Nation ratepayers as part of its IQP.~~

Sources: 2017 REUS, p. 166; the Plan, Attachment 3 – Technical Tables.

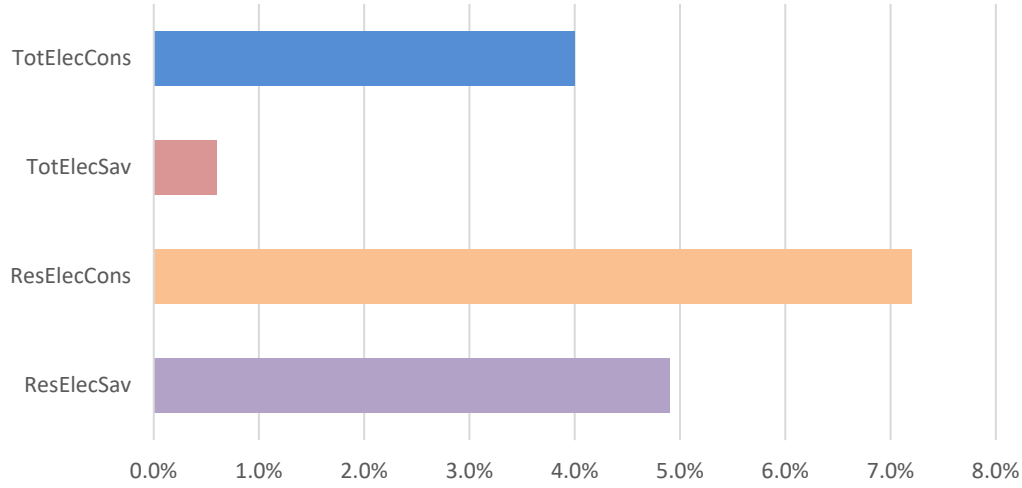
One major reason for ~~this discrepancy between the budgets allocated to First Nation and IQP~~these differences is that the budget in the gas portfolio is titled strongly towards the IQP, while there are no First ~~Nations~~Nation programs within the natural gas portfolio. Even within the electricity portfolio, however, ~~the discrepancy persists, as demonstrated by Figure 11.~~

~~While~~ on-reserve First ~~Nation ratepayers represent 4%~~Nations are underrepresented. Figure 11 depicts the First Nation On Reserve (residential and commercial/agricultural/industrial) share of total electricity consumption, the share of electricity savings from the Indigenous program offers of total electricity savings,~~of electricity customers~~ and the share of First Nation on Reserve programs of residential electricity consumption~~, First Nation programs account for only 0.6% of~~ and residential electricity savings.~~ Similarly, the~~[35] As one can see, the First Nation On Reserve share of total program electricity savings is considerably smaller than the First Nation On Reserve share of total electricity consumption ~~First Nation population is approximately 80% of the LICO-125 population, yet the estimated total residential electricity savings for First Nations are only 50% of those for the LICO-125 population. This finding is broadly consistent with the distribution of costs for residential programs. Whereas the IQP accounts for 14% of the residential electric program budget, the share of First Nation residential programs is slightly less than half of that, at 6.5%. The discrepancy persists into the distribution of bill reductions. Figure 12 shows the First Nation and LICO-125 shares of the population, total program bill reduction, and residential bill reduction, according to the Plan.~~

~~As one can see, again the First Nation population is again disadvantaged. Despite their high energy bills (average First Nation on reserve energy bills are~~. This inequity, moreover, persists within the residential segment, where ~~more than 60% higher than those of LICO-125 ratepayers in Winnipeg) and the fact that on-reserve First Nation ratepayers represent 4% of electricity customers and consumption, the total bill reduction of the IQP is *four-and-a-half* times that of the First Nations programs (which is 0.7% of the total), while the IQP's share of residential bill reductions is *five-and-a-half* times greater than~~ the share of First Nation On Reserve residential programs (direct install and community geothermal) residential ~~programs. Again, while it is true the First Nation ratepayers are eligible to apply for the IQP, the author lacked data on the anticipated distribution of beneficiaries of the IQP. What is more, the fact that EM created a Metis IQP is suggestive of the value of working with Indigenous governments to help urban and non-reserve rural Indigenous peoples access the potential benefits of energy efficiency. EM did not at the time of writing have specific marketing and outreach plans for First Nations as part of the IQP, particularly for off-reserve First Nation ratepayers~~electricity savings is just under 70% of the share of First Nation On Reserve residential electricity consumption.

