



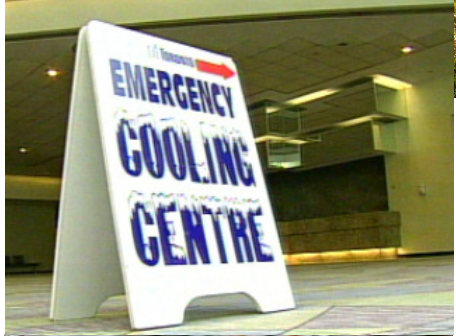
Kawartha Lakes Healthy Environment Plan

Committee of the Whole

March 19, 2019



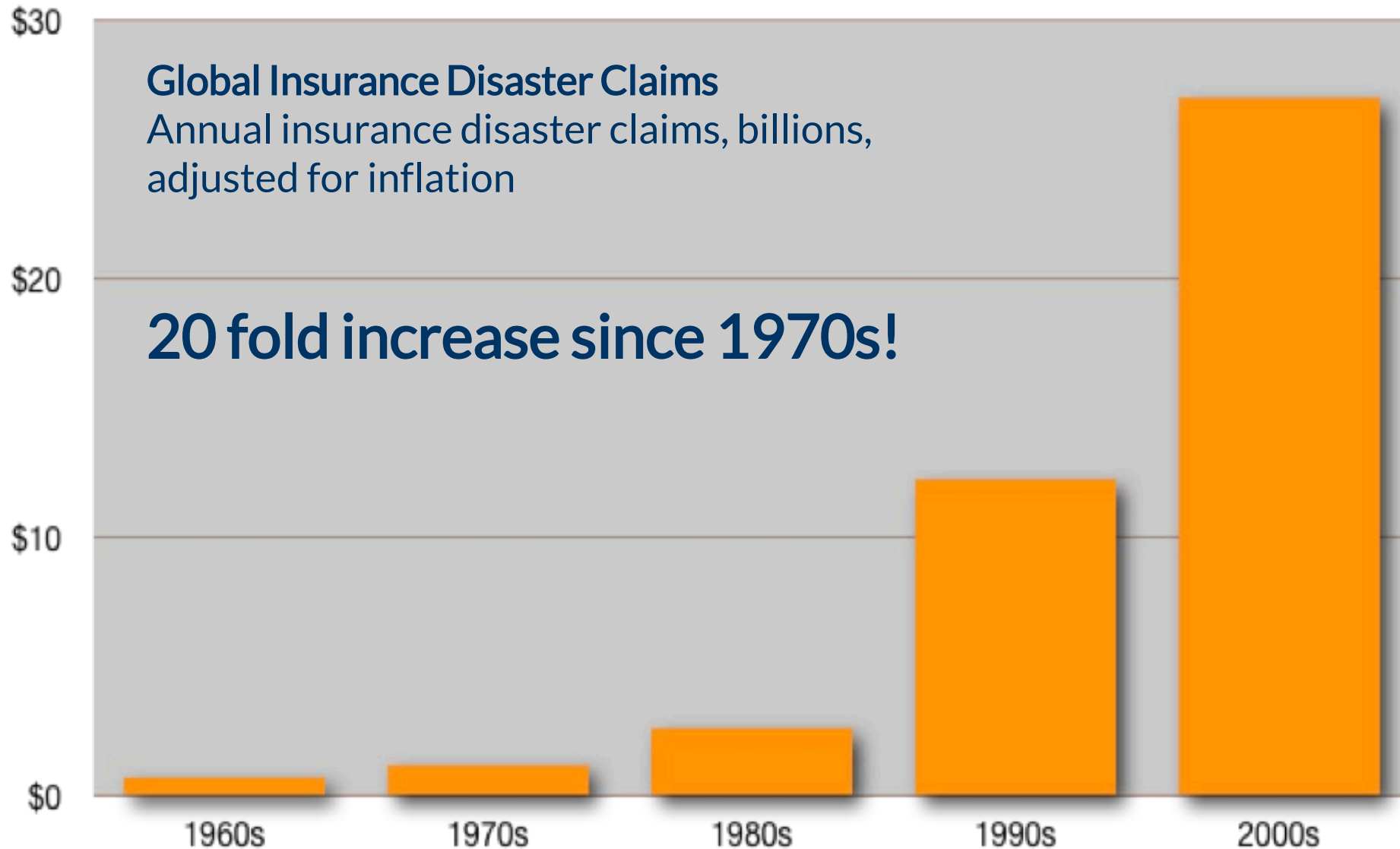
➤ Our Climate is Changing



Indices	Projection
Temperature	Warmer in every season More hot days, fewer cold days
Precipitation	Winter and spring getting wetter Getting more intense
Freeze-Thaw	Fewer cycles in spring and fall
Growing Season	Starting earlier, ending later
Lake water	Warmer temperatures



