GEORGINA

Climate Change Action Plan Status Update

Priority Risks and Opportunities

Presented by Corporate Strategy & Transformation,
Strategic Initiatives on November 20, 2024

Climate Change Action Plan Development

February - April 2024

PHASE 1: Planning and Initiation

Project Planning and Introductions

- Project Kickoff to CAO ✓
- Project Kickoff to GEAC ✓
- Project Introduction to Departments ✓

May – June 2024

PHASE 2: Research and Inventory

Research and Analysis on Threats and Opportunities

- Interviews with Council and External Data Experts on SWOT, Data Sources, Overlapping Work ✓
- Cross-Departmental consultation on sector-specific impacts ✓

July – August 2024

PHASE 3: Engagement

Internal and external engagement to help prioritize Threats and Opportunities

- Staff Survey ✓
- Public Survey and Events to promote survey ✓
- External Stakeholder Focus Groups ✓

September – November 2024

PHASE 4: Prioritization

Develop criteria and prioritize Threats and Opportunities

- Risk Assessment and Prioritization ✓
- Corporate and Community GHG Inventory ✓
- Presentation to Council and EAC ✓

December 2024 – Q2 2025

PHASE 5: Plan Development

Develop Climate Change Action Plan for endorsement

- Development of Action Plan
- Stakeholder Feedback
- Presentation of final CCAP to Council for endorsement

Climate Hazard Projections for 2050

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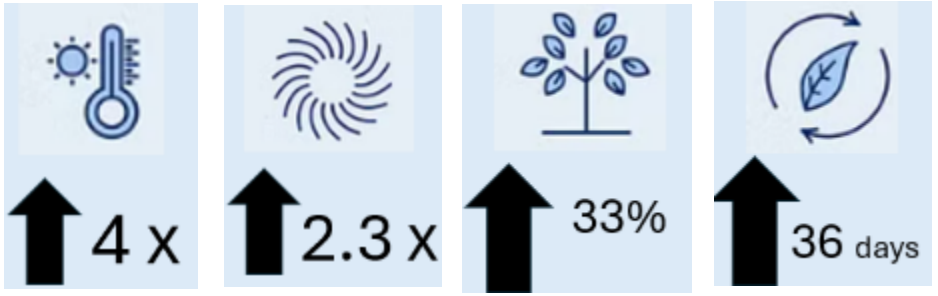
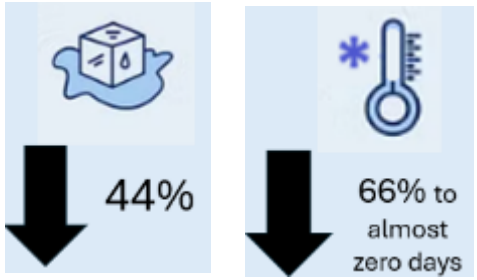
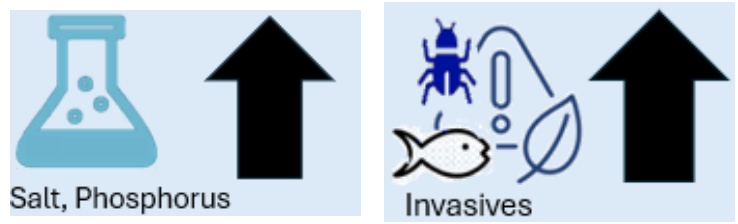
Extreme Heat



