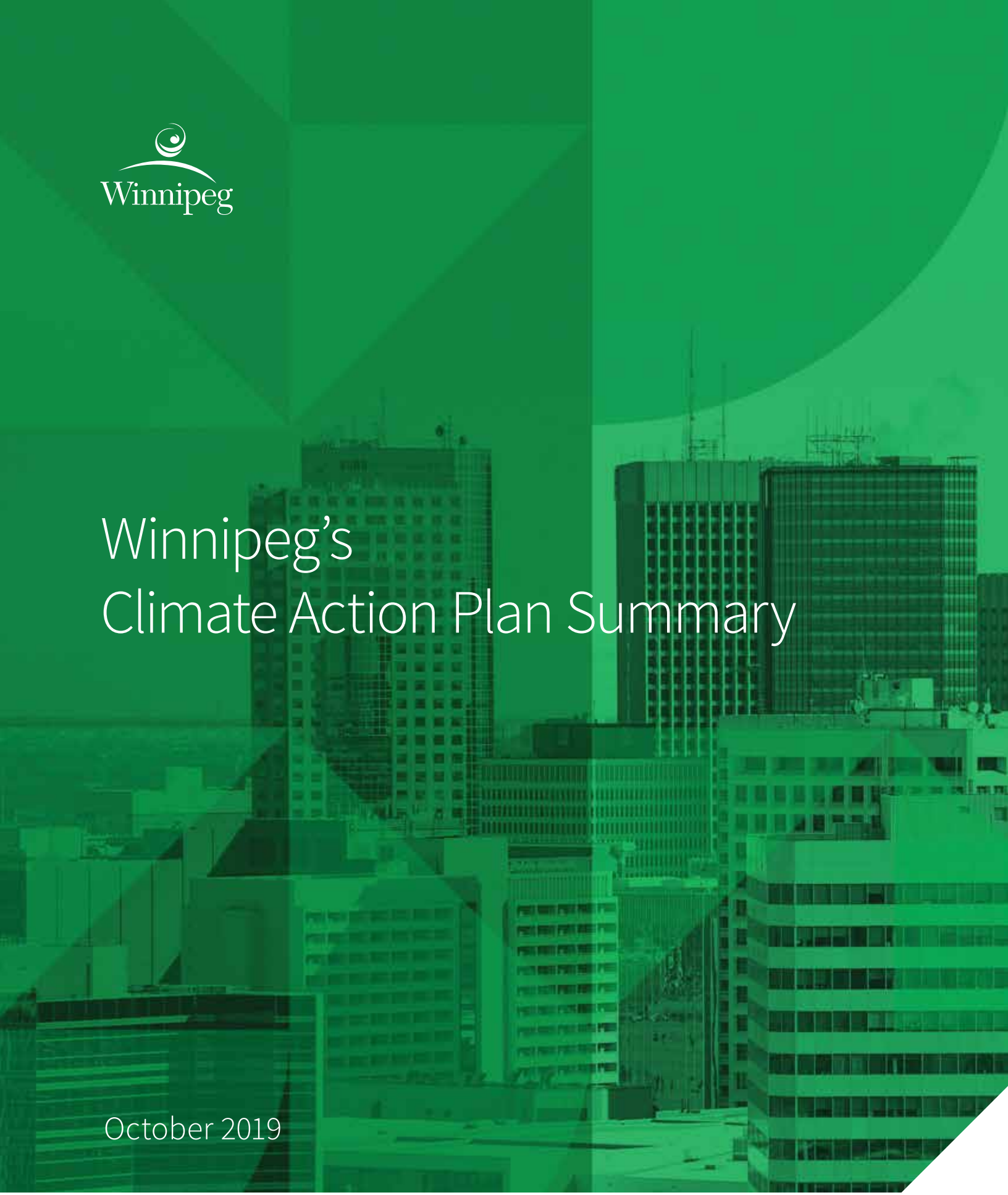

Winnipeg

Winnipeg's Climate Action Plan Summary

October 2019

Vision

To be a vibrant and healthy city which places its highest priority in quality of life for all its citizens.

Corporate Mission

Working together to achieve affordable, responsive and innovative public service.



This document is printed on FSC certified paper.

