

# *TomorrowNow— Manitoba's Green Plan: Toward a New Provincial Climate Change and Green Economy Plan*

**Consultations Background Paper**

***Energy and the Built Environment:***  
Reducing emissions, improving efficiency,  
and enhancing our resilience to climate change

June 2014

# TomorrowNow— Manitoba's Green Plan

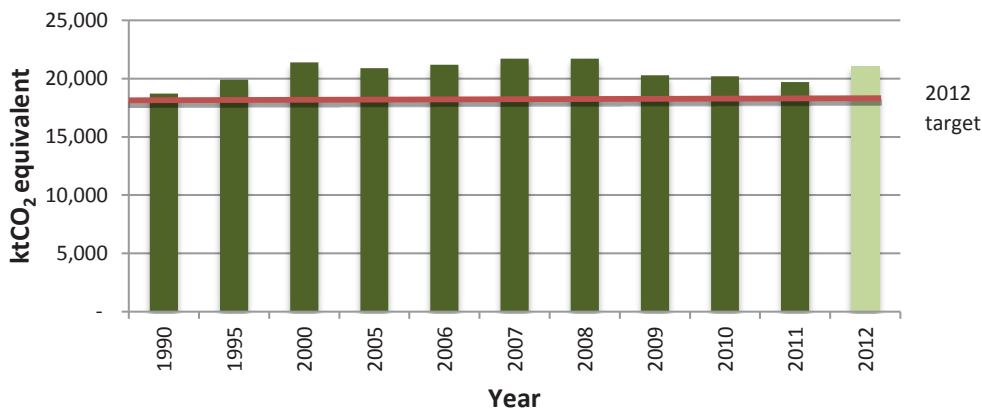
## Preface

In 2012, the Government of Manitoba released *TomorrowNow—Manitoba's Green Plan*, which includes commitments to update its climate change plan and create the first green economy action plan for Manitoba. As an initial step in this process, the province has asked the International Institute for Sustainable Development (IISD) to host a series of consultation sessions with key stakeholders on climate change and the green economy. Each meeting will focus on a specific sector, and will seek an open dialogue on Manitoba's new climate change and green economy action plan.

## Where Do We Stand?

Climate change threatens our social, economic and environmental systems on a global scale. Governments at every level are seeking to increase climate resilience, lower vulnerability to the impacts of climate change, reduce greenhouse gas emissions, implement adaptive actions, and participate in the newly emerging green economy. Manitoba is no exception to these efforts.

In 2008, the Government of Manitoba released its *Beyond Kyoto* climate change action plan (Government of Manitoba, 2008), which listed over 60 actions to effectively reduce greenhouse gas (GHG) emissions across Manitoba's economy, and put in place initial actions to adapt to climate change. Although all of these actions were successfully implemented, Manitoba was unable to achieve the desired target level of GHG reductions. Figure 1 illustrates Manitoba's emissions from 1990 to 2012.



**FIGURE 1: TOTAL PROVINCIAL EMISSION (IN KILOTONNES OF CO<sub>2</sub>E) FROM 1990 TO 2012**

*Environment Canada (2014); Manitoba Conservation and Water Stewardship (2014).*

The provincial government released *Manitoba's Report on Climate Change for 2012* (Manitoba Conservation and Water Stewardship, 2014) as the final report on performance under The Climate Change and Emissions Reductions Act (CCERA). This report noted that emissions at the end of 2012 were 500 kilotonnes (kt) lower than emissions levels in the year 2000, but failed to meet the 2012 target goal of six per cent below 1990 levels. The majority of GHG reductions were attributed to the energy sector through the ethanol mandate (410 kt), implementation of regulations limiting the use of Manitoba Hydro's single remaining coal-fired facility (343 kt), and Manitoba Hydro's Power Smart programs (140 kt). The report also noted that in 2012 Manitoba Hydro, through electricity exports, had contributed to 6,300 kt of GHG emissions reductions in jurisdictions outside Manitoba.

Manitoba is continuing its efforts to reduce GHG emissions, pursue green economic development, and adapt to climate change. Public participation is integral to the policy development process, ensuring future policies and programs will motivate action to reduce emissions, and compel us to take proactive steps to adapt. Moreover, it allows for the policy development process to be built from the bottom up<sup>1</sup> for an inclusive policy development process and a climate change and green economy framework that all Manitobans have a hand in creating.

