Climate Action Team

Manitoba's Road to Resilience

Volume 3: Policy Solutions – Coordination and Finance

A COMMUNITY CLIMATE ACTION PATHWAY TO A FOSSIL FUEL FREE FUTURE

Climate Action Team

CCPA
CANADIAN CENTRE for POLICY ALTERNATIVES MANITOBA OFFICE

CLIMATE CHANGE CONNECTION
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Manitoba's Road to Resilience: A Community Climate Action Pathway to a Fossil Fuel Free Future

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Acknowledgements and Background

The Road to Resilience is led by Manitoba's Climate Action Team (CAT), a coalition of environmental and policy organizations in Manitoba. Member groups have extensive knowledge and expertise in the areas of environmental protection and climate action.

These five environmental and policy organizations originally came together in late 2017 to independently review and consult with the public over the Province's Climate and Green Plan. They formed CAT one year later when the Intergovernmental Panel for Climate Change (IPCC) ***Global Warming of 1.5C Report*** was released, stating that the world only has a few short years to drastically cut greenhouse gas emissions.

Coalition members include:

- Canadian Centre for Policy Alternatives (CCPA)
- Climate Change Connection (a charitable project of MakeWay)
- Green Action Centre
- Manitoba Energy Justice Coalition
- The Wilderness Committee

Our vision is to build a collaborative and resilient zero-carbon society that operates within the constraints of nature.

Manitoba's Road to Resilience series includes:

Volume 1: The Pathway

Volume 2: Energy Solutions

Volume 3: Policy Solutions

> ***Volume 3.1:*** *Coordination and Finance*
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> ***Volume 3.2:*** *Residential and Commercial Buildings (coming spring 2023)*
>
> ***Volume 3.3:*** *Vehicle Transportation (coming summer 2023)*

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Introduction to Road to Resilience: Policy Solutions

Manitobans deserve climate solutions that make life more affordable. The impacts of climate change will only worsen until greenhouse gas (GHG) emissions are reduced. The COVID-19 pandemic, high energy costs, and recent spikes in inflation are making climate action even more difficult, if not impossible, for most households, institutions, and businesses to implement.

A new approach is needed, and Manitoba has several enormous advantages. The business community and workforce are highly innovative; electricity supplies are already low carbon and created in surplus, sufficient to export surplus electricity to other provinces and American states. Yet the Manitoba economic release on importing fossil fuels for transportation and heating accounts for over 70 percent of our annual energy use. This results in Manitoba's economy losing billions of dollars every year to out-of-province and out-of-country fossil fuel corporations. This leaves Manitobans vulnerable to global price shocks, causing more economic pain at the pump and on heating and cooling bills. Adding insult to injury, the rising costs of inflation on goods and services across the economy have been ***largely caused by the increasing cost of fossil fuels*** - a process the head of the European Central Bank has labelled "***fossilflation***."

Continuing to rely upon fossil fuels is bad for the provincial economy, Manitoban's pocketbooks, and the planet.

Successful climate solutions can help solve the basic affordability challenges Manitobans face daily. This is the purpose of ***Manitoba's Road to Resilience***, a series of evidence-based ground-breaking reports that document for the first time how Manitoba can reduce its GHG emissions according to the timelines provided by climate science while also creating positive financial and employment outcomes for its citizens, businesses, and government.

In 2021, the Climate Action Team released the *Road to Resilience, Volume 1: The Pathway*. This first document of the series showed how quickly each economic sector in Manitoba should reduce its GHG emissions to match climate science timelines. The first such timeline is a ***45 percent cut from 2005 levels by 2030***, followed by net-zero status in 2050. A steeper reduction timeline between now and 2030 is required (worldwide) to prevent global average temperature rise from exceeding 1.5 degrees Celsius by the end of this century. Because Manitoba's emissions have increased since 2005, we now must cut our current emissions in half by 2030 instead of 45 percent to meet this standard. *The Pathway* revealed that all economic sectors in Manitoba will need to make significant reductions in their GHGs by this date, except for our electricity sector, which has already achieved that target.

In 2022, the *Road to Resilience, Volume 2: Energy Solutions was released*. It showed how Manitoba can change its use and creation of electricity to shift all residential and commercial buildings as well as most road vehicles off fossil fuels.

***Volume 3: Policy Solutions*, in the *Road to Resilience* series (which you are now reading)**, describes the new financial incentives, laws, and other efforts our provincial government should implement to achieve the transition described in *Energy Solutions*. As such, the *Policy Solutions* volume does not discuss all the initiatives required to reduce Manitoba's annual GHG emissions to net zero. Instead, it describes how we can secure enough low-carbon electricity to transition most of our buildings and road vehicles away from fossil fuels while creating financial benefits for households, businesses, institutions, and government. *Policy Solutions* includes three separate reports: Coordination and Finance, Residential and Commercial Buildings, and Vehicle Transportation.