~~This review suggests that the Plan~~

Figure 11 - First Nation On Reserve Shares of Electricity Consumption and Savings



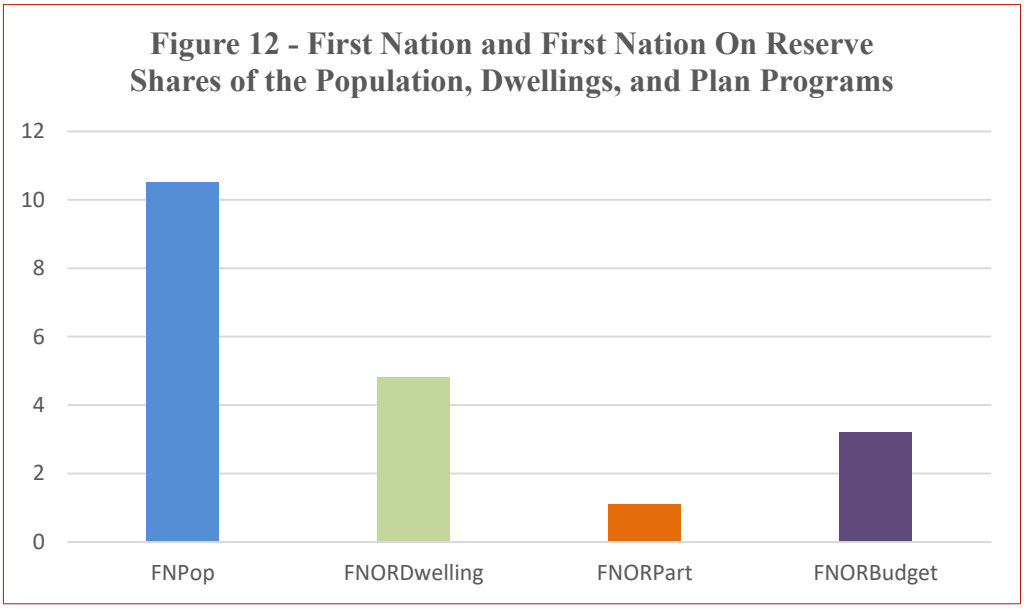
Sources: 2017 REUS, p. 166; Coalition/EM I-18a; Daymark/EM I-95a; the Plan, Attachment 3.

The evidence presented here suggests that Indigenous residential programs for on reserve First Nations do not match the First Nation On Reserve share of existing customers and electricity consumption. Given the dramatically higher rates of energy poverty faced by First Nations on reserve, moreover, there is a case to be made that the relative shares should be higher in order to address this inequality.

There is, however, another issue that is not captured by the discussion of programs for on reserve First Nations: the off-reserve First Nation population. One of the challenges in conducting an assessment of the Plan on First Nations is that there is very little energy information on the off-reserve First Nation population, both in terms of the number of customers, average energy consumption, and energy bills and poverty, as well as their relative participation in energy

efficiency programs. We do not know, therefore, how many off reserve First Nation hydro customers there are or their rates of participation in energy efficiency programs.

Figure 12 - First Nation and First Nation On Reserve Shares of the Population, Dwellings, and Plan Programs



Sources: Census of Canada 2016; 2017 REUS, p. 166; the Plan, Attachment 3.

Figure 12 compares the First Nation share of the population and the share of First Nation On Reserve dwellings according to the 2017 REUS (adjusted for household size), the share of First Nation On Reserve programs (direct install and community geothermal) in the number of estimated participants for residential programs, and the share of the First Nation On Reserve residential programs in the budget for residential programs. According to the 2016 Census of Canada, the First Nation population in Manitoba is 10.5% of the total population (unfortunately data on the number of off-reserve First Nation households is not publicly available). Of this population, 52% live off-reserve. While an important segment of the LICO-125 population consists of First Nation customers and households, both on and off reserve, there is no data of which we are aware that

shows the breakdown of beneficiaries from the IQP between off-reserve First Nation and non-First Nation customers, either from Manitoba Hydro or estimates from EM. Nor does EM have a marketing and outreach strategy specifically for off-reserve First Nation customers as part of its IQP or other residential offers.

