



Barrie

Inspiring Climate Action in Barrie

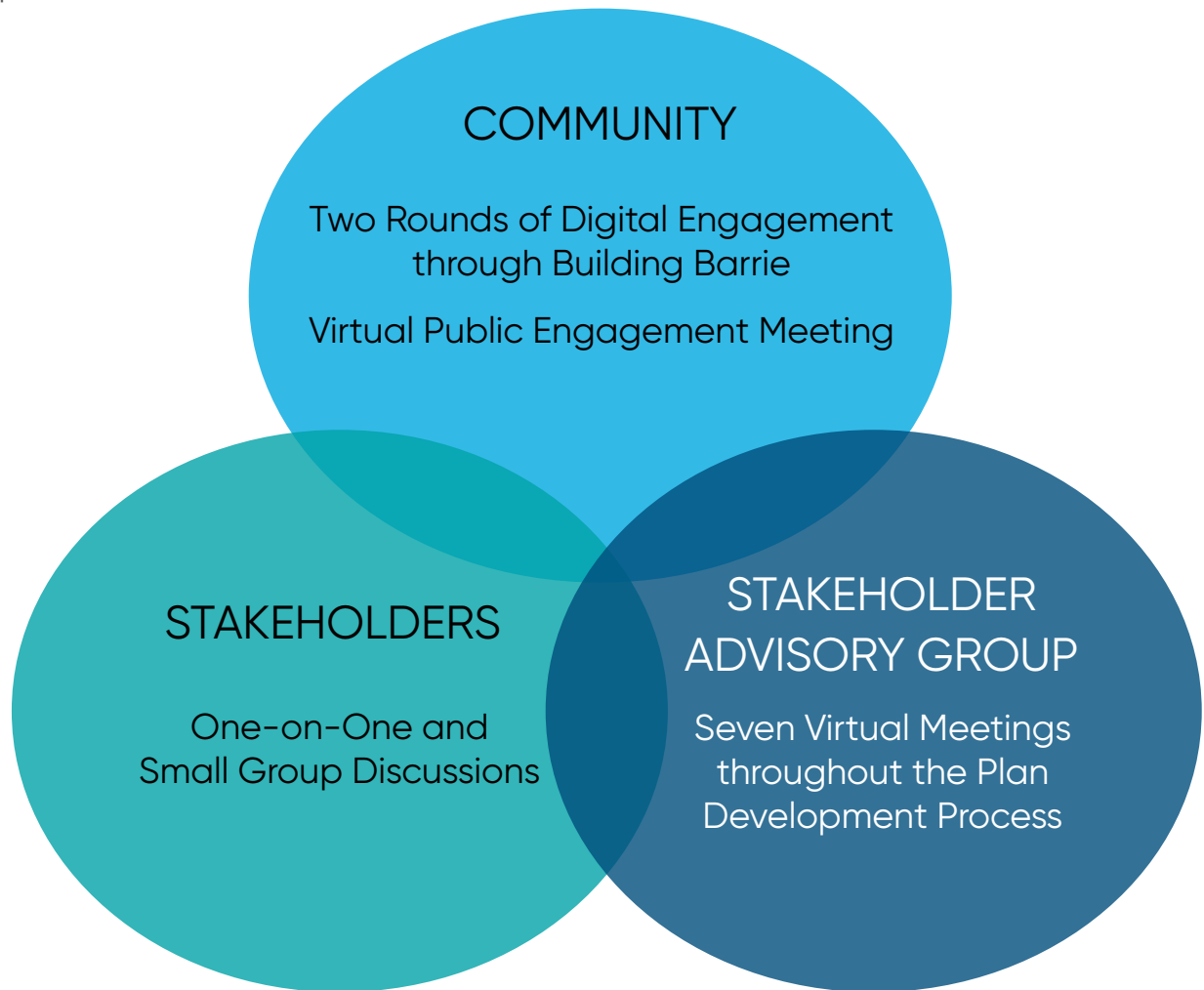
Executive Summary

Prepared for the City of Barrie by LURA Consulting, ICLEI Canada & Wood



Stakeholder & Community Acknowledgement

The Development of *Inspiring Climate Action in Barrie* began in early 2020 with the formation of a Stakeholder Advisory Group (SAG). The SAG met regularly throughout the Plan’s development and advised on all key elements – from vision and overall direction to emissions reduction targets and plan implementation. Three rounds of community engagement also informed the Plan’s development.