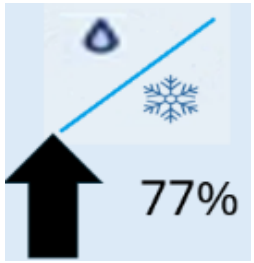
Warmer Winters



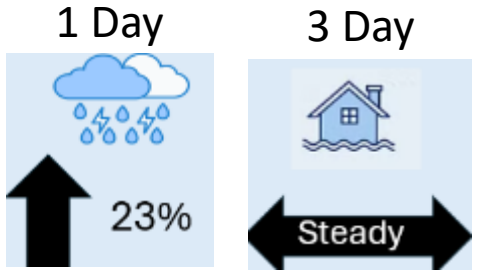
Lake Simcoe Water Quality Decrease



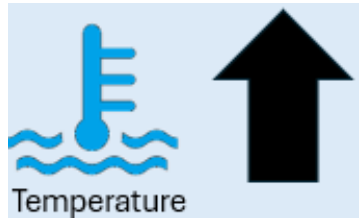
Wetter Winters



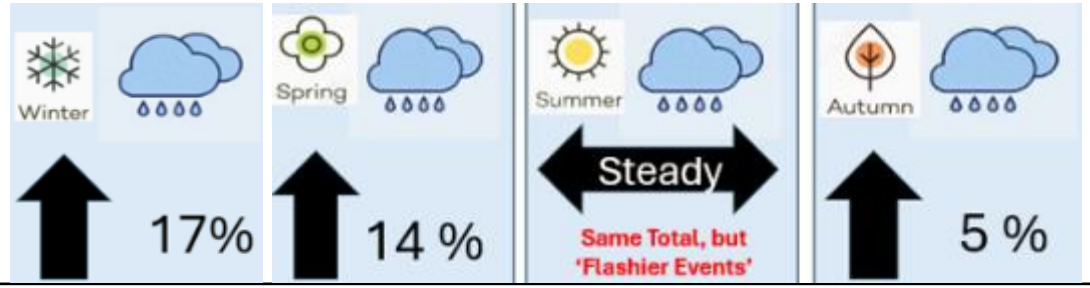
Extreme Precipitation (Short Term)



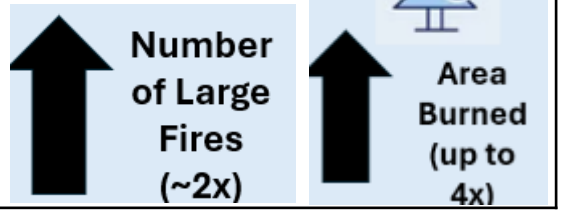
Lake Simcoe Water Temperature Increase



More Annual Rainfall



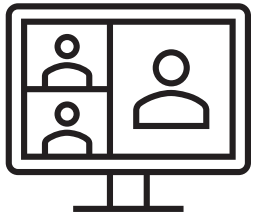
Wildfire Smoke Increase

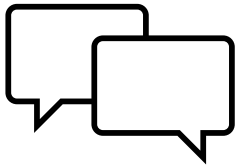


Community Engagement

- ✓Over 500 community members engaged
  - ✓211 survey responses
  - ✓300 in-person interactions at 8 community events
- ✓Over 100 staff engaged
  - ✓90 survey responses
  - ✓6 cross-departmental meetings
- ✓Over 25 partners engaged
  - ✓8 Stakeholder focus groups

Focus Groups



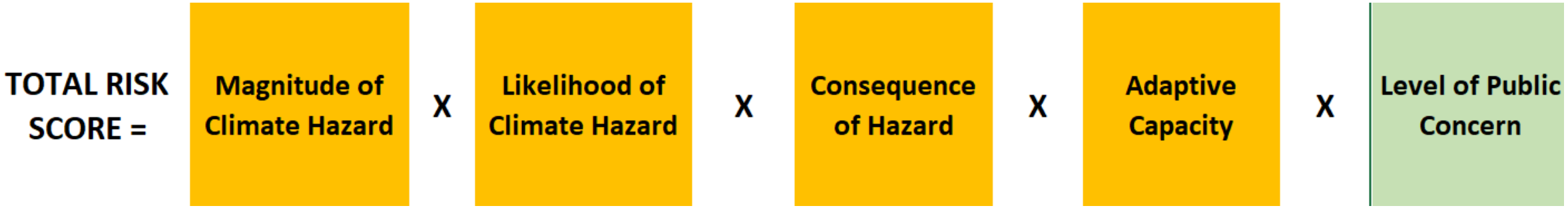


✓Stakeholders Engaged:

- Chippewas of Georgina Island First Nation
- York Region
- Lake Simcoe Region Conservation Authority (LSRCA)
- Federation of Agriculture (York Chapter)
- Soil and Crop Association (York Region)
- Georgina Community Action Table
- Routes Connecting Communities
- Central Counties Tourism
- Ontario Ministry of Environment, Conservation, Parks
- York Region Environmental Alliance
- Rescue Lake Simcoe Coalition
- Society for the Prevention of Cruelty to Animals (SPCA)
- Southlake Regional Health Centre
- Georgina Builders Association
- Jericho Youth Services
- Lake Simcoe Watch
- Local business owners

Risk Calculation Method

Provincial Risk Assessment matrix was used to assess risk:

