

DRAFT

# Climate Mitigation Plan

2023

OWEN  
SOUND  
CITY HALL

**owen  
sound**  
where you *want* to live

Prepared By:  
City of Owen Sound

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# Land Acknowledgement



The City of Owen Sound is situated on the traditional territory of the Anishinabek Nation: The People of the Three Fires, known as Ojibway, Odawa, and Pottawatomie Nations.

We respectfully acknowledge the history, spirituality, and culture of the Anishinaabe peoples and ancestors who shared this land and these waters. Our community is enriched by the enduring knowledge and deep-rooted traditions of the diverse First Nations, Metis, and Inuit in Owen Sound today.

Grounded in generations of place-based observations and experiences, Indigenous knowledge systems are central to a thorough understanding of how people perceive, understand, mitigate, and adapt to climate change. During the implementation phase of the Climate Mitigation Plan, the City of Owen Sound will seek to develop and maintain collaborative relationships with the Saugeen Ojibway Nation, the traditional keepers of this land, and Indigenous communities and organizations located in Owen Sound to nurture their contributions and guidance, and to ensure that their feedback is integrated into the Plan.



# Team Acknowledgments



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Climate Action

The City of Owen Sound would like to acknowledge everyone who participated in the development of the Climate Mitigation Plan. The Plan is the result of efforts and strong leadership demonstrated by the Internal Project Team and key external stakeholders and reflects a diverse range of knowledge and expertise.

We thank you for your efforts in increasing the City's resilience to the impacts of climate change.

## CLIMATE ACTION TEAM OWEN SOUND (CATOS):

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# Mayor's Message

As Mayor of Owen Sound and on behalf of City Council, I thank you for taking the time to read, and helping to develop, our Climate Mitigation Plan.

The decisions we make each day as individuals and as a municipality have an impact on the changing world around us. We need to make necessary changes to protect and preserve our environment and plan for a sustainable future. We want to be leaders in climate action by embracing new technology and modern practices.

Through this Climate Mitigation Plan, we hope not just to inform but also to inspire our community to act against climate change and find inclusive solutions that leave nobody behind.

May we work together in effort,



His Worship Ian Boddy  
Mayor  
City of Owen Sound

**"WE HOPE NOT JUST TO INFORM  
BUT ALSO TO INSPIRE"**



# Introduction



The climate is changing in Owen Sound and around the world.

Climate change, which refers to long-term changes in the average weather conditions of an area, is caused by an increase in greenhouse gas emissions in the atmosphere, which are produced primarily through the combustion of fossil fuels. The process of climate change has been occurring for decades (or longer) and is resulting in changes in the frequency and intensity of extreme weather events, as well as shifts in the locations where these events might normally occur.

Fluctuations in the Earth's climate are normal to an extent, but the speed at which climate change has occurred over the last one hundred years is unprecedented and is due to human activities. Industrialization, manufacturing processes and deforestation are key causes of climate change, as are everyday activities such as heating our homes and facilities and powering our vehicles. These activities produce greenhouse gas emissions, which remain in the atmosphere and trap heat energy from the sun, causing the process of climate change.

This Climate Mitigation Plan is the first chapter in the City's Strategy to manage climate change in Owen Sound. Climate change mitigation focuses on minimizing or preventing climate change by taking actions to reduce greenhouse gas emissions. In doing so, the City is working to limit the negative effects of climate change occurring in Owen Sound. The Climate Mitigation Plan introduces a baseline greenhouse gas emissions inventory for the City, as well as emissions reduction targets based on the data captured in the inventory and actions that the City will take to reduce the production of emissions in Owen Sound.

**CLIMATE CHANGE MITIGATION FOCUSES ON  
MINIMIZING OR PREVENTING CLIMATE  
CHANGE BY TAKING ACTIONS TO REDUCE  
GREENHOUSE GAS EMISSIONS.**





# City's Vision



The City of Owen Sound is dedicated to taking actions to address climate change across municipal operations and throughout the community. The City is creating a more prosperous, sustainable, and healthier future for residents by taking collaborative action with local governments, embracing energy conservation, promoting awareness, and working with local businesses and homeowners to achieve climate solutions that are equitable, inclusive, and attainable.

**THE CITY IS CREATING A MORE PROSPEROUS, SUSTAINABLE, AND HEALTHIER FUTURE**



# Emissions Reduction Targets

In 2015, Canada signed the Paris Agreement at the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC). The Paris Agreement aims to keep the increase in global average temperature to less than 2°C above pre-industrial levels. The Canadian Net-Zero Emissions Accountability Act, which became law in June 2021, declares in legislation Canada's commitment to achieve net-zero emissions by 2050.

Recognizing this national commitment to achieve net-zero emissions by 2050, the City of Owen Sound has set a net-zero emissions target and has established midterm 2030 emissions targets based on this timeline. These targets have been deemed ambitious but realistic and will enable the City to meet the Canadian Net-Zero Emissions Accountability Act's goal of net-zero by 2050. The City's targets will be achieved through several corporate and community actions aimed at reducing Owen Sound's greenhouse gas emissions.

## THE CITY OF OWEN SOUND HAS SET THE FOLLOWING EMISSIONS REDUCTION TARGETS:

### Corporate Target

35% reduction in greenhouse gas emissions by 2030, relative to 2018 levels.

Net-zero greenhouse gas emissions by 2050, relative to 2018 levels.

### Community Target

30% reduction in greenhouse gas emissions by 2030, relative to 2018 levels.

Net-zero greenhouse gas emissions by 2050, relative to 2018 levels.



# Partners for Climate Protection (PCP) Milestone Framework



*Partners for Climate Protection (PCP) 5 Milestone Framework image courtesy of [www.pcp-ppc.ca](http://www.pcp-ppc.ca)*

In September 2022, the City of Owen Sound joined ICLEI Canada and the Federation of Canadian Municipalities' (FCM) Partners for Climate Protection (PCP) program. The PCP program has operated in Canada for over 25 years in support of climate change mitigation planning at the local government level, and currently has over 500 local government members across Canada. In the development of the Climate Mitigation Plan, the City has utilized the PCP's Five Milestone Framework, which provides a structural approach and comprehensive methodology for climate change planning, specifically created for municipal governments in Canada.

# Partners for Climate Protection Milestones

In following the PCP's Five Milestone Framework, the City has developed a baseline emissions inventory, has set emissions reduction targets and identified corporate and community actions to help achieve these targets, and has developed a plan to implement these actions across numerous sectors to reduce the City's contributions to climate change.

