



TransformTO

TransformTO: Climate Action for a Healthy, Equitable, and Prosperous Toronto

Report 1: Short-term Strategies - Highlights

NOVEMBER 2016



Table of Contents

TransformTO Overview	1
Strategy Development	3
Guiding Principles	4
Short-Term Strategies – Five Action Areas	5
1. Supporting energy efficiency in buildings	6
2. Raising the bar for new construction & community energy	8
3. Advancing sustainable transportation planning	10
4. Leading by example	12
5. Engaging and collaborating with stakeholders	14
Next Steps	16



TransformTO: Climate Action for a Prosperous, Equitable and Healthy Toronto is a community-wide, cross-corporate initiative of the City of Toronto and The Atmospheric Fund, designed to engage residents, other stakeholders, experts, and all City operations in identifying ways to reduce Toronto's greenhouse gas emissions by 30 per cent by 2020, and by 80 per cent by 2050, against 1990 levels.

The initiative, adopted by City Council in May 2015 (PE3.6), has two main deliverables:

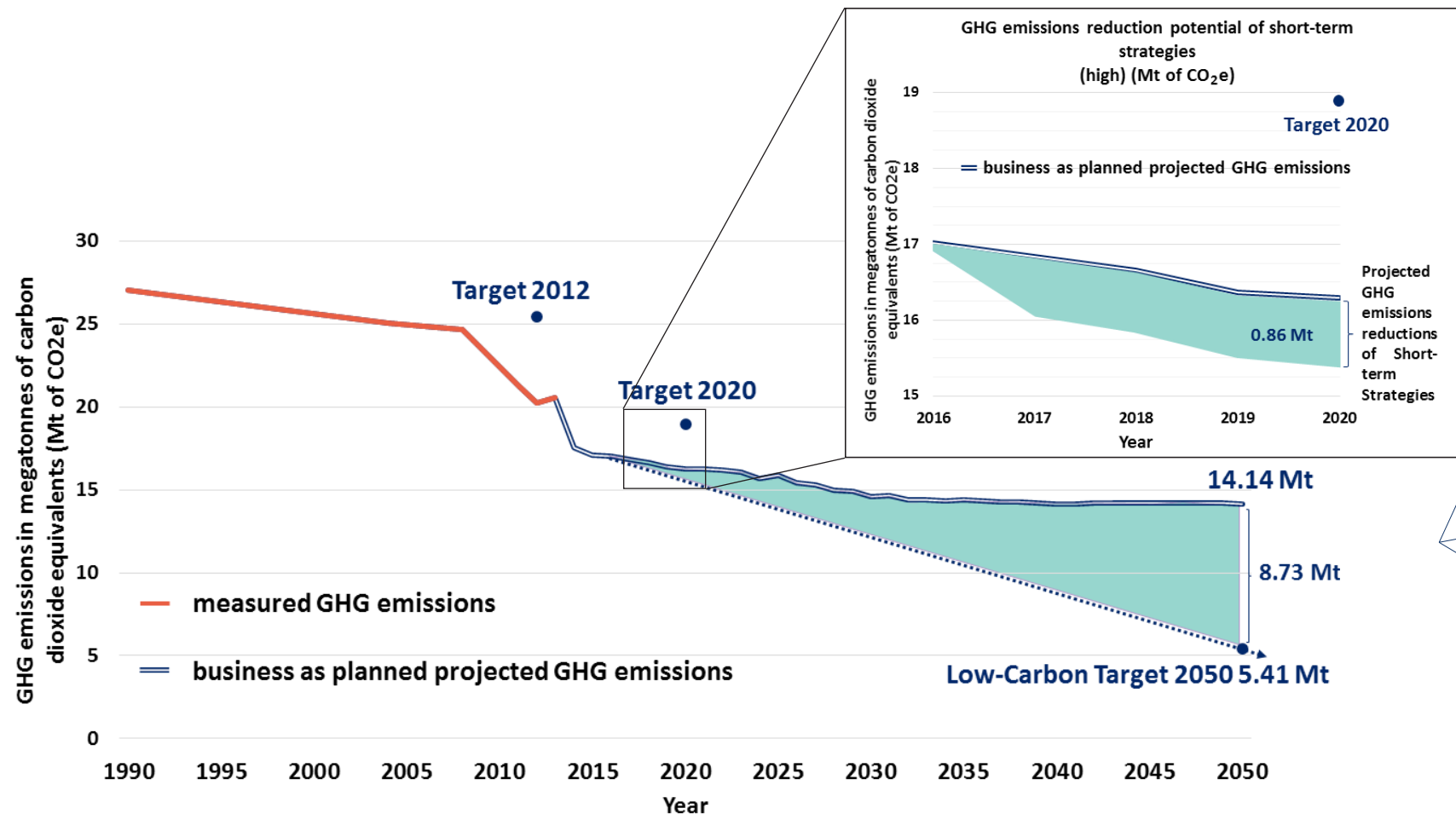
1. Report 1: A plan of short-term strategies (2017-2020) to achieve the City's interim target of 30 per cent greenhouse gas emissions reduction by 2020.
2. Report 2: A decision-making framework that identifies the transformative changes that will be necessary for Toronto to become a low-carbon city by 2050.