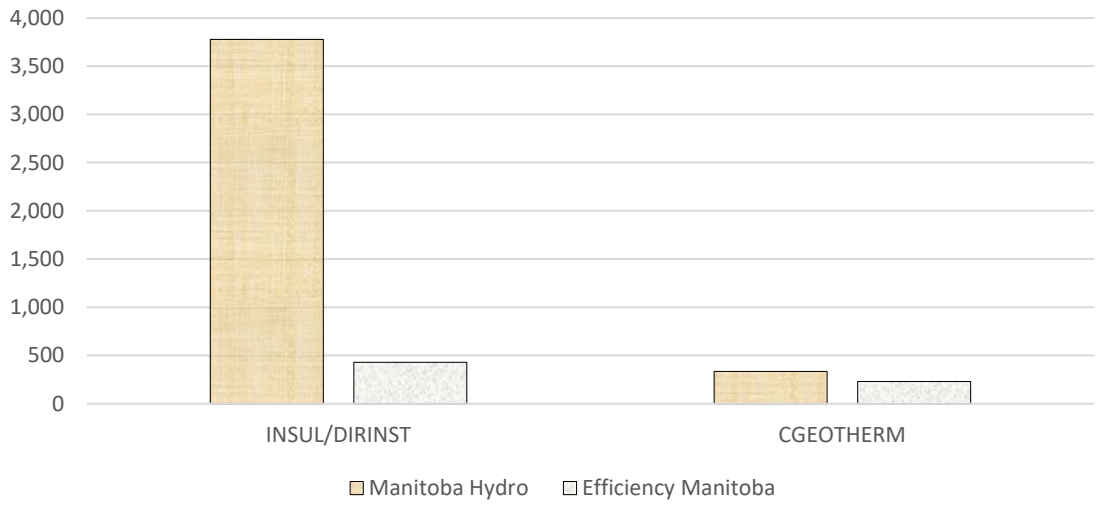
Because we do not know precisely how many residential customers this off-reserve population represents and how many of these off-reserve First Nation customers will participate in the residential and income-qualified programs, what we can conclude at this point is that programs designed specifically for First Nation customers, both on and off-reserve, do not match those populations' share of customers and energy consumption. As a result, it is reasonable to conclude that the Plan likely does not meet either of the equity criteria for First ~~Nations~~Nation customers, i.e., that resources and benefits are in proportion to their share of the population/customers/energy consumption or that resources and benefits exceed ~~the population share~~these shares in order to reduce inequalities in the distribution of energy burdens. While the Plan does meet the suggestion that at least 5% of EM's budget for demand-side management initiatives is allocated to initiatives targeting low-income or hard-to-reach customers, this is done ~~largely~~in significant part as a result of the IQP, and in particular the concentration of resources to the IQP within the Natural Gas Portfolio~~ to the IQP. The First Nation share of the total program costs (which includes the entire Indigenous Small Business Program, even though it is open to Metis as well as First Nations) is a mere 1.8% and their share of the residential budget 3.2%.~~.

Past Versus Present Programming

The second perspective from which this section will assess the potential effects of the Plan on First Nations is the distribution of resources and benefits for First Nations compared to the programs offered by Manitoba Hydro prior to the creation of EM. As part of its Information Requests (IR), the Assembly of Manitoba Chiefs requested that EM provide the number of participants, total budget, and energy savings per participation for all First Nation energy efficiency programs offered by Manitoba Hydro in the three most recent years. This information permits us to compare the programs offered by EM with those offered previously by Manitoba Hydro in order to assess the potential impacts of the transfer of First Nation energy efficiency programs from Manitoba Hydro to EM. The following tables present the information provided by EM compared to the information on participants, budget, and energy savings contained in the Plan.

Figure 13 presents the participants in the First Nation Insulation, Direct Install, and Community Geothermal Programs offered by Manitoba Hydro in the three most recent years (2017/2018, 2018/2019, and 2019/2020) with the three years of the Plan. As one can see, there is a dramatic decline in the estimated number of participants in the Insulation and Direct Install Programs offered by Manitoba Hydro compared to those offered by EM. Indeed, the estimated number of participants in the final three years of the Manitoba Hydro programs was nearly *nine times* higher than the estimated participants in the first three years of the Plan.