## THE FIVE MILESTONES:

- 01** **Creating An Inventory**

Achieved prior to the publication of the City's draft Climate Mitigation Plan.
- 02** **Setting A Target**

Achieved prior to the publication of the City's draft Climate Mitigation Plan.
- 03** **Developing A Plan**

The development and finalization of the Climate Mitigation Plan will achieve Milestone 3.
- 04** **Implementing A Plan**

Will be accomplished upon the implementation of the actions laid out in the Climate Mitigation Plan.
- 05** **Monitoring The Impact**

To achieve Milestone 5, the City will monitor the impact of the Climate Mitigation Plan and will update the document as necessary.

# Baseline Greenhouse Gas Emissions Inventory



A baseline emissions inventory was completed for Owen Sound's municipal operations (referred to as the corporate inventory), and for the community of Owen Sound as a whole (referred to as the community inventory). 2018 was chosen as the baseline year for the inventory to align Owen Sound's Climate Mitigation Plan with the climate action work already being done by Grey County.

**GREENHOUSE GAS (GHG) EMISSIONS, BOTH NATURAL AND ANTHROPOGENIC, ABSORB AND EMIT RADIATION AT SPECIFIC WAVELENGTHS**

Preparation for both inventories followed the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) BASIC level of reporting and the Partners for Climate Protection Protocol: Canadian Supplement to the International Emissions Analysis Protocol.





# Community Emissions in 2018

Community emissions – those associated with the community of Owen Sound as a whole – account for approximately 98% of the total emissions captured in the baseline emissions inventory.

The community inventory is based on data shared with the City by Grey County, which was collected during the completion of the Grey County Climate Change Action Plan. Where it was possible, data specific to Owen Sound was segregated, and where segregation was not possible, data was prorated using population as a scaling factor to calculate total quantities of emissions reflective of Owen Sound.

The community inventory is comprised of the following sectors: residential, commercial, and manufacturing buildings, on-road transportation, wastewater and sewage treatment, and solid waste. The total emissions captured in the community inventory was 147,213 tCO<sub>2</sub>e in 2018.



**TCO<sub>2</sub>E IS TONNES OF  
CARBON DIOXIDE  
EQUIVALENT (THE UNIT TO  
MEASURE GREENHOUSE  
GASES)**



# Community Emissions in 2018

## BY SECTOR

The highest contributing sector in the community inventory is on-road transportation, which accounts for approximately 54% of the total emissions captured. The next highest emitting sectors are residential and commercial buildings, accounting for 20% and 15% of emissions, respectively. The final three sectors, solid waste, manufacturing buildings, and wastewater treatment produced fewer emissions, contributing approximately 7%, 3%, and less than 1%. A breakdown of total community emissions by sector is shown below in Table 1.

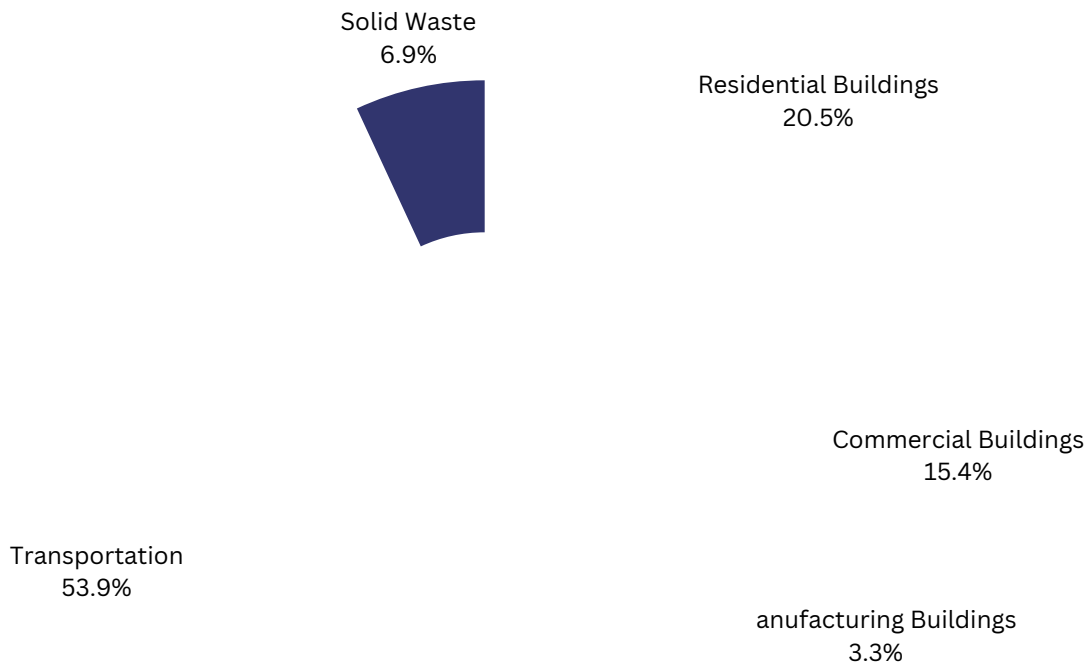


TABLE 1

| Sector                                 | Total Emissions (tCO2e) |
|--|-------------------------|
| Residential Buildings                  | 30,048                  |
| Commercial and Institutional Buildings | 22,610                  |
| Manufacturing Buildings                | 4,766                   |
| On-road Transportation                 | 78,989                  |
| Solid Waste                            | 10,119                  |
| Wastewater & Sewage                    | 682                     |