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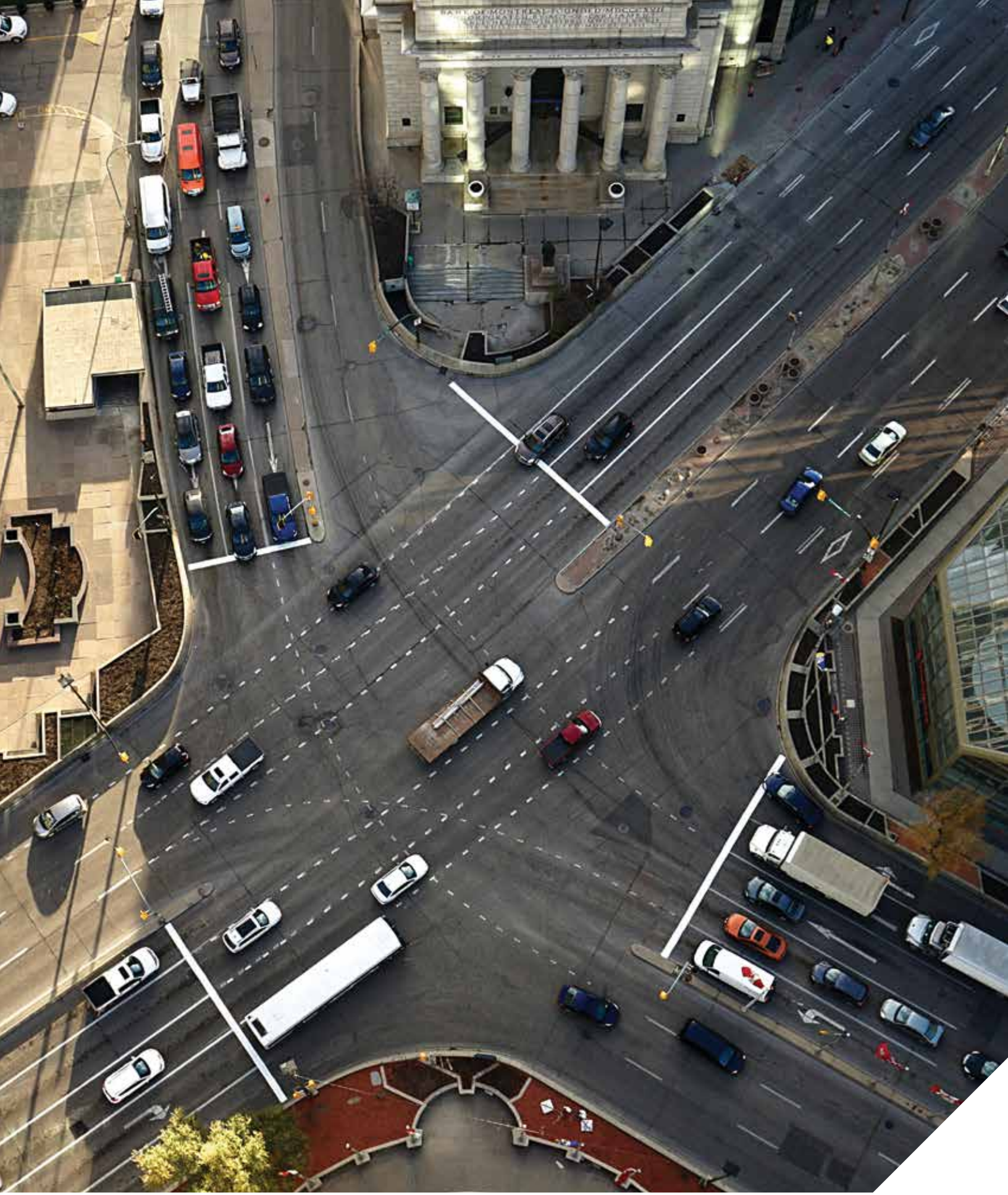


Introduction

Climate change represents one of the world's greatest environmental challenges. Responding to growing global concerns around climate change, governments at all levels are taking actions to both mitigate their impacts on the environment and adapt municipal plans and infrastructure to meet the demands of a changing climate.

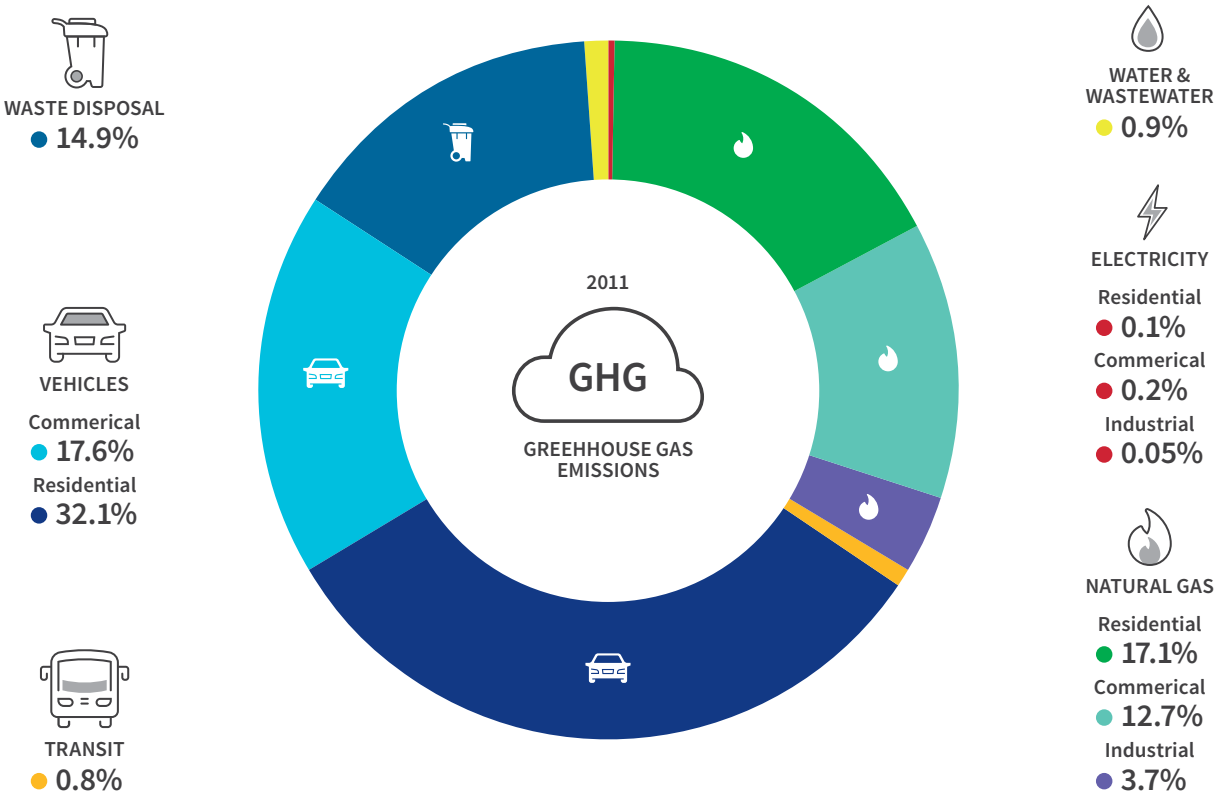
Winnipeg's Climate Action Plan: Planning for Climate Change. Acting for People. (Winnipeg's Climate Action Plan or Plan) outlines the City of Winnipeg (City) and the broader community's commitment to work together. The Plan provides a framework to proactively, meaningfully, and effectively mitigate climate change by reducing greenhouse gas (GHG) emissions.