➤ Damages are Costly



➤ Energy Spending is Significant

Energy Spending in Small, Mid-sized and Large Communities

Community Size	Average Spending on Energy in the Community
Small Communities (less than 20,000 people)	Up to \$80 million
Mid-sized Communities (20,000 to 100,000 people)	\$60 million to \$400 million
Large Communities (100,000 people to 2.5 million people)	\$200 million to \$10 billion

➤ Kawartha Lakes' Response A Healthy Environment Plan

- A comprehensive community strategy to address climate change in the City
- Addresses both climate change mitigation and adaptation
- Developed collaboratively
- Reduces GHG emissions and assists the City to prepare, respond and adapt to warmer, wetter and a more unpredictable climate

The diagram features two orange circles stacked vertically on a green background with a plant. The top circle is labeled 'MITIGATE' and the bottom circle is labeled 'ADAPT'. Both circles contain text describing their respective roles in addressing climate change.

MITIGATE
the causes of
climate change

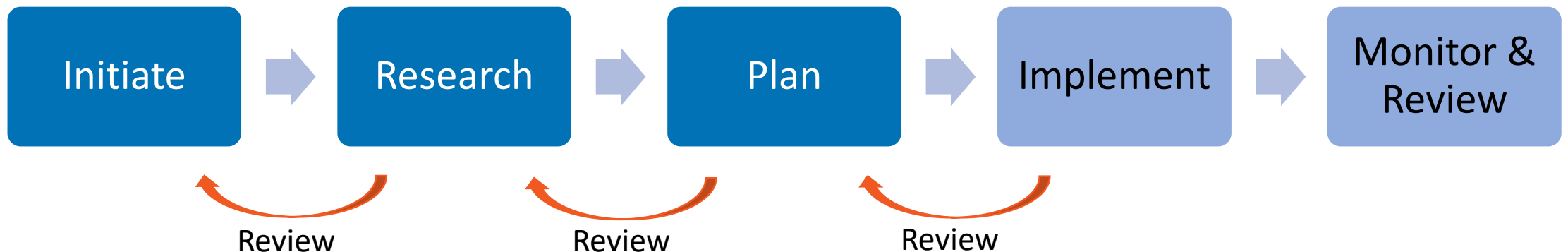
ADAPT
to the effects of
climate change

➤ Developed Using Established Frameworks

FCM's Partners for Climate Protection's Five-Milestone Framework



ICLEI Canada's Five Milestone Adaptation Methodology
"Building Adaptive and Resilient Communities" (BARC)



➤ Developed Collaboratively

9 Steering Committee Meetings

- Various City departments, Fleming College, KL Environmental Advisory Committee, Kawartha Conservation