We would like to acknowledge the following organizations which contributed staff resources to the Stakeholder Advisory Group and the development of this Plan.

- | | | |
|--------------------------------|---|--|
| Alectra Utilities | IESO | Royal Victoria Regional Health Centre |
| City of Barrie Staff & Council | Lake Simcoe Region Conservation Authority | Simcoe County District School Board |
| County of Simcoe | Living Green Barrie | Simcoe County Home Builders' Association |
| Enbridge Gas | Nottawasaga Valley Conservation Authority | Simcoe Muskoka District Health Unit |
| EV Society | Ontario Association of Architects | |
| Georgian College | | |

INTRODUCTION

Inspiring Climate Action in Barrie

Energy is part of our daily lives – it powers our homes and appliances, fuels our local businesses, and moves us around the City. Access to efficient and reliable energy plays a key role in our economy and quality of life. While energy will continue to play a key role in our future, **our relationship with it needs to change.**

In 2019, Barrie City Council declared a **climate emergency** and adopted a Climate Change Mitigation Plan to reach Barrie’s corporate GHG emissions target of net-zero by the year 2050.

Developing this Plan to reduce our community’s energy use and emissions – *Inspiring Climate Action in Barrie* – was the next logical step in our journey. This Plan will help the community better understand current energy consumption, identify energy efficiency opportunities, and help meet the community’s climate priorities.

Reducing our reliance on fossil fuels is essential to mitigating climate change. It will improve the health of our residents, our local economy, and the environment.

Impacts of Climate Change

Environmental Impacts

- Fossil fuels emit greenhouse gases (GHGs) that trap heat within the earth’s atmosphere and contribute to climate change.
- Barrie residents have seen increased intense storms and extreme cold and hot days.
- Taking climate action will help preserve greenspace, maintain habitats and ecosystem services, and reduce pollution.

Health Impacts

- Climate change can negatively impact our health.
- We have an opportunity to lessen health impacts and improve overall health outcomes for our residents.

Economic Impacts

- Taking action on climate change is good for our local economy.
- Reducing our reliance on fossil fuels and generating more green energy in Barrie means that more of the money spent on energy will stay in our community.

Climate Equity

- Climate change does not impact everyone in our community in the same way. Certain groups are more vulnerable to the effects of a changing climate.
- Our children and grandchildren will experience the impacts of climate change in the future.
- As a community, it is our responsibility to ensure that everyone can benefit from the opportunities presented by local climate action.

BENEFITS OF LOCAL CLIMATE ACTION

Actions we take collectively at the local level can help make Barrie a desirable place to live, work and play for years to come. Taking action now to reduce energy use will have many benefits to our community. Municipalities worldwide report several benefits to local climate action, including positive social, health, economic outcomes and overall environmental benefits. The co-benefits most commonly referenced by North American cities include:

A shift to more sustainable behaviours amongst residents, such as changes in diet and reduced consumption and pollution.

Using food, water, and energy resources more efficiently to meet the population's needs.

Enhanced resilience to extreme events, such as flooding.

A greener and more sustainable local economy.

Improved public health due to improved air quality, increased activity through active transportation, increased access to healthy foods locally and improved social and ecological determinants of health and equity.



Together, we can collectively re-imagine the way we travel, work, and play to maximize the positive benefits to our environment, health, economy – making Barrie a better place to live for everyone.

OUR COMMUNITY'S ENERGY USE & EMISSIONS

Our Energy & GHG Emissions Snapshot (2018)



As a whole, we used over **20 million GJ** of energy. This equates to about **132 GJ per person**.

