



# Kawartha Lakes Healthy Environment Plan

Committee of the Whole

March 19, 2019



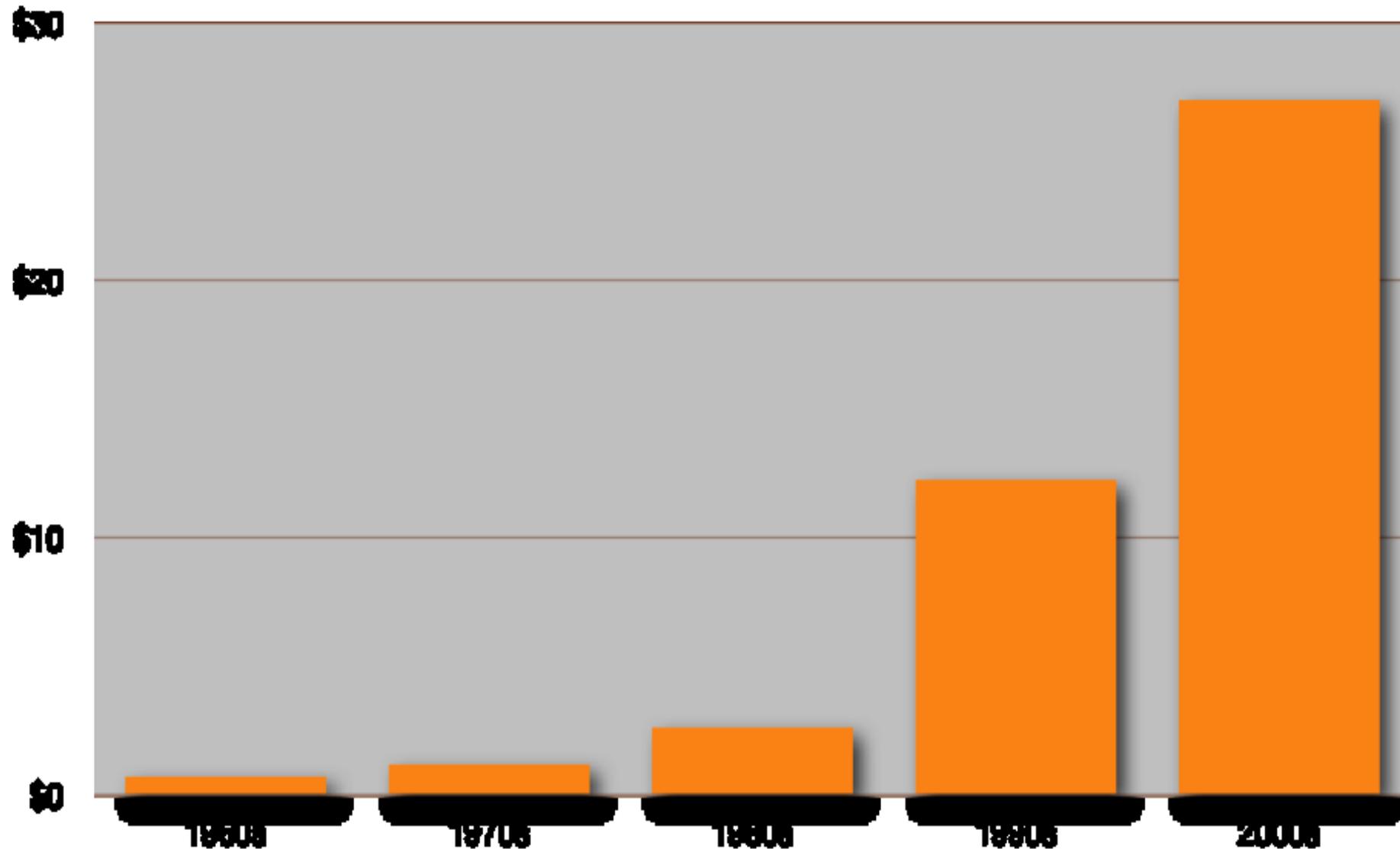
# ➤ Our Climate is Changing



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



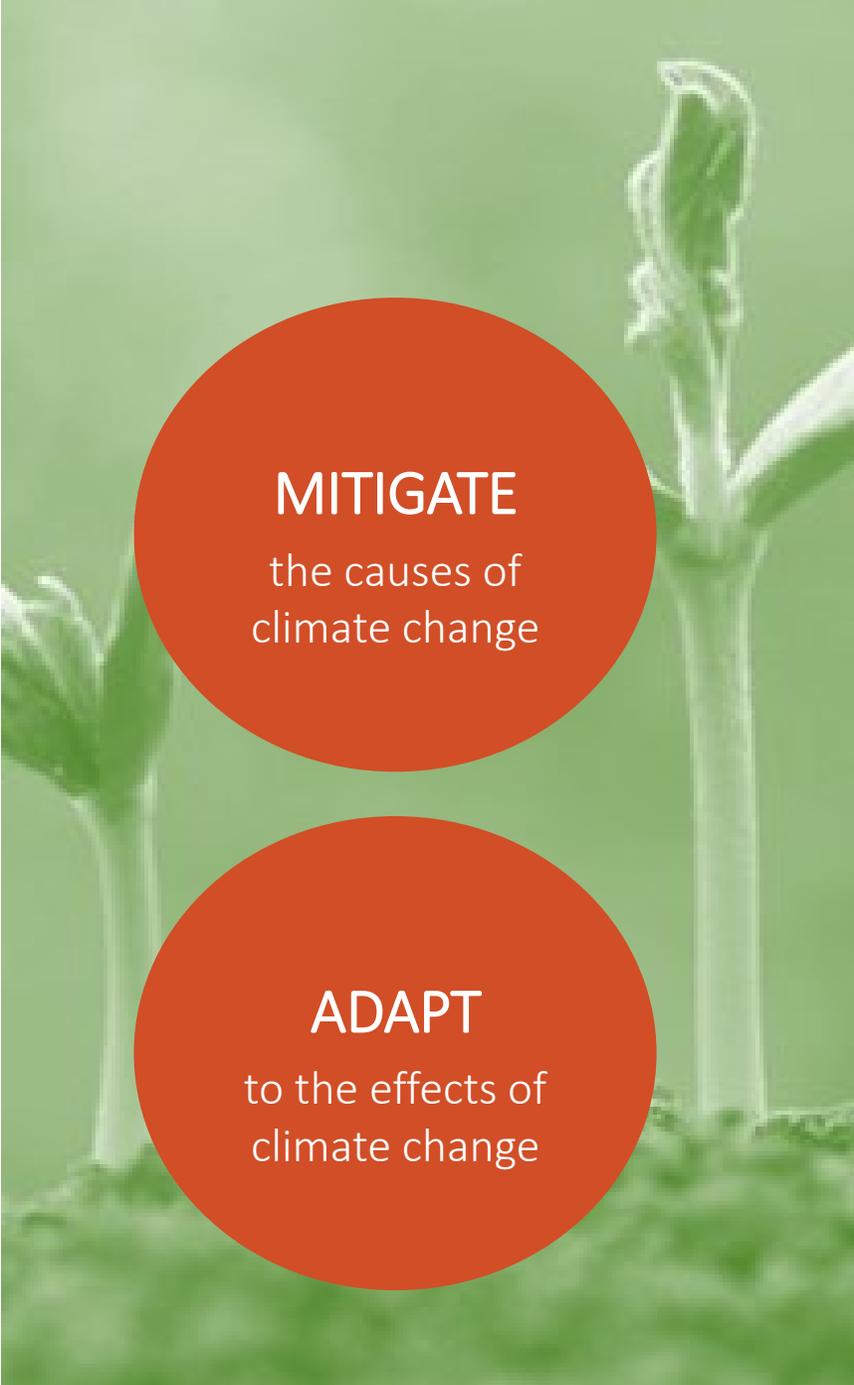