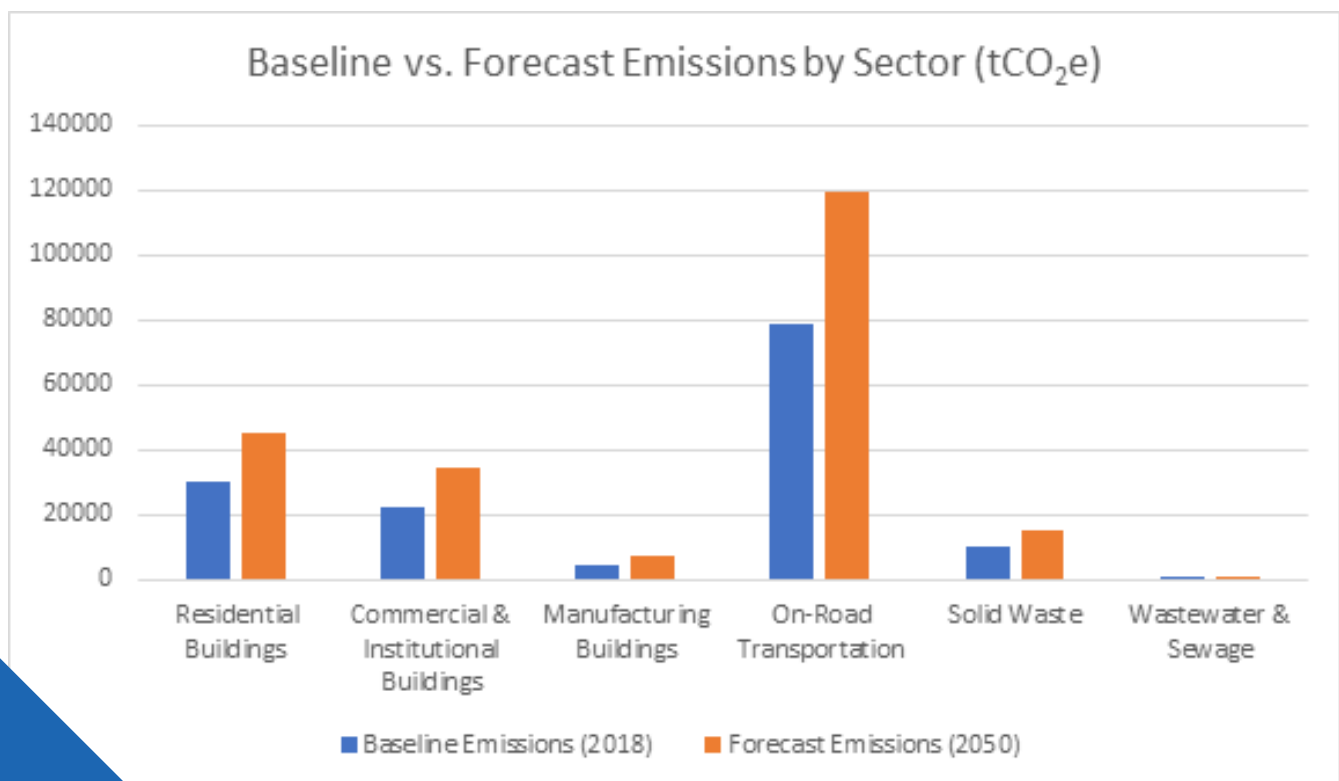
# Community Emissions in 2018

## BUSINESS-AS-USUAL PROJECTION FOR COMMUNITY EMISSIONS

The Business-as-Usual scenario is a projection of future greenhouse gas emissions for the City of Owen Sound which assumes that no actions to reduce emissions are taken and that the patterns of emissions production demonstrated in the baseline year continue. The BAU forecasts featured in the Climate Mitigation Plan utilize 2050 as the projection year. The community forecast predicts a total of 222, 561 tCO<sub>2</sub>e should no action be taken.

A comparison of community baseline emissions and community forecast emissions is shown below in Figure 5.

**FIGURE 5 COMMUNITY BASELINE VS. FORECAST EMISSIONS BY SECTOR (TCO<sub>2</sub>E)**



# Corporate Emissions in 2018

Corporate emissions – those associated with City operations – account for less than 2% of the total emissions in the baseline inventory.

The total emissions captured across all City-owned corporate facilities, fleet vehicles and equipment, and streetlighting was 2,699 tCO<sub>2</sub>e in 2018.

Buildings is the highest contributing sector in the corporate inventory, accounting for more than 59% of the total emissions captured.



It should be noted that the City Hall facility was under construction during 2017 to 2018, meaning that consumption data was not available during these years. Data from 2016 was used for City Hall in the corporate inventory, as it was the closest year with 12 full months of energy usage data available.

The water and wastewater treatment sector is the second-largest emitter, at approximately 21% of corporate emissions. This sector includes emissions produced by the operation of water and wastewater treatment facilities and excludes emissions produced as a result of the treatment process, which are captured in the community inventory.

The City's fleet is the third-highest emitting sector, accounting for almost 19% of all corporate emissions in the inventory.

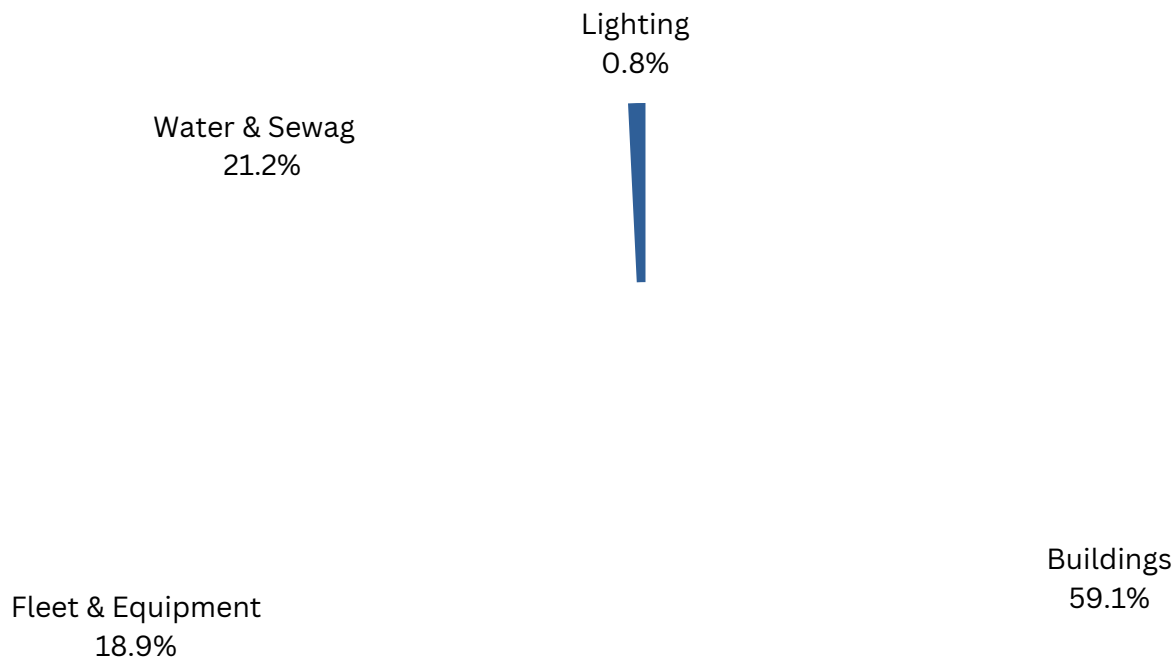
Finally, the fourth and lowest-emitting sector in the corporate inventory is streetlights, which represents less than 1% of the total corporate emissions. The streetlight sector of the inventory includes all outdoor lighting under operational control of the municipal government.