Our energy use produced **over a million tonnes** of carbon dioxide equivalent – almost **seven tonnes per person**.

We spent **\$598 million** on energy (most of which left our local economy).



The average person spent **\$3,870** on annual energy costs.



Our **homes, buildings, and travel** use the most energy and generate the most emissions and energy costs.

In terms of transportation, **private vehicle use** is responsible for the largest use of energy and emissions.

Without action, our energy use will **increase by 36%**, and our emissions will **increase by 40%** by 2050.



Associated **energy costs could increase by as much as 60%**.

Without further climate action, Barrie's community energy use is estimated to increase by 36% by 2050, and GHG emissions are expected to increase by 40% by 2050, compared to 2018 levels.

OUR TARGET

The Barrie community aims to reduce overall GHG emissions **45% below 2018 levels by 2030** and to become **net-zero by 2050**.

PLAN FRAMEWORK

Inspiring Climate Action in Barrie

Our Plan contains a vision and principles, Big Moves with associated goals and strategies, and guidance for implementation.



Vision

The Barrie community is taking an integrated, ambitious, and action-oriented approach to climate action providing positive environmental, social, economic, and health outcomes for all.

Principles

- ✓ There are economic benefits in pursuing climate action at the local level.
- ✓ Recognize and promote the inextricable link between the natural and built environments, climate change and our communities' health and wellbeing, and foster the health co-benefits of climate action.
- ✓ Pursue innovative solutions and an evidence-based approach to climate action.
- ✓ Educate and inspire residents and businesses to make positive environmental change, building on the City's leadership.
- ✓ Develop strategies that are equitable and enhance the quality of life for all residents.
- ✓ Benchmark against best practices and look for continuous improvement.
- ✓ Enable positive environmental actions amongst Barrie's residents.
- ✓ Advance Barrie's climate and energy goals in partnership with residents, organizations, and businesses.

BIG MOVES FOR CLIMATE ACTION

Our Plan outlines four 'Big Moves' - buildings, transportation, circular economy, natural environment and land use.

BUILDINGS



Near-zero emissions in new and existing buildings

TRANSPORTATION



Near-zero emissions from transportation

CIRCULAR ECONOMY



Waste reduction through a circular economy

NATURAL ENVIRONMENT & LAND USE



Livable neighbourhoods that support energy efficiency, mixed-use, complete communities, and environmental protection

Fully implementing the strategies outlined in the Big Moves is no small feat – it will take concerted effort and commitment from all sectors of our community. At the same time, front-loading action and spending will be less costly both for the economy and the environment. **The sooner we collectively take action, the better chance we have to achieve our net-zero target.**

If accelerated, two key actions will put us on a better trajectory to reaching our net-zero target. These actions include drastically increasing electric vehicle (EV) sales and incorporating a natural gas phase out within the Deep Energy Efficiency Retrofit program. Redoubling our efforts in these areas would put our community on the best path possible for a more sustainable future.

BIG MOVE #1: BUILDINGS

Buildings are responsible for more than 40% of our community-wide emissions. There are six strategies in the **Buildings Big Move**.



Developing and implementing a Deep Energy Efficiency Retrofit program to significantly reduce the energy used in existing homes and buildings.



Ensuring that all new buildings meet higher energy efficiency standards through a Green Development Standard.



Supporting industry in reducing energy use in their operations.