Several popular climate initiatives, such as improved public transit, active transportation, and more compact urban design, are not included in this volume. This is because the *Energy Solutions* report, by necessity, approached the climate transition problem from a "worst case scenario" perspective - Would it be possible to identify sufficient sources of electricity to handle current demand, future growth in demand, and the transition of most buildings and road vehicles? In other words, it had to plan for a possible future where there is no significant shift away from single occupancy vehicles, and where the growth in personal vehicle use and reliance upon single detached homes continues. *Policy Solutions*, as an extension of the *Energy Solutions* report, maintains these assumptions to address that "worst case scenario" possibility.

The good news is that any progress made through better use of transit, active transportation, or urban design will make implementing the *Policy Solutions* recommendations that much cheaper and easier.

The primary audience for these recommendations are officials and political representatives of the provincial government of Manitoba. Representatives from other governments, the private sector, interested stakeholder organizations and engaged citizens across the country will also find the recommendations helpful. If implemented, these ideas will strengthen Manitoba's economy by several billion dollars per year and reduce our annual GHG emissions by 26 percent – the largest cut in climate pollution in our province's history.

In a subsequent publication, the *Road to Resilience* will provide a detailed *Economic Analysis* documenting the province-wide financial impacts of this transition for Manitoba households and businesses, Manitoba Hydro, provincial GDP, employment, and the Manitoba government.

Our climate starting point

Nationally, as of 2019, Canada had ***the worst performance of any G7 country*** for reducing emissions since the Paris Agreement was signed in 2015. While emissions did drop 9 percent in 2020, this was widely viewed as primarily due to the COVID-19 pandemic.

The ***Climate Action Tracker*** ranks Canada's planned climate actions to date as "highly insufficient," noting that if all countries were to match Canada's efforts, global warming would increase 3 to 4 degrees Celsius – a far cry from the 1.5 degrees Celsius climate science has called for to prevent catastrophic impacts on people and the planet. From an historical perspective, Canadians have been ***amongst the highest per capita emitters*** of GHGs of any country in the world.

As of the date of this report's publication, official data for 2021 has yet to be released, but a ***recent estimate*** from the Canadian Climate Institute predicts national emissions that year were 6.7 percent lower than in 2005. If accurate, it means we now have only seven years to reduce emissions by a further 43 percent to meet the 1.5 degree Celsius target threshold. Within Canada, Manitoba has become a climate laggard. Only 28 percent of the energy we use each year could be considered "low carbon" (from electricity and biofuels), while all the rest comes from imported gasoline, diesel, and fossil gas. Even with the COVID-19 pandemic temporarily reducing our provincial emissions to 21.7 million tonnes (MT) of CO_2e in 2020, this still represents a 5.9 percent increase since 2005 and 2.8 percent since the Paris Accord was signed in 2015. Manitoba's 2020 per capita emissions of ***16 tCO_2e per person per year*** put us behind Quebec (9 tCO_2e), PEI and Ontario (both at 10 tCO_2e), BC (12 tCO_2e) and Nova Scotia (15 tCO_2e). ***Manitoba*** is the only province ***other than Alberta*** that now emits more GHG pollution into the atmosphere each year than we did in 2005.

The irony of Manitoba's poor performance on climate change is that Manitobans enjoy a wide range of environmental, social, and economic advantages that most other jurisdictions in the world can only dream of. These include the following:

- Extremely low-carbon electricity grid that (in most years) generates 99 percent of its energy without burning fossil fuels.
- Second-lowest price for electricity in Canada and among the lowest electricity costs anywhere in North America, making our low-carbon energy option much more cost-competitive against fossil fuels.
- Abundant additional sources of low-carbon solar and wind energy that can be developed.
- Significant mineral resources including nickel, lithium, and other key ingredients for the transition to electricity and battery-based energy systems. These resources can and should be mined as ethically as possible.
- 100 percent public ownership of both Manitoba Hydro and CentraGas, the sole suppliers of electricity and fossil gas in our province. Public ownership reduces energy costs for Manitoba households and businesses while also making it easier to implement policy changes than if one or more private sector suppliers were involved.
- Long-standing prohibition on any profit-taking from the sale of fossil gas, meaning fewer financial losses for the switch to low-carbon energy.
- No coal or fossil gas extraction activity and only a relatively small oil sector, with zero refining capacity.

A Policy Shift is Required

The growing severity of the climate crisis combined with inertia on climate action and the affordability struggles most Manitobans currently face necessitates a new policy approach.

To date, nearly all climate efforts in Manitoba (and Canada) have been small and voluntary, including mild financial incentives that have often benefitted higher-income earners. In other words, a reliance upon a small number of "carrots" (incentives) but very few new "sticks" (stricter rules). This approach has left us unable to escape the high costs of operating fossil fuel vehicles and buildings while GHG emissions have increased rather than decreased.

Governments – at all levels – must use all policy tools available to launch much stronger measures that remove fossil fuel options from the marketplace at an accelerated pace, while also making low-carbon options accessible and affordable for everyone. To return to the earlier analogy, this approach involves "many large sticks" and "many large carrots," implemented concurrently. The "carrots *and* sticks" approach is the basis for all the recommendations in the *Policy Solutions* report. This is the best way to reduce GHG emissions while maximizing financial savings for Manitobans. This is an inescapable timeline based on the findings of climate science, and saving Manitobans money is critical at this juncture. Our policy recommendations across the three *Policy Solutions* reports show how each vehicle and building owner will benefit, and every tonne of CO2e pollution prevented will lessen the damage of climate change.