5 Working Group Meetings

- **23 organizations** actively engaged
- **11 organizations** passively engaged

8 Targeted Engagement Sessions

- Agricultural
- Environmental
- Home Builders
- Education

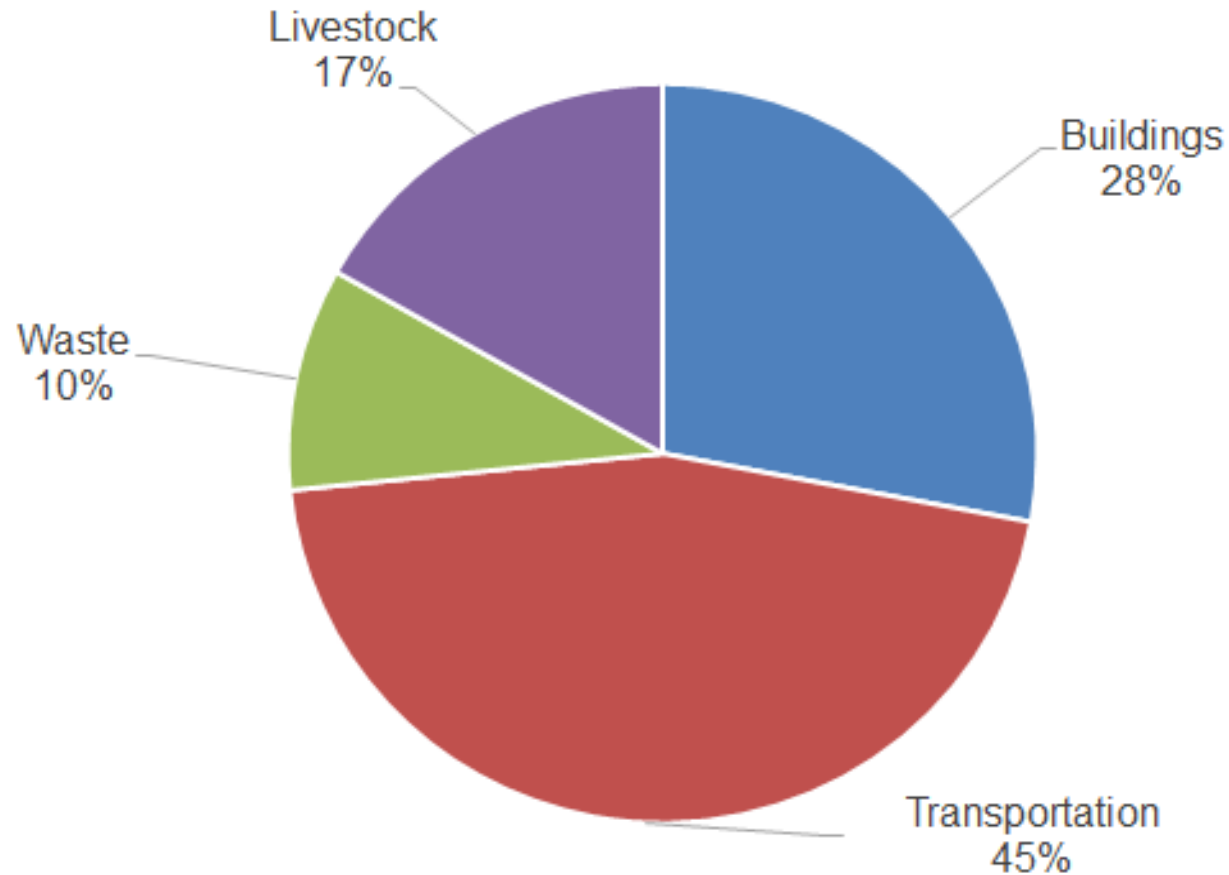
Community Engagement

- 1,000+ residents engaged through pop-ups
- 200+ survey responses

2,600+
community
members
reached



➤ Kawartha Lakes' Community Emissions (2015)