This document provides a high-level overview of **TransformTO Report 1** presented to City Council in November 2016. The report identifies the short-term, immediate strategies that will build upon, and accelerate existing programs and policies to maximize their emissions reduction potential to 2020. The full report is available online at toronto.ca/transformto.



Where we are and where we need to get to

To date, greenhouse gas emissions in Toronto have dropped by 24 per cent from 1990 levels. However, Toronto will not meet its 2050 goal without significant action and investment. There is a projected 8.7 million tonne gap between our expected emissions in 2050 and our low-carbon target. Over the next 34 years, transformative changes to the City's core urban systems – transportation, building design and operation, energy systems and waste management – will be necessary.



TransformTO's Short-term Strategies are informed by two key elements:

Community Engagement

From March 2015 to July 2016, TransformTO invited residents to envision a low-carbon Toronto and share their ideas on the types of actions they felt were most important.

A variety of engagement and outreach tools were used to promote participation from residents, community groups and stakeholders online and at events – hosted by both the City and a variety of community organizations.

To date, more than 2,000 people have shared their ideas about how to create the low-carbon Toronto they envision in 2050.

Learn more about the engagement process and results in the TransformTO [Community Engagement Report](#).

Technical Modelling

The City hired a consulting firm, Sustainability Solutions Group (SSG), to use technical modelling to:

- 1) Analyse how greenhouse gas emissions would change over time in key sectors – buildings, transportation, waste, energy sources, land use – under current federal, provincial and municipal policies and programs.
- 2) Evaluate the potential impact of various low-carbon actions and scenarios (e.g. housing retrofits, active transportation, improved infrastructure) on reducing overall emissions.
- 3) Analyze the potential co-benefits and co-harms of potential low-carbon actions to public health, the local economy and social equity.

More information about the technical modelling is available online at toronto.ca/transformto.

Guiding Principles

TransformTO Short-term Strategies are based on three guiding principles:

- 1. Building on Past Success:** Toronto has made considerable progress with a comprehensive suite of programs, plans and policies that address carbon emissions from buildings, transportation and waste sectors. We will continue to build on this foundation by scaling-up, expanding and enhancing high-impact, readily deliverable programs to drive even greater emissions reductions.
- 2. Charting a long-term course, starting now:** Recognizing that decisions leading up to 2020 will 'lock-in' emissions that will define the City for future generations, the pathway to reducing emission by 80% by 2050 starts today. Enabling policies, programs and investments must be consistent with positioning the City towards realizing its low-carbon future.
- 3. Linkage with Provincial Climate Change Action Plan:** The City of Toronto and Province of Ontario share common long-term carbon reduction goals. The City will seek to capitalize on the estimated \$7 billion short-term investment in low-carbon actions under Ontario's Climate Change Action Plan. Alignment between City programs and provincial opportunities for funding and co-delivery will be explored.