# Corporate Emissions in 2018

## BY SECTOR

A breakdown of total corporate emissions by sector is shown in Table 2.



**TABLE 2**

| Sector                      | Total Emissions (tCO2e) |
|-----------------------------|-------------------------|
| Buildings                   | 1,594                   |
| Fleet and Equipment         | 511                     |
| Water and Sewage            | 573                     |
| Street and outdoor Lighting | 21                      |

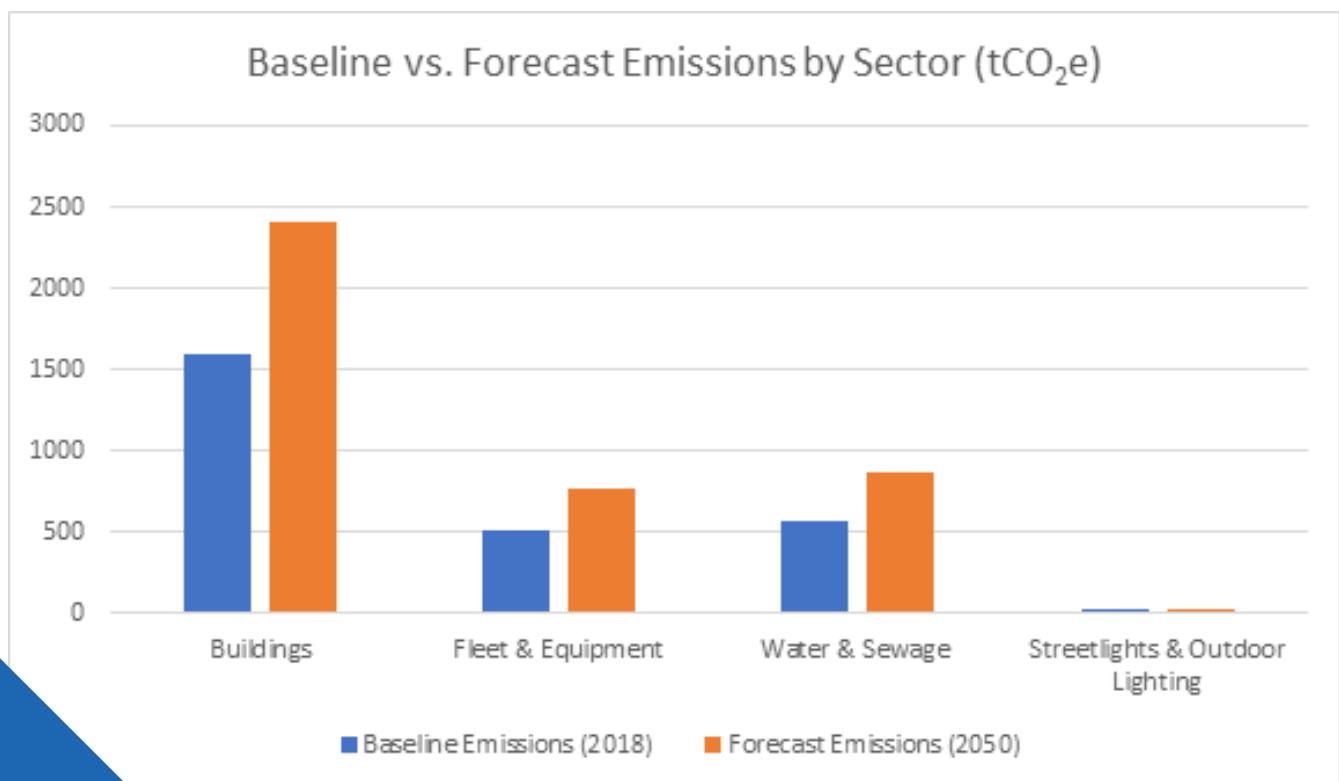
# Corporate Emissions in 2018

## BUSINESS-AS-USUAL PROJECTION FOR CORPORATE EMISSIONS

The corporate BAU is similar to the community model, as it predicts future emissions produced by municipal operations in the future should no action be taken to mitigate climate change. Like the community model, the corporate model utilizes 2050 as the projection year. The corporate model predicts a total of 4,081 tCO<sub>2</sub>e in 2050, if no action is taken.

A comparison of corporate baseline emissions and corporate forecast emissions is shown below in Figure 8.

**FIGURE 8 COMMUNITY BASELINE VS. FORECAST EMISSIONS BY SECTOR (TCO<sub>2</sub>E)**



# Climate Action in the City of Owen Sound

Climate change is a current, increasingly pressing threat that the City of Owen Sound faces. By taking action to mitigate climate change, the City is working to create a more sustainable and livable future for all residents of Owen Sound. Municipalities are on the front lines of the fight against climate change and are therefore the most important and influential political actors in efforts to mitigate a changing climate.



The following sections of the Climate Mitigation Plan outline several actions identified during the development of the Plan that will reduce greenhouse gas emissions in Owen Sound and will therefore aid in the mitigation of climate change. These actions are the result of collaborative planning between City staff of all divisions, as well as Grey County staff, and have been deemed feasible for implementation by the City.

In further alignment with Grey County's Climate Change Action Plan, it is important to note that this Climate Mitigation Plan is a living document and should be updated to account for any changes and/or opportunities that arise.

# Benefits of Climate Action

Taking action to mitigate climate change in Owen Sound will provide financial, environmental, and social benefits to our residents and community members.



## COMMUNITY BENEFITS

- Healthier local and global environments
- Improved food security
- Improved housing quality
- Improved physical and mental health
- More reliable power/energy
- Preservation of healthy green spaces and water

## ECONOMIC BENEFITS

- Increased access to knowledge, expertise, and networks related to energy innovation
- Increased employment opportunities
- Increased sustainable tourism
- Local, regional, national, and international recognition
- More diverse, resilient, and competitive local economy
- Reduced energy costs





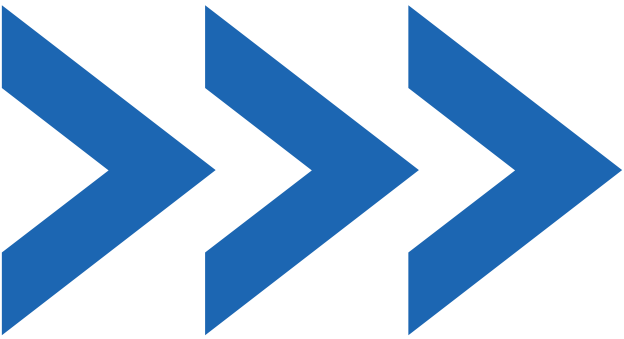
# Community Actions

As a member municipality of Grey County, Owen Sound recognizes the value of collaboration in tackling the issue of climate change in our area and is committed to supporting the community actions laid out by Grey County in the Climate Change Action Plan. Community emissions account for approximately 98% of the total emissions captured in the baseline inventory. It can be more difficult for municipalities to directly control the production of emissions by the greater community, and Owen Sound recognizes the critical importance of continued partnerships with active community members and other external stakeholders in impacting our community emissions.