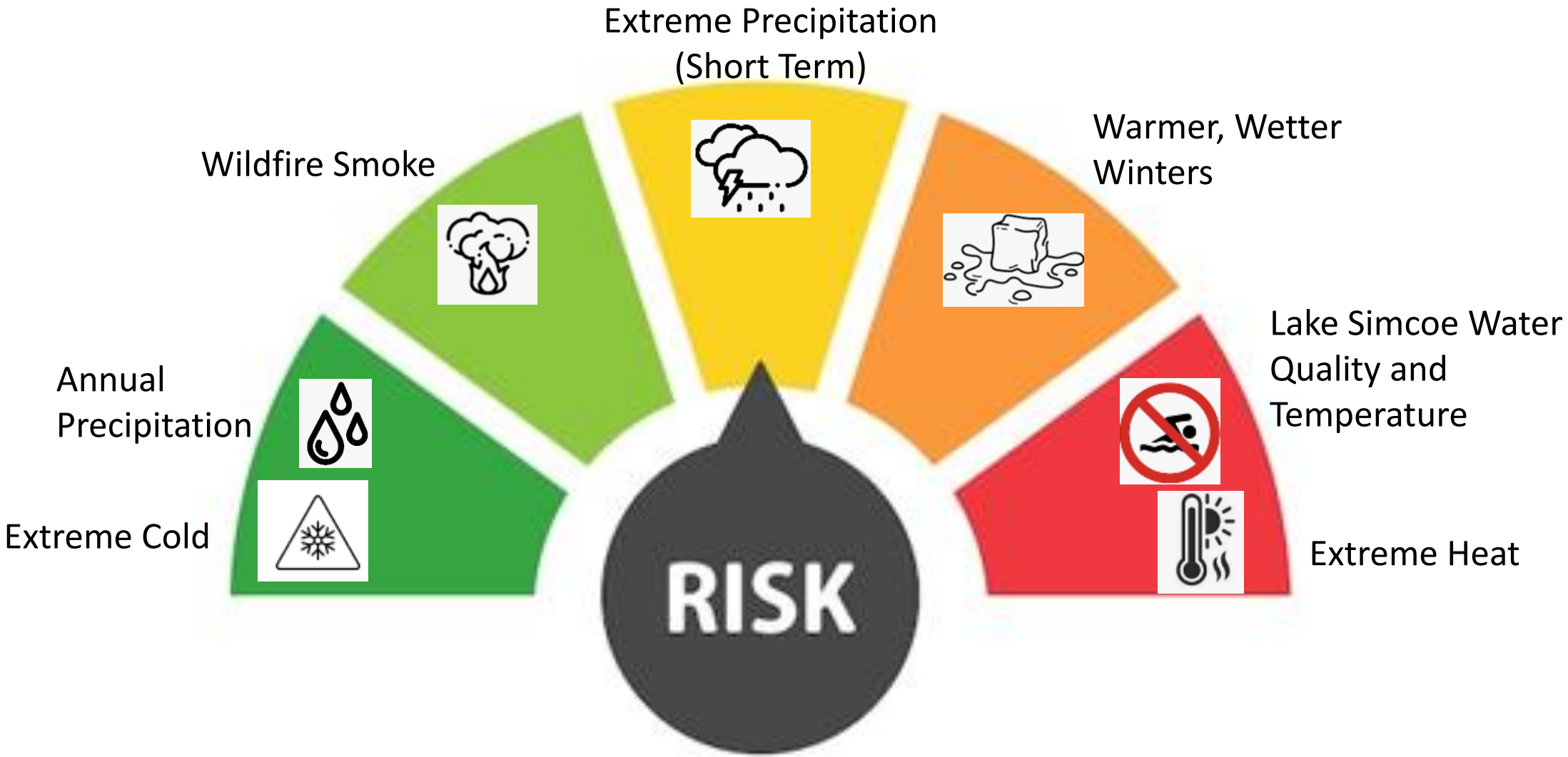


Source: Ontario Provincial Climate Change Impact Assessment Technical Report (January 2023)

Sectors and Impacted Entities

	People	Economies	Agriculture	Nature	Infrastructure
Sectors:					
Examples of Entities:	• Unhoused, • Indigenous • Kids • Seniors	• Recreation • Tourism • Construction	• Field crops • Fruit/ Vegetable farms • Livestock	• Wetlands • Lake Simcoe • Birds • Coldwater fish	• Roads • Stormwater management • Electrical utilities

Hazard Risk Summary



Risks of Extreme Heat

People who are Most Exposed and/or Most Susceptible

People who are unhoused, living with low income, outdoor workers, seniors and kids and medically vulnerable groups are most exposed to heat and/or have a lower capacity to stay cool.