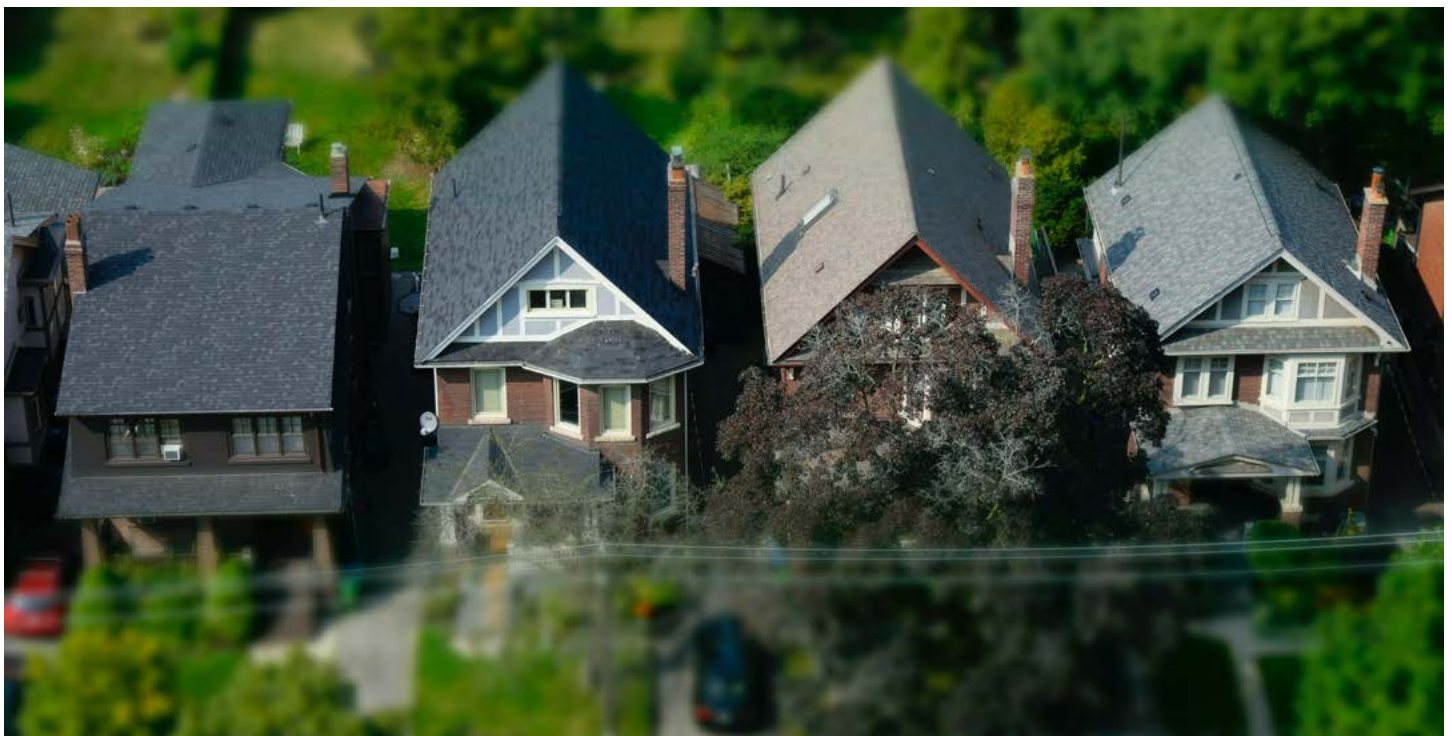
Installing solar panels on rooftops and above parking lots to generate clean energy.



Exploring opportunities for a district energy system within Barrie.



Exploring opportunities for larger renewable energy projects within Barrie.



BIG MOVE #2: TRANSPORTATION

Transportation is responsible for more than 55% of our community-wide emissions, with most of this attributed to personal vehicles. The **Transportation Big Move** involves five strategies that prioritize a shift away from single-occupancy, fossil-fuel-powered vehicles to other modes of travel.



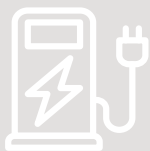
Providing a network of safe streets and trails to promote walking, cycling and rolling.



Advancing local transit options as a viable alternative to personal automobile use.



Working with Metrolinx to increase GO Train use and provide seamless connections for users in Barrie.



Making it more convenient to charge electric vehicles at home and across the city.

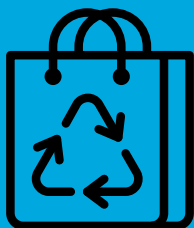


Promoting and supporting car-sharing programs.