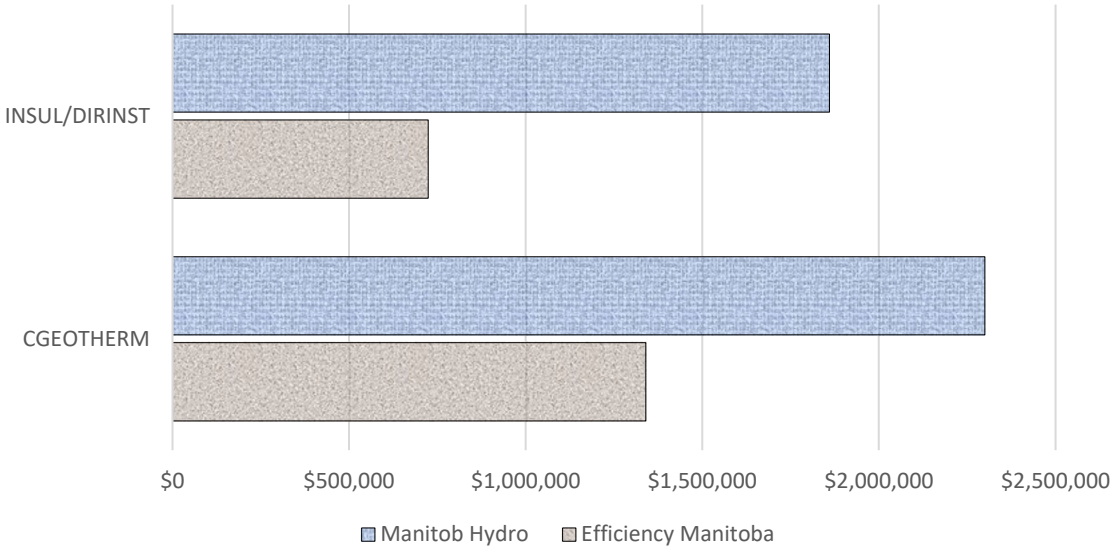
Figure 13 - Estimated Participants in First Nation Insulation, Direct Install, and Community Geothermal Programs (3 years)



The decline in the number participants is less marked but nevertheless significant for the Community Geothermal Program. From an estimated 335 participants in the final three years of the Manitoba Hydro's Community Geothermal Program, there is a more than 30% drop in the Plan to an estimated 230 participants.

As the estimated number of participants has declined, so have the budgetary allocations. Figure 14 presents the data provided by EM on the budgets for Manitoba Hydro and EM Insulation, Direct Install, and Community Geothermal Programs for the three most recent and upcoming years.

Figure 14 - Estimated 3-Year-Budgets for First Nation Insulation, Direct Install, and Community Geothermal Programs



The three-year budget for the Insulation, Direct Install, and Community Geothermal Programs is anticipated to decline by more than 60% as part of the transfer of these programs from Manitoba Hydro to EM. Similarly, the three-year budget for the Community Geothermal Program is anticipated to fall more than 40% from the final three years under Manitoba Hydro to the first three years under EM. With sharp reductions in the budget and number of participants, the estimated energy savings are likewise expected to decline significantly.

Figure 15 - Estimated 3-Year First Nation Electricity Savings for the Insulation, Direct Install, and Community Geothermal Programs (GWh)

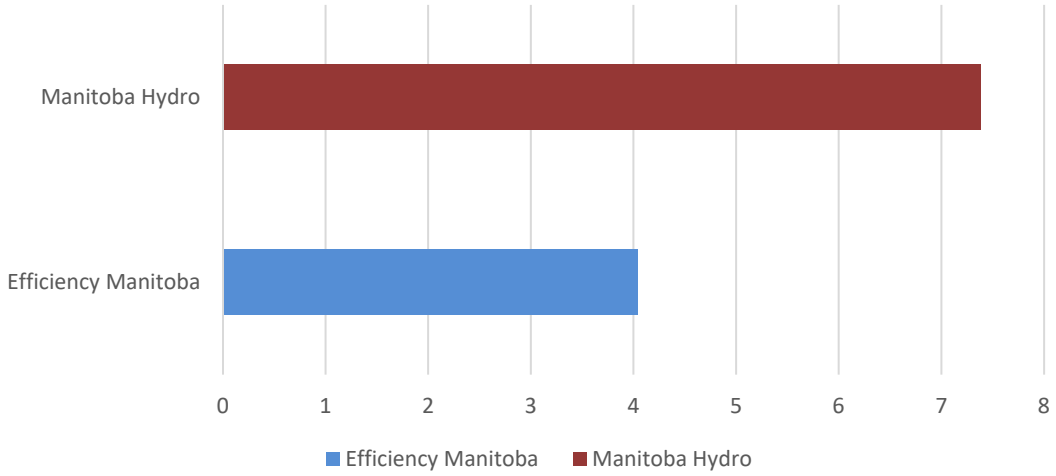
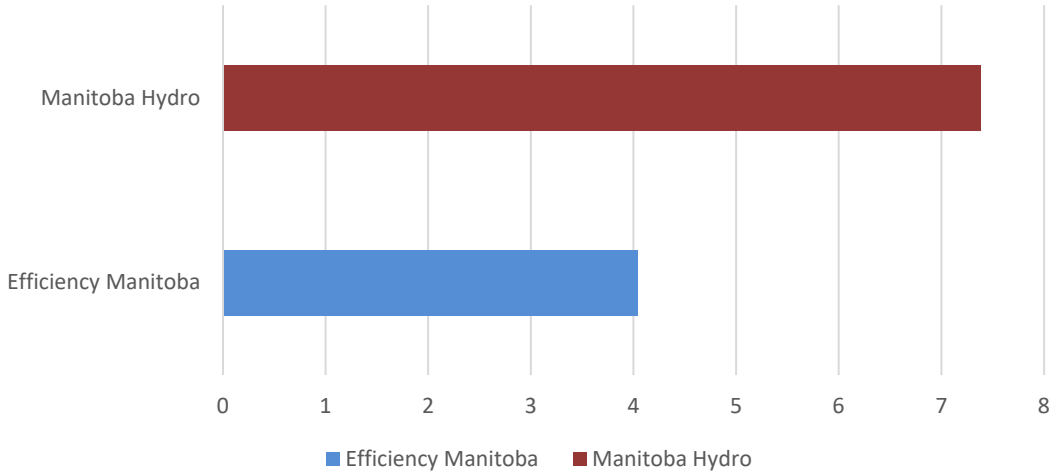