Impacts = Risk of heat illness and exposure to dust, vector-borne illness and UV rays, health impacts of inactivity and staying inside, higher health care needs.

Electrical Power Generation and Demand

Air conditioning (A/C) cooling demand increases during heat waves.

Impacts = Increased electrical load and energy requirements, additional costs for cooling, additional costs for expanding energy capacity.

Field Crops, Fruit and Vegetable Farms, Livestock

Crops and livestock under heat stress. Growing season will increase.

Impacts = Crop failure, livestock heat stress, more invasive species, increased energy demand and cost for cooling barns, increased water demand and cost.

Risks of Extreme Heat

Wetlands, Birds and Trees

Extreme heat cause changes in bird's breeding seasons, migrations and resource availability and increases evaporation which stresses wetlands and drought-intolerant tree species.

Impacts = Decrease in population of waterfowl and migratory birds, loss of wetland productivity as a carbon sink and flood protection, loss of vulnerable tree species.

Arts, Entertainment, Recreation

Extremely hot days result in fewer people outside for summer events and less navigable rivers for water-based recreation. Warmer spring and fall could lengthen summer recreation and tourism.

Impacts = Lower attendance at outdoor summer events, decreased use of rivers for boating, changing use of Town fields and facilities including longer season.

Lake Water Quality and Temperature

Chippewas of Georgina Island First Nation

Blue green algae, *E.coli* and invasive species reduce ability for Chippewas of Georgina Island First Nation to use water for culture, recreation and food sovereignty.
Impacts = Loss of wild rice growth, challenge for plant medicine and wild food foraging.

Coldwater Fish, Insects and Amphibians

Warmer water reduces levels of dissolved oxygen and decreases cues for spawning success. Phosphorus and nitrogen cause algae blooms and eutrophication.
Impacts = Reduced populations of coldwater fish (however more warmwater fish), reduced diversity of aquatic insects, worms and mollusks.

Summer Recreation, Fishing and Tourism

Poor water quality decreases beach tourism and fishing opportunities.
Impacts = Beach closures and loss of beach-related tourism, reduced fishing tourism, reduced ability to stay cool during extreme heat, potential impact to real-estate prices.

Risks of Warmer, Wetter Winters

Chippewas of Georgina Island First Nation; First Responders, Seniors

Warming winters causes thinner lake ice and more frequent rescue calls. More frequent freeze/thaw cycles creates icier sidewalks, roads and trails conditions.
Impacts = Risk of injury/death for those travelling on lake ice and first responders, increased cost and risk for Chippewas to cross Lake Simcoe, risk of slip/fall injury on sidewalks, and increased costs of maintaining surfaces.

Field Crops, Fruit and Vegetable Farms, Livestock

Wetter winters means wetter fields, non-frozen ground, reduced cold-storage ability, salt runoff onto fields.
Impacts = Crop loss, field damage, increased disease and hoof damage to livestock.

Wetlands

Increased demand for road salt during freeze/thaw cycles and increased likelihood of run-off from winter rain, when riparian buffers are not as effective in winter.
Impacts = Increased salt and phosphorus loads into rivers, impacts to aquatic life.

Risks of Warmer, Wetter Winters

Electrical Utilities

Winter storms and ice can damage electrical utility lines.

Impacts = Temporary service loss impacting residents and businesses, increased repair and maintenance costs of transmission, control and distribution lines.

Winter Recreation

Warmer winters and less snow decrease the ability to operate winter recreation and tourism.

Impacts = Decrease in skiing, tubing, ice fishing and snowmobiling, loss of recreation and tourism revenue, increased costs to operate ROC, increased trail maintenance costs, potential cancellation of outdoor winter events.

Risks of Extreme Precipitation

Field Crops, Fruit and Vegetable Farms

More extreme precipitation can lead to more erosion, challenges in planting and harvesting and/or excess moisture on crops.

Impacts = Crop loss, increased use of fungicide and pesticides, reduction in planting and harvest times during wet conditions, more nutrient runoff into rivers.

Stormwater Management

Heavier precipitation can overwhelm stormwater infrastructure, cause flooding of roads and sidewalks, and cause sedimentation in stormwater ditches and ponds.

Impacts = Increased costs for maintenance and repair of ditches and culverts, increased volume and cost of wastewater treatment, increased repair costs for roads and sidewalks.