When Could Climate Action Start in Manitoba?

Capturing the enormous economic and environmental benefits available from a shift to locally-made low-carbon electricity will require Manitobans to break away from the status quo. Individual citizens, non-profits, and institutions all have a role to play, but the primary decision makers are in the provincial government and private sector. While decisions on what products and services will be offered and consumed in our society are made daily, the most important opportunity to elevate calls for real climate action will be the 2023 provincial election.

Our starting point on this front is not ideal - the Manitoba government has not achieved (or attempted) any meaningful climate progress to date. There is no guarantee of this shift in direction from the government, but if it occurs, we will have seven years to cut emissions in half by 2030. The science is clear that the Manitoba government must make financially beneficial climate actions a primary goal.

Time has now become our most valuable (and scarce) non-renewable resource. While the more powerful members of society have made the decisions (and reaped most of the personal benefits) that created our current crisis, concerned Manitobans have an important role to play in charting a more sustainable and profitable course by pushing governments to act.

Coordination and Finance

Achieving the fossil-fuel-free, climate resilient future outlined in the Road to Resilience series will be a big undertaking. This is a systemic problem which requires a systemic solution. This system change will not occur if the only mechanism is for individuals to apply for grants and make changes on their own. The effort needs to be led and coordinated energetically and with high-level authority.

Climate action must receive a new level of central prioritization and coordination within the provincial government and its Crown Corporations. The current practice of having a "climate plan" that is ignored or undermined by most other government decisions must end. A necessary component for success is the creation of a new government entity and revised mandates for Crown Corporations to both oversee all climate program delivery and screen government actions for their climate impacts.

This report also describes the financial, legislative, and informational actions the provincial government should implement so Manitobans can capture the many benefits of transitioning away from fossil fuels.

Financially, the Manitoba government should prioritize five crucial improvements:

1. Develop a Manitoba carbon tax policy and revenue distribution, and successfully negotiate its implementation with the federal government.
2. Expand the scope of the carbon tax to include all sources of emissions in Manitoba, while matching the federal carbon pricing schedule.
3. Return carbon tax revenue to the lowest-income 40 percent of households.
4. Use all remaining carbon tax revenue to make money-saving, low-carbon technology accessible and profitable for Manitoba households, businesses, institutions, and other levels of government such as First Nations, municipalities, and school divisions.
5. Show leadership by retrofitting existing provincial buildings and transitioning its vehicle fleets to money-saving low-carbon electricity as soon as possible.

Enabling these transitions requires a new policy paradigm with far more substantial incentives, backed up with new legislation - a "carrots and sticks" approach. Crucially, all recommendations found in the *Policy Solutions* reports are guided by the following principles: fairness, profitability, climate science, proven technology, and convenience.

1.1: Set targets, timelines, and guiding principles.

Recommendation 1.1 - The Government of Manitoba establish a goal of zero greenhouse gas emissions by 2050 or sooner and make public the guiding principles they will use to develop and prioritize climate actions.

According to the ***IPCC Global Warming of 1.5°C Report***, global emissions need to be cut in half by 2030 and achieve net zero by 2050. The *Road to Resilience* is built on a net-zero by 2050 target, and this target (or an even more ambitious one) should be the planning goal in Manitoba.[1]

The following principles are used in the *Road to Resilience* to guide the research and recommendations:

1. **Fairness** - The transition away from fossil fuels can and must be done fairly. Fairness must include a recognition of marginalized people and communities, and the need to address existing inequities.

2. **Profitability -** Households, businesses, institutions, and governments should all be financially better off because of our push towards net zero emissions. If it is not in the best interests for a person or organization to make the necessary changes, those changes are not likely going to happen.

3. **Climate Science** - The recommendations of climate science must become the starting point that sets the scale of our actions and the timelines involved to achieve them.

4. **Proven Technologies** - Consider those low-carbon technologies that are currently available and proven to work. While better technology is always welcome, Manitoba must start using proven, existing technology. One established technology - building more hydro dams - was not considered as an energy supply option because the authors of the *Road to Resilience* will not presume to know the wishes of the Indigenous communities on whose land such dams may be constructed.

5. **Convenience** - The *Policy Solutions* report prioritizes climate actions that do not require any significant changes to the daily routines of Manitobans. This emphasis on convenience, combined with the financial benefits involved, offers the best opportunity to successfully engage Manitobans so they want to participate in the solutions described below.