Working together with partners to reduce emissions, the City can also:

- Create a more prosperous, innovative, and diverse local and regional economy
- Construct more complete neighbourhoods and revitalize the livability of all communities throughout Winnipeg
- Improve the efficiency of transportation networks and reduce traffic congestion
- Build and maintain healthier buildings to live and work in, which are less expensive to operate
- Enhance connectivity of green spaces and parks throughout Winnipeg to support biodiversity and natural systems

This document is a companion piece to the Plan, which City Council adopted on September 20, 2018. To view the full Plan, visit: **winnipeg.ca/climateaction**

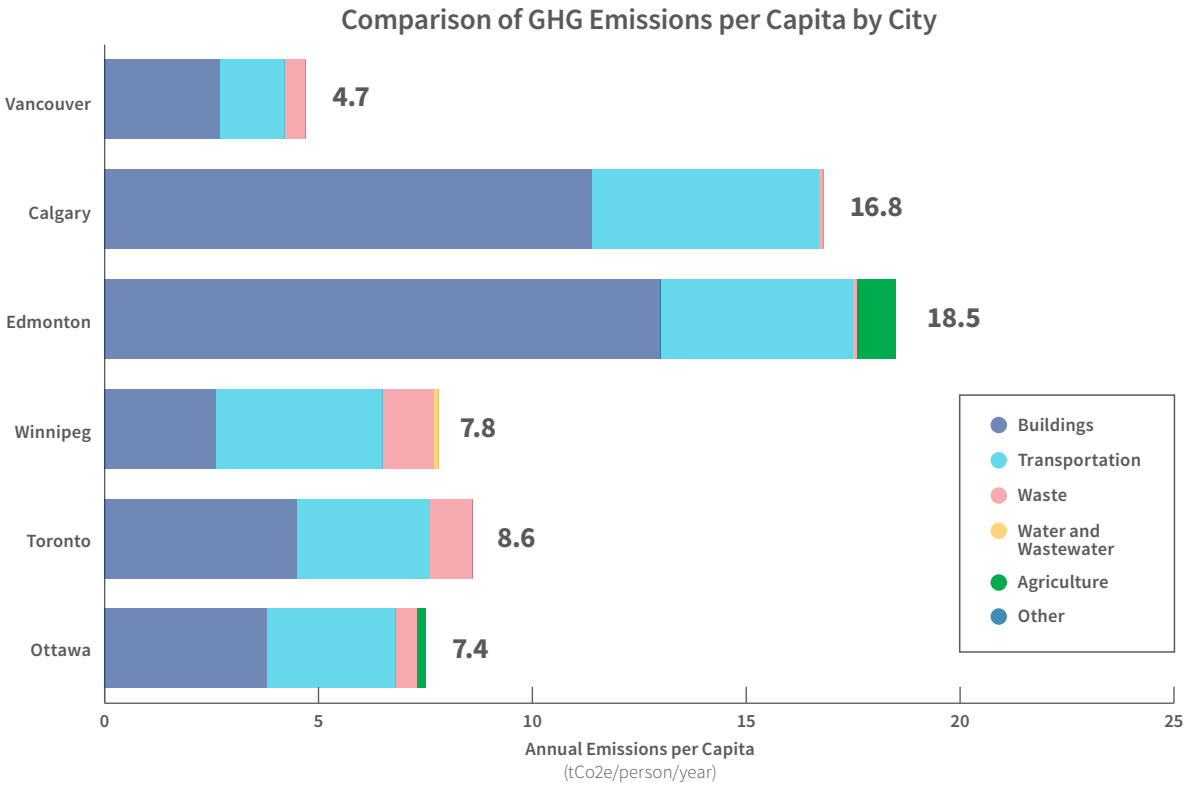
Winnipeg's emissions at a glance

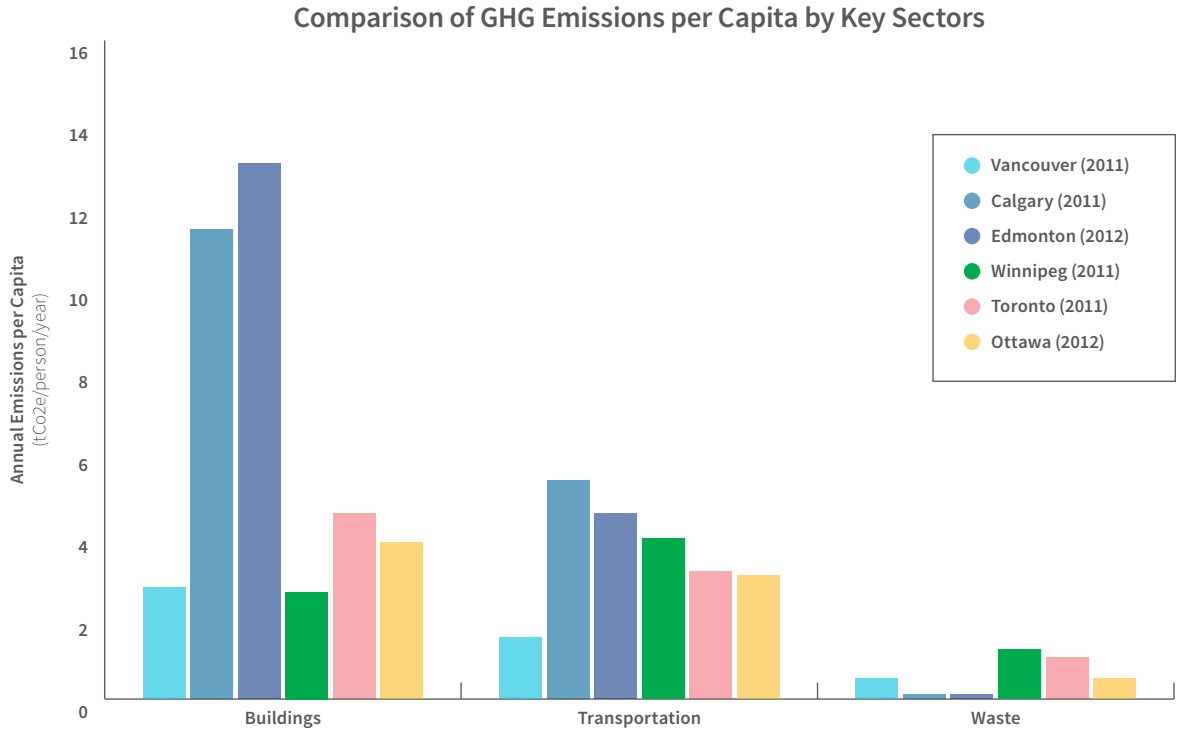


Note: Totals do not equal 100 percent due to rounding.

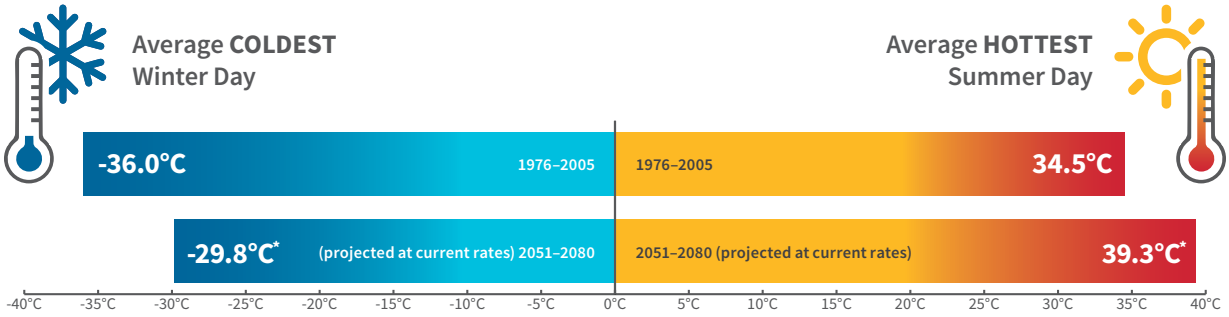
How Winnipeg compares to other municipalities

(2011 – 2012)

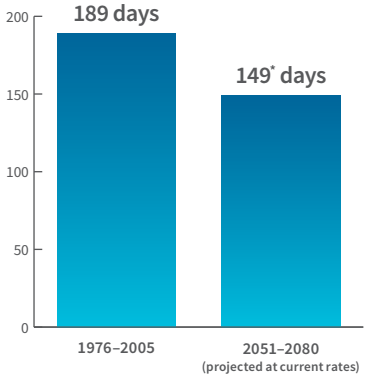




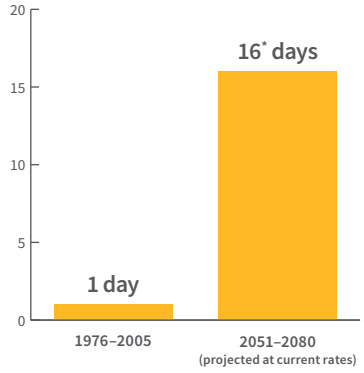
Winnipeg's climate at a glance



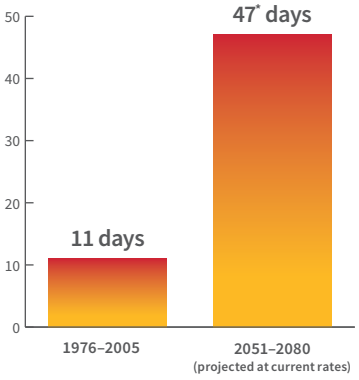
Average number of **below 0°C days per year**