Figure 15 provides the numbers from EM on the three-year total electricity savings from the Insulation, Direct Install, and Community Geothermal Programs. The total electricity savings accruing to on-reserve First Nation ratepayers as a result of the three programs are expected to decline 45%, for a total loss of 3.34 Gigawatt hours (GWh) in savings.

Figure 15 - Estimated 3-Year First Nation Electricity Savings for the Insulation, Direct Install, and Community Geothermal Programs (GWh)



There are several caveats with this information. The first is that the author does not have access to all of the comparable information in terms of the distribution of non-energy benefits from the programs. Second is that the Plan does include a new Indigenous program, the Indigenous Small Business Program, to which First Nation businesses can apply. However, the inclusion of this new program will not, on its own, offset the erosion of other First Nation programs. For instance, the Indigenous Small Business program will have an estimated 100 participants with a total cost of $1,155,000 and an estimated total electricity saving of 1.2 GWh. These represent approximately 16% of the loss in participants, 55% of the loss in budget, and 36% of the loss in GWhs from the Insulation, Direct Install, and Community Geothermal Programs. Moreover, because EM did not have an estimated distribution of beneficiaries from the Indigenous Small Business Program, in terms of First Nation vis-à-vis Metis, it is not possible to determine how many of the participants,

how much of the budget, and how much of the energy savings will accrue to First Nations from the Indigenous Small Business Program.

Evaluation Methodologies and Frameworks

The Demand-Side Management Scorecard ("the Scorecard") provides an assessment of performance over three categories: operations, planning, and delivered value. Within the planning category, the Scorecard does include a metric for "Program Equity", which accounts for 27.5% of the achievable points for the category. Within the Program Equity Metric, a maximum score of 1 point is attained if EM has developed programs for hard-to-reach sectors, such as remote locations or Indigenous communities. On the assumption that the 1 point is divided in half between Indigenous communities and remote locations, this means that having programs for First Nations, regardless of the resources allocated or the actual benefits of the program, accrues a maximum of 0.5 points out of a maximum of 5.5 points for the equity metric. This means that within the Scorecard, programs for First Nations account for just under 10% of the potential points for the "Program Equity" metric, 2% of the total points for the Planning Category, and 0.8% of the total achievable points in the Scorecard.

Between the various evaluation frameworks utilized to assess the benefits and cost effectiveness of the Plan and any future iterations, there is a notable lack of metrics to assess the potential positive impacts to First Nations, including both energy (for instance in terms of potential impacts

on energy poverty) and non-energy (health and wellbeing, energy security, et cetera) benefits. While there is greater flexibility in the policy and political frameworks, including the Act and the Regulation, the letters of direction from both the Premier to the Minister of Crown Services and from the Minister of Crown Services to the Chair of EM narrow the priorities considerably in favour of cost reduction and cost effectiveness. Within this framework, there appears to be a reduction in the participants in and funding for First Nations' programs vis-à-vis what was offered by Manitoba Hydro, as well as a lack of either specific programming for off-reserve First Nation ratepayers or targeted marketing and outreach to off-reserve First Nation ratepayers as part of the Residential and Income Qualified Programs. As a result, the programs that target on reserve First Nations do not offer participation opportunities that are equivalent to their share of ratepayers. Given the lack of metrics or adders to capture the benefits of energy efficiency programs for First Nations, there is concern that these reductions will in effect be locked in as more cost-effective programs are privileged within the context of global energy targets, budget constraints, and a narrow definition of cost effectiveness.