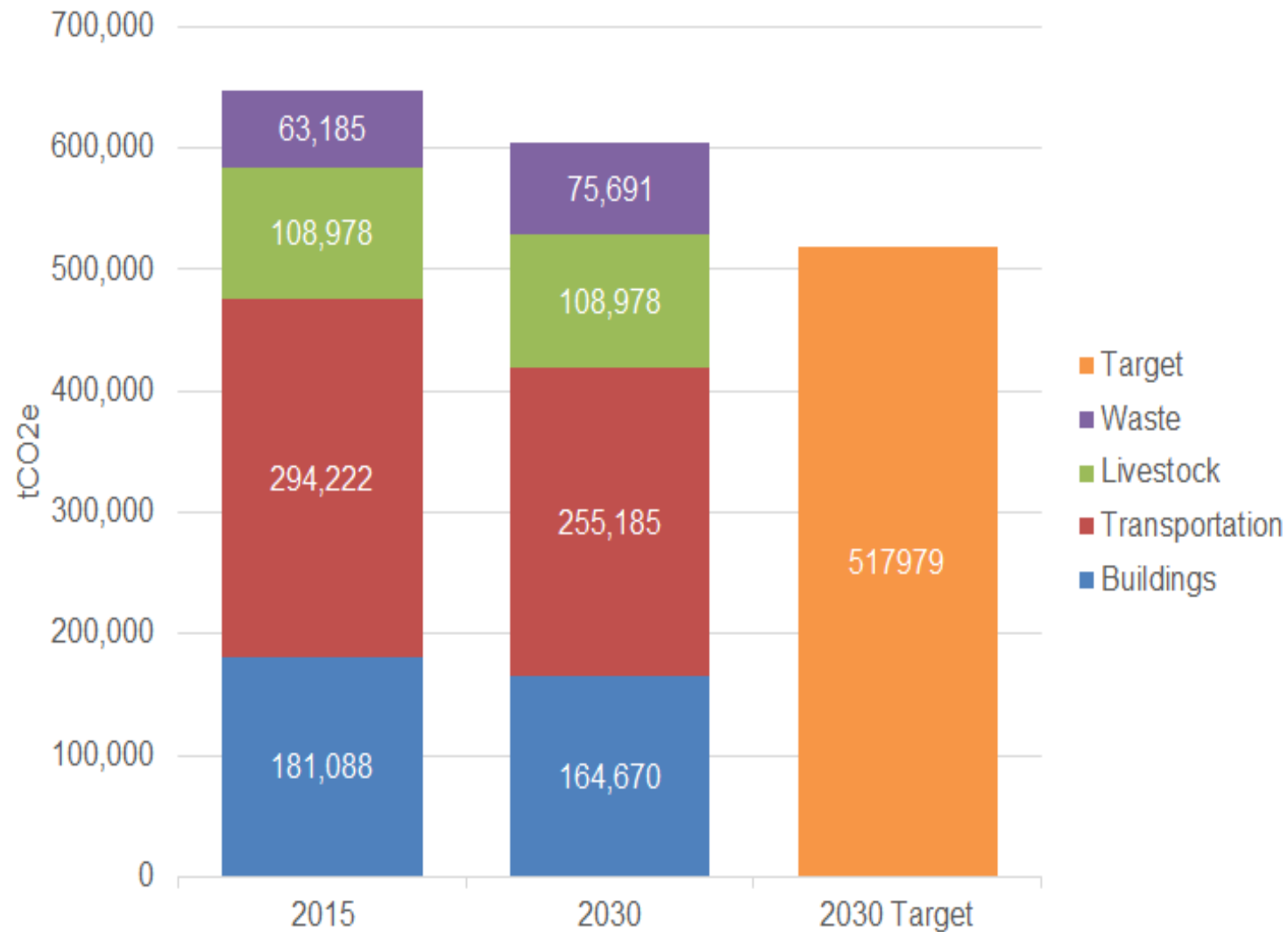


Total community-wide emissions:

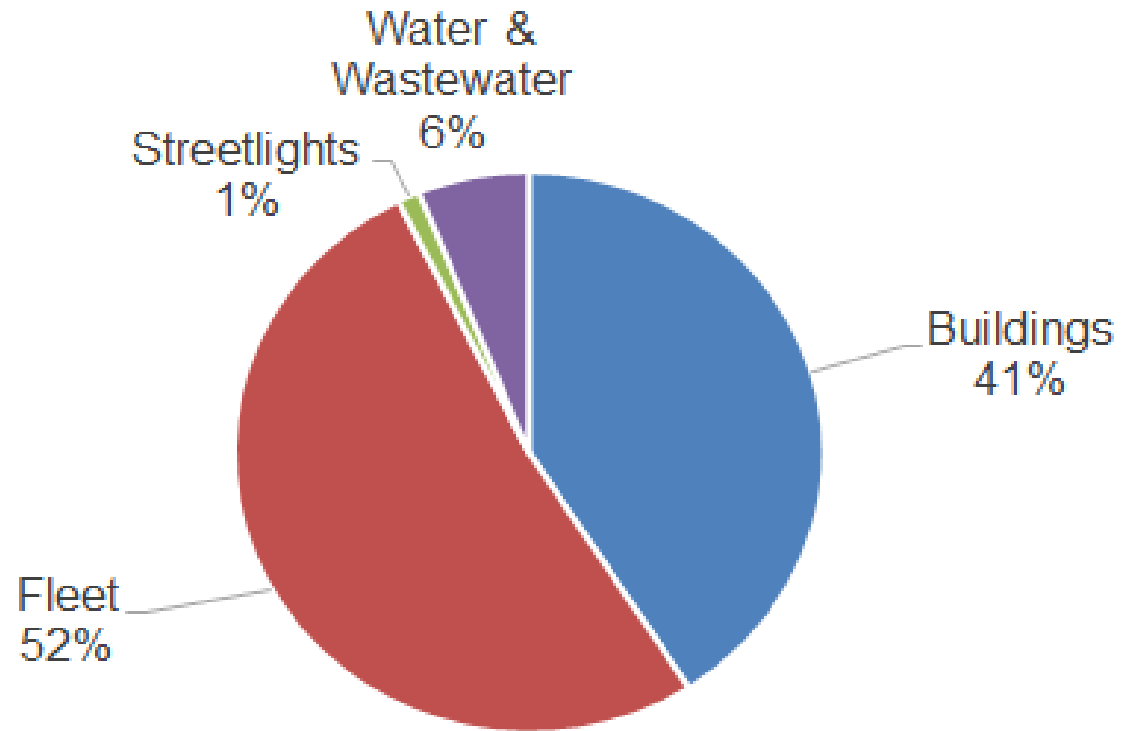
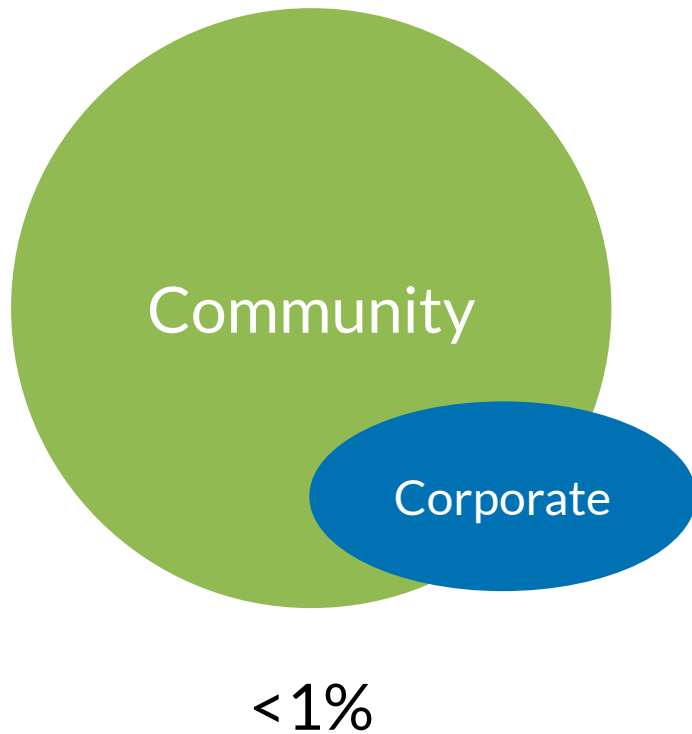
647,470 tCO₂e