Outlined on the following pages are the community actions from Grey County's Climate Change Action Plan under which Owen Sound, as a member municipality, is identified as being a leading organization or a key supporting partner. These community actions are organized under seven main guiding themes: nature-based solutions, waste, transportation, buildings and development, energy, climate adaptation, and outreach and engagement. Listed alongside each action are the divisions of City operations foreseen to be involved in supporting the action as the implementation and monitoring processes begin. Support from Council and Committee, as well as continued collaboration with Grey County and the other member municipalities will be essential in ensuring that these actions are implemented in the most effective and efficient ways.



# Community Actions



## Theme: Nature-Based Solutions

### **Action 1: Forest, Habitat and Biodiversity Protection and Expansion**

- Potential supporting division(s): Community Services – Parks and Open Spaces, River District, Building, Planning and Heritage, Events, Tourism and Marketing; Corporate Services – Bylaw; Public Works and Engineering – Engineering Services; Tom Thomson Art Gallery

### **Action 2: Conservation and Protection of Wetlands**

- Potential supporting division(s): Public Works and Engineering; Community Services – Building, Planning and Heritage, Parks and Open Spaces; Corporate Services – Bylaw

### **Action 3: Facilitate Ongoing Capacity Building in Sustainable Agricultural Best Practices**

- Action is not applicable to Owen Sound; Owen Sound is not identified as a supporting partner

### **Action 4: Local Food Promotion**

- Potential supporting division(s): City Manager's Department – Communications; Community Services – Tourism and Marketing, Events, Planning and Heritage, River District

# Community Actions



## 02 Theme: Waste

### **Action 5: Waste Diversion**

- Potential supporting division(s): Public Works and Engineering – Environmental Services, Engineering Services; Community Services – Tourism and Marketing; City Manager’s Department – Communications; Corporate Services – Bylaw

### **Action 6: Re-Use/Re-Build It Operations**

- Potential supporting division(s): Public Works and Engineering – Environmental Services; Community Services – Building, Planning and Heritage; Corporate Services – Facilities and Asset Management, Bylaw

# Community Actions



## 03 Theme: Transportation

### **Action 7: Zero-Emissions Vehicles**

- Potential supporting division(s): Corporate Services – Bylaw, Facilities Management; Fire and Emergency Services; Public Works and Engineering; Community Services – Building, Planning and Heritage

### **Action 8: Active Transportation**

- Potential supporting division(s): Community Services – Planning and Heritage, Events, Tourism and Marketing, Parks and Open Spaces; Public Works and Engineering – Engineering Services, Environmental Services; Corporate Services

### **Action 9: Bus, Rideshare, and On-Demand Transit**

- Potential supporting division(s): Public Works and Engineering – Environmental Services; Community Services – Community Development



# Community Actions



## 04 Theme: Buildings & Development

### **Action 10: Compact, Mixed-Use Development**

- Potential supporting division(s): Community Services – Planning and Heritage, Building; Public Works and Engineering – Engineering Services

### **Action 11: Green Standard for New Buildings**

- Potential supporting division(s): Community Services – Building, Planning and Heritage

### **Action 12: Residential Building Energy Retrofit Program**

- Potential supporting division(s): Community Services – Building, Planning and Heritage; City Manager's Department – Communications; Fire and Emergency Services

### **Action 13: Non-Residential Building Energy Efficiency Retrofit**

- Potential supporting division(s): Fire and Emergency Services; Community Services – Building, River District; City Manager's Department – Communications

# Community Actions



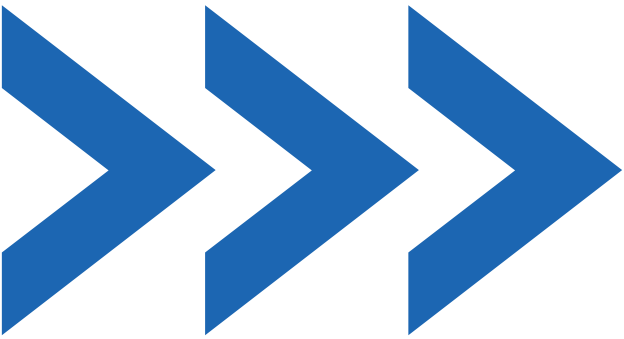
## **Action 14: Support Renewable and Emerging Energy Technologies**

- Potential supporting division(s): Community Services – Community Development, Tourism and Marketing, Planning and Heritage; Corporate Services

## **Action 15: Biogas Capture and Conversion**

- Action is not applicable to Owen Sound; Owen Sound is not identified as a supporting partner

# Community Actions



## 06 Theme: Climate Adaptation

### **Action 16: Develop a Climate Action Strategy**

- Potential supporting division(s): City Manager's Department – Communication

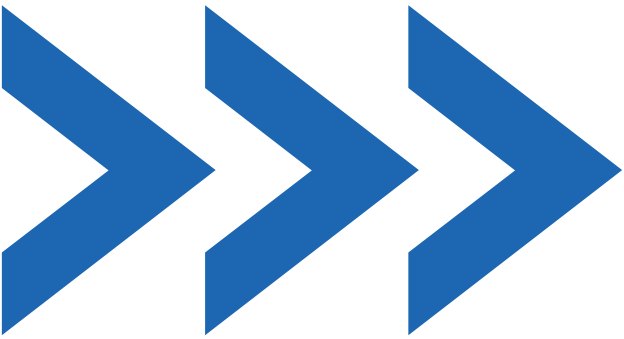
### **Action 17: Reduce Flood Risk**

- Potential supporting division(s): Public Works and Engineering – Engineering Services; Community Services – Planning and Heritage, Building, Community Development, Marketing

### **Action 18: Prevent Shoreline Erosion**

- Potential supporting division(s): Community Services – Parks and Open Spaces, Building, Planning and Heritage, Community Development, Marketing; Public Works and Engineering – Engineering Services; Corporate Services – Asset Management

# Community Actions



## 07 Theme: Outreach & Engagement

### **Action 19: Climate Action Engagement Program**

- Potential supporting division(s): City Manager's Department – Communications

### **Action 20: Promote Sustainable Tourism Programs & Incentives to Operators**

- Potential supporting division(s): Tourism and Marketing

### **Action 21: Establish a Climate Action Implementation Advisory Group**

- Action is not applicable to Owen Sound; Owen Sound is not identified as a supporting partner



# Corporate Actions

In comparison to the community emissions, corporate emissions account for a small percentage of the total captured in the baseline inventory. However, corporate emissions produced by our local government operations are under the direct control of the City and reducing these emissions provides an important opportunity for the City of Owen Sound to lead by example and to demonstrate effective climate action on the municipal level.