# ➤ Energy Spending is Significant

## 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, water and a more unpredictable climate



**MITIGATE**  
the causes of  
climate change

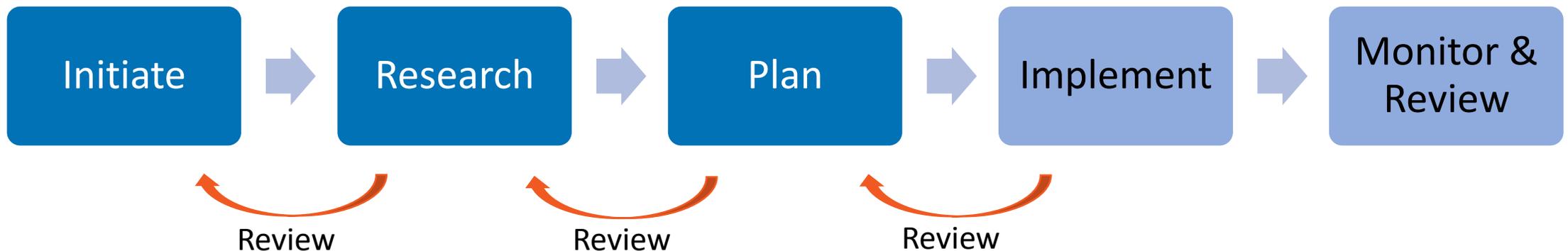
**ADAPT**  
to the effects of  
climate change