Moreover, fairness is understood by the *Road to Resilience* to involve the following:

a. Vulnerable people and communities should be protected, including those who are already financially disadvantaged and workers whose employment could be negatively affected by the transition away from fossil fuels. A portion of carbon tax revenue should be rebated to ensure the lowest 40 percent of households by income do not experience a net loss. The ***Eco-Fiscal Commission*** calculated that in Manitoba, returning 12.6 percent of carbon tax revenue would not negatively impact the 40 percent of lowest-income households who use a large portion of their incomes to cover basic needs.

b. Carbon tax revenues should be targeted to the sector they originated from, and used for the express purpose of implementing low-carbon solutions that save money. Carbon tax revenue from the sale of gasoline and diesel fuels, for instance, should be used to create financial incentives and programs that make electric vehicles more affordable.

c. Sector businesses that produce climate pollution should be actively involved in reducing those emissions. If a low-carbon technology is not yet available, Manitobans should be encouraged to find solutions but not be unduly punished while low-carbon options are not readily available. The heavy-duty trucking industry, for instance, does not have an electric option yet, so efforts in this sector should focus on efficiency initiatives that save money while reducing emissions, and preparing for the widespread adoption of electric models when they do become available.

An essential starting point is for Manitoba to regain control of its carbon tax revenue and redirect these revenues to opportunities that reduce emissions and save money.

[1] Following the launch of their ***Synthesis Report*** in March 2023, the IPCC moved the 2050 target forward for developed countries, calling on them to commit to net-zero as close to 2040 as possible.

1.2: Establish a Climate Emergency Secretariat with mandate, funding, & authority

Recommendation 1.2: The Government of Manitoba create a Climate Emergency Secretariat with central coordination and oversight of all climate actions.

The scale of climate action required in the time left goes well beyond the usual response from governments. It is no longer sufficient (or effective) to have a "climate plan" that sits on the periphery of decision-making while "business as usual" continues in all other government departments. Climate change must become a central focus of a government's legislative agenda, budgets, and communication efforts with its citizens. As such, the climate must be the lens that guides decisions in all departments and public entities, including Crown Corporations. Failure to do so will see whatever progress may be achieved under a "climate plan" undermined by other choices that increase costs and emissions.

The Climate Emergency Secretariat would fulfil the following roles:

- Development, implementation, oversight, and reporting on all climate actions across provincial government departments, including Crown Corporations.
- Provide Cabinet and Treasury Board with an analysis on the climate impacts of all legislative, budgetary, and program delivery decisions.
- Serve as the lead entity for climate-related communication with Manitoba's private and non-profit sectors, and with other levels of government including Manitoba First Nations and Indigenous communities.

The province should create an internal body to oversee Manitoba's shift away from fossil fuels and ensure climate is considered in all government decisions. At a minimum, this entity must have an administrative home at the most senior level of government, with a proper legislative mandate, sufficient financial resources, and staffing. The partisan side of government - composed of political staff appointed directly by Cabinet - will also need to reflect the higher priority of climate considerations. When governments change, the new entity would continue to do its work, just as the Health, Education, and other departments transcend the election cycle.

This new entity should also play a key role in working with other levels of government to make progress on money-saving climate initiatives. The federal government as well as other provincial and territorial governments are obviously important, but so too are First Nations, who possess their own unique opportunities and challenges related to climate change. Municipalities play a key role on many fronts including the enforcement of building codes, and of course possess many buildings, as do school divisions.

One approach is to create a new Crown Corporation to coordinate the implementation of all climate actions in Manitoba. Placing responsibility for this in a properly mandated and resourced Crown elevates climate concerns beyond a single department to instead extend across all areas of government while providing the bonus of institutional strength within the bureaucracy. Initially, the new entity will need a permanent advisory seat at the Treasury Board and Cabinet to oversee a cultural shift until all decisions are made with climate impacts in mind. **Neither Manitoba Hydro nor Efficiency Manitoba have the current mandate or resources to fulfil this role, but elements of both can be used as building blocks**. Regardless of its final structure or name, the work of the new entity should be independently reviewed on a regular basis by the Public Utilities Board.

It goes without saying that significant financial investments need to be made to spur our transition away from fossil fuels. A fundamental component of the *Road to Resilience, Volume 3: Policy Solutions* calls for Manitoba to gain control of carbon tax revenue through successful negotiations with the federal government, and for these revenues to be returned to Manitobans for the purpose of saving money while reducing climate emissions. The current process of Manitobans receiving small climate rebate cheques every quarter would be replaced with programs that will save more money and reduce emissions faster. One tool highlighted in the *Policy Solutions* series is the potential of zero-interest loans to make low-carbon technology accessible and more profitable for Manitobans. The positive impact of this approach can be multiplied by recycling loan payments back into future rounds of loans.

Oversight of all climate action programs by this new public entity will assure the public that necessary changes to their homes and vehicles – the two most expensive items in most household budgets – are completed properly, safely, and in a manner that saves households and businesses money.

Public Sector needs to take a Leadership role on Climate Action

A provincial government that actively encourages its citizens to transition off fossil fuels must also lead by example. The provincial government should demonstrate leadership by requiring all fleet vehicles to be zero-emission as soon as possible, and for current and future buildings to operate as efficiently as possible while also avoiding the use of fossil gas. This scale of action can and should be mandated throughout the public sector. Municipalities, school divisions, hospitals, universities, and other public institutions all depend upon provincial funds to operate. By including new climate criteria in these funding arrangements, the provincial government can ensure that public sector buildings and vehicles transition away from fossil fuels. Alongside these new financial requirements ("sticks"), the provincial government could make the same zero interest loans ("carrots") available to citizens equally available to public sector entities. For example, electric transit buses cost more upfront but save money over their lifespan compared to diesel buses, so a zero-interest loan from the province could enable a municipality to acquire electric buses and pay back the loan with the savings generated from much lower fuel and maintenance costs. Agreements with First Nations should also be pursued to address the unique circumstances their communities face.