Outlined on the following pages are corporate actions that the City of Owen Sound will take to reduce emissions resulting from City operations. These actions fall under four main themes:

1. Buildings and Lighting
2. Fleet and Equipment
3. Waste
4. Municipal / Corporate Culture



# Corporate Actions



## 01 Theme: Buildings & Lighting

### **Action 1: Energy Efficient New Buildings/Facilities**

- Build new City-owned buildings/facilities to net-zero ready standards
- Incorporate electric vehicle infrastructure and solar photovoltaic technology into new builds where feasible
- Integrate green infrastructure such as green roofs, low impact development (LID) landscaping, permeable pavements and tree and native species planting
- Explore new construction funding opportunities

### **Action 2: Energy Efficient Retrofits in Existing Buildings/Facilities**

- Continue to upgrade/retrofit City-owned buildings/facilities with energy efficient systems; explore upgrades to heating, ventilation, and cooling (HVAC) systems, interior lighting, building climate control, upgrades to water meters
- Conduct building condition assessments (BCAs)/energy audits across corporate facilities to determine priority order for retrofits, beginning with the least energy efficient facilities, and to determine areas in buildings with the greatest opportunity for energy efficient improvements
- Incorporate electric vehicle infrastructure and solar photovoltaic technology into retrofits where feasible
- Integrate green infrastructure such as green roofs, low impact development (LID) landscaping, permeable pavements and tree and native species planting into retrofits where feasible
- Explore potential reuse of heritage buildings/sites, with energy efficient systems
- Explore energy efficient building retrofit funding opportunities

# Corporate Actions



## 01 Theme: Buildings & Lighting

### **Action 3: Exploration of Renewable Energy Opportunities in Buildings/Facilities**

- Continue to explore opportunities to integrate solar photovoltaic systems into corporate buildings/facilities
- Continue to explore solar lease options

### **Action 4: Energy Efficient Lighting Conversion**

- Continue to convert outdoor lighting, including streetlights, traffic signals, decorative lighting, and park lighting, to energy efficient light-emitting diode (LED) bulbs
- Explore ways to improve energy efficiency during events

# Corporate Actions



## 02 Theme: Fleet & Equipment

### **Action 5: Develop and Implement Corporate Fleet Management Strategy**

- Explore policy/enforcement opportunities to promote anti-idling
- Promote fleet-sharing
- Encourage municipal staff to utilize active transportation during site visits when possible

### **Action 6: Fleet Operations Maintenance**

- Improve fleet maintenance practices to ensure optimal fuel economy and emissions reduction
- Analyze gas consumption in existing corporate gas vehicles to determine which vehicles are highest-emitting; use data collected during analysis to guide the implementation of further efficiency opportunities

### **Action 7: Zero-Emissions Vehicle and Equipment Adoption**

- Purchase electric vehicles and equipment as existing municipal fleet is retired and replaced where it is feasible and beneficial
- Monitor development of electric vehicle and equipment market to identify opportunities for upgrades; explore zero-emissions equipment as it becomes available (e.g., ice resurfacer, lawn mowers, leaf blowers, etc.)
- Explore alternative fuel opportunities
- Explore zero-emissions fleet upgrade funding opportunities



# Corporate Actions




## 03 Theme: Waste

### **Action 8: Development of Corporate Waste Reduction Program**

- Conduct a corporate waste audit to identify opportunities to limit waste from corporate operations
- Provision of green bins/compost bins at all corporate buildings/locations to reduce the amount of solid waste being taken to landfill
- Staff education about best waste diversion/disposal practices and promotion of best practices at corporate locations (encourage reuse of signage when possible, as well as the use of digital files to reduce paper waste, reusable water bottles to reduce plastic waste, etc.)
- Increase the number of City-provided recycling bins at events

# Corporate Actions



## 04 Theme: Municipal/Corporate Culture

### **Action 9: Development of Municipal Climate Lens**

- Continue development of municipal Climate Lens Tool
- Expansion of Climate/Environmental Impacts section to all staff reports to encourage the consideration of the climate and environment in relation to all ongoing corporate projects
- Incorporate Climate Lens into corporate policies

### **Action 10: Promotion of Conservation Among Staff**

- Offer educational opportunities for staff to learn about climate change and the City's climate action initiatives
- Promote environmental conservation and emissions reduction with events, rewards, incentives, benefits, and other programs to encourage a shift in the behaviours, practices, and mindsets of municipal staff and operators
- Encourage sustainable habits among corporate staff and operators such as turning off unnecessary lights, turning down thermostats, use of digital files, etc.

# Implementation

To ensure that the actions identified in the Climate Mitigation Plan are implemented effectively over the long-term, the City is developing a plan for implementation.

As the City of Owen Sound is committed to supporting the community actions laid out in Grey County’s Climate Change Action Plan, City staff will refer to the County’s implementation plan for the community actions. This implementation plan, which can be found on page 96 of the County’s Climate Change Action Plan, outlines potential leading organizations and supporting partners for each action, as well as estimated timeframes, relative cost characterizations, potential funding opportunities, suggested monitoring metrics, resilience co-benefits, and relative greenhouse gas reduction impacts for each action. As a member municipality, Owen Sound will be working collaboratively with Grey County to determine our role in supporting each of the community actions in our municipality as the County’s implementation process begins.