# ➤ 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

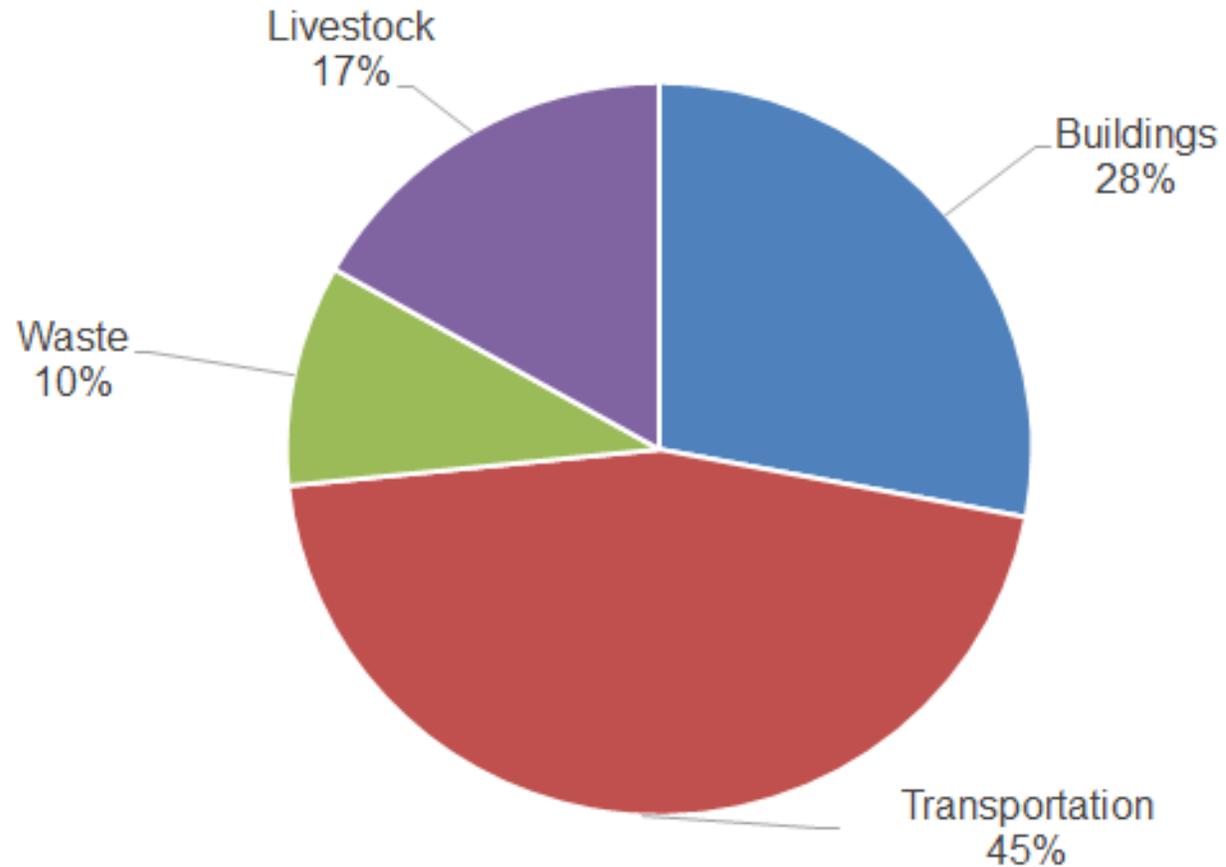
## Community Engagement

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