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Corporate and Community Greenhouse Gas (GHG) Inventory

Data Sources

Corporate Inventory

- **Facilities:** Gas, oil and electricity billing data
- **Fleet:** Fuel Usage from Town fueling stations
- **Streetlight and Traffic light**: Electricity billing data
- **Water and Wastewater Pumping Station**: Electricity billing data
- **Solid Waste**: Regional Landfill Gas Emissions scaled down for Georgina

Community Inventory

- Natural gas usage data for Georgina, obtained from Enbridge
- Georgina inventory from The Atmospheric Fund anticipated end of November 2024

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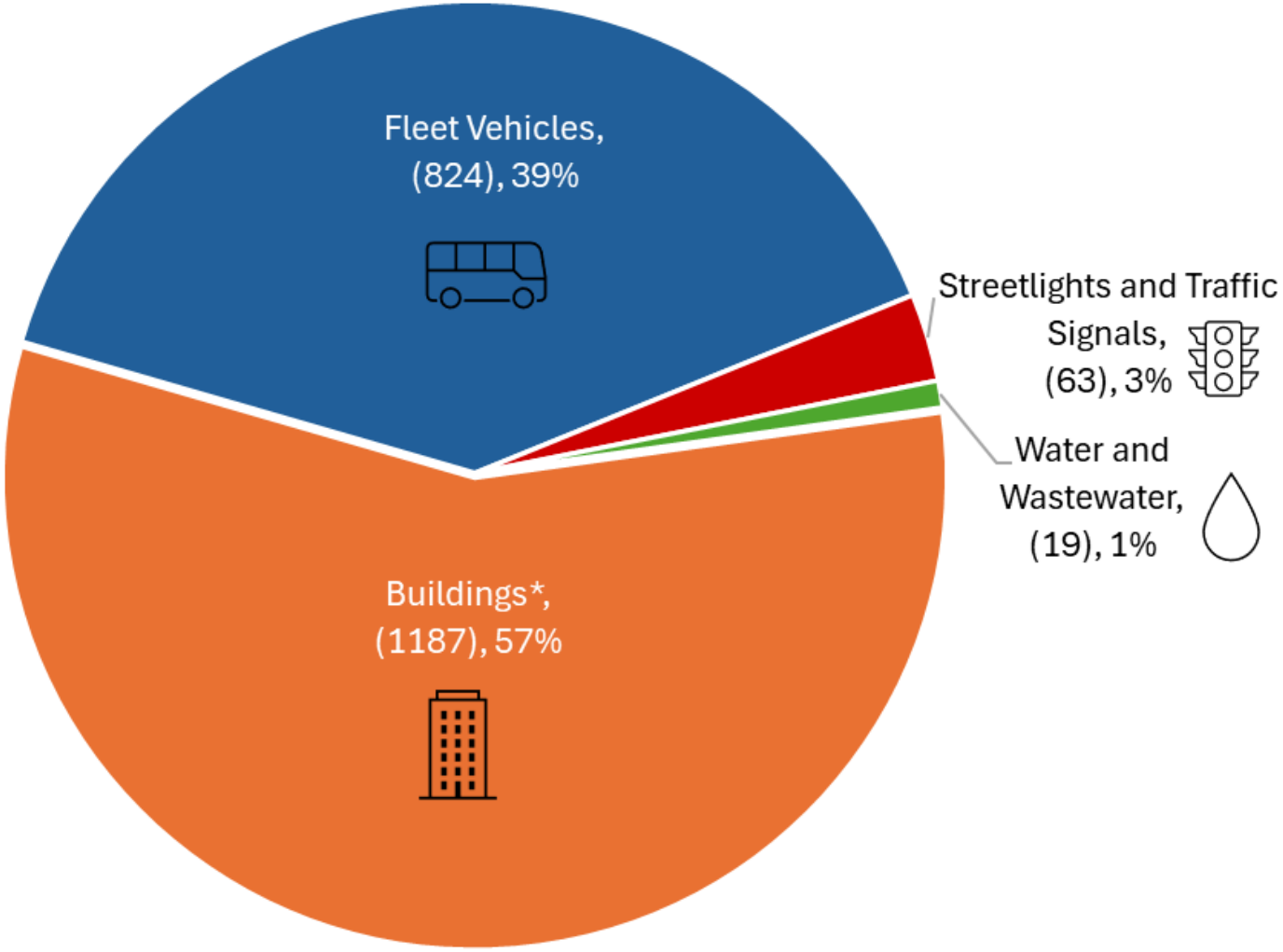
Corporate Carbon Emissions for **Georgina** by Sector, (Metric Tonnes of CO2 Equivalent), 2023