7.8 tCO₂e/person

➤ Future Community Emissions without Local Action



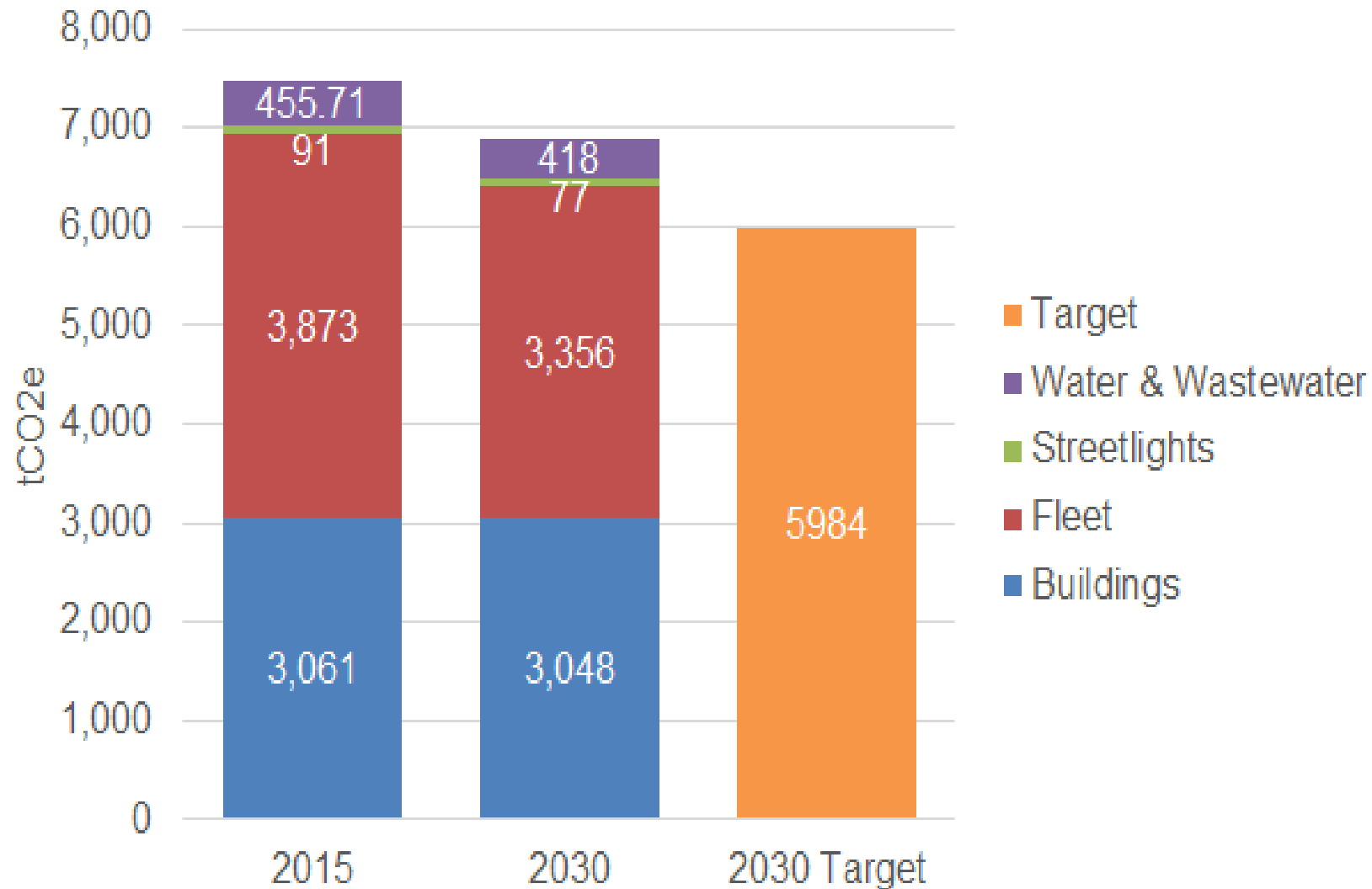
➤ Kawartha's Corporate Emissions (2015)