2,600+  
community  
members  
reached



# ➤ Kawartha Lakes' Community Emissions (2015)



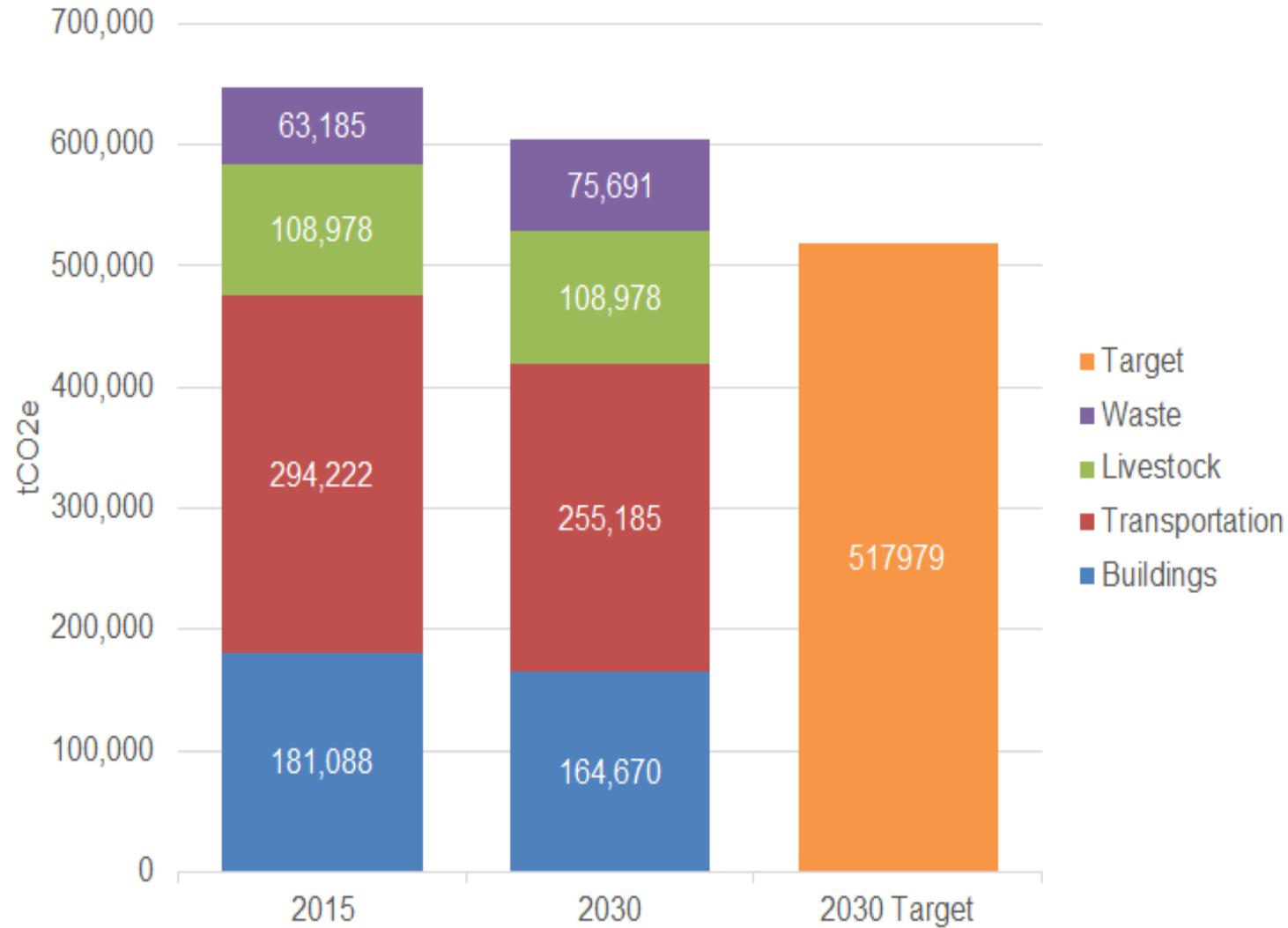