1.3: Prepare the workforce for climate action.

Recommendation 1.3: Plan and deliver the training needed to support all of the climate actions.

A further role for the new Climate Emergency Secretariat will be to ensure Manitoba has a sufficiently sized and trained workforce to complete the enormous amount of work ahead of us. New workers need to be recruited into these roles, just as existing practitioners will require information and training upgrades so they can provide their labour and services in a manner that increases financial savings while decreasing climate emissions. Workforce gaps within government will also need to be addressed, as key absences in the civil service can lead to unnecessary confusion and delays. The province's position of Chief Building Officer for example has been left vacant for multiple years.

1.4: Use the Carbon Tax for emission reduction.

Recommendation 1.4: Return the carbon tax from the federal government to the government of Manitoba and ensure this revenue is used to help Manitobans reduce their GHG emissions.

Under the *Road to Resilience* "carrot and stick" approach, it is essential that new financial policies and programs make low-carbon technology accessible and economically beneficial to Manitoba households, businesses, and institutions. Particularly in a time of record-high inflation ***(largely caused by surging fossil fuel prices)*** and pandemic uncertainty, we need to provide climate solutions that reduce emissions and improve people's bottom lines.

Current Situation

Manitoba is one of several provinces without its own carbon pricing regime. As a result, we are subject to the "federal backstop" carbon tax, which serves as the minimum standard that all provinces and territories should meet. As of April 1, 2022, the federal carbon tax rose to $50 per tonne, and it is scheduled to increase by $15/tonne every year until it reaches $170/tonne in 2030. The revenue collected in Manitoba (likely around $650 million in 2022) is returned by the federal government, with 90 percent going directly to individuals under the Climate Action Incentive Payment (CAIP) and the remaining 10 percent distributed to local businesses and institutions in Manitoba for climate-related initiatives.

Claiming control over the carbon tax requires that the Manitoba government successfully negotiate this outcome with the federal government. To do so, Manitoba must either adopt Ottawa's planned increases to the tax or produce a climate action plan capable of reducing emissions by at least as much as the federal plan would accomplish. The package of policy solutions (financial, regulatory, and informational) proposed by the *Road to Resilience* would satisfy both these conditions. Successful negotiations with the federal government ultimately rests in the hands of the provincial government.

Re-Purpose Carbon Revenue to Climate Solutions

Carbon revenue should be used to implement climate solutions. This is not presently the case, because 90 percent of all carbon revenue collected from Manitoba is returned to citizens. As such, the current federal government approach distributes carbon tax revenue without any guarantees the money will be spent on climate solutions. These rebates also decrease the ability of the carbon tax to influence future behaviour, because most or all the money paid is returned. Under the *Road to Resilience* approach, carbon tax revenue would be used to make money-saving low-carbon technology accessible to Manitobans.

As described in more detail below, new zero interest loan programs funded by carbon tax revenue will eliminate the higher upfront costs that pose such a barrier to low-carbon technology for many Manitobans. Instead of receiving a few hundred dollars every couple of months, Manitoba citizens and businesses will see their carbon tax revenue go into a capital pool that enables them to purchase electric vehicles and upgrade their buildings, saving them tens of thousands of dollars by 2050. Recycling loan payments back into the capital pool will reduce the amount of money required to provide the loans.

This approach will benefit more than just middle and higher-income households. Retrofits on rental buildings for instance will benefit tenants because landlords will no longer have access to rent increases based on higher utility costs. Landlords also benefit because their operating costs will be much smaller and their assets more valuable.

1.5: Rebate Carbon Tax to households with lower income

Recommendation 1.5: Rebate a portion of Carbon Tax revenue to ensure the lowest 40 percent of households by income do not experience a net loss.

The lowest 40 percent of households by income will continue to receive carbon tax rebates. Vulnerable people and communities should be protected, including those who are already financially disadvantaged and workers whose employment could be negatively affected by the transition away from fossil fuels. A portion of carbon tax revenue should be rebated to ensure the lowest 40 percent of households by income do not experience a net loss. The ***Eco-Fiscal Commission*** calculated that in Manitoba returning 12.6 percent of carbon tax revenue would achieve a "do no harm" status for the 40 percent of lowest-income households.

1.6: Enable PACE financing.

Recommendation 1.6: Make Property Assessed Clean Energy (PACE) available to finance climate loans for buildings.

The *Road to Resilience* calls for all existing residential and commercial buildings to become much more energy efficient and avoid using fossil fuels. The best proven technologies available are improvements to the building envelope, geothermal (ground or well-water source) and on-site photovoltaic solar energy. The challenge for most owners is they lack the funds to invest in a significant building retrofit that would implement these upgrades.