**Total emissions
from City
operations:**

7,500 tCO₂e

➤ Future Corporate Emissions without Local Action



➤ Vision

“We will be leaders in addressing our changing climate to ensure a healthy environment and a prosperous community.”



➤ Emissions Reduction Targets and Outcomes

Through the implementation of actions in the HEP, Kawartha Lakes will:

- Reduce community emissions by 20%
- Avoid \$142 million in energy costs
- Reduce corporate emissions by 20%
- Be on track to meet the federal and provincial government targets by 2030



➤ Resiliency Outcomes

Through the implementation of actions in the HEP, Kawartha Lakes will help to build resiliency to:

- Flooding impacts to infrastructure
- Heat stress on people, native species, crops and livestock
- Groundwater recharge
- Damage to infrastructure, power systems, tree canopy
- Isolation of rural and vulnerable populations
- Physical injuries and mental health stress
- Spread of pests
- Runoff that impacts rivers and lakes



➤ 24 Strategies to Address a Changing Climate

Cross-Cutting

Agriculture

Buildings

Energy Systems

Land Use

Natural Environment

People and Health

Transportation

Waste

Water, Wastewater and
Stormwater

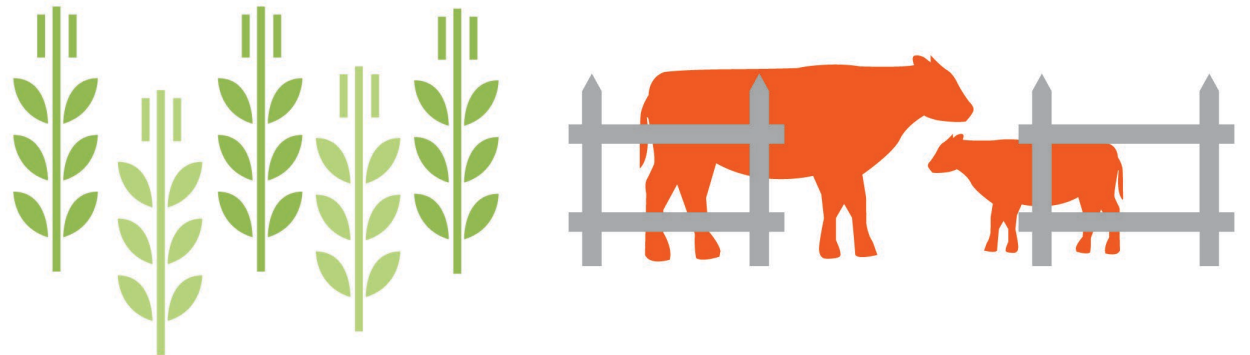
➤ Agricultural Strategies

AG1: Implement agricultural management systems best practices

AG2: Implement manure management best practices

AG3: Implement improved digestibility of feed and reduce emissions from enteric fermentation