**Total community-wide emissions:**

**647,470 tCO<sub>2</sub>e**

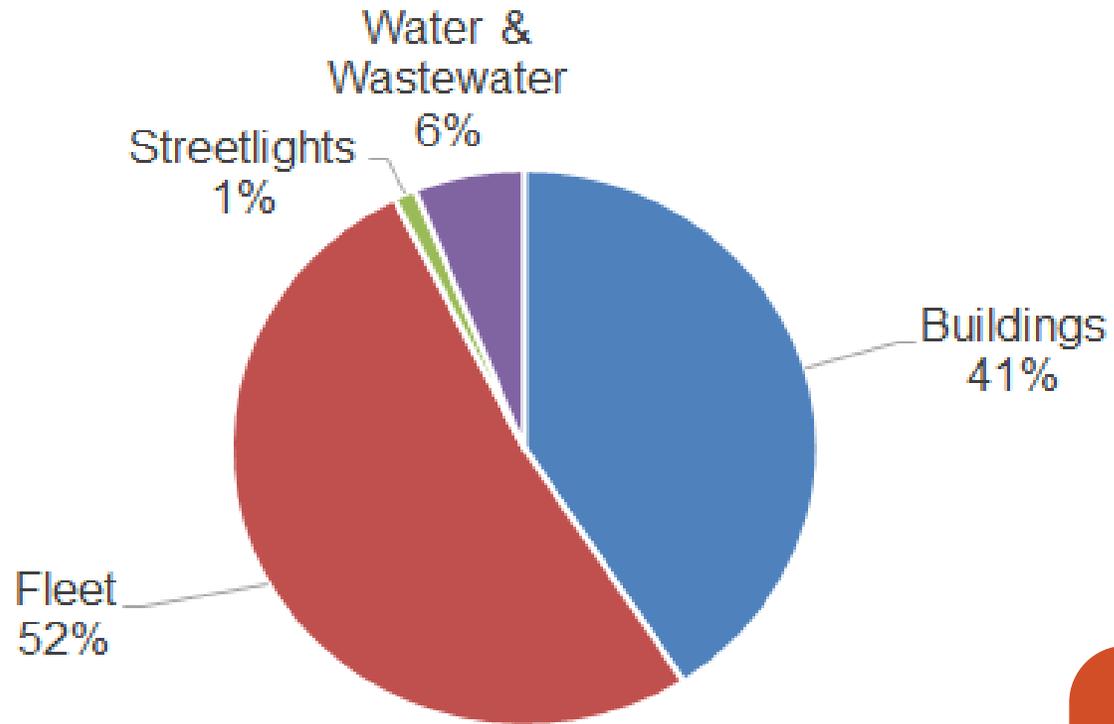
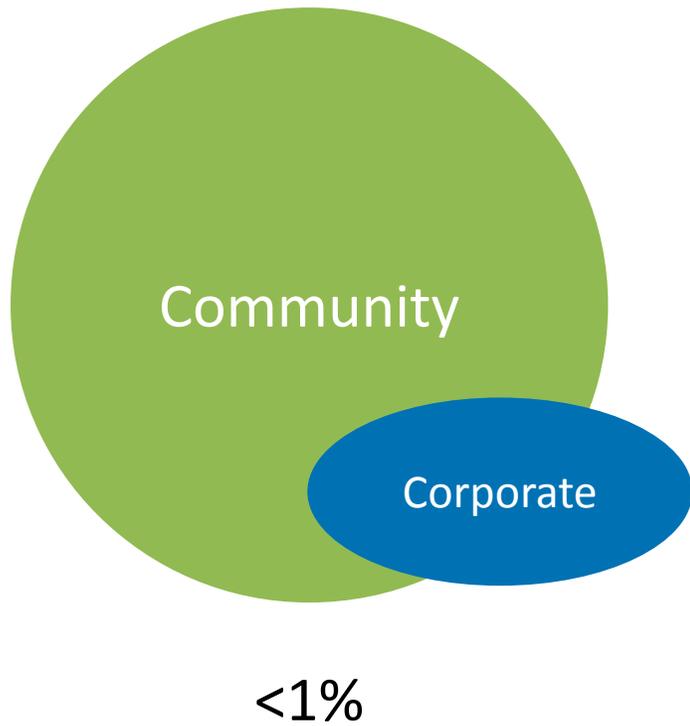
**7.8 tCO<sub>2</sub>e/person**



# Future Community Emissions without Local Action

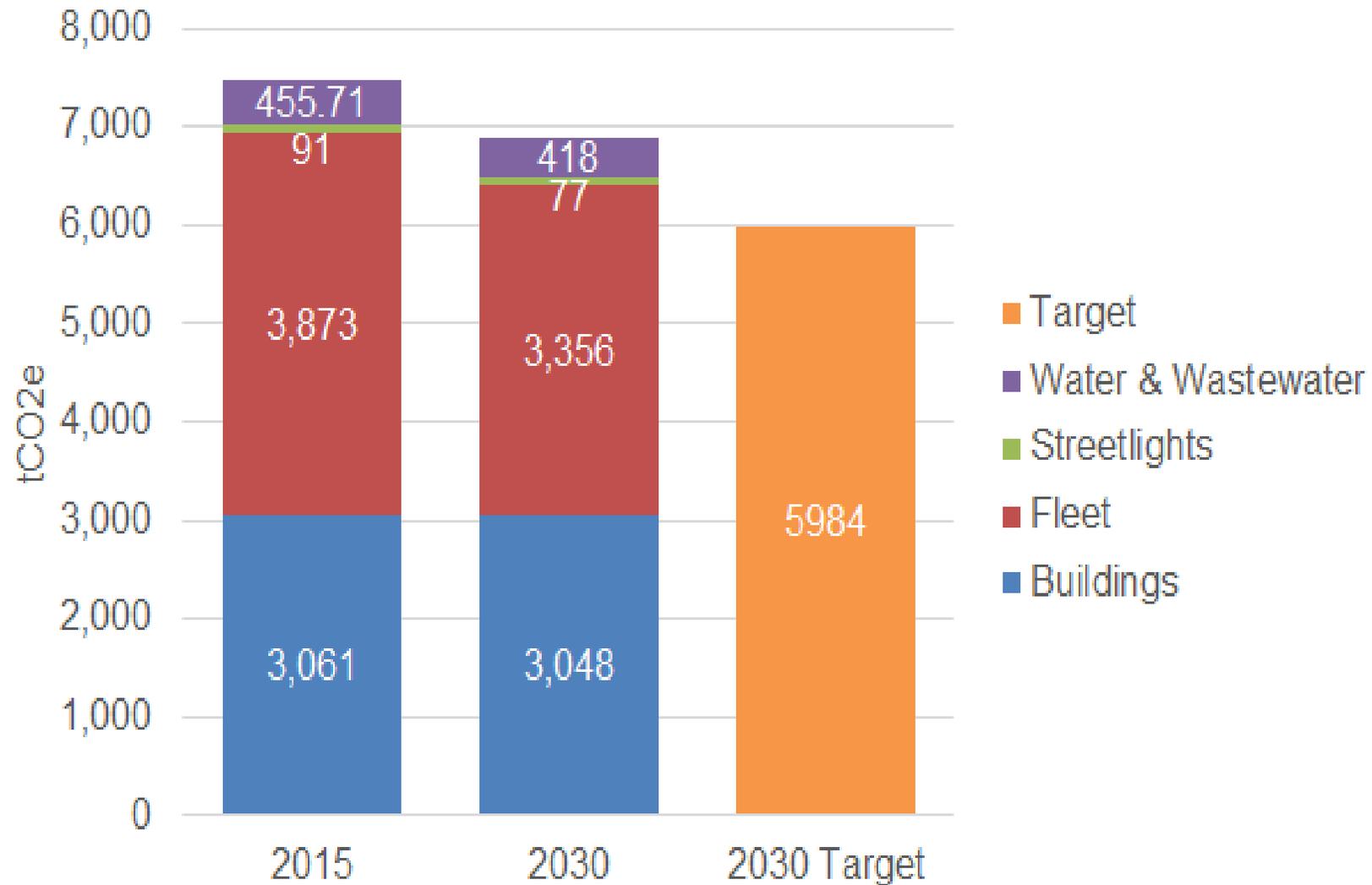


# ➤ Kawartha's Corporate Emissions (2015)



**Total emissions from City operations:  
7,500 tCO<sub>2</sub>e**

# ➤ 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

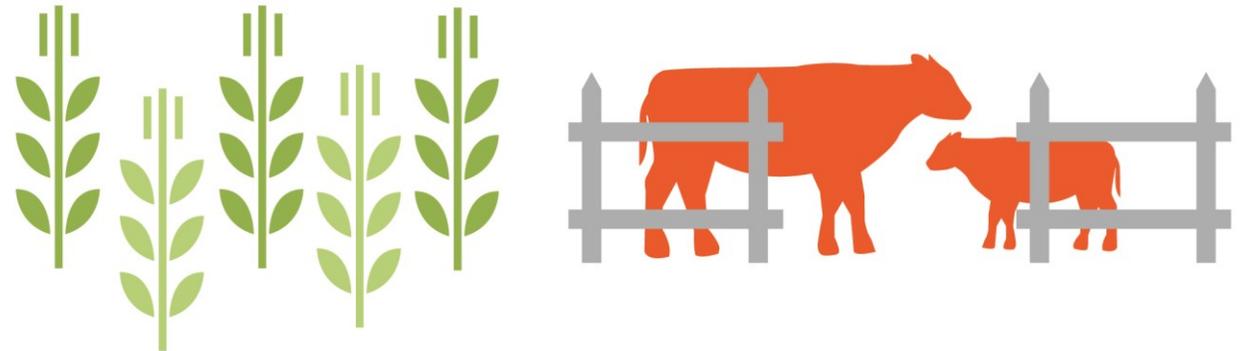
# ➤ Agricultural Strategies

**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

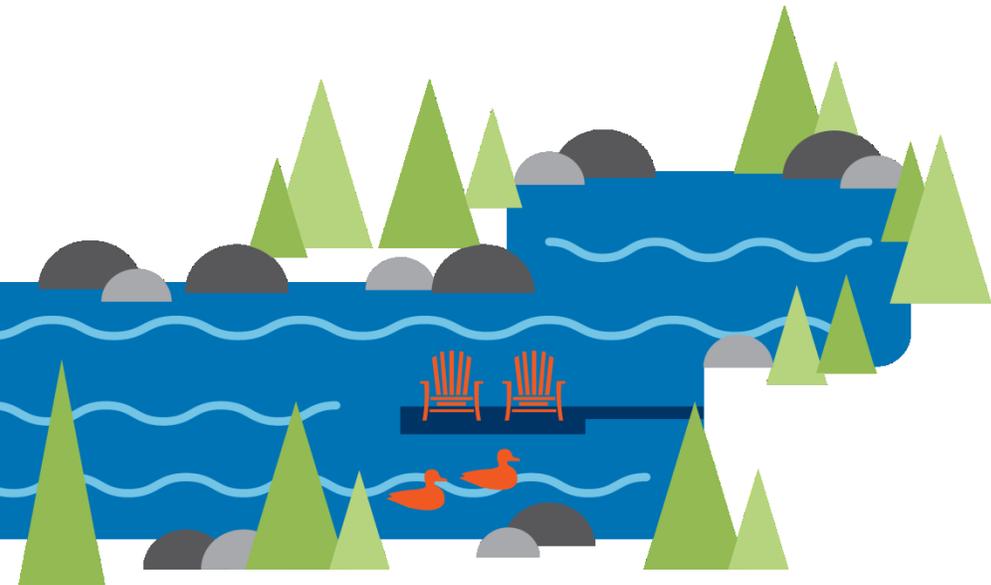
## Waste

**W1:** Reduce the amount of waste and emissions associated with landfills

## Water, Wastewater & Stormwater

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

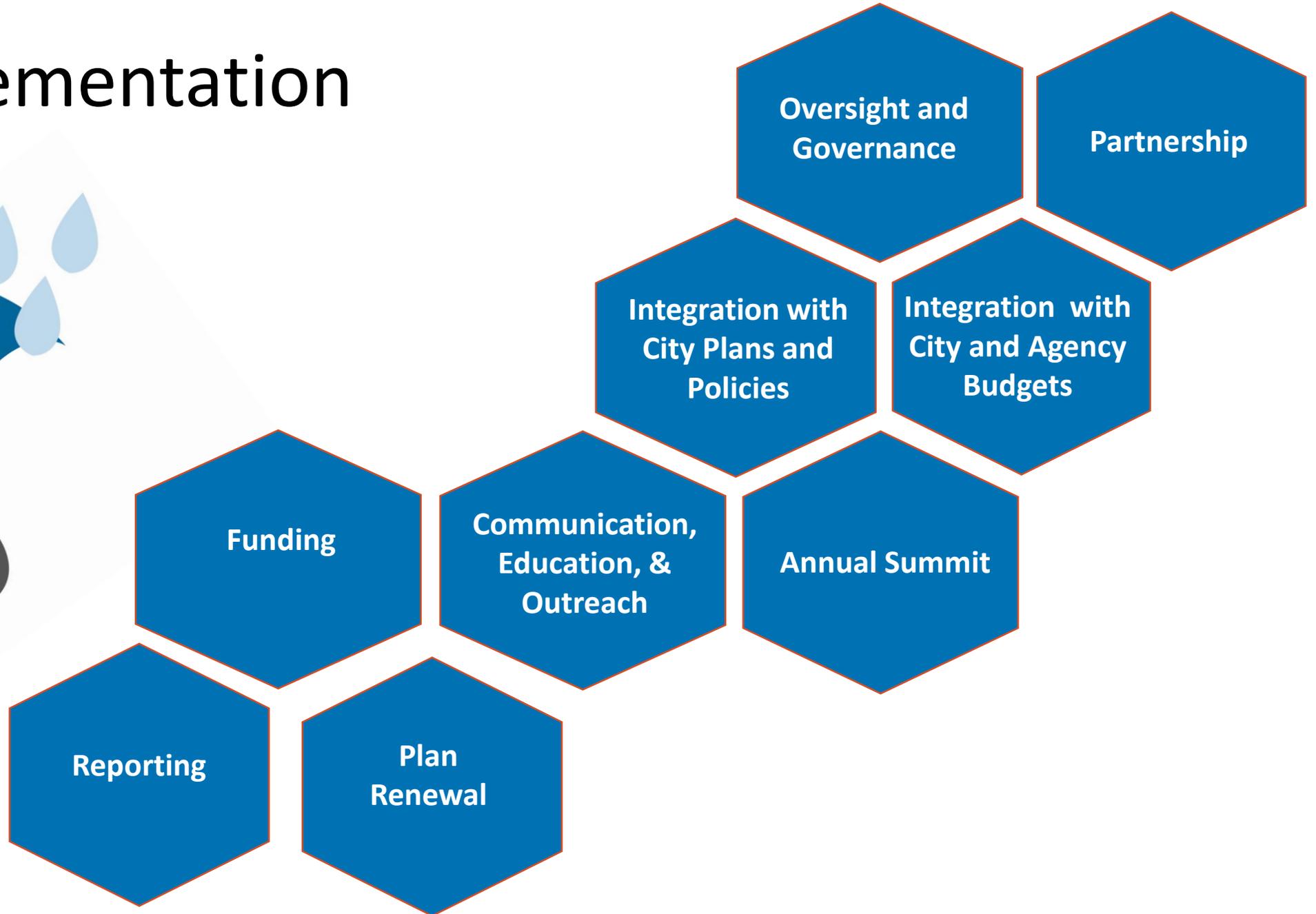
**WW2:** Update Stormwater Design Requirements and the Stormwater Management Plan

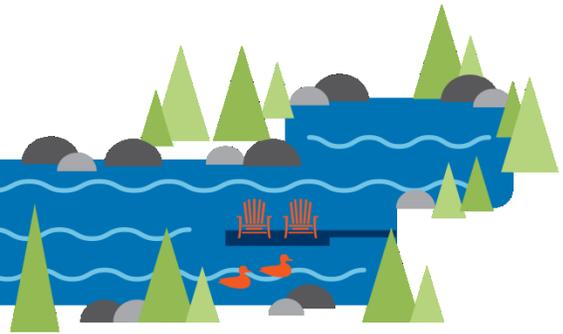


# ➤ Summary of Mitigation Strategies

Community Sector	Total tCO <sub>2</sub> e	Est. Total Savings (\$)	Corporate Sector	Total tCO <sub>2</sub> 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
<b>Total</b>	<b>87,220</b>	<b>141.8M</b>		<b>880</b>	<b>2.6M</b>

# ➤ Implementation





Thank You