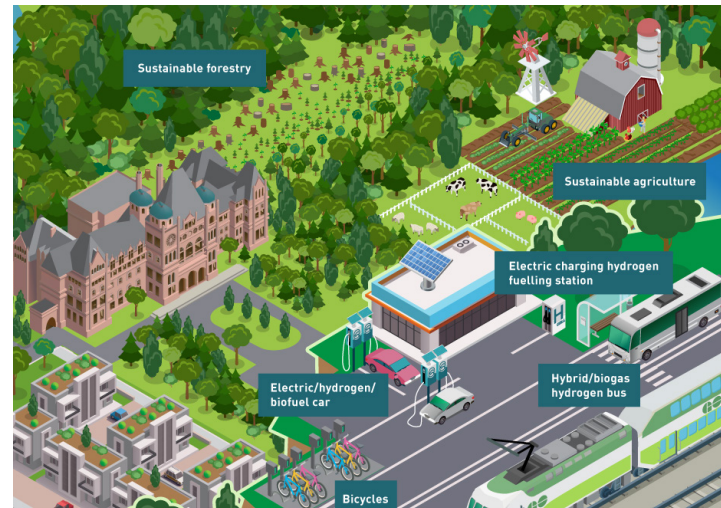
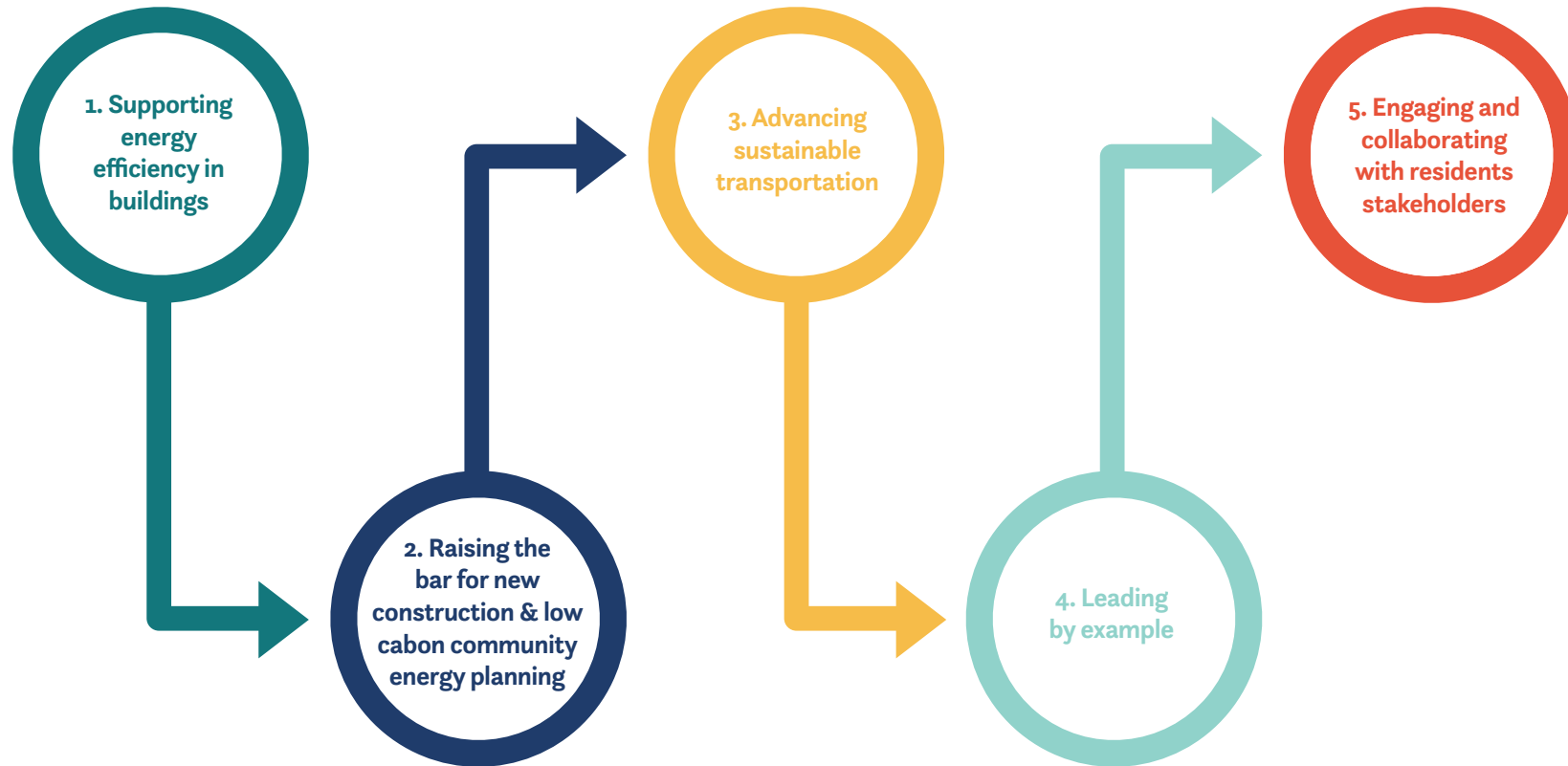