New zero-percent financing should be made available under a Property Assessed Clean Energy (PACE) program. This tool - widely used in the ***United States*** and in ***Canada*** already - covers the cost of a retrofit and assigns that cost to the property, rather than to the owner. This removes the barrier of paying the upfront cost out of pocket and enables an owner to sell the property at a later date without fear of failing to recoup the cost of the retrofit. The new owner will simply continue with the loan payments while also benefiting from the savings of much lower energy bills. Retrofits must be designed and implemented to ensure the monthly energy savings are larger than the monthly payments on the PACE loan.

We also recommend that PACE financing for buildings be made equally available to homeowners, other levels of government within Manitoba, as well as the institutional, non-profit, and private sectors.

PACE financing will require enabling legislation. *See more in Policy Solutions 3.2: Residential and Commercial Buildings.*

1.7: Redirect Efficiency Manitoba's mandate.

Recommendation 1.7: Change legislation and revenue sources to make Efficiency Manitoba's mandate to "reduce Manitoba's greenhouse gas emissions through the efficient use of electricity."

Efficiency Manitoba (EM) was formed as a Crown Corporation by enactment of the ***Efficiency Manitoba Act***. That Act clearly sets out the mandate for the corporation. That mandate is to provide "net savings that are at least equal to 1.5 percent of the consumption of electrical energy in the preceding year" and "net savings that are at least equal to 0.75 percent of the consumption of natural gas in the preceding year." These targets are inadequate for the goals of climate science and the *Road to Resilience*. If the fossil gas objective were followed until 2050, emissions from that source would still be about 80 percent of what they were when the Act was passed.

To achieve the objectives of heating buildings and moving vehicles without fossil fuels, Manitoba will need to use more, not less electricity. A new mandate for Efficiency Manitoba would enable it to manage programs that increase the efficient use of electricity to reduce fossil fuel use in Manitoba.

A key reason that Efficiency Manitoba is so constrained is related to how it is funded. Its legislation only allows it to receive funding from Manitoba Hydro. Manitoba Hydro includes this in its monthly electricity and fossil gas bills to customers. To justify the expansion in mandate to "reduce Manitoba's greenhouse gas emissions through the efficient use of electricity," there should be an expansion in the source of revenue for the corporation. If the expanded mandate of EM is to reduce GHG emissions, then it is reasonable that some portion of the Carbon Tax levy be used by or managed by EM so long as it is used to help Manitobans move away from their reliance on fossil fuels.

1.8: Create a geothermal utility.

Recommendation 1.8: Enact legislation to create a Thermal Energy Services utility.

Manitoba Hydro could not provide the power required to heat all our buildings if that heating relied on simple resistive heaters like baseboard units and electric furnaces. To meet the requirements of *Road to Resilience: Energy Solutions* requires adoption of geothermal heating on a very large scale. Adopting this approach will produce additional peak capacity for Manitoba Hydro, because the power saved by converting resistance heat buildings to geothermal is more than enough to cover the new peak load required to convert all fossil gas buildings to geothermal as well.

In order to efficiently and effectively make this transition, Manitoba must develop district geothermal systems, individual building owners and homeowners designing and installing geothermal themselves. This system should be a public utility.

Such a utility is known as a Thermal Energy Services or Thermal Energy Systems (TES) utility. A TES "consists of equipment or facilities for the production, generation, storage, transmission, or distribution of heat, hot water and/or cooling from one or more thermal energy sources." Energy sources may include waste heat, renewable (solar, geothermal, biomass, etc.) and non-renewable energy sources. The definition allows for non-renewable energy sources, but we would exclude those.

The British Columbia Utilities Commission, for example, makes provision for such a utility although BC does not have a Crown Corporation with that mandate. *See more in Policy Solutions 3.2: Residential and Commercial Buildings.*

1.9: Provide essential climate information.

Recommendation 1.9: Ensure that the public has access to reliable climate change information and education, that progress toward the climate goals is reported upon regularly, and that failure to meet targets results in remedial action.

The Manitoba government has a crucial role to play in providing accurate information on the climate crisis and the money saving solutions available to its citizens. It is essential that Manitobans receive accurate information on climate change solutions. Far too often, false narratives – sometimes deliberate – can discourage open dialogue and the successful capture of opportunities to save money while reducing GHG emissions.

Provincial Emissions Tracking

Manitoba should provide the public with updates twice a year on progress reducing GHG emissions. There is currently a 16-month delay in the release of data indicating how much GHG pollution came from each sector in Manitoba. For example, the data for 2020 was not released until April of 2022, and the data from 2021 will similarly not be available until April of 2023. This delay must be corrected so the effectiveness of new climate actions can be measured more quickly.

Collaboration for Climate Solutions

The new Climate Emergency Secretariat recommended by the *Road to Resilience* should play a prominent role, as should collaborative partnerships with the many local community organizations dedicated to different types of climate action. Examples include Sustainable Building Manitoba (SBM), Engineers Geoscientists Manitoba, the Manitoba Electric Vehicle Association (MEVA), Manitoba Environmental Industries Association (MEIA), Functional Transit Winnipeg, and the Prairie Climate Centre to name a few. Opportunities for Manitobans to see tangible examples of climate solutions first-hand are essential, whether it is an opportunity to test drive an electric vehicle or walk through a high-performance home.

