Ontario's Climate Challenge: Getting back on track

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environmental defence

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Introduction

Ontario recently re-committed to addressing climate change, and to meeting the province's commitments to reduce carbon pollution in the years ahead. This primer provides a summary of the critical targets that Ontario has set, shows these targets are achievable, and sets forth a potential roadmap for meeting them.

The targets

Ontario's 2007 Climate Change Action Plan set carbon pollution reduction targets for 2014, 2020, and 2050 (See figure 1.)

Figure 1 – Ontario's Carbon Reduction Targets[1]

year	% reduction from 1990 pollution levels	Maximum carbon pollution allowed to meet target
2014	6%	166 MT
2020	15%	150 MT
2050	80%	35 MT

An 80 per cent reduction in global carbon pollution by 2050 is the scientifically agreed upon target which would limit climate change to 2 degrees this century.[2]

Ontario: a leader in addressing carbon pollution in North America

Ontario is one of the leading jurisdictions in North America on reducing carbon pollution. The province met its 2014 target for emissions reductions.[3] In fact, Ontario reduced emissions more than any other province (using 1990 as a baseline year.)[4]

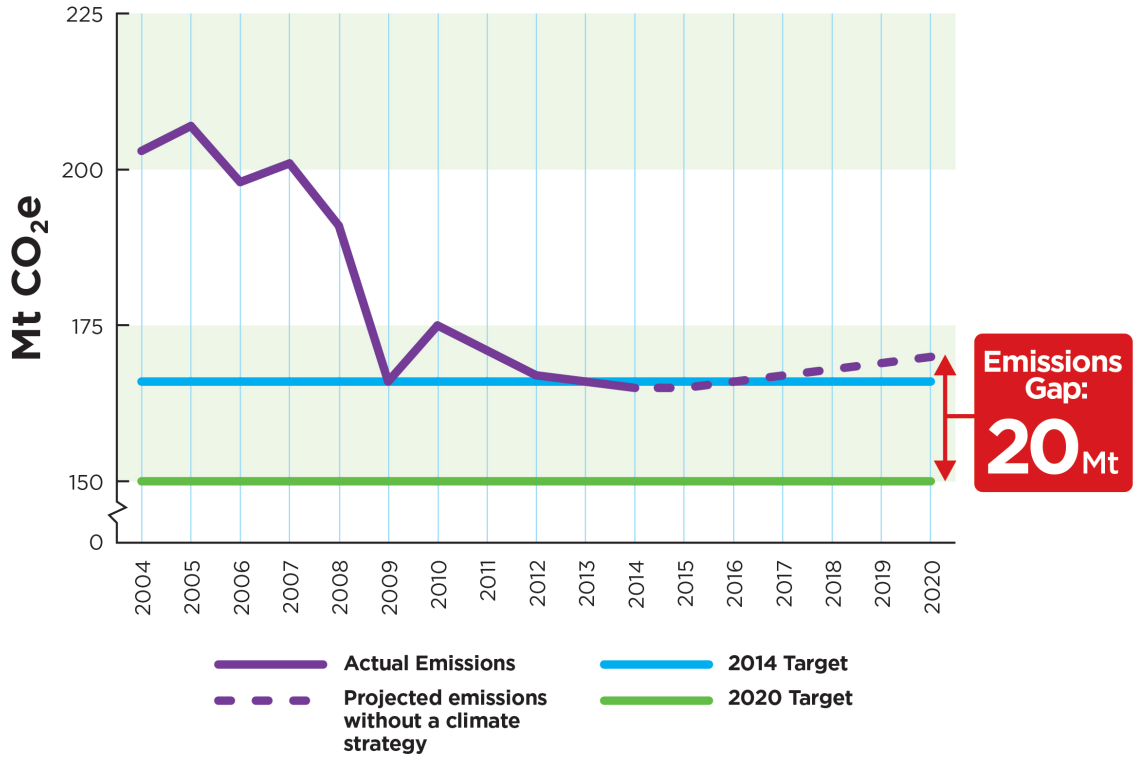
Ontario's phase out of coal-fired electricity production is the main reason the province met the 2014 target. And Ontario has gone one step further. In addition to stopping burning coal at all the province's power plants in 2014, Ontario intends to make it illegal to burn coal in the future.[5]

The coal closure is the single largest climate change initiative in North America.[6] And it's estimated to save Ontarians $4.4 billion per year when health and environmental costs are accounted for.[7] It has also improved air quality and public health. In 2005, Ontario had 53 days with smog advisories. There were only two in 2013, and none in 2014.[8]

Getting to 2020

The gap between current emissions and Ontario's 2020 target is estimated to be about 20 MT[9] (see figure 2.[10])Reaching this target is achievable but will require effort across different aspects of the economy. There are no more coal plants to close and therefore, no single silver bullet solution.

Figure 2, Ontario's Carbon Emissions Challenge

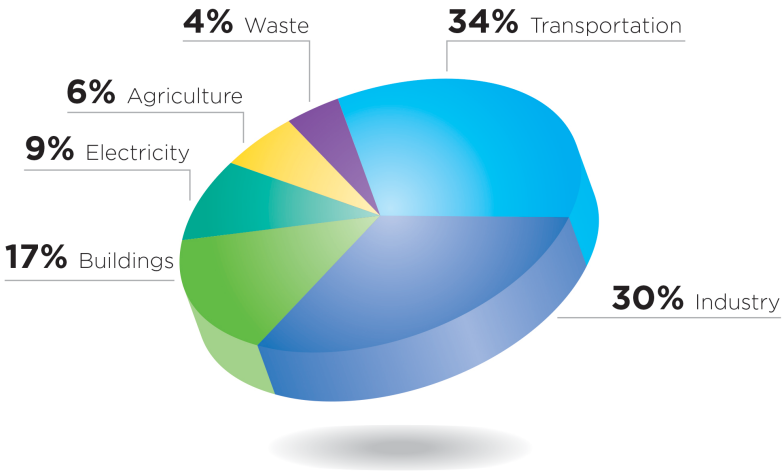


Ontario's carbon emissions come from a variety of sectors. As a result, a multi-faceted approach will be needed to reduce emissions in the province. This primer draws upon existing research, some from Ontario and some from other jurisdictions, to illustrate the carbon reductions that can be made across the sectors

of Ontario's economy. It also