Image source: Ontario Climate Change Action Plan

Short-term Strategies – Five Action Areas



1. Supporting energy efficiency in buildings

Expand current programs to reduce energy use in houses, multi- residential and other buildings. This includes offering a suite of resources, incentives and innovative financing to save on energy costs, enhance the quality of housing stock, and improve affordability across all neighbourhoods.

1.1 Enhance the Better Buildings Partnership (BBP)

By increasing technical resources, financial assistance, and coordination of incentives for property owners, the BBP will incorporate new opportunities for greenhouse gas emission reductions in alignment with the Ontario Climate Change Action Plan, and energy efficiency and resilience improvements in new and existing public and private buildings.

1.2 Innovative financing mechanisms

The City has unique financing options to encourage building owners to make energy efficiency and clean energy investments, including competitive Sustainable Energy Plan Financing loans and the Home Energy Loan Program, local improvement charge rebates and The Atmospheric Fund's Energy Savings Performance Agreements. The City will endeavour to scale-up these programs and explore new partnership opportunities to mobilize private capital for energy projects.



Anticipated GHG reductions by 2020:

193,000 – 480,000 tonnes (42% to 56% of the total reduction potential to 2020)

Alignment with Toronto's Strategic Actions:

- Support Environmental Sustainability
- Enhance the City's Quality of Life
- Engage the Public
- Finance the City's Growth
- Support Affordable Housing
- Implement Smart Urban Growth Strategies

Community Priority

- Identified as a priority by participants in the TransformTO Community Consultations



“We need to get serious about promoting green infrastructure”

TransformTO Community Conversation participant

1.3 Dedicate funding for community-based climate action

The City will continue to seek to expand Sustainable Energy Plan financing for community-based groups, including not-for-profits interested in undertaking energy conservation and greenhouse gas emission reduction projects to ensure benefits are shared across all neighbourhoods. Access to low-interest financing will help to address financing barriers that disproportionately impact low-income neighbourhoods from taking climate action.

1.4 Improve energy efficiency of social housing

The City will improve the energy efficiency and quality of social housing by maximizing and leveraging the \$42 million in Provincial SHARP funding, coupled with financing from the Sustainable Energy Plan Financing program, to drive deep carbon and utility cost reductions, while improving the living conditions for low-income households.

1.5 Continue support for residential property owners

The City will support residential building owners by providing a streamlined pathway to resources, incentives, and financing for property owners to undertake energy retrofits. Funding and promotions will be scaled-up to renovate homes and multi-residential properties at a much greater rate. That includes expanding the Home the Home Energy Loan Program and High-rise Retrofit Improvement Support Program to include a broader scope of eligible properties, renewable energy and resilience improvements to protect owners from property damage attributed to extreme weather. Improvements to multi-residential properties will be further enabled by providing resources and ‘one-window’ service through the Tower Renewal STEP Program.