## Manitoba's Emissions by Sector

Manitoba has unique characteristics that drive emissions, adaptation needs and green economic opportunities. These characteristics shape the way that Manitobans respond to climate change and pursue resilient, low-carbon economic development.

Manitoba's **energy mix** presents opportunities as well as some challenges. Manitoba is blessed with abundant, stable, clean energy resources. The province has achieved a standard of approximately 98 per cent of locally generated electricity from clean, renewable sources with significant export capacity. This abundance allows Manitoba to adopt a flexible approach to the integration of new sources of energy to provide a backstop, such as geothermal, wind and biomass.

Manitoba provides a significant service to GHG mitigation in North America through clean energy exports that allow customers to switch from GHG-intensive fuels (such as coal) to hydroelectricity. While hydroelectricity exports cannot be counted against provincial GHG targets, they are a significant contribution to emissions reductions in other jurisdictions, as they displace coal and natural gas-fired electricity.

Due to its importance to the provincial economy, as well as the relatively low carbon intensity of both the energy and industry sectors in Manitoba, the **agriculture sector** is the second-largest contributing sector to provincial GHG emissions (Figure 2). The size of the agriculture sector relative to the provincial GHG portfolio is unique: in only two other provinces does agriculture represent over 10 per cent of provincial emissions, and even there it does not approach 20 per cent.

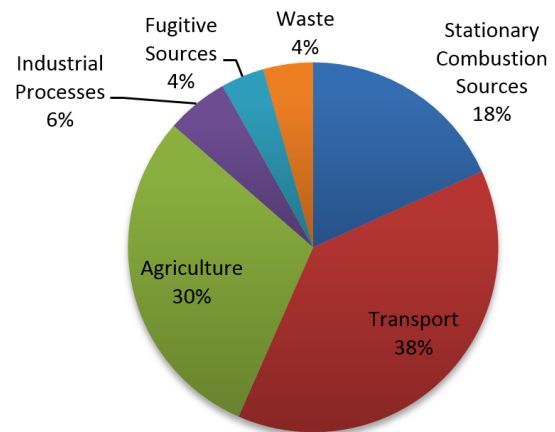


FIGURE 2: MANITOBA 2012 GHG EMISSIONS BY SECTOR  
Source: Environment Canada (2014).

<sup>1</sup> Through a "bottom up" approach, stakeholders' views and policy suggestions feed into the decision-making process for the Government of Manitoba, including priorities to be pursued under each plan.

The **built environment** and the **energy infrastructure** are not only emissions sources—they are also vulnerable to the impacts of climate change. Extreme climate events threaten residential and commercial buildings, impacting the well-being of individuals and communities. These concerns also apply to the energy infrastructure, where extreme events such as ice storms and floods impact not only the ability to mitigate emissions but also energy transmission to local residents and businesses. As noted in the Insurance Bureau of Canada’s report *Telling the Weather Story* (Insurance Bureau of Canada, 2012), Canada’s insured losses caused primarily by extreme weather events amounted to \$1.6 billion in 2011, an increase from \$1 billion in the previous two years.



## Developing the Next Climate Change Plan: What have others done?

The development of Manitoba’s next climate change strategy will take into account how other jurisdictions are proceeding on climate change policy development, and what influences external policies will have on Manitoba. The table below illustrates some of these policies.

**TABLE 1. CLIMATE CHANGE POLICIES IMPLEMENTED IN OTHER JURISDICTIONS**

JURISDICTION	ACTIONS	YEAR IMPLEMENTED
Federal government	Regulations for both heavy-duty and light-duty vehicle tailpipe emissions	2012
	Coal-fired electricity sector regulations	2012
	Negotiations with oil and gas and other industrial sectors	Ongoing
Quebec	New climate change action plan and adaptation strategy	2012–2020
	Launched emissions trading to be linked with California	2014
	First auction of its cap and trade system	2013
British Columbia	Review of Revenue-Neutral Carbon Tax completed; tax retained at \$30 per tonne	2013
Nova Scotia	Finalized federal equivalency agreement for electricity sector GHG regulations	2012
Ontario	Released a climate change progress report and a report from the environmental commissioner	2013
	Emissions mitigation discussion paper	2013
	Phase out of coal-fired power	Completed in 2014
Newfoundland & Labrador and Nova Scotia	Finalized hydroelectric link	2012
Alberta	Policy review of the Specified Gas Emitter Regulation	Expected completion 2014