BIG MOVE #3: CIRCULAR ECONOMY

Creating a **Circular Economy** is about shifting the perception of “waste” towards being viewed as a resource. The City of Barrie is committed to the continual development of policies around a Circular Economy Framework. This includes four pillars for encouraging reuse, recycling, responsible consumption, and recovery.



Strengthening the community sharing economy (i.e., swap, share and repair events).



Supporting the reduction and phase-out of single-use plastics.



Supporting low-carbon construction.



Recovering energy from waste management activities.



BIG MOVE #4: NATURAL ENVIRONMENT & LAND USE

Our final Big Move, **Natural Environment & Land Use**, includes four strategies.:



Creating higher density, mixed-use neighbourhoods where residents can live, work and play.



Protecting and expanding carbon sequestration through trees, wetlands, and other nature-based solutions.



Developing a zero-emissions neighbourhood.



Promoting a culture of growing and buying locally grown food.



IMPLEMENTATION



Inspiring Climate Action in Barrie is a plan for our entire community. The strategies outlined within each Big Move require significant effort and collaboration between all community members, including businesses, institutions, residents, and the City of Barrie to achieve these reductions. Likewise, the City of Barrie will play many important roles in supporting the implementation of this Plan, including:

- Developing and implementing policies that encourage and enable others to act sustainably.
- Providing or sourcing funding to implement various actions and strategies, as well as dedicated staff resourcing.
- Advocating higher levels of government to implement climate-supportive policies.
- Leading by example, reducing emissions and energy use within their buildings, vehicles, and operations.
- Monitoring and sharing progress with the wider community.

Best practices suggest that plan implementation must involve partnerships and collaboration from the entire community to be successful.

The proposed governance model calls for creating an Internal Working Group comprised of cross-departmental staff to lead the implementation of City-led actions and a series of Action Tables consisting of both staff and external stakeholders to lead the implementation of community actions. Additional considerations for successful implementation are included below.

Finance



- There is a need to develop a sustainable financing model for this Plan.
- Equity should be considered in all financing programs.

Engagement & Communications



- There is a need for ongoing engagement and communications with residents, businesses, and institutions.
- One of the key next steps will be to develop a communications and engagement plan to support plan implementation.

Progress Reporting



- There is a need for transparent reporting on the community's collective progress towards implementing the strategies of this Plan and achieving overall reduction targets.

Carbon Budget



- Developing an annualized carbon budget for our community's emissions has been identified as an important implementation component.

Partners



- Our Plan outlines a series of potential partners in supporting implementation.
- The City will work with potential partners to determine how they can be involved moving forward.

Immediate Actions

These actions are the key next steps to advance local climate action. This is not meant to suggest that these are the only actions that need to be taken, and the list is not ordered according to priority.

Immediate Strategy-Specific Actions

Actions relating to each of the Plan's strategies are provided below.

Deep Energy Efficiency Retrofit Program

- Develop a detailed business plan and retrofit program design.
- Communicate and provide tools/resources to educate the public and businesses.
- Advocate for energy rebates and efficiency/affordability programs at all government levels.

Green Development Standard (GDS)

- Implement the GDS as outlined within Barrie's Official Plan update.
- Advocate for the provincial government to strengthen the Ontario Building Code.

Solar Generation

- Communicate and provide tools/resources to educate the public and businesses.
- Advocate for energy rebates and efficiency/affordability programs at all government levels.

Industry Energy Management

- Identify or establish an energy management best practices network with industry and businesses in Barrie.

District Energy (Pre-feasibility)

- Undertake a pre-feasibility study for a district energy system.
- Develop a business case/plan for district energy in Barrie.
- Establish a district energy entity for delivery.

Larger Renewables (Pre-feasibility)

- Undertake a pre-feasibility study for larger renewable energy infrastructure projects.
- Develop a business case/plan for renewable energy in Barrie.
- Identify or establish a renewable energy entity for delivery.