Recommendations

The Plan proposed by EM has important merits, among them the inclusion of focussed First Nation programs that could potentially provide training and business development opportunities for First Nations, the allocation of resources for Community Energy Efficiency Plans and Community Energy Advisors, funding for educational initiatives on reserves, and a commitment to establish an Indigenous Energy Efficiency Advisory Group. This report has outlined, however, several key

concerns that EM can address moving forward to improve the current plan, as well as for future planning processes. In that spirit, this report makes the following recommendations for EM:

- EM should work with First Nations and First Nation organizations to integrate the principles of reconciliation and equity more forcefully as priorities in energy efficiency planning moving forward; EM should strive for a definition of equity that meets the standard of vertical equity, i.e., that energy efficiency programs strive to benefit First Nations disproportionately so as to contribute to a reduction in the inequitable distribution of energy burdens and in recognition of the Treaty rights of First Nations and their contribution to the development of the energy system in the Province of Manitoba;

- EM should work with First Nations and First Nation organizations to increase the budgetary allocations for First Nation programs to ensure that such programs are consistent with horizontal equity, i.e., that number of participants in First Nations programs is commensurate to the share of ratepayers;

- EM should work with First Nations and First Nation organizations to increase the budgetary allocations for First Nation enabling strategies, particularly opportunities to develop Community Energy Efficiency Plans and the hiring of Community Energy Advisors, either within First Nations or regionally;

- EM should work with First Nations, First Nation organizations and Manitoba Hydro to collect more information on off-reserve First Nation ratepayers;

- EM should work with First Nations and First Nation organizations to develop culturally appropriate marketing and outreach strategies for off-reserve First Nation as part of the Residential and the Income Qualified Programs for the Plan, as well as review the appropriateness of the required documentation to increase the participation of off-reserve First Nation ratepayers;

- EM should work with First Nations and First Nation organizations to discuss the creation of an off-reserve First Nation Income Qualified Program to be part of future energy efficiency plans;

- EM should work with First Nations and First Nation organizations to set hiring and training targets for First Nation staff;

- EM should work with First Nations and First Nation organizations to develop a list of First Nation contractors and ensure that information on opportunities is disseminated to First Nation contractors in an expeditious manner;

- EM should work with First Nations and First Nation organizations to develop culturally appropriate educational tools to raise awareness of First Nation program offers and support greater awareness of energy efficiency;

- EM should work with First Nations and First Nation organizations to produce a socio-economic assessment to determine non-energy program impacts and ensure that these represent First Nation benefits insofar as possible;

- As part of its jurisdictional scan of non-energy benefit adders, EM should work with First Nations and First Nation organizations to incorporate appropriate adders for First Nation benefits where quantitative metrics cannot be developed;

- EM should work with First Nations and First Nation organizations to ensure that the evaluation frameworks more adequately capture and value the non-energy benefits of energy efficiency programs for First Nations;

Conclusion

Efficiency Manitoba (EM) is a new Crown Corporation created to promote and support energy efficiency in the Province of Manitoba. EM has developed and submitted a three-year plan to the Public Utilities Board (PUB) for review. The 2020/23 Efficiency Plan ("the Plan") is the first

submission by EM to the PUB. The Plan clearly aligns strongly with the efficiency approach to energy conservation, with its emphasis upon global savings targets and cost effectiveness. And while the Plan as proposed includes numerous important programs and initiatives, including exclusive programming for the Indigenous customer segment, community-led planning, educational initiatives, the use of Energy Champions and Energy Advocates, and the establishment of an Indigenous Energy Efficiency Advisory Group, reconciliation and equity remain weakly integrated and subsumed by the strategic priorities of cost reductions and cost effectiveness.

As a result of this prioritization of cost reductions and cost effectiveness, funding is generally inadequate for First Nation programs, when considered from both the perspective of horizontal equity, i.e., the distribution of benefits should equal the distribution of the population, and vertical equity, i.e., that the disadvantaged should receive a greater proportion of benefits to offset their disadvantage.[36] To address these concerns, this report has made a series of recommendations to EM and the PUB in the hopes of improving the present Plan as well as future iterations and strengthening the contribution of energy efficiency to reconciliation and equity in the province.

NOTES

[1] *Bill 19 – The Efficiency Manitoba Act* (Assented 2 June 2017); *Efficiency Manitoba Regulation*, Consolidated Regulation 119/2019 (Registration Date 9 August 2019).