2. Raising the bar for new construction & community energy

Continue to elevate the energy performance of new buildings trending towards net-zero energy through the Toronto Green Standard, while also integrating community energy planning and neighbourhood-scale energy solutions.

2.1 Advance leading-edge new construction standard:

In consultation with green building leaders, the City will elevate energy efficiency standards for new construction with Version 3.0 of the Toronto Green Standard (TGS). The TGS will progressively raise the bar for better building energy performance and lower environmental impact by setting out long-term energy and emission reduction targets by building type, thereby offsetting emissions from population growth. Higher energy performance metrics for a new Tier 2 will require that new City Agency, Corporation and Division-owned buildings demonstrate leadership and are complemented by the City's partnership in the delivery of the Province's saveONenergy incentive program for High Performance New Construction.

2.2 Advance Community Energy Planning:

The City will maximize the potential for Community Energy Planning (CEP) preparation and implementation for all new major developments and revitalization areas. Key CEPs underway include the downtown core (TOcore), Yonge & Eglinton, Consumers Next, and Finch Corridor. There are also three



Anticipated GHG reductions by 2020:

20,000 – 110,000 tonnes (5% to 13% of the total reduction potential to 2020)

Alignment with Toronto's Strategic Actions:

- Support Environmental Sustainability
- Increase Employment Opportunities
- Accelerate Economic Development
- Implement Smart Urban Growth Strategies

Community Priority

- Identified as a priority by participants in the TransformTO community engagement



“Make roofs with solar panels mandatory on all new building development”

TransformTO Community Conversation participant

Net-zero Communities CEPs under-way: Port Lands, Six Points Interchange, and Mt. Dennis.

2.3 Advance low-carbon/Renewable Thermal Energy Networks (District Energy):

The City is working with key stakeholders to significantly scale-up the development of thermal energy networks and map low-carbon/renewable energy sources across Toronto. These networks connect buildings at the neighbourhood scale with local low-carbon energy sources, such as sewer heat recovery, lake water cooling, large geo-exchange fields augmented with solar thermal collectors, as well as, biogas and biomass from municipal operations.

2.4 Create a Renewable Energy Strategy:

The City will investigate ways to advance the city-wide adoption of clean, renewable energy technologies such as solar PV, wind and geo-exchange through a comprehensive long-term strategy developed with industry stakeholders.

3. Advancing sustainable transportation planning

Encourage the shift towards sustainable methods of transportation that promote active living and reduce human health risk.

3.1 Explore road pricing:

The City will explore user charges on the Gardiner Expressway and Don Valley Parkway to tackle gridlock and reduce emissions from private transport. In addition to providing a new source of revenue, road pricing options can support reduced traffic congestion, a modal shift to transit, and improve air quality. A comprehensive road pricing options and impact study is currently being undertaken by Transportation Services.

3.2 Support safe cycling and walking:

The City will encourage active transportation by implementing the Road Safety and Cycling Network Plans and Complete Street Guidelines. Doing so will make walking and cycling more a more accessible, safe and viable option for commuters.

3.3 Enhance transit service:

The City will continue to invest in transit service enhancements to meet the needs of current users and encourage a greater shift to public transit by commuters. The development of a comprehensive regional rapid transit network is supported by the TTC and Metrolinx, through



Anticipated GHG reductions by 2020:

130,000 tonnes (15% to 30% of the total reduction potential to 2020)

Alignment with Toronto's Strategic Actions:

- Support Environmental Sustainability
- Develop a Long-Term Transportation Plan

Community Priority

- Identified as a priority by participants in the TransformTO community engagement

network is supported by the TTC and Metrolinx, through such projects as: new express bus routes; York Spadina Subway Extension Project; Finch West; Sheppard East and Eglinton Crosstown LRTs; and Union Station revitalization.

3.4 Develop a freight strategy:

The City will address the health and environmental impacts of goods movement by developing an urban freight strategy. Doing so will improve the efficiency of transportation of goods in the city and reduce air pollution and emissions from heavy trucks.