Electric Vehicle Adoption

- Install EV charging stations on municipally-owned properties.
- Create preferred parking spots and reduce fees for low emission vehicles in municipal parking lots.
- Encourage employers and commercial buildings to install charging infrastructure for staff and patrons.
- Advocacy with other levels of government to increase rebate programs to make EVs as affordable as combustion engine vehicles.
- Educate the public about the benefits of EVs.

Car-Sharing

- Form partnerships with existing providers to provide access to car-sharing programs.

Zero-Emissions Neighbourhood

- Identify potential zero-emissions neighbourhood(s).

Local Food

- Maintain and expand the community garden program within the City.
- Educate the community on planting vegetable gardens at home, reducing food waste, and related topics.

Nature-Based Solutions

- Complete a natural asset inventory for Barrie.
- Conduct an aerial survey to set a baseline for land-use coverage.
- Set a target for Barrie's urban canopy cover.

Plan Alignment & Implementation

- Confirm alignment with and support implementation of existing plans and strategies, including:
 - Circular Economy Framework
 - Transportation Master Plan (includes Active Transportation and Transit)
 - Official Plan Strategic Asset Management Policy and Asset Management Plans



Immediate Enabling Actions

Actions meant to support the successful implementation of the overall Plan are outlined below.

Coordination

- Hire dedicated staff resource.
- Formalize governance structure.
- Establish a sustainable financing model for the Plan.
- Continue to pursue financing for strategy implementation.

Monitoring, Evaluation and Reporting

- Develop key performance indicators (KPIs) for internal and public reporting.
- Update the energy and emissions baseline (plan renewal) every four years.
- Develop the management framework of a carbon budget.

Communications & Engagement

- Develop a Communications & Engagement Plan to support strategy implementation.
- Solidify partnerships with public-facing organizations to support communication and engagement efforts.
- Work with Corporate Communications and Action Tables to communicate and engage with the public on key issues and projects, as appropriate.
- Work with Indigenous groups, youth associations, and key community partners to determine how they would like to be involved and supported in implementing the Plan.



Immediate Community Actions

Where appropriate, the City should look for ways to support and facilitate action by community members. The following is a list of actions that residents and community members can take to support the Plan's implementation:

- ✓ Learn about and engage on topics related to the Plan.
- ✓ Complete energy efficiency retrofits at home or encourage employers, schools, landlords to implement retrofits on their behalf.
- ✓ Purchase food and other goods from local sources, with environmental mandates.
- ✓ Reduce single vehicle trips by using local and regional transit, car-sharing and active transportation.
- ✓ Consider purchasing an electric vehicle.
- ✓ Plant trees and other native plants.
- ✓ Live near where you work or learn, telecommute when possible.
- ✓ Reuse (repair and share) goods and recycle them at the end of life; reduce food waste.
- ✓ Hold the City and its partners accountable to the goals and targets within this Plan.



Closing & Call to Action

This Plan aims to inspire everyone in our community – including businesses, institutions, all levels of government and residents – to undertake meaningful climate action.

If you are interested in learning more about this project, we invite you to read the comprehensive plan document at <https://www.barrie.ca/Living/Environment/Conservation/Pages/EnergyEfficiency.aspx>.

Inspiring Climate Action in Barrie is presented in three parts. **Part 1 focuses on the “why”**. It presents where we are now and the rationale for taking climate action at the local level. **Part 2 focuses on the “what”** and outlines the strategies we need to collectively reduce our energy use and emissions. Finally, **Part 3 focuses on the “how”** and provides actionable next steps for moving this Plan forward.



Adam McMullin, B.A, CEM, CMVP

Manager of Energy, The City of Barrie

Tel: 705-739-4220 ext. 5097 • Adam.McMullin@barrie.ca

Funding/Financial Support

The preparation of Inspiring Climate Action in Barrie was carried out with assistance from the Ministry of Energy and administered through the Municipal Energy Plan Program. Notwithstanding this support, the views expressed are the personal views of the authors, and the Ministry of Energy accepts no responsibility for them.

© 2022 City of Barrie. All Rights Reserved.