[2] All figures in this sub-section are drawn from the Government of Canada's 2016 Census.

[3] The participation rate measures the labour force as a percentage of the population 15 years and older; the employment rate expresses the number of people employed as a percentage of the population 15 years and older; the unemployment rate measures the number of unemployed as a percentage of the labour force.

[4] Consumer's Association of Canada (Manitoba), *Tackling Energy Poverty* (Winnipeg: CAC-M, 2017), p.10.

[5] Manitoba Hydro, *2017 Residential Energy Use Survey: Weighted Population and Saturation Results* (Winnipeg: Manitoba Hydro, 2019), p. 166.

[6] Rezaei, Maryam, *Power to the People: Thinking (and Rethinking) Energy Poverty in British Columbia*, PhD Dissertation, Department of Resource Management and Environmental Studies, University of British Columbia, 2017, pp. 47-48.

[7] Rachelson, Halina, *Support for Conservation and Energy Management in Indigenous Communities* (Vancouver: BC Hydro, 2018); Rezaei, Maryam, *Power to the People: Thinking (and Rethinking) Energy Poverty in British Columbia*, PhD Dissertation, Department of Resource Management and Environmental Studies, University of British Columbia, Canada, 2017.

[8] Manitoba Hydro, *Indigenous Voices Omnibus Survey 2017*, p. 9.

[9] Boemi, Sofia-Natalia and Agis M. Papadopoulos, "Energy Poverty and Energy Efficiency Improvements: A Longitudinal Approach of the Hellenic Households," *Energy and Buildings* 197 (2019): 242-250; Council of Europe Development Bank, *Energy Poverty in Europe: How Energy Efficiency and Renewables Can Help* (Paris: CEB, 2019); Gibbons, D. and R. Singler, *Cold Comfort: A Review of Coping Strategies Employed by Households in Fuel Poverty* (London: Centre for Social and Economic Inclusion, 2009); Liddell, C. and C. Morris, "Fuel Poverty and Human Health: A Review of Recent Evidence," *Energy Policy* 38, no. 6 (2010): 2987-2997; Rezaei, Maryam, *Power to the People: Thinking (and Rethinking) Energy Poverty in British Columbia*, PhD Dissertation, Department of Resource Management and Environmental Studies, University of British Columbia, 2017.

[10] Consumer's Association of Canada (Manitoba), *Tackling Energy Poverty* (Winnipeg: CAC-M, 2017); Markkanen, Sanna and A. Anger-Kraavi, "Social Impacts of Climate Change Mitigation Policies and their Implications for Inequality," *Climate Policy* 19, no. 7 (2019): 827-844.

[11] Rezaei, Maryam, *Power to the People: Thinking (and Rethinking) Energy Poverty in British Columbia*, PhD Dissertation, Department of Resource Management and Environmental Studies, University of British Columbia, 2017, p. 33.

[12] Colton, Roger, "The Equities of Efficiency: Distributing Energy Usage Reduction Dollars," in *Energy Justice: US and International Perspectives*, edited by R. Salter, C. Gonzalez, and E. Warner (Northampton: Edward Elgar Publishing, 2018), pp. 105-140.

[13] Colton, Roger, "The Equities of Efficiency: Distributing Energy Usage Reduction Dollars," in *Energy Justice: US and International Perspectives*, edited by R. Salter, C. Gonzalez, and E. Warner (Northampton: Edward Elgar Publishing, 2018), pp. 119-120.

[14] Sen, Basav, G. Bird, and C. Bottger, *Energy Efficiency With Justice* (Washington, D.C.: Institute for Policy Studies, 2018, p. 8.

[15] Sen, Basav, G. Bird, and C. Bottger, *Energy Efficiency With Justice* (Washington, D.C.: Institute for Policy Studies, 2018);

[16] Markkanen, Sanna and A. Anger-Kraavi, "Social Impacts of Climate Change Mitigation Policies and their Implications for Inequality," *Climate Policy* 19, no. 7 (2019): 827-844.

[17] *Bill 18 – The Path to Reconciliation Act* (Assented 15 March 2016), section 1(1) (author's emphasis).

[18] *Bill 18 – The Path to Reconciliation Act* (Assented 15 March 2016), section 3(2).

[19] Efficiency Manitoba, *AMC-EM-I-1-30*, AMC/EM I-1.

[20] Efficiency Manitoba, *2020/2023 Efficiency Plan Submission* (Winnipeg: Efficiency Manitoba, 2019), pp. 118, 220, 330, 333, 420, and 586.