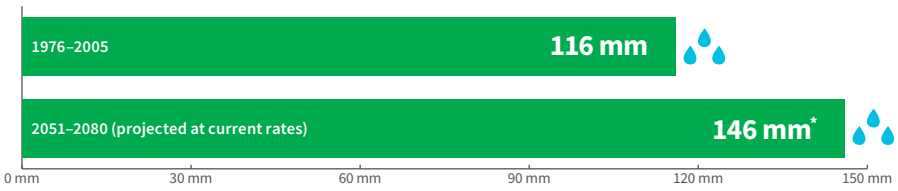
Average number of **+20°C nights per year**



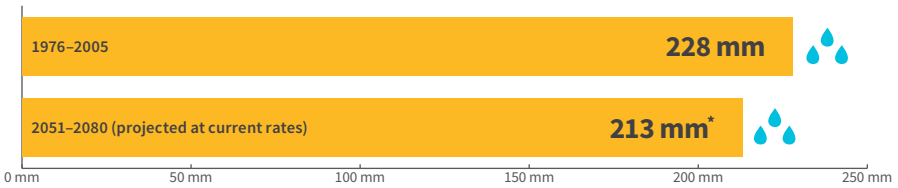
Average number of **+30°C days per year**



Average **SPRING** Precipitation



Average **SUMMER** Precipitation



* Source: The Prairie Climate Centre's Climate Atlas.

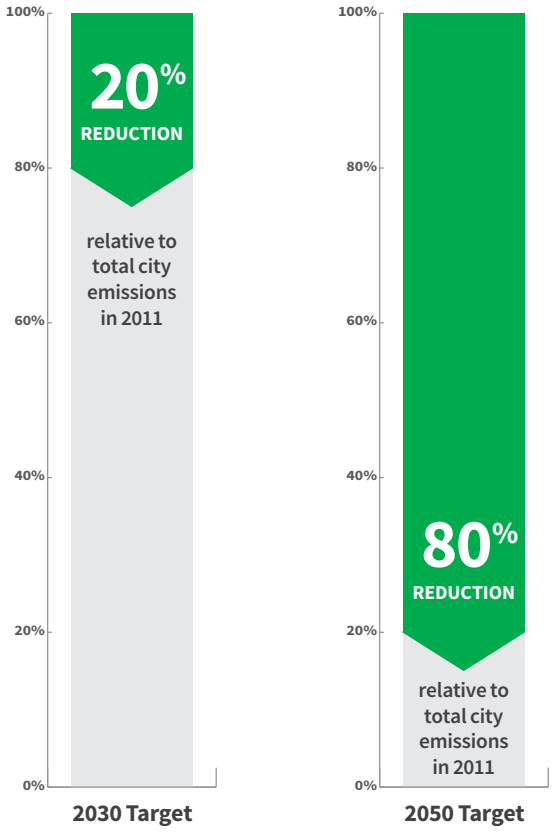
Note: These figures represent a "business as usual" scenario (RCP8.5) in which global GHGs continue to increase at current rates through the end of the century

Overall GHG targets

Establishing a meaningful target is an important element of a successful climate action plan. An emissions target offers a means to communicate how the community prioritizes the issue of GHG emissions. Ultimately the emissions reduction target sets the future direction and guides the community's actions to reduce emissions.

The science of climate change mitigation — both what is possible, and what is necessary to avoid catastrophic impacts associated with climate change — has evolved significantly in the past 20 years. Winnipeg's Climate Action Plan aims to meet the following:

GHG emissions targets:



It has been assumed that additional shifts in technology will occur. These shifts cannot be accurately predicted or modelled; however, it is proposed, as per the Plan, that the City continues to evaluate its progress on the targets and adjust as necessary.

WHY THESE TARGETS?

- A 20 percent reduction reflects what is possible when the City implements policies outlined in its Low Carbon Path Scenario, as presented in Winnipeg's 2011 Community GHG Inventory and Forecast*
- An 80 percent reduction by 2050 aligns with science-based approaches to limiting global warming to 2 degrees Celsius
- The City is eager to contribute its share to this global challenge
- There is a strong desire from public and community stakeholders for Winnipeg to be a leader and take bold climate action
- There is a strong desire to inspire action today and to advance new opportunities for innovation for future generations

* Part of the work in Winnipeg's 2011 Community GHG Inventory and Forecast included a forecast for energy and emission reductions that are likely to occur in Winnipeg. The Low Carbon Path Scenario was one of three illustrative scenarios considered, and represents a highly ambitious but achievable emissions reduction target.

Emission reduction sector targets

To support the progression and achievement of the GHG emissions reduction targets, Winnipeg's Climate Action Plan establishes a series of sector targets to guide key actions and investments. Additionally, the Plan includes a series of sector-specific performance indicators to help evaluate the City's progression towards achieving the 2030 target, and ultimately the 2050 target.

As the City progresses with the implementation of the Plan, these performance indicators will be regularly monitored and reported on to support a continuous improvement model. Furthermore, the sector targets and associated performance indicators will be reviewed to adjust, as required, the program and actions taken to meet the City's GHG reduction targets.