The corporate actions laid out in the Climate Mitigation Plan are specific to the City of Owen Sound, and therefore, implementation will be carried out by the City. An implementation plan for the corporate actions can be found in Table 3 on the following page. The implementation plan includes the following items:

## TIMEFRAME

- Length to begin implementation of the action:
- Ongoing/Near Term: Already underway, will be continued/expanded with existing resources
  - Immediate term: Start working now
  - Short-term: Start work in 1-3 years
  - Medium term: Start work in 3-5 years
  - Long term: Start work beyond 5 years

## SUGGESTED MONITORING

Metric(s) that help measure the success of the action

## RELATIVE COST

- Estimated cost range for implementing each action:
- N/A: Cost is covered by existing staff capacity or operating budgets
  - Low Cost: \$0 - \$100, 000
  - Medium Cost: \$100, 000 - \$500, 000
  - High Cost: \$500, 000+

## RESILIENCE CO-BENEFIT

Identification of whether a simultaneous co-benefit associated with climate change adaptation exists through implementation of the action

## RELATIVE GHG IMPACT

- Where actions have quantifiable emission reduction associated, the relative impact in respect to all other actions is identified by a range. The following values were used to assign the range based on an action’s cumulative reduction potential:
- Low Impact: < 3, 000 tCO<sub>2</sub>e
  - Medium Impact: 3, 000 – 10, 000 tCO<sub>2</sub>e
  - High Impact: > 10, 000 tCO<sub>2</sub>e

TABLE 3

| Theme                         | Action   | Timeframe  | Relative Cost Characterization  | Suggested Monitoring Metrics  | Resilience Co-Benefits | Relative GHG Impact |
|-------------------------------|--|------------|---|---|------------------------|---------------------|
| Buildings and Lighting        | 1. Energy Efficient New Buildings / Facilities                             | Long term  | Low cost  | <ul style="list-style-type: none"> <li>Energy saved, energy costs saved, and emissions reduced</li> <li>Efficiency standard / energy use intensity (GJ/m<sup>2</sup>) of new buildings</li> <li>Number, capacity, and generation of solar panels installed</li> </ul> | Yes                    | High                |
|                               | 2. Energy Efficient Retrofits in Existing Buildings / Facilities           | Ongoing    | High cost   | <ul style="list-style-type: none"> <li>Number of retrofits completed</li> <li>Energy saved, energy costs saved, and emissions reduced</li> </ul>  | Yes                    | High                |
|                               | 3. Exploration of Renewable Energy Opportunities in Buildings / Facilities | Ongoing    | Medium cost   | <ul style="list-style-type: none"> <li>Number of solar energy projects started / completed</li> <li>Energy saved, energy costs saved, and emissions reduced</li> </ul>  | Yes                    | Medium              |
|                               | 4. Energy Efficient Lighting Conversion                                    | Ongoing    | Existing budgets  | <ul style="list-style-type: none"> <li>Number of outdoor lights converted</li> <li>Energy saved, energy costs saved, and emissions reduced</li> </ul>   | Yes                    | Medium              |
| Fleet and Equipment           | 5. Develop and Implement Corporate Fleet Management Strategy               | Ongoing    | Low cost / n/a: covered by existing staff capacity / operating budgets          | <ul style="list-style-type: none"> <li>Number of new practices / policies implemented</li> <li>Emissions reduced</li> </ul>   | Yes                    | n/a                 |
|                               | 6. Fleet Operations Maintenance  | Short term | Low cost  | <ul style="list-style-type: none"> <li>Fuel and fuel costs saved</li> <li>Emissions reduced</li> <li>Number of maintenance trips per year</li> </ul>  | n/a                    | Low                 |
|                               | 7. Zero-Emissions Vehicle and Equipment Adoption                           | Ongoing    | Medium cost   | <ul style="list-style-type: none"> <li>Number of electric vehicles / pieces of equipment purchased</li> <li>Amount of fuel saved and emissions avoided based on km travelled of replaced vehicles</li> </ul>  | n/a                    | High                |
| Waste                         | 8. Development of Corporate Waste Reduction Program                        | Short term | Low cost  | <ul style="list-style-type: none"> <li>Amount single-use plastics avoided</li> <li>Number of waste streams collected at City-owned facilities</li> </ul>  | n/a                    | n/a                 |
| Municipal / Corporate Culture | 9. Development of Municipal Climate Lens                                   | Ongoing    | n/a: cost is covered by existing staff capacity or operating budgets            | <ul style="list-style-type: none"> <li>Number of staff utilizing lens tool in corporate policy development</li> <li>Energy efficiency measures implemented</li> </ul>   | Yes                    | n/a                 |
|                               | 10. Promotion of Conservation Among Staff                                  | Ongoing    | Low cost / n/a: cost is covered by existing staff capacity or operating budgets | <ul style="list-style-type: none"> <li>Attendance at corporate climate events</li> <li>Implementation of corporate climate programs</li> </ul>  | n/a                    | Low                 |



# Monitoring and Review

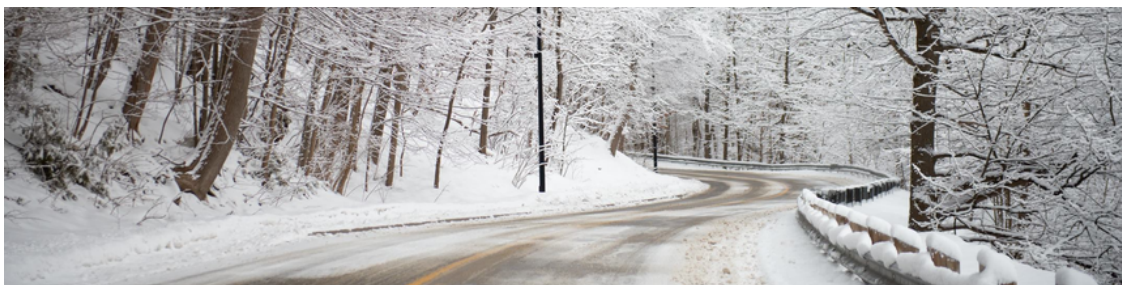
Monitoring and evaluating the implementation of the Climate Mitigation Plan will be critical in ensuring its effectiveness. This section of the plan describes several measures that should be taken by the City to ensure the overall success of the City's climate action initiatives.

It is recommended that the City's baseline emissions inventory be updated on a regular basis. Updating the inventory will give staff the opportunity to compare baseline emissions to those that are captured following the implementation of the plan. This will allow the City to monitor the progress of emissions reductions in Owen Sound, while also enabling staff to determine which actions are effective in helping the City reach its emissions reduction targets.

Following the implementation of the actions outlined in the Climate Mitigation Plan, it is suggested that annual progress reports be prepared by staff from relevant or supporting divisions. This will allow the City to understand which actions are being successfully implemented in which areas, and which may require revision to be more effective.

Owen Sound is fortunate to already be receiving support for its climate action initiatives from internal staff, key external stakeholders, and community members. Continued engagement with each of these parties will be important in the monitoring and reviewing processes. Climate change impacts every facet of society, and receiving input and feedback from a diverse range of actors will allow the City to gain a more fulsome understanding of the Climate Mitigation Plan's success following implementation.