3.5 Enable electric vehicles (EVs):

The City will work with the Province to support the anticipated adoption of EVs by developing policies and program to expand EV use in Toronto, particularly with respect to vehicle charging stations and parking. Also, the City will partner with Toronto Hydro to provide needed infrastructure and electrical grid resilience for EV use.



**“A complete,
safe network
for cycling
across
Toronto”**

*TransformTO Community
Conversation participant*

4. Leading by example

Accelerate investment in low-carbon technologies and processes across City-owned facilities and operations. Through the requirement of Toronto Green Standard Tier 2 for new City-owned buildings, energy efficiency retrofits, renewable energy projects and employee commuter options, the City will demonstrate leadership in curbing carbon emissions by strategically managing its own assets. The City will also implement its long term waste management strategy to minimize future carbon emissions from waste.

4.1 Expand energy retrofits at City facilities:

The City will accelerate the implementation of its Energy Conservation and Demand Management (ECDM) Plan to drive energy consumption savings of 30% or greater across its real estate portfolio. In addition to accelerating energy retrofits, greater effort will focus on building operations and maintenance, training of building operators, coordination of energy retrofits with major renovations, opportunities to generate on-site electricity, and enhance building resilience.

4.2 Scale-up renewable energy installations:

The City will dramatically expand its renewable energy generation capacity by completing 56 solar photovoltaic installations at City facilities by the end of 2017. Planning is already underway to double this capacity by 2020.



Anticipated GHG reductions by 2020:

111,950 – 137,400 tonnes (16% to 24% of the total reduction potential to 2020)

Alignment with Toronto's Strategic Actions:

- Support Environmental Sustainability
- Good Governance
- Develop a Long-term Solid Waste Management Strategy
- Finance the City's Growth
- Enhance the City's Quality of Life
- Improve Organizational Excellence
- Strengthen Public Service
- Develop Long-Term Transportation Plan



“Fund the retrofitting of older buildings”

TransformTO Community Conversation participant

4.3 Utilize landfill gas and biogas:

The City is currently examining various options with regards to biogas and landfill gas utilization. One promising emissions reduction and revenue generation project is the production and utilization of Renewable Natural Gas (RNG). RNG is produced by upgrading biogas or landfill gas to natural gas quality, at which point it can be injected directly into the natural gas grid. Once in the grid, it can be used to fuel natural gas vehicles, provide heating for homes and/or be used to generate electricity.

4.4 Improve fleet fuel efficiency:

The City will continue to make strides with its Green Fleet Plan to reduce carbon emissions and tail-pipe pollutants that cause smog by implementing strategies including anti-idling devices, alternative fuel plans, fleet resizing and eco-driving programs across City fleets.

4.5 Promote Smart Commute for Toronto Public Service:

A revamped Smart Commute Program will be launched to encourage City staff to shift towards sustainable commuting options such as transit, active transportation, carpooling, and alternative work arrangements. Elements of the program may include a formalized telework policy, discounted transit passes, car-bike-ride sharing services, and end-of-trip facilities for cyclists and walkers.

5. Engaging and collaborating with stakeholders

Support effective inter-divisional collaboration and work closely with the community, local utilities, and other levels of government.

5.1 Continue TransformTO Community Engagement: TransformTO collected ideas from over 2,000 Torontonians in 2015-2016. Continued engagement and mobilization with residents, businesses and stakeholders, especially those whose views are traditionally under-represented will be critical to the development and implementation of Toronto's 2050 deep carbon reduction strategy. Using scenario modelling results, visualizations of the future Toronto will be created to stimulate community dialogue and action through online and in-person venues.

5.2 Use building energy disclosure as an engagement tool:

The City will ramp-up direct marketing and outreach activities to building owners by utilizing energy performance benchmarks. This strategy can drive energy savings by applying resources to buildings most in need of support based on actual performance. The City will also publish annual reports on city-wide building energy use as a means of understanding market trends and opportunities for enhanced policy and program development.