Transportation

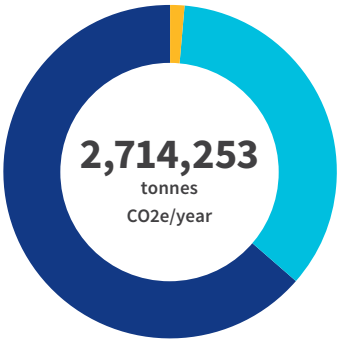
Personal vehicle travel is the predominant mode of transportation in Winnipeg, representing 81 percent of total weekday trips. Primary factors influencing the relatively high mode share associated with personal vehicle travel include the relatively low population density across much of the city, and the distances between residents' homes and their destinations (i.e., work, school, shopping, and areas of recreation). Within this context, cold winter temperatures only further discourage active and alternative modes of transportation.

Emissions from transportation account for over half of Winnipeg's total GHG emissions (50.5 percent). Increasing access to mobility options and fuel switching are key directions for reducing emissions from transportation. Sustainable transportation options with lower or no emissions (walking, cycling, public transit, carshare, and carpooling) enable fewer single occupancy vehicle trips, and ultimately lower emissions.

Key directions identified in Winnipeg's Climate Action Plan aim to shift Winnipeggers out of single occupancy vehicles or indirectly enable diverse mobility choices through the development of higher density, and more complete communities.

Fuel switching also offers a significant opportunity to reduce emissions from privately owned vehicles, commercial fleets, and our transit systems. A key opportunity to advance fuel switching in Winnipeg is through electric vehicles for both private vehicles and public transit.

2011 GHG emissions:



VEHICLES

Residential
1,725,116 tonnes CO2e/year

Commerical
945,642 tonnes CO2e/year

TRANSIT

Transit
43,495 tonnes CO2e/year

2030 transportation performance indicators:

MODE SHARE BREAKDOWN



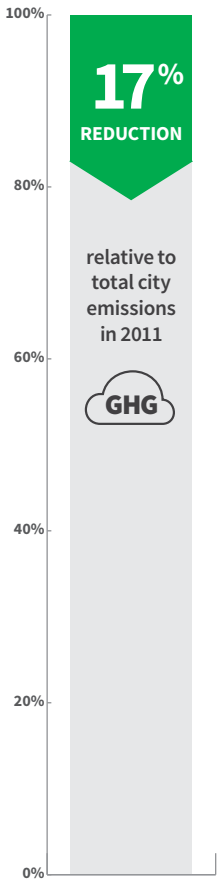
ACTIVE TRANSPORTATION

800 kilometers of Active Transportation Network established

ELECTRIC VEHICLES

8% of the total fleet of vehicles throughout Winnipeg

2030 Target:

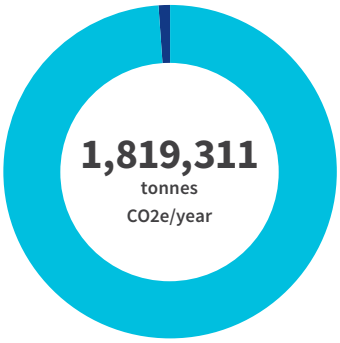


Buildings

Buildings throughout the city represent a large part of Winnipeg's overall GHG emissions. In commercial and residential buildings, electricity is typically used for space heating, water heating, lighting, and appliances, while natural gas is used for space heating and water heating. The energy used to operate buildings in Winnipeg represents approximately 34.6 percent of the city's total GHG emissions.

Climate plays a major factor in building energy use. Winnipeg experiences hot summers and cold winters, leading to a high air conditioning load in the summer and high heating load in the winter. Buildings in Winnipeg also experience significant solar exposure as the weather is often sunny.

2011 GHG emissions:



NATURAL GAS

1,801,027 tonnes CO2e/year

ELECTRICITY

18,284 tonnes CO2e/year

2030 buildings performance indicators:

NATURAL GAS-RESIDENTIAL

604,010,541 m3

Residential building natural gas consumption limit**

RESIDENTIAL HOMES

8%

have incorporated renewables and/or made significant energy efficiency upgrades to work towards the achievement of having a **net-zero energy and emissions footprint**

NATURAL GAS-COMMERCIAL

448,167,147 m3

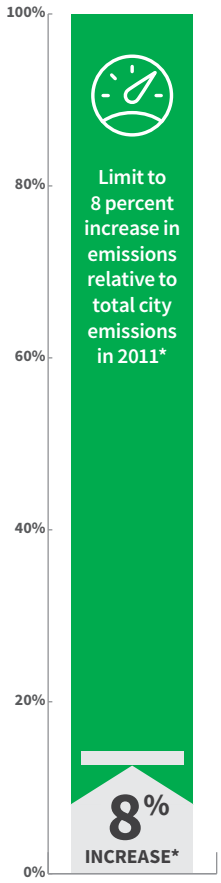
Commercial building natural gas consumption limit**

COMMERCIAL & INDUSTRIAL BUILDINGS

12%

have included renewables and/or made significant energy efficiency upgrades that significantly **reduce the need for natural gas** and work towards being a **net-zero building**

2030 Target:



* This increase is primarily due to Winnipeg's overall growth, and represents an estimated 145,000-tonne GHG reduction relative to business as usual.

**Limited to an increase of approximately 124 percent relative to the 2011 sector baseline.

Land use

The contribution of land use to GHG emission reductions is primarily realized through other sectors. For example, as the city becomes more spread out, the number and length of personal vehicle travel increases, and other mobility options become less viable or more costly to implement. Building emissions are also influenced by residential development decisions.