Each of the measures described above should be utilized in the reviewing and updating of the overall Climate Mitigation Plan as a whole. It should be noted once more that the Plan is considered a living document, and that the success of its implementation is a component that should guide each update.



# Stakeholder Engagement

Engagement with internal City staff, external stakeholders, and the public shaped the development of the Climate Mitigation Plan through the identification of actions to reduce emissions in the City of Owen Sound.

Multiple action planning sessions were held for internal staff in March 2023. These sessions provided staff with an opportunity to learn about the Climate Mitigation Plan and to brainstorm actions that their divisions could support to reduce both corporate and community emissions in the City. Involving internal staff in the action planning process provided the City with valuable insights into the areas in which actions might be most effective or realistically implemented in terms of our municipal operations. In addition to these sessions, a climate action survey was circulated internally to staff as a second way to generate participation in the action planning process.

Throughout the development of the Climate Mitigation Plan, City staff attended meetings with Grey County staff to collaborate on the best ways for the City, as a member municipality of the County, to support the climate work already being done. Meeting with Grey County presented an opportunity to prevent the duplication of efforts and has allowed the City to determine the best ways to implement, support, and promote climate action in Owen Sound. City staff have also attended regular Community of Practice meetings with climate change professionals from other member municipalities to learn about other climate action work being done in our local area.

Community engagement is an ongoing process with respect to the Climate Action Strategy. A draft of the Strategy will be released to the public in April 2023. Following its release, City staff will be attending Earth Day Grey Bruce, an event taking place on April 22, 2023. Staff will be manning an informational booth at the event, where members of the public will be able to learn about climate change and climate action in Owen Sound and can have any questions regarding the draft Climate Action Strategy answered. Releasing the draft strategy gives staff a valuable opportunity to learn about perceptions of climate change in the City and to identify priority areas of community members in terms of our municipal climate action. In addition to the Earth Day event, the City will also be utilizing the Our City platform to make a climate action survey available to the community. This survey will give community members an important opportunity to provide feedback, ask questions, and make suggestions about the contents of the draft Climate Action Strategy. Following this period of community engagement, the City will revisit the draft strategy and will adjust as necessary before presenting to council for consideration.

# Ways You Can Help

Every small action contributes to a bigger success in emissions reduction, especially when we work together. Connect with friends and neighbours on our sustainable future and share your climate actions. Be a part of the solution – here are 10 things you can do right now:

1. Naturalize your garden with native plants or grow your own food
2. Choose local producers and **LOCALLY GROWN** food
3. Waste less food: buy only **WHAT YOU NEED TO**
4. **SHOP** second-hand and donate old clothes
5. Re-use or repair items rather than trash them
6. Replace **OLD APPLIANCES** with Energy-Star products
7. Drive less, **CARPOOL** more (and use local transit)
8. Insulate your home and when replacing heating and cooling systems, choose low-carbon options like heat pumps
9. Walk, ride your bike, or roll for short trips
10. Talk to neighbours, family, and friends about **CLIMATE CHANGE**; take action together



**BE A PART OF THE SOLUTION**

# Glossary

**Adaptation:** Includes any initiatives or actions in response to actual or projected climate change impacts and which reduce the effects of climate change on built, natural, and social systems.

**Baseline:** Estimation of the current (2018) energy use and greenhouse gas emissions.

**Building Retrofit:** Upgrades to a building's envelope (walls, floor, ceiling), windows, doors, HVAC (heating, ventilation, and air conditioning) systems, and lighting that reduces the heating and cooling needs of a building and operate with greater energy efficiency.

**Business-as-Usual (BAU):** The Business-as-Usual (BAU) scenario is developed to understand future energy consumption, energy costs and emissions for Grey County, assuming no action is taken to reduce energy or emissions.

**Climate Change:** Changes in long-term weather patterns caused by natural phenomena and human activities that alter the chemical composition of the atmosphere through the build-up greenhouse gases which trap heat and reflect it back to the earth's surface.

**Climate Projections:** Projections of the response of the climate system to emissions or concentration scenarios of greenhouse gases and aerosols. These projections depend upon the climate change (or emissions) scenario used, which are based on assumptions concerning future socioeconomic and technological developments that may or may not be realized and are therefore subject to uncertainty.

**Co-Benefits:** Potentially large and diverse range of benefits associated with climate action initiatives that go beyond direct contributions to climate change mitigation or adaptation.

**Gigajoule (GJ):** A derived unit of energy in the International System of Units. It equals one billion Joules. The amount of energy represented by one GJ is equivalent to 278 kWh.

**Greenhouse Gas (GHG) Emissions:** Gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of thermal infrared radiation, emitted by the Earth's surface, the atmosphere itself, and by clouds. Water vapor (H<sub>2</sub>O), carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), ozone (O<sub>3</sub>), and chlorofluorocarbons (CFCs) are the six primary greenhouse gases in the Earth's atmosphere in order of abundance. Greenhouse gas emissions are measured in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e).

**Intergovernmental Panel on Climate Change (IPCC):** An intersectional body established under the United Nations to assess the science, impacts, and response options to climate change.

**Kilowatt-Hour (kWh):** A kilowatt-hour is a unit of electrical energy used as the basic billing unit and equals the use of one thousand watts of electricity in one hour.

**Mitigation:** The promotion of policy, regulatory, and project-based measures that contribute to the stabilization or reduction of greenhouse gas concentrations in the atmosphere.

**Net-Zero:** Achieved through the reduction of anthropogenic emissions of greenhouse gases with the goal of balancing emissions produced and emissions removed from the atmosphere. It is important to note net-zero emphasizes a commitment to reducing greenhouse gas emissions as much as possible.

**Net-Zero Ready:** Implies an energy efficiency performance standard for the building envelop and other technologies whereby on-site renewable energy systems meet the remaining energy needs. For example, a Passive House or Canadian Green Building Council Zero Carbon Building.

**Resilience:** The capacity of a system, community, or society exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure.

**Sequestration:** Long-term storage of carbon (carbon dioxide) from the atmosphere.

**Solar Photovoltaic:** The use of solar cells to convert energy from the sun into electric energy, either with on-site solar panels or offset site generation distributed through the electricity grid.

**Tonnes of Carbon Dioxide Equivalent (tCO<sub>2</sub>e):** The standard unit for counting greenhouse gas (GHG) emissions.

**Weather:** The day-to-day state of the atmosphere, and its short-term variation in minutes to weeks.

**Vulnerability:** The sensitivity or predisposition to be adversely affected by climate change. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.



DRAFT



# Climate Mitigation Plan

2023

**owen  
sound**  
where you want to live

Prepared By:  
City of Owen Sound