AG4: Encourage carbon sequestration



➤ Building Strategies

B1: Encourage efficient and resilient new buildings

B2: Develop a residential deep retrofit program (voluntary)

B3: Develop a commercial and institutional deep retrofit program (voluntary)

B4: Facilitate efficient and resilient industrial sector

B5: Require efficient and resilient new city-owned buildings

B6: Develop a deep retrofit plan for city-owned assets

B7: Climate change risks integrated in infrastructure and management procedures



➤ Energy Systems and Land Use Strategies

Energy

E1: Increase energy reliability and security to buildings and assets that deliver critical services to the community



Land Use Strategies

L1: Create compact neighbourhoods

- Integrate residential, office and retail developments
- Promote transit and active transportation

L2: Address health islands, air quality in land use

➤ Natural Environment and People, Safety & Health Strategies

Natural Environment

N1: Enhance natural assets and ecosystems

N2: Implement a community-wide tree management and resilience program

People, Safety & Health

PH1: Develop vulnerable population response program

PH2: Create a climate readiness toolkit



➤ Transportation Programs and Strategies

T1: Encourage electric and low-emission vehicles

T2: Encourage the use of transit, walking, cycling and carpooling

T3: Transition to efficient and low emission
municipal fleet and equipment



➤ Waste, Water, Wastewater & Stormwater Strategies

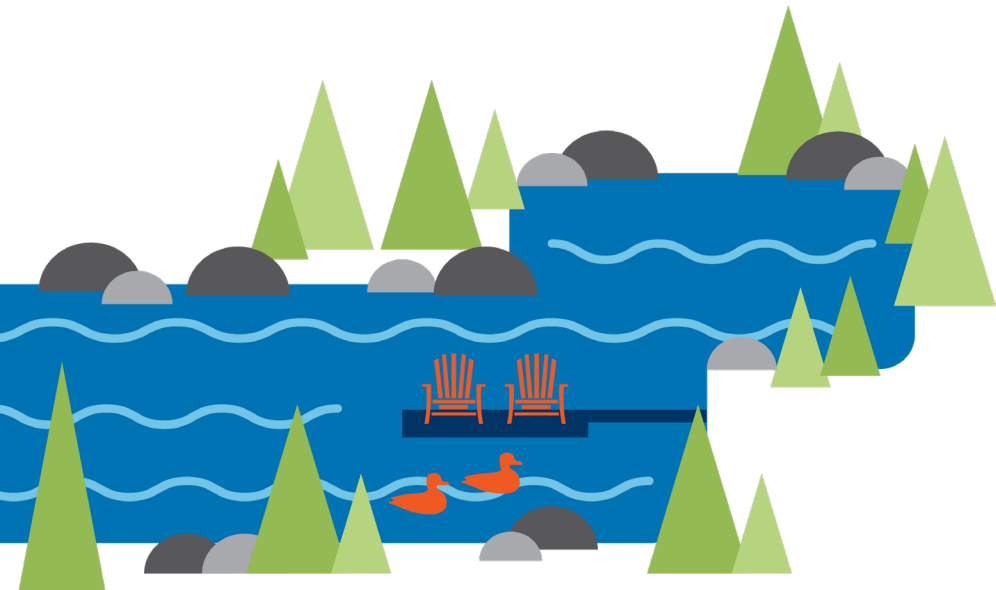
Waste

W1: Reduce the amount of waste and emissions associate with landfills

Water, Wastewater & Stormwater

WW1: Increase operational efficiency and resiliency of water and wastewater systems