In general, single detached houses are more energy-intensive than multi-unit residential buildings. Evaluating the success of land use-related actions necessitates a consideration of indicators in these other sectors. To work towards its overall emission-reduction goals, the City seeks to support residential infill and greater densities in strategic locations that provide convenient access to public transit.

2030 land use performance indicator:

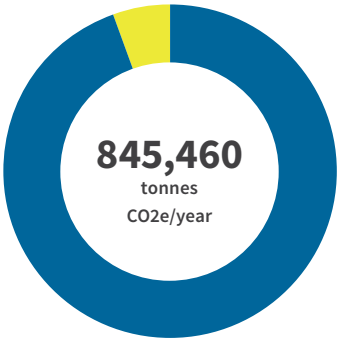


Waste

Community waste composition in Winnipeg is similar to other Canadian municipalities with a mix of inorganic and organic waste. The City operates city-wide collection service with traditional waste collection and a blue-box recycling program for non-organics. Organics recycling is currently limited to a yard waste collection program and voluntary composting facilities operating throughout the community. Residential and some commercial/ institutional waste is currently sent to, and disposed at the Brady Road Resource Management Facility. Additional commercial, industrial, and construction waste is collected by private landfills operated within or near the city's boundaries.

While waste generation is similar to other Canadian cities, diversion rates have been comparatively poor in Winnipeg. This has improved since the adoption of the Garbage and Recycling Master Plan (2011).

2011 GHG emissions:



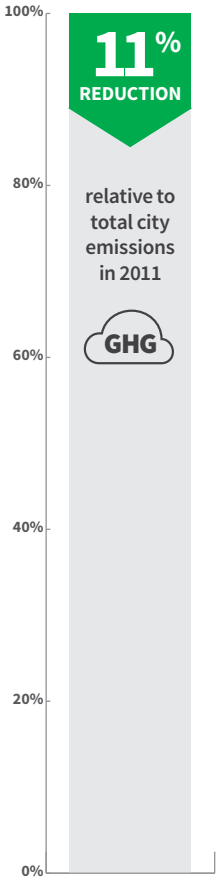
WASTE DISPOSAL

798,801 tonnes CO2e/year

WASTEWATER & WATER

46,659 tonnes CO2e/year

2030 Target:



2030 waste performance indicators:

WASTE DIVERSION

75% residential waste diversion

80% diversion rate for commercial/industrial and construction and demolition wastes*

BIOSOLIDS DIVERSION

70% of all biosolids are diverted for commercial use

GAS COLLECTION

75% methane collection efficiency from the Brady Road Resource Management Facility's landfill gas collection system

* Waste diversion targets exceed those identified in the 2016 Comprehensive Integrated Waste Management Strategy



Strategic opportunities

Winnipeg's Climate Action Plan includes a series of seven strategic opportunities along with key directions and actions that support the Plan's vision and targets.

Together, they provide a comprehensive package of solutions to enable climate action and help the City on a path to its desired future.

Corporate leadership

The City must take a leadership role to create momentum for broad uptake and climate action in the community and in the region. We must demonstrate our commitment to climate action to encourage residents, businesses, and stakeholders to actively participate.

Collective climate action requires involvement and support from other levels of government. As the largest city in Manitoba and a central hub between western and eastern parts of the country, Winnipeg has an opportunity to leverage its leadership into advocacy for impactful investments, programming, and policy levers that will generate positive climate outcomes.

KEY DIRECTIONS & ACTIONS

- Cultivate a corporate culture that values climate action
- Understand and integrate business and economic implications of climate action into decision-making processes
- Implement low carbon and energy efficient civic facilities and buildings
- Encourage sustainable transportation options and reduce employee travel
- Reduce consumption and increase waste diversion
- Increase opportunities to respond to food needs throughout Winnipeg and increase access to local and sustainable food
- Ensure that City land use, transportation, and built environment policy, bylaw, and regulation recognize the Council-approved climate protection and mitigation priorities
- Work with Indigenous communities, the provincial government, and the federal government to advance climate action

Empower community leaders & collaborate with stakeholders

Successful climate action strategies amplify and align the knowledge and efforts of local businesses, community organizations, and residents to generate additional momentum for climate action. A key opportunity to accelerate climate action is to further enhance levels of collaboration between the City and community leaders, industry, academia, and other stakeholders.

KEY DIRECTIONS & ACTIONS

- Engage community leadership and associations on an ongoing basis to help shape the implementation of the climate action plan
- Develop public education and awareness campaigns related to sustainable transportation
- Create conditions to enable community climate action

Advancing sustainable transportation — increase mobility options & shift to zero emission vehicles

Moving people, goods, and services in a way that is socially, environmentally, and economically sustainable is a core direction embedded in the Sustainable Transportation Direction Strategy (2011), which forms a policy framework for the City's Transportation Master Plan (2011). Both policy documents emphasize the need to increase travel options — including walking, cycling, and public transit — that will lead to improved health; increased personal mobility; more livable, affordable, and socially active communities; and reduced impacts on the environment and our climate.