National and Global Advocacy

It is equally important that the province re-engage diplomatically with national and international efforts to reduce emissions. If Manitoba begins to take the economic and environmental benefits of climate action seriously, we will have many innovative success stories to share. Most if not all the actions recommended by the *Road to Resilience* such as Property Assessed Clean Energy (PACE) financing for building improvements and zero interest loans for electric vehicles (see *Policy Solutions* 3.2 and 3.3) - could work just as well in other provinces and jurisdictions. Nationally and internationally, there is always a need for more voices advocating for a scale of climate action that matches the timelines prescribed by climate science. Manitoba can and should be a leader in this crucial effort, while offering tangible examples of how it can be done.

1.10: Expand the scope of the Carbon Tax.

Recommendation 1.10: Expand the scope of the carbon tax to include all sources of climate emissions in Manitoba.

A lesser-known fact about the federal carbon tax is it only applies to emissions from the burning of fossil fuels such as gasoline, diesel, and fossil gas. On average these sources have ***represented 62 percent of Manitoba's total GHG emissions from 2016-2020***. The remaining 38 percent of emissions in Manitoba do not have any carbon tax assigned at all, representing an unfair subsidy to the sectors and sources involved:

- Agriculture - In 2020, agricultural emissions from fertilizers (3.4 million tCO2e), methane from livestock (2.2 million tCO2e) and manure (0.7 million tCO2e) accounted for 29 percent (6 MT) of Manitoba's total GHGs.
- Landfills - Methane emissions from landfills emit roughly 1.0 million tCO2e per year.
- Industry - a variety of emissions from a range of industrial source chemicals also release 1.0 million tCO2e per year into the atmosphere.

Taken together, these sectors typically release 8.7 million tonnes of CO2e into the atmosphere annually. On the principle of fairness, the *Road to Resilience* calls for the carbon tax to be extended to cover every source of GHG pollution in Manitoba. It is not fair that some emissions are taxed while others are not, even though every tonne of CO2e will increase the severity of climate change. As well, there is no way Manitoba will cut our emissions in half by 2030 or achieve net zero emission status in 2050 without attaching a significant price signal to nearly 40 percent of the pollution involved. Carbon tax revenues collected from each of these sectors should be returned and made available to the sector, people, and businesses involved, for the express purpose of reducing their future emissions.

1.11: Expand wind generation.

Recommendation 1.11: Direct Manitoba Hydro to plan for and implement at least 7,000 MW of wind generation within the province.

Capturing more of Manitoba's natural wind energy is essential if we are to have enough low-carbon electricity to transition off fossil fuels. According to the *Road to Resilience: Energy Solutions* report, roughly 6,000 – 7,000 MW of wind power will be required to facilitate the transition of our passenger road vehicles and most buildings to low-carbon electricity. Manitoba Hydro can play an important role by mapping our wind resource and identifying how much new wind will be required each year. The provincial government should set aside a portion of that needed capacity for Manitoba investors, including First Nations and Metis communities and social enterprises.

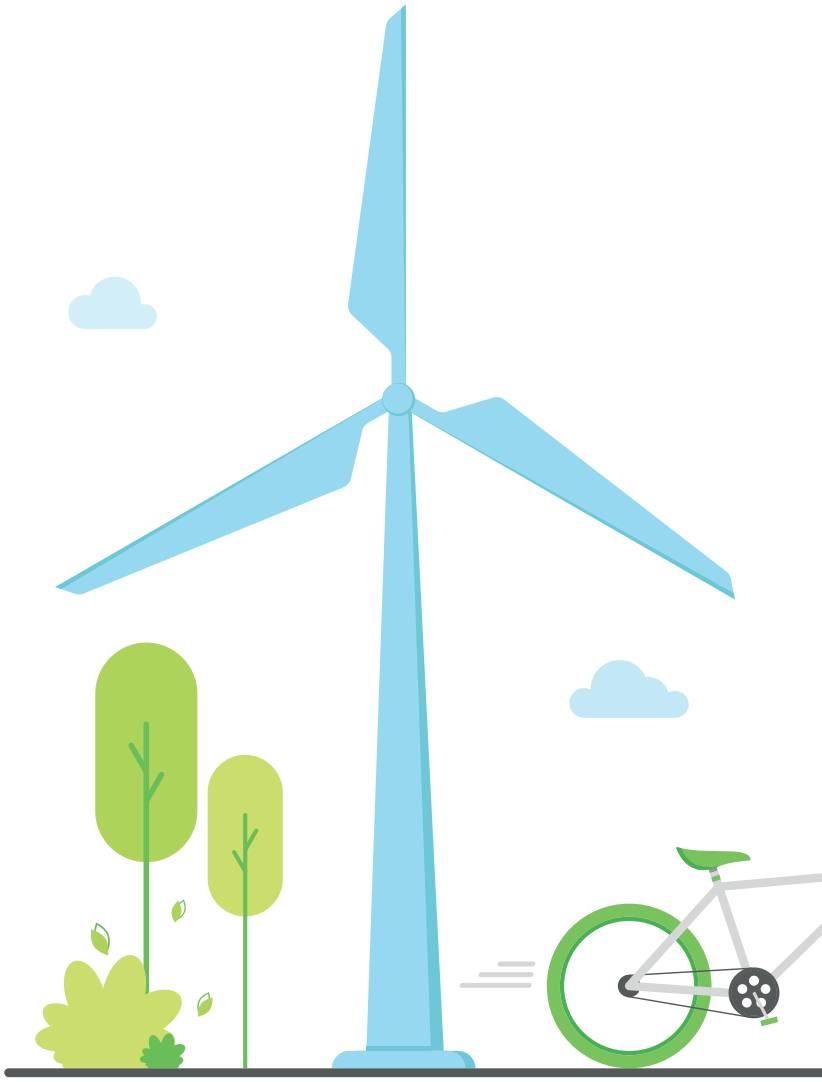
Only two wind farms with a combined nameplate capacity of 258 MW have been constructed, representing less than 5 percent of the energy generated and total capacity of the provincial grid.