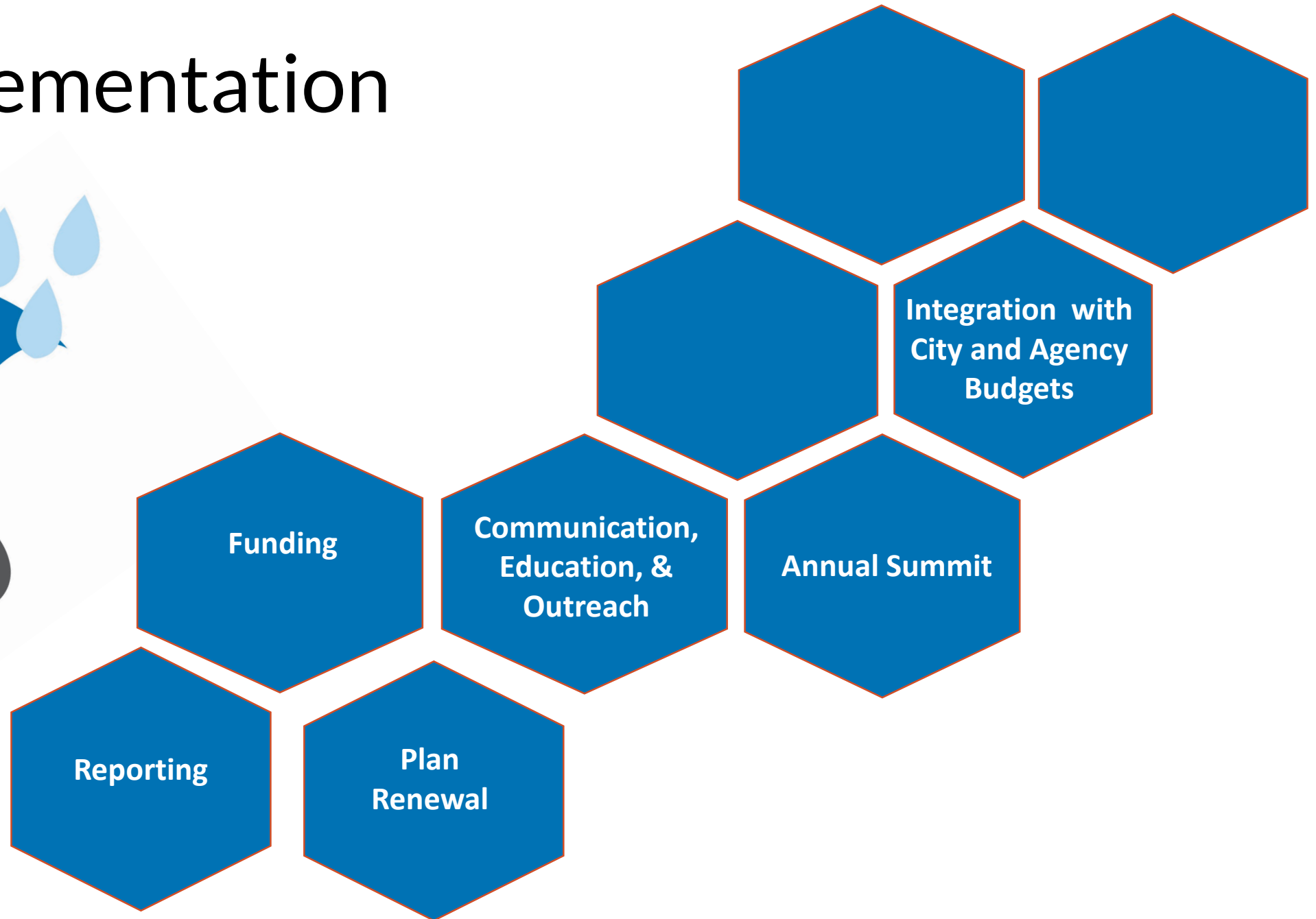
WW2: Update Stormwater Design Requirements and the Stormwater Management Plan

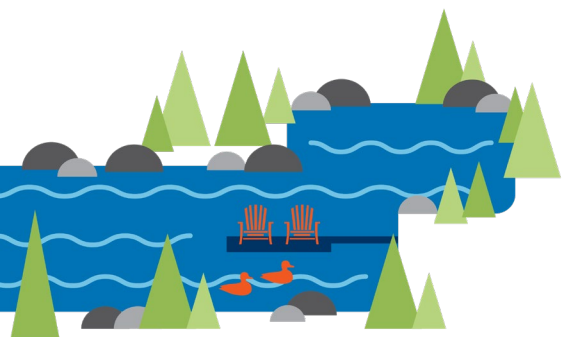


➤ Summary of Mitigation Strategies

Community Sector	Total tCO ₂ e	Est. Total Savings (\$)	Corporate Sector	Total tCO ₂ e	Est. Total Savings (\$)
Agriculture	12,520	N/A			
New Residential & Commercial Buildings	8,640	33M	New Municipal Buildings	120	0.4M
Existing Residential Buildings	21,320	70M	Existing Municipal Buildings	360	1.3M
Existing Commercial Buildings	5,170	27M			
Industry	320	0.8M			
Trans: Alternative Fuel Adoption	10,640	5M	Transportation	310	0.14M
Trans: Mode Shift	8,500	6M			
Waste Reduction	20,110	N/A			
			Water, Wastewater, Stormwater	90	0.76M
Total	87,220	141.8M		880	2.6M

➤ Implementation





Thank You