KEY DIRECTIONS & ACTIONS

- Increase use and efficiency of public transit
- Increase the density of urban development along key transit corridors
- Design new suburban communities to enable enhanced public transit services and access to transit corridors
- Increase active transportation rates
- Reduce traffic congestion
- Increase the use of electric vehicles
- Utilize zero emission buses

Facilitate compact, complete development & increase density

With a significant percentage of overall residential building stock dedicated to single family housing, Winnipeg is one of the lowest density cities in Canada outside of cities in Alberta. Winnipeg's built environment and public realm are a key part of how residents and visitors choose to get around the city. Energy used for transportation increases as a city becomes more spread out, and as housing, jobs, daily needs, recreation, or community destinations become more dispersed.

Complete communities where amenities are within close proximity to where people live create conditions for sustainable transportation choices, public health benefits, and removal of financial barriers.

KEY DIRECTIONS & ACTIONS

- Increase strategic infill development that provides access to, and capitalizes on existing and planned corridors with frequent public transit service
- Ensure new areas of growth are designed according to the principles of complete communities
- Pursue transit-oriented development
- Support the redevelopment of former commercial and industrial lands into active use

Low carbon & energy efficient buildings

As a winter city, it takes a lot of energy to heat and power Winnipeg's homes and places of work, resulting in higher average energy bills than other cities in Canada. The energy used to heat and operate buildings makes up approximately 34.6 percent of Winnipeg's total GHG emissions. Looking forward, the City seeks to work with homeowners, landlords, commercial building owners, and builders to advance made-in-Winnipeg programs, policies, and tools to accelerate the overall energy and emissions performance of buildings.

KEY DIRECTIONS & ACTIONS

- Increase energy performance of existing buildings
- Improve energy performance of new buildings
- Increase access to educational materials
- Build climate equity to increase access to clean and affordable energy

Waste reduction & diversion

Advancing waste reduction and diversion initiatives is a critical part of reducing Winnipeg's overall GHG profile, while addressing a number of other environmental challenges. From a GHG emission reduction perspective, focusing on strategies that maximize the diversion of methane-generating organic wastes from the landfill and limit waste transportation is critical. As resources become scarcer and the environment becomes more sensitive, it is critical to move towards a circular economy that sees us collectively conserving and reusing the resources we already have.

KEY DIRECTIONS & ACTIONS

- Reduce consumption and increase waste diversion from residential, commercial, and industrial users
- Advance Winnipeg's circular economy to support waste reduction
- Utilize biosolids in agriculture and landscaping industries
- Support integrated resource recovery opportunities

Community climate resiliency

Climate resilience is about the integration of climate mitigation and climate adaptation. Communities, including Winnipeg, are facing serious threats related to public health, infrastructure costs, economic viability, and social equity associated with climate change. Proactive climate adaptation planning can help avoid significant financial costs associated with climate-related disasters. These avoided costs may be cost savings for stormwater and wastewater treatment and other damages such as avoided recreation losses or energy and road infrastructure. The bottom line is that wetter springs, drier late summers, warmer winters, and many more hot days mean that our infrastructure is built for the wrong climate and we need to rethink City service delivery.

KEY DIRECTIONS & ACTIONS

- Strategize and implement opportunities to improve Winnipeg's resilience and adaptability to the effects of a changing climate
- Increase and preserve tree canopy
- Preserve and manage parks and natural areas to support climate change mitigation

Windsor Park Library

In 2018, the new Windsor Park Library opened its doors at 1195 Archibald St. to meet the needs of today's library users. The new library is designed to LEED silver standards, and is approx. 8,000 sq. ft.



Implementing Winnipeg's Climate Action Plan

The implementation strategy for Winnipeg's Climate Action Plan is based on a number of principles that the City will consider as it moves forward with implementing the actions:

1. **The Plan is the first step, not the last step**.
   Winnipeg's Climate Action Plan is the first community-wide strategy for comprehensively addressing climate mitigation in Winnipeg. The strategic opportunities, key directions, and actions outlined are meant to be a first step in a long-term commitment. Implementation will require sustained and dedicated financial and staff resources, as well as consistent community collaboration over the long-term.

2. **The Plan is a flexible and living document**.
   The City intends to review and update the Plan frequently. The City should commit to reviewing and updating the strategic opportunity areas during the last year of each Council term, so that civic departments can collectively update changing priorities and needs to reflect completed projects, technology innovations, and continuous learning.

3. **Corporate collaboration and alignment are key components of implementation**.
   The Plan outlines strategic opportunity areas that will require ownership and accountability from a wide variety of civic departments. It will be important to align administrative objectives within various departments to the strategic opportunity areas and priority actions within the Plan.

4. **Climate action involves the entire community**.
   The City is best positioned to lead the overarching community's efforts related to climate action and has an important convening role to coordinate and generate momentum in the wider community. As such, the City will work to engage in direct partnerships with community organizations, establish community action teams, and undertake additional public consultation.

Please note, the Public Service will be reporting back to Council on an annual basis with updates on the Plan. Furthermore, the Public Service has been directed to identify budget risks for project implementation of the short, medium, and long-term actions as part of the yearly budget processes.

Future climate actions the City may consider as it moves forward with the implementation of the Plan may require Council-approval of projects and budgets.



Council Building

In 2017, the City Hall Council Building located at 510 Main St. was renovated to include sustainable green building design features. The project has been submitted to the Canada Green Building Council and is under review for potential LEED certification.

More information

For more information on *Winnipeg Climate Action Plan: Planning for Climate Change. Acting for People.*, visit:
winnipeg.ca/climateaction

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Austin Mackay
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