



Climate Action for a Healthy, Equitable and Prosperous Toronto

Parks & Environment Committee May 4, 2017









COLLABORATION IS CRITICAL TO SUCCESS

Cities that collaborate with other actors are able to deliver twice as many climate actions."

- C40 Cities/ARUP



TORONTO'S EMISSIONS SOURCES



BUSINESS-AS-PLANNED WILL MISS TORONTO'S 2050 TARGET



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TransformTO

EMISSIONS RESULTING FROM THE ACTIONS MODELLED IN THE CITY OF TORONTO INTEGRATED LOW CARBON SCENARIO, 2016 - 2050



Year

29. Autonomous vehicles 30. Increase adoption of EV ■ 5. TGS for new buildings (res & non-res) 18. Electric heat pumps ■ 33. Zero emissions vehicles for freight 10. Retrofit ICI 11. TGS for renovations 35. Increase waste diversion 20. Increase renewable natural gas in DE ■ 6. Residential retrofit pre-1984 (Tower Renewal+) ■ 28. Electrify transit fleet 8. Dwelling retrofit pre-1980 (HELP+) ■ 17-3. Expand DE - geothermal ■ 31. Industrial process efficiency ■ 17-2. Expand DE - waste heat 32. Last mile solutions in freight 17-1. Expand DE - deepwater cooling 26. Increased cycling mode share. 7. Residential retrofit post 1984 (Tower Renewa+l) ■ 36. Generate biogas from wastewater 14. Solar PV existing buildings 24. Car free areas ■ 16. Integrated solar thermal & PV on facades 19. Energy storage 2. Incorporate demolition rate 21. Condensed work week 12. Re-commissioning commercial buildings 3. Reduce dwelling unit size ■ 4. Reduce commercial floor space per employee 9. Dwelling retrofit post 1980 (HELP+) 13. Solar PV new construction ■ 22. Integrated transit improvements 25. Personal transportation planning ■ 34. Electrify City vehicle fleet 15. Offshore wind

27. Increased walking mode share

1. Concentrate future residential development

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THE GOOD NEWS: WE CAN CLOSE THE GAP



TransformTO Low-Carbon Scenario

LONG-TERM LOW-CARBON GOALS

65%	reduction in GHG emissions by 2030 as an interim target	100%	of new buildings are near zero GHG emissions by 2030
100%	of existing buildings are retrofitted by 2050	75%	of energy use from renewable or low-carbon sources by 2050
30%	of total floor space uses to low-carbon thermal energy by 2050	100%	of transportation uses low or zero-carbon energy by 2050
75%	of trips under 5 km city-wide walked or biked by 2050	95%	of waste is diverted in all sectors by 2050

ACCELERATED BUILDING PERFORMANCE

100% of new buildings are near zero GHG emissions by 2030

100% of existing buildings are retrofitted by 2050 where technically feasible

NEW ENERGY MIX

75% of energy use from renewable or low-carbon sources by 2050

30% of total floor space connected to low-carbon thermal energy by 2050

LOW-CARBON TRANSPORTATION

100% of transportation uses low or zero-carbon energy by 2050

75% of trips under 5 km city-wide walked or biked by 2050

WASTE DIVERSION

95% of waste is diverted in all sectors by 2050



LOW-CARBON CITY LEADERSHIP GOALS

All new City-owned facilities to be near zero greenhouse gas emissions by 2026	Retrofit all City-owned buildings where technically feasible by 2040	
24 MW of renewable energy capacity on City-owned property by 2020	Transition 45% of City-owned fleet to low-carbon vehicles by 2030	
Achieve net zero waste at all City-owned facilities by 2030	Generate 1.5 Gigajoules of energy annually from biogas by 2030	
Become a Canada Top 100 Greenest Employer by 2020		

GUIDING PRINCIPLES OF LOW-CARBON ACTION

- Advance social equity
- Improve affordability particularly for vulnerable populations
- Contribute to poverty reduction and protect low-income residents and Enhance and strengthen the local economy
- Maintain and create good quality local
- Improve public health
- Create resilient communities and infrastructure

EXPLORING TORONTO'S CONSUMPTION GHG EMISSIONS



REPORTING AND IMPLEMENTATION PLANS

Every 2 years: update on TransformTO key performance indicators

Every new term of Council: Progress towards City of Toronto Iowcarbon leadership goals, and KPIs

Every new term of Council: Revisions and additions to implementation plan for that term

- 1. Implement existing low-carbon policies, plans and programs
- 2. Pick up the pace by implementing the TransformTO Report #1 strategies approved in 2016
- 3. Start three acceleration campaigns that embrace a multi-benefits approach

REPORT #1 STRATEGIES





1. Mobilize Low-Carbon Neighbourhoods

- Advance best practices in neighbourhood-based engagement;
- Cultivate local leaders who can support climate actions;
- Identify how TransformTO initiatives could improve affordability and support the City's poverty reduction and social development strategies;
- Explore how neighbourhood-scale TransformTO initiatives could enhance community resilience;
- Take action with 3 to 5 quick start projects.



2. Prepare for Electric Mobility

- Co-develop an electric vehicle (EV) transition strategy for Toronto;
- Develop an electric vehicle charging infrastructure strategy;
- Identify best practices in EV preparedness to ensure equitable outcomes for all residents;
- Prioritize EV approaches that maximize community benefit;
- Launch quick start projects to test implications of EV use for local grid;
- Explore how EVs could enhance community resilience.



3. Develop the Workforce for High-Performance Buildings

- Create an existing buildings energy performance strategy;
- Identify priority approaches to drive community benefits, including an early focus social housing renewal;
- Co-develop a workforce strategy to support high-performance buildings and create opportunities for people who face barriers to employment;
- Improve resilience of building stock

CONCLUSION



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