Data Sources: Electricity Billing, Fuel Consuption, Energy Star Portfolio Manager Report.
*Note that buildings data are for 2022
** Note that solid waste emissions data are forthcoming

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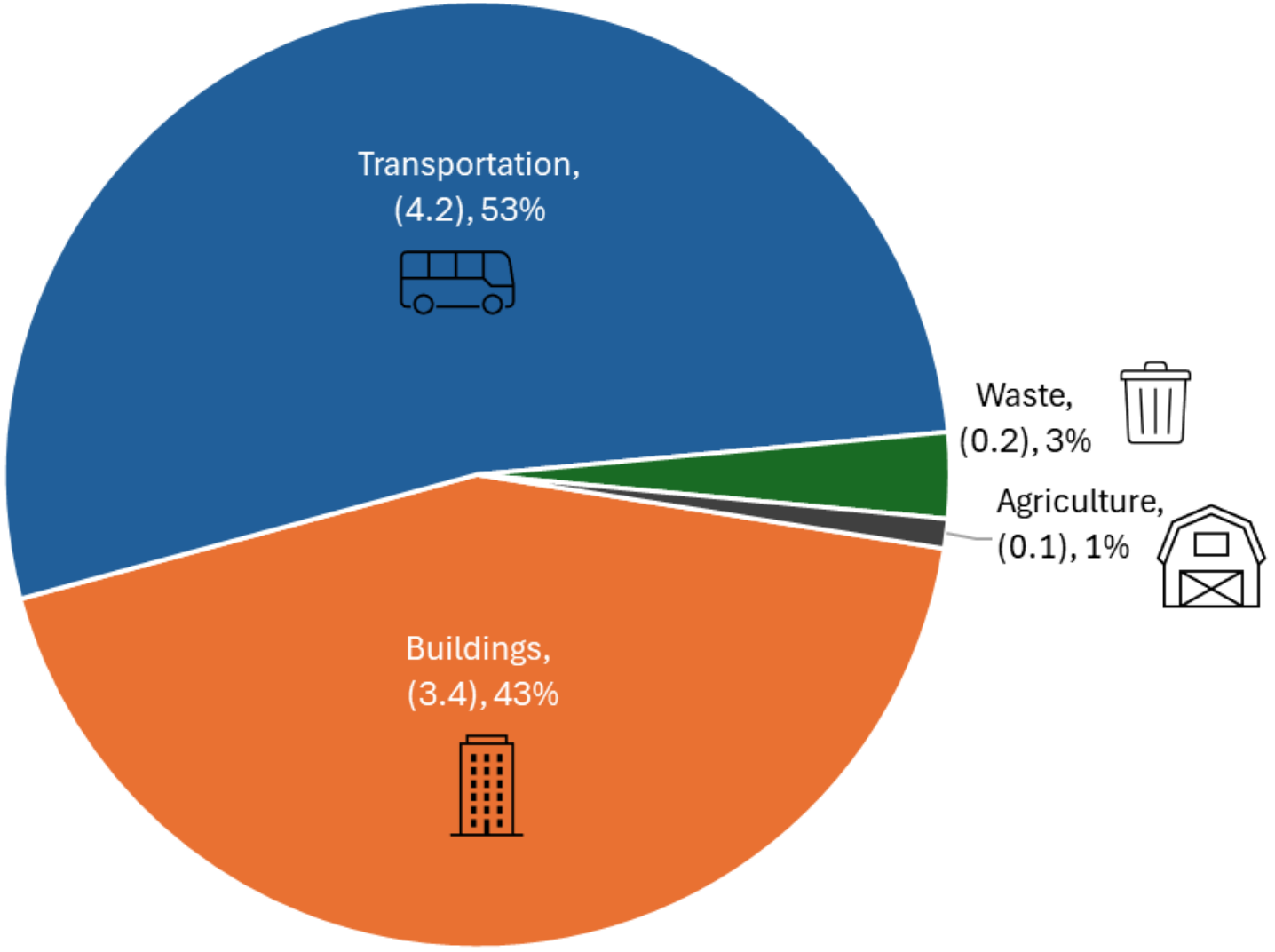
Community-Wide Carbon Emissions for **York Region** by Sector, (**Mega**-tonnes (millions of tonnes) of CO2 Equivalent), 2022



Data Source: The Atmospheric Fund Carbon Emissions Inventory Report, 2022

Next Steps

- Develop action plan to address risks and opportunities
- Present Climate Change Action Plan to Council in Q2 2025
- Develop Implementation and Communication tools