In past years, provinces had taken it upon themselves to act unilaterally or in partnership with other provinces and U.S. states to address GHG emissions, while federal policy remained either in development or stalled. The advent of federal GHG regulations raises the potential for conflict over jurisdictional control of emissions policy, which can have major influence over provincial economies. As a result, **equivalency agreements** are an option that would allow provincial

approaches to GHG mitigation to take precedence over federal sector regulations. The most prominent early example of this was the equivalency agreement reached between the federal government and Nova Scotia that installed provincial regulations in place of proposed federal regulations for electricity (Nova Scotia Department of Energy, 2012).

Specifically for the built environment and energy, here are three brief examples of what other jurisdictions have done:

**TABLE 2. POLICIES REGARDING THE BUILT ENVIRONMENT AND ENERGY IN OTHER JURISDICTIONS**

JURISDICTION	ACTIONS
City of Enderby, B.C.	<b>Small business funded biomass district energy in the City of Enderby</b> serving 11 commercial, institution and residential customers, with capacity for future growth. Once fully operational, it is expected to consume 800 tonnes of wood fuel annually mitigating 1,000 tonnes of GHGs, with an estimated annual savings cost of \$85,000.
Quebec	<b>Go Green Environmental certification for public buildings:</b> The Société immobilière du Québec (SIQ) seeks “Go Green” certification for buildings under its jurisdiction. The SIQ aims to have 100% of all construction projects over \$2.5 million LEED certified, buildings obtain the BOMA “Go Green” certification, and achieve an 8% reduction in energy consumption over 2003.
Vancouver, B.C.	<b>Vancouver Green Enterprise Zone:</b> Vancouver’s <i>Greenest City</i> strategy aims to make the Downtown Eastside and False Creek Flats the “greenest place to work in the world” by focusing green companies and organizations, green infrastructure, as well as innovations in building design and land use planning in one location. The lessons learned from this zone would then be applied city wide.

## Building Blocks for Manitoba’s Climate Change and Green Economy Plans

The government of Manitoba recognizes that a concerted effort is required to meet Manitoba’s responsibility to adapt to climate change and mitigate GHG emissions. Manitoba has committed to actions on climate change in a number of strategy documents, including *Tomorrow Now: Manitoba’s Green Plan* and *Focused on What Matters Most: Manitoba’s Clean Energy Strategy* (Manitoba Innovation, Energy and Mines, 2012), as well as following up on the recommendations in the Auditor General’s 2010 Performance Audit on Managing Climate Change (Manitoba Office of the Auditor General, 2010).

Manitoba’s next plan will also require a consideration of the types of principles that are important for addressing climate change policy in Manitoba. These principles are expected to evolve and could include elements such as:

- Achieve GHG emissions targets in a cost-effective way that considers competitiveness
- Simplicity, policy coherence, transparency and administrative efficiency
- Treat sectors and facilities equitably
- Account for early action by industry leaders
- Use accurate and verified emissions data to support policy development
- Promote development and deployment of clean technologies
- Align with emissions reduction programs in other jurisdictions (linking)
- Integrate with other provincial environmental policies where possible

These principles are open to input, and their discussion will be part of the consultation process for the new climate change plan and green economy action plan. Manitobans are encouraged to share their views regarding which principles should be embedded in climate change action in the province.

## **Integrating Adaptation and Mitigation**

The next climate change plan will integrate both adaptation and mitigation strategies, with an increased focus on adaptation. It will be important for the coming plan to consider the adaptation impacts of mitigation actions (and vice versa), as well as identify areas where co-benefits can be achieved and negative side effects avoided regarding to mitigation or adaptation actions. The consultation process with stakeholders will seek input on how best to integrate a more balanced approach for adaptation and mitigation.