[21] See IESO, *Indigenous Conservation Programming: A New Approach* (Toronto: IESO, 2018); Rezaei, Maryam, *Power to the People: Thinking (and Rethinking) Energy Poverty in British Columbia*, PhD Dissertation, Department of Resource Management and Environmental Studies, University of British Columbia, Canada, 2017.

[22] Colton, Roger, "The Equities of Efficiency: Distributing Energy Usage Reduction Dollars," in *Energy Justice: US and International Perspectives*, edited by R. Salter, C. Gonzalez, and E. Warner (Northampton: Edward Elgar Publishing, 2018), pp. 105-140.

[23] Minister of Crown Services, *Framework Letter to the Chair of Efficiency Manitoba*, 24 April 2019.

[24] Efficiency Manitoba, *AMC-EM-I-1-30*, AMC/EM I-1.

[25] Efficiency Manitoba, *AMC-EM-I-1-30*, AMC/EM I-2a.

[26] Crane, Courtenay, *Energy Efficiency in First Nations Communities* (Vancouver: University of British Columbia, 2017); IESO, *Indigenous Conservation Programming: A New Approach* (Toronto: IESO, 2018); Krupa, Joel, Lindsay Galbraith, and Sarah Burch, "Participatory and Multi-Level Governance: Applications to Aboriginal Renewable Energy Projects," *Local Environment* 20, no. 1 (2015): 81-101; Rachelson, Halina, *Support for Conservation and Energy Management in Indigenous Communities* (Vancouver: BC Hydro, 2018); Rezaei, Maryam and Hadi Dowlatabadi, "Off-Grid: Community Energy and the Pursuit of Self-Sufficiency in British Columbia's Remote First Nations Communities," *Local Environment* 20, no. 7 (2016): 789-807; Shantz, Joanne, *Community Energy Planning in Remote Indigenous Communities*, M.A. Thesis, Department of Geography, University of Guelph, 2018;

[27] Efficiency Manitoba, *AMC-EM-I-1-30*, AMC/EM I-17b.

[28] Efficiency Manitoba, *AMC-EM-I-1-30*, AMC/EM I-6b; Efficiency Manitoba, *AMC-EM-I-1-30*, AMC/EM I-21b.

[29] IESO, *Indigenous Conservation Programming: A New Approach* (Toronto: IESO, 2018), p. 24.

[30] Colton, Roger, "The Equities of Efficiency: Distributing Energy Usage Reduction Dollars," in *Energy Justice: US and International Perspectives*, edited by R. Salter, C. Gonzalez, and E. Warner (Northampton: Edward Elgar Publishing, 2018), pp. 105-140.

[31] Colton, Roger, "The Equities of Efficiency: Distributing Energy Usage Reduction Dollars," in *Energy Justice: US and International Perspectives*, edited by R. Salter, C. Gonzalez, and E. Warner (Northampton: Edward Elgar Publishing, 2018), pp. 119-120.

[32] The average residential and First Nation On Reserve residential bill increases were calculated using an LRI of 0.019 cents/KWH (as used by Efficiency Manitoba~~, *DAYMARK*~~ in AMC/EM~~-~~ I-~~*94a-c,*~~10b) and the average electricity annual consumption drawn from the DAYMARK/EM I-~~94a~~95a.

[33] Manitoba Hydro, *2017 Residential Energy Use Survey: Weighted Population and Saturation Results* (Winnipeg: Manitoba Hydro, 2019), p. 159.

[34] The number of estimated residential participants was derived by adding the units for Residential Programs, Income Qualified Programs, and Residential Indigenous Programs (excluding the Indigenous Business offer), where the unit was either a number of houses, a number of projects, or a number of systems. This was done to facilitate comparability. The total budget was calculated by adding the estimated costs of electric and natural gas residential programs, as elaborated in Attachment 3 of the Plan.

[35] The First Nation on reserve share of total electricity consumption was drawn from Coalition/EM I-18a; the share of Indigenous program electricity savings of total program electricity savings was calculated from Attachment 3 of the Plan, p. 513; residential electricity consumption was calculated from the table provided in Daymark/EM I-95a; and the share of residential electricity savings for First Nation on Reserve programs was calculated from Attachment 3 of the Plan, p. 513.

[36] Colton, Roger, "The Equities of Efficiency: Distributing Energy Usage Reduction Dollars," in *Energy Justice: US and International Perspectives*, edited by R. Salter, C. Gonzalez, and E. Warner (Northampton: Edward Elgar Publishing, 2018), pp. 119-120.