Building more wind power offers many advantages:

- Diversifying the electricity grid with more wind power will improve climate resilience and help protect Manitoba from the full impacts of future droughts.
- Manitoba has a significant wind resource, estimated at 10,000 MW. In an unpublished study, local wind analyst Arbez has observed there is 5,000 MW of wind available in the southwest corner of Manitoba alone. That amount again is available across the remaining southern half of the province where most of the demand for electricity occurs.
- Wind power can and should be developed in different parts of the province. This brings economic benefits to more regions and helps ensure that while it may be calm in one part of the province, another location will be actively generating electricity.
- Wind power can be added in stages and on an as-needed basis, whereas other energy sources such as Hydro dams provide a set amount of additional capacity all at once, even if some of that new capacity is not needed within Manitoba right away.

Manitoba Hydro does not own the two wind farms already operational in St. Leon and St. Joseph, Manitoba. Instead, private investors negotiated a guaranteed price with Manitoba Hydro and then the investors have paid all the costs (construction, maintenance, payments to landowners, etc.) ever since. This arrangement is called a Power Purchase Agreement (PPA). Given current concerns about Manitoba Hydro's debt levels, and its lack of internal expertise related to wind energy, the *Road to Resilience* recommends that PPA's be used as the model to develop Manitoba's wind energy resource.

Wind turbine technology has improved considerably since Manitoba's first two wind farms were constructed over a decade ago. At 3 MW each, modern land-based wind turbines have nearly double the nameplate capacity of previous models, reducing the number of turbines and amount of land required.



Conclusion

Transitioning off fossil fuel requires a systemic approach. This paper has identified key legislative and financial tools for establishing a foundation for large-scale climate action.

A Climate Emergency Secretariat would ensure climate action is prioritized and coordinated across all of government. Together with crown corporations such as a newly-mandated Efficiency Manitoba and a new geothermal utility, it would provide the leadership and comprehensive support that individuals, households, businesses, institutions, and other levels of government need to transition to renewable energy, financed by carbon tax revenue from a new Manitoba carbon tax scheme.

"Coordination and Finance" is the first of three reports in the *Road to Resilience, Volume 3: Policy Solutions* sub-series. The reports that will follow turn to policies and programs needed in two key areas of emissions reductions and energy savings: residential and commercial buildings, and vehicles. Throughout, our approach is based on principles that include affordability, convenience, and relying on proven technology. Climate action will save Manitobans money, but it requires a systemic, government-led approach that starts with the policy initiatives found here.

Summary of Recommendations

#	Recommendation	Implementation
1.1	The Government of Manitoba establish a goal of zero greenhouse gas emissions from energy use by 2050 and make public the guiding principles they will use to develop and prioritize climate actions.	Gov't of Manitoba
1.2	The Government of Manitoba create a Climate Emergency Secretariat with central coordination and oversight of all climate actions.	Gov't of Manitoba
1.3	Plan and deliver the training needed to support all of the climate actions.	Gov't of Manitoba
1.4	Return the carbon tax from the federal government to the government of Manitoba and ensure this revenue is used to help Manitobans reduce their GHG emissions.	Gov't of Manitoba
1.5	Rebate a portion of Carbon Tax revenue to ensure the lowest 40 percent of households by income do not experience a net loss.	Gov't of Manitoba
1.6	Make Property Assessed Clean Energy (PACE) available to finance loans for climate action programs.	Gov't of Manitoba
1.7	Change legislation and revenue sources to make Efficiency Manitoba's mandate to "reduce Manitoba's greenhouse gas emissions through the efficient use of electricity."	Gov't of Manitoba
1.8	Enact legislation to create a Thermal Energy Services utility.	Gov't of Manitoba
1.9	Ensure that the public has access to reliable climate change education and that progress toward the climate goals is reported upon regularly and that failure to meet targets result in remedial action.	Gov't of Manitoba
1.10	Expand the scope of the carbon tax to include all sources of climate emissions in Manitoba.	Gov't of Manitoba
1.11	Direct Manitoba Hydro to plan for and implement at least 7,000 MW of wind generation within the province.	Gov't of Manitoba

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