Anticipated GHG reductions by 2020:

130,000 tonnes (15% to 30% of the total reduction potential to 2020)

Alignment with Toronto's Strategic Actions:

- Support Environmental Sustainability
- Enhance the City's Quality of Life
- Engage the Public
- Develop a Long-term Solid Waste Management Strategy

Community Priority

- Identified as a priority by participants in the TransformTO community engagement

5.3 Leverage Live Green Toronto:

The City will expand its engagement with community stakeholders and private sector partners to drive climate action through the multi-faceted program that delivers information, programs, a volunteer network, and events that educate and promote greener lifestyles for Torontonians.

5.4 Collaborate with utilities on local programming:

The City will work alongside Toronto Hydro and Enbridge Gas to support urban renewable energy development, to expand customer access to utility data, and to manage issues related to city-wide energy growth, such as, reducing demand in high-growth, energy constrained areas. Opportunities will be explored to improve customer experience by integrating available incentives and rebates offered by the utility companies in conjunction with City programs.



**“More
education
around
sustainable
lifestyle
change”**

*TransformTO Community
Conversation participant*

Next Steps

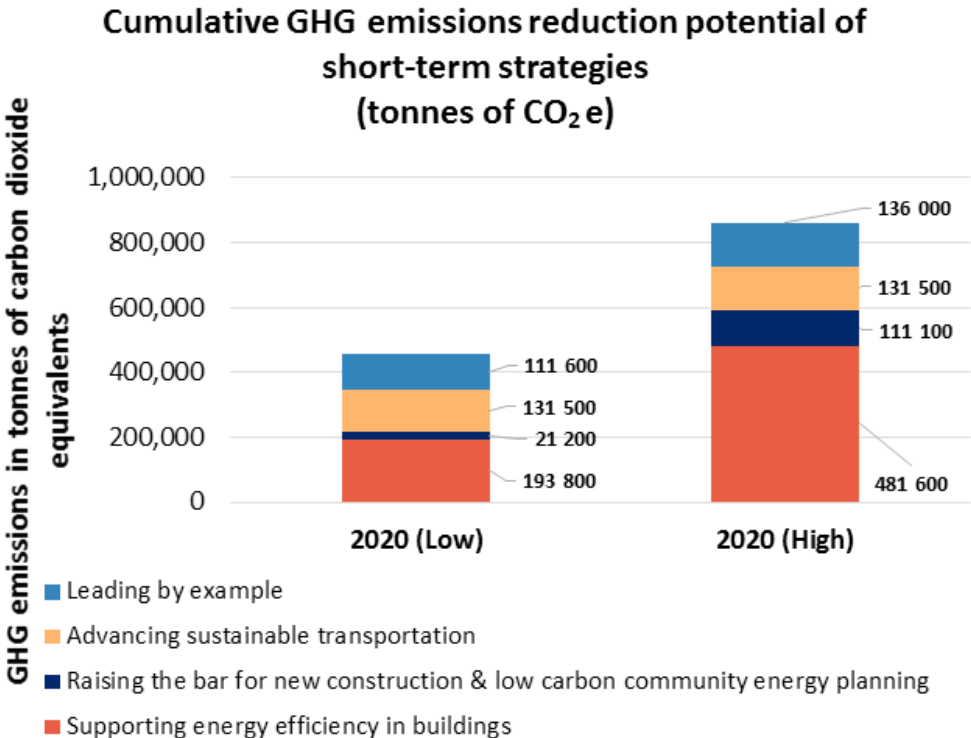
Successful implementation of the proposed strategies identified in TransformTO Report 1 deliver between 455,000 and 857,000 tonnes of additional greenhouse gas emission reductions by 2020, beyond the emission reductions already anticipated from Toronto’s existing programs and policies.

Report 2

While the actions recommend in Report 1 are critical and important actions, these steps will not be enough for Toronto to reach its GHG reduction goal for 2050. The next phase of TransformTO, to be reported on in May 2017, will quantify the strategies and directions needed to guide Toronto to a low-carbon future in balance with its goals of economic prosperity, social equity and public health.

CONTACT

Visit toronto.ca/transformto
Email: transform@toronto.ca
#TransformTO





TransformTO