

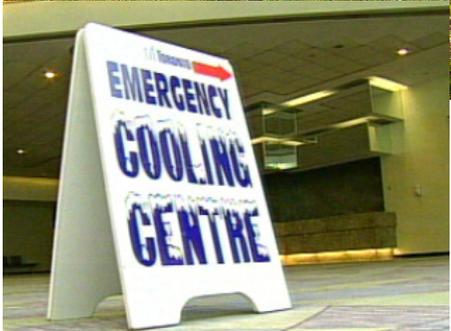


Kawartha Lakes Healthy Environment Plan

Committee of the Whole
March 19, 2019



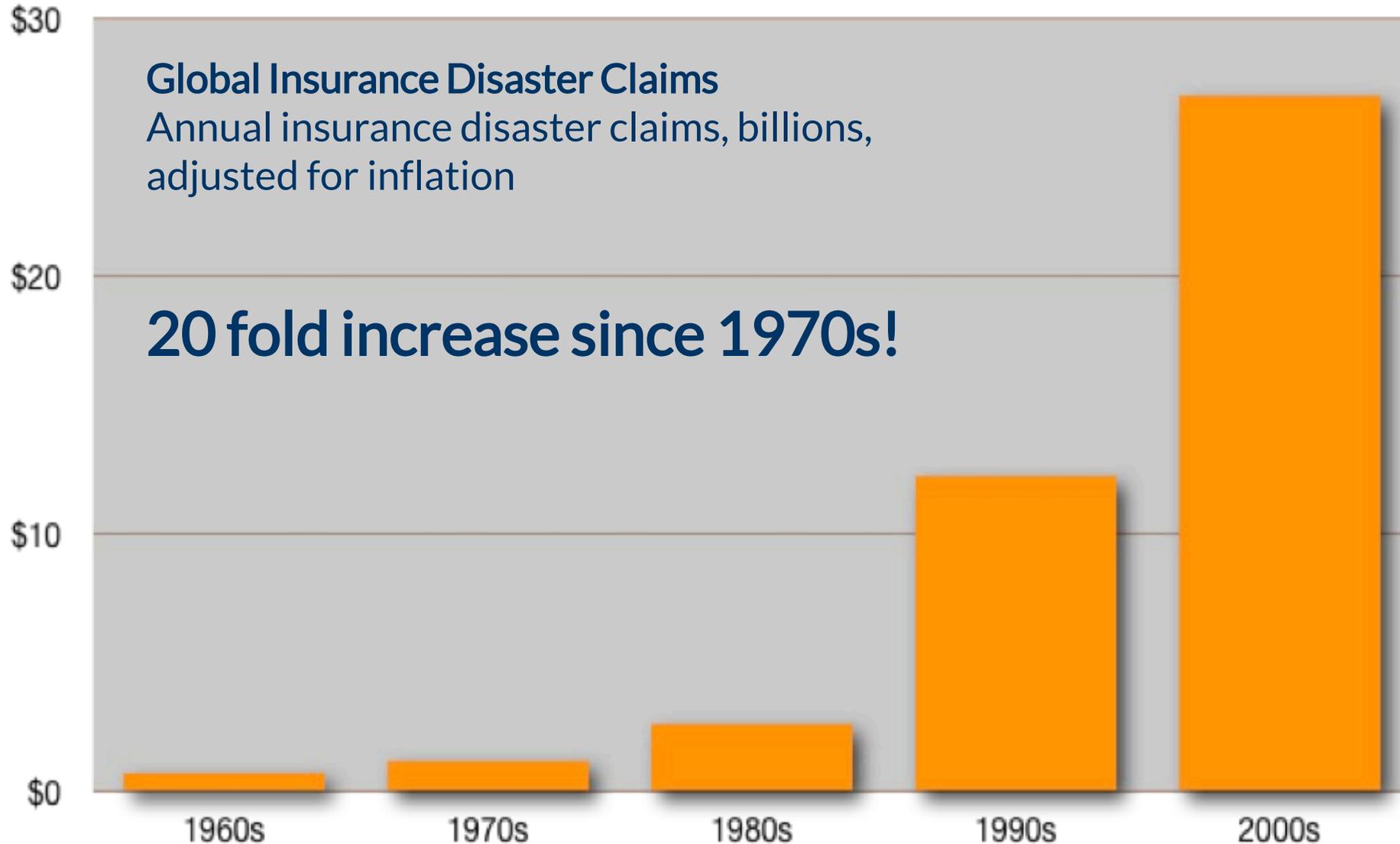
➤ Our Climate is Changing



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



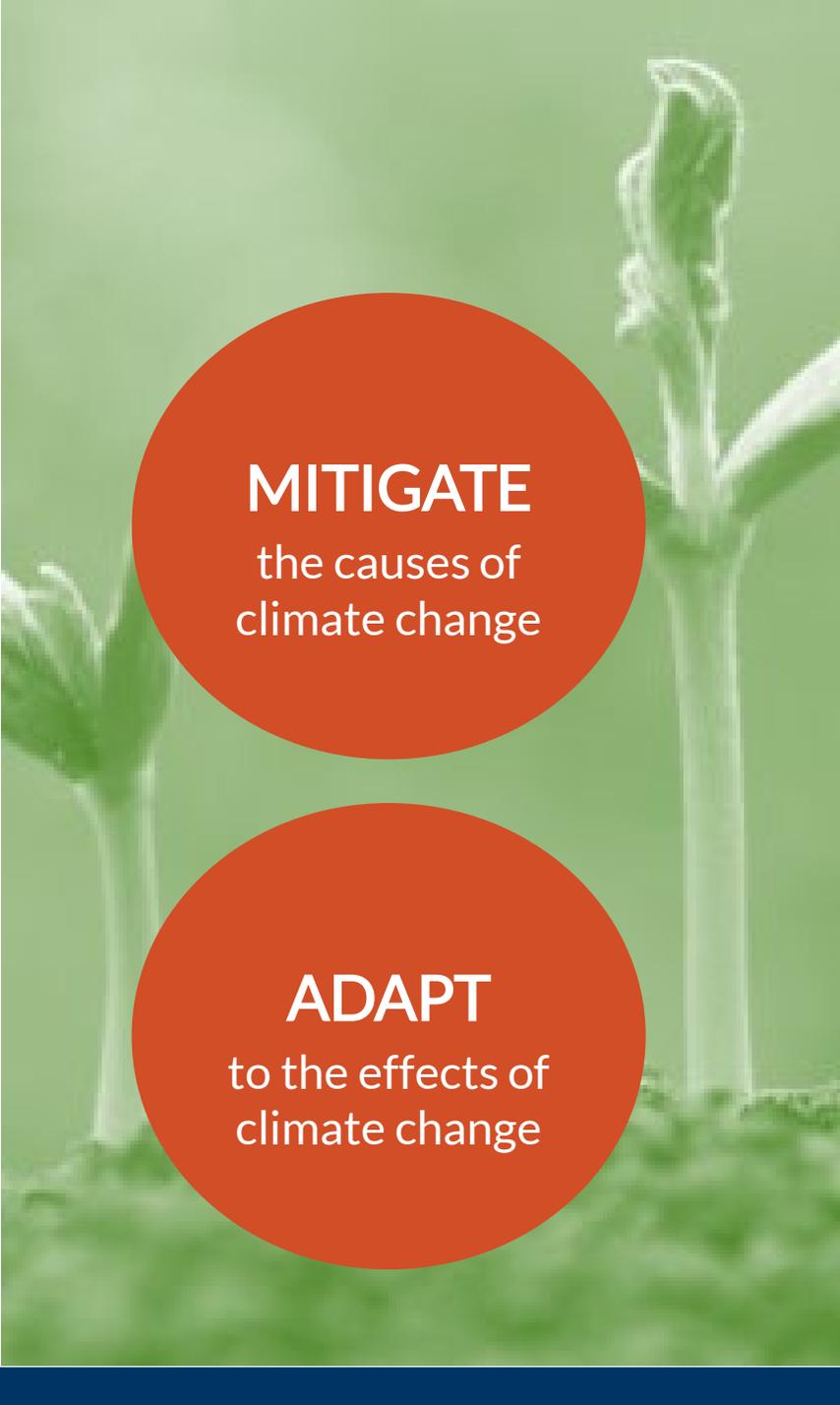
➤ Energy Spending is Significant

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

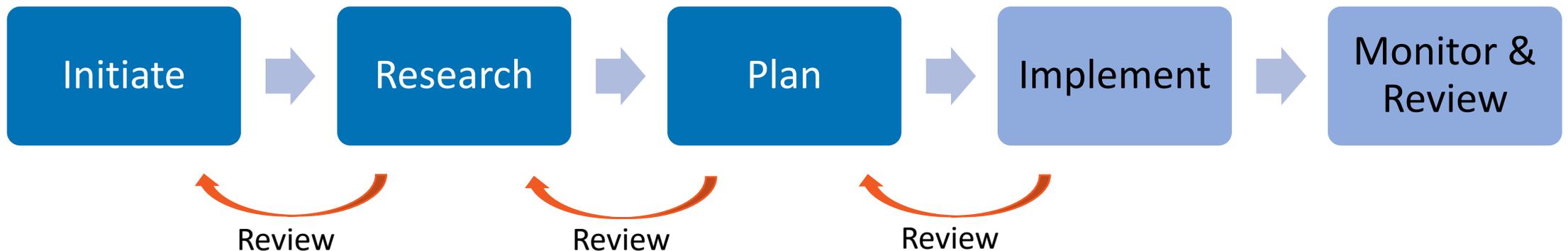
ADAPT
to the effects of
climate change

➤ 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

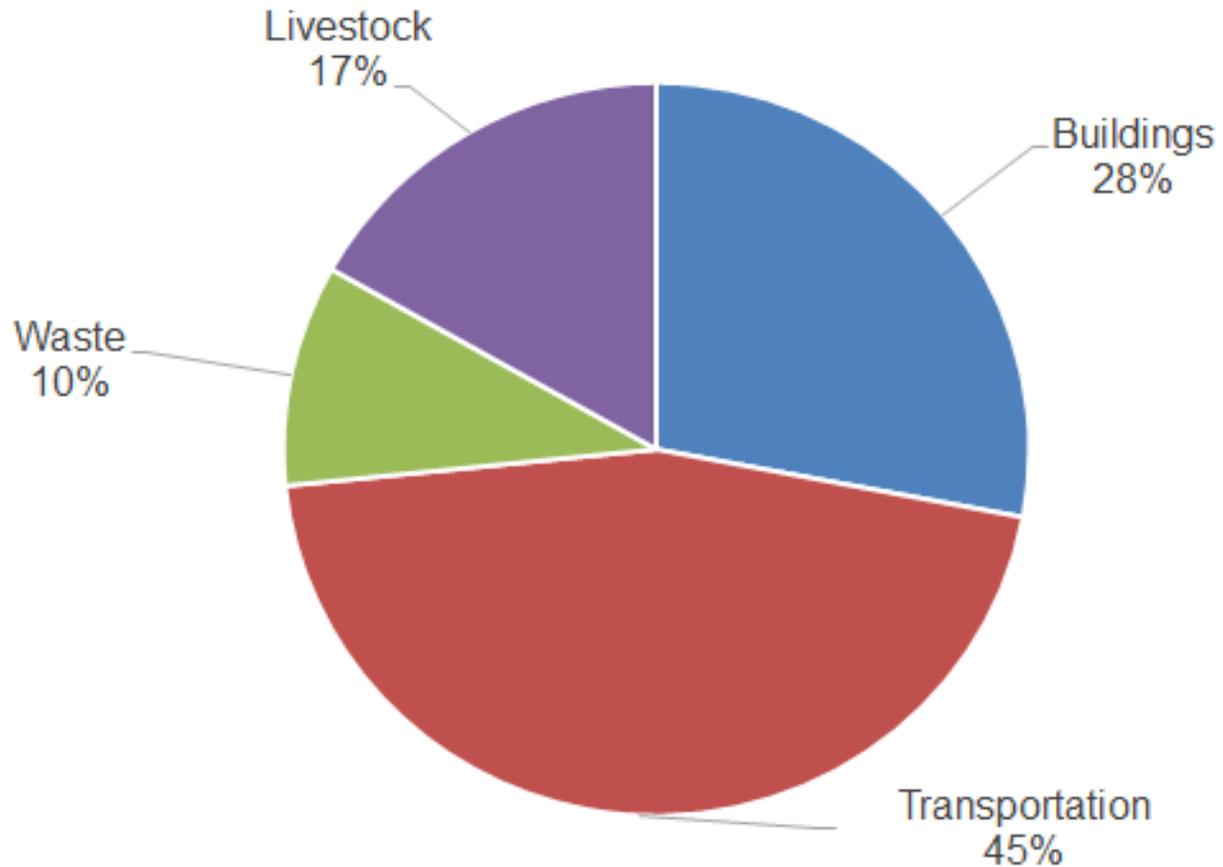
Community Engagement

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

2,600+
community
members
reached



➤ Kawartha Lakes' Community Emissions (2015)

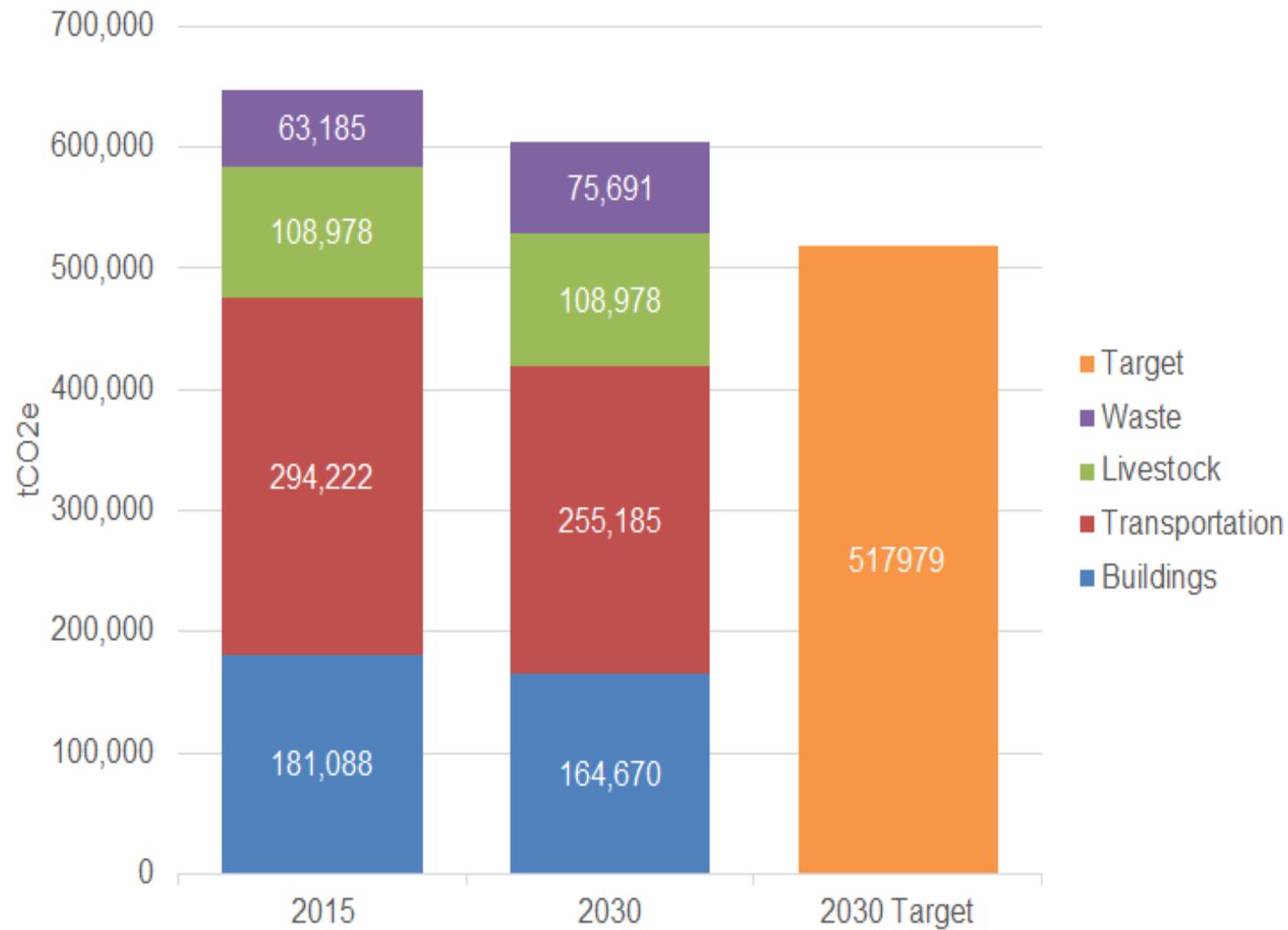


Total community-wide emissions:

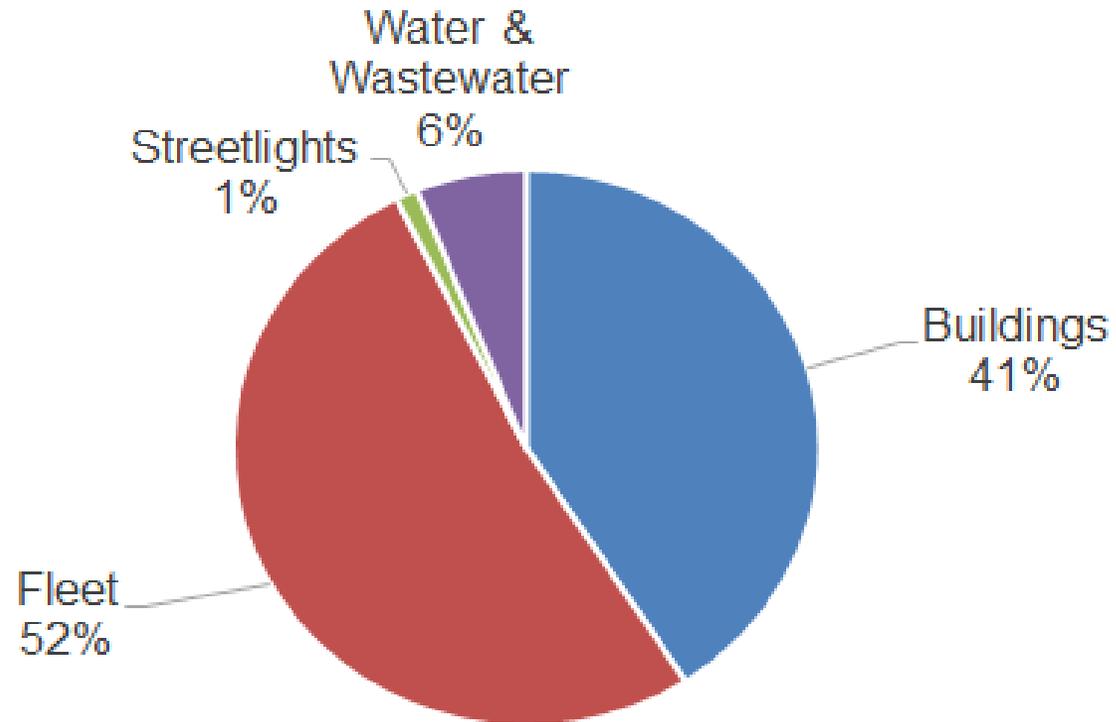
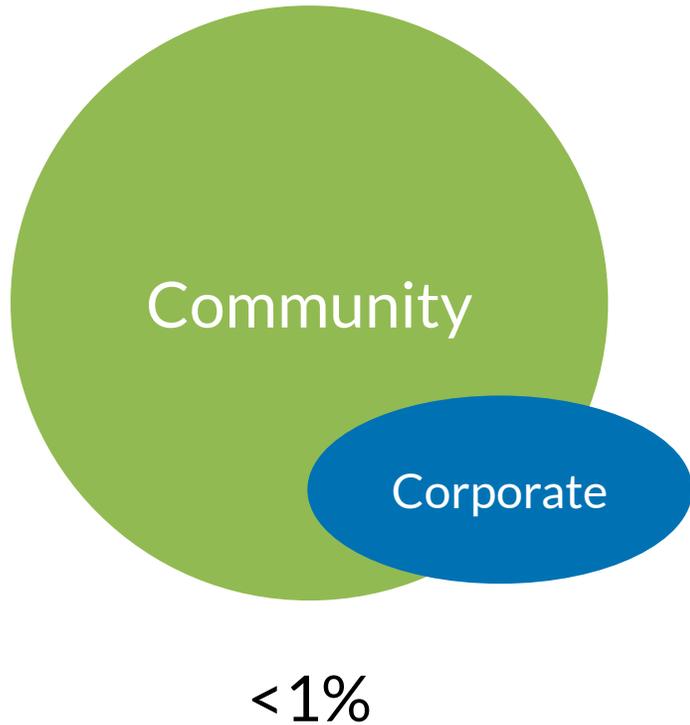
647,470 tCO₂e

7.8 tCO₂e/person

➤ Future Community Emissions without Local Action

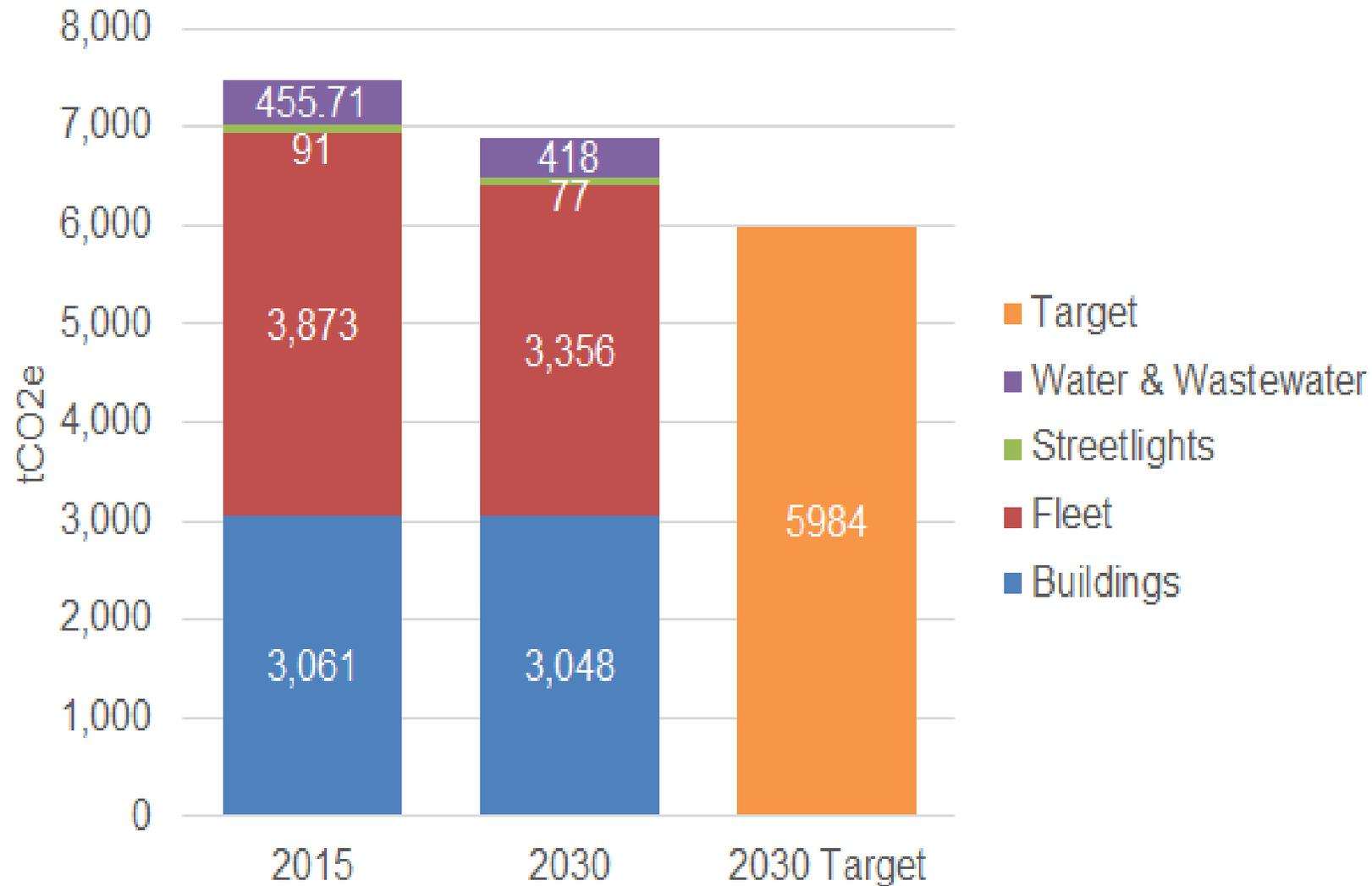


➤ Kawartha's Corporate Emissions (2015)



**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

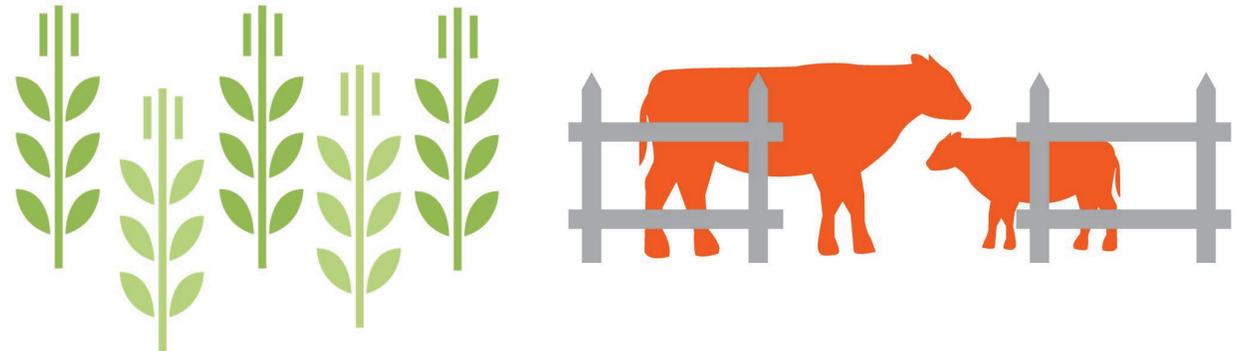
➤ Agricultural Strategies

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

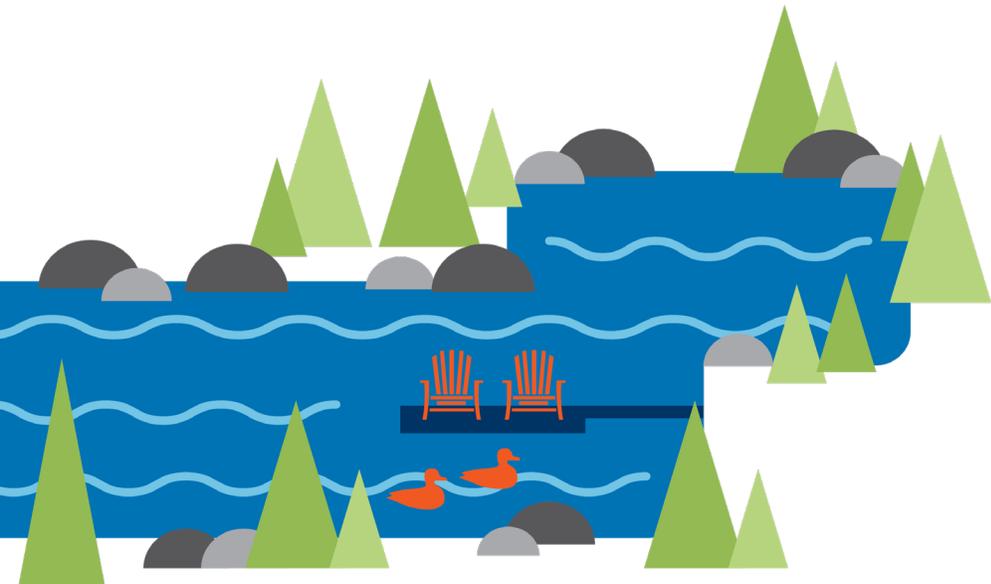
Waste

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

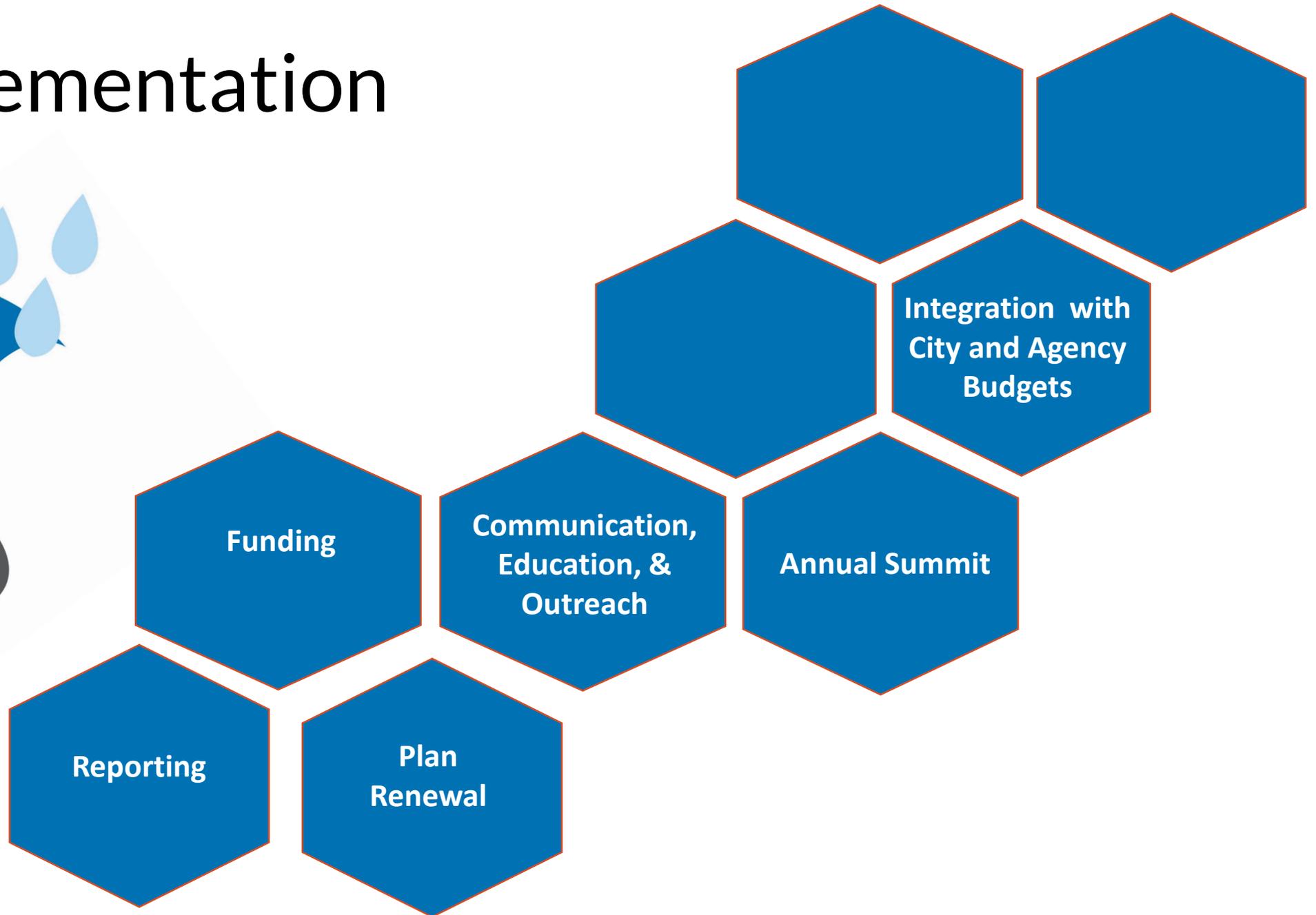
WW2: Update Stormwater Design Requirements and the Stormwater Management Plan

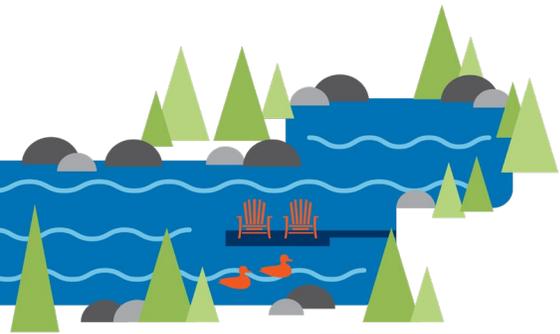


➤ Summary of Mitigation Strategies

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