For adaptation, capacity building in key areas can assist Manitobans to undertake meaningful, informed action with regards to adaptation to climate change. Some examples of areas where capacity may be lacking include areas related to climate data and risk mitigation—assessment of vulnerabilities and potential impacts is important.

## **Green Economy and Green Jobs**

The development of a green economy action plan is one of the core pillars for the achievement of *TomorrowNow's* goal in protecting the environment while ensuring a prosperous and environmentally conscious economy. The vision is of a resilient, low-carbon economy that respects environmental sustainability and supports social well-being. Sector-specific consultations are an important element in shaping Manitoba's green economy and green jobs by identifying opportunities and actions that feed into sector-specific comparative advantages within a sustainable development pathway.

## **The Role of the Building and Energy Sectors in the New Climate Change Plan and Green Economy Action Plans**

The building and energy sectors play an essential role in the development of climate change and green economy plans under *TomorrowNow*. For example, efficiency in electricity use and increased renewable energy development can help boost exports, while increased efficiency in natural gas use can help drive emissions reductions. Energy-efficiency efforts also have added social benefits, such as driving down home heating costs (particularly for low-income households), which has associated benefits in terms of enhancing our adaptive capacity. GHG emissions from our energy sector are relatively low compared to other jurisdictions, while Manitoba's environmental and economic development policy for the energy sector is influenced by the province's *Clean Energy Strategy*. Energy and climate change policy are invariably intertwined and should be considered in tandem. Developing expertise in green building in extremely cold temperatures is one of Manitoba's opportunities, including climate resiliency and energy efficiency.

In addition to hydroelectricity, Manitoba has made a number of investments in other clean energy sources (biomass, wind, geothermal, electric transit, etc.). A consideration of these investments and their impacts in reducing emissions is important to ensure that provincial energy policy provides co-benefits regarding climate change. This also helps ensure that investments are directed to areas where they can have the most impact, and that partnerships with the private sector for clean technology development can be leveraged where the opportunity for clean technology development emerges.

## Mandatory Reporting

Manitoba is committed to developing regulations for the mandatory reporting of GHG regulations by large emitters. This commitment was reiterated again in *TomorrowNow*. Under The Canadian Environmental Protection Act, large industrial GHG emitters producing 50,000 tonnes or greater per year must report federally. Several provinces require reporting at 10,000-and 25,000-tonne thresholds. In developing mandatory reporting regulations, stakeholders' input is important in determining the scope of covered entities (which could include buildings) reporting thresholds, and protocols for measurement and verification.

## Questionnaire

The questions below will feed into building and energy sector-specific needs and opportunities in the new climate change plan as well as Manitoba's first green economy action plan. Written or verbal responses are welcomed. Written responses may be sent to [tomorrownow@iisd.ca](mailto:tomorrownow@iisd.ca).

### Action Plan Goals and Strategy

1. What are the current sector approaches and good practices in Manitoba to address climate change that need to be built upon and enhanced over time?
2. What are the broad and specific barriers you see in Manitoba to the achievement of deeper emissions reductions in the building and energy sectors?
3. What are unfulfilled opportunities in Manitoba to achieve deeper emissions reductions in the building and energy sectors?
4. In the energy sector, how do we further increase GHG reductions in Manitoba and regionally (i.e., through energy exports)? What specific action is required in the short, medium and long terms?
5. What specific actions should be taken to effect a substantial reduction in GHG emissions in the building sector and to significantly improve adaptive resilience in the short, medium and long terms?

### Science, Information and Capacity Building

6. What types of information, capacity and tools are required by Manitobans to identify the actions they need to take in preparation for climate change? What mechanisms could be used to enable access to this knowledge?
7. How can we provide better access to Manitoba-specific climate data and climate projections, and the potential socioeconomic and ecological impacts of these projected changes?
8. Do you notice more extreme weather events in Manitoba, and what actions would you support to better prepare for these events and their impacts on buildings and energy infrastructure?
9. What are the metrics to assess progress on actions taken?

### Encouraging Action Amongst Manitobans

10. In terms of actions responding to climate change adaptation and GHG mitigation, what are the responsibilities of citizens, the government, and private sector/industry when responding to climate change adaptation and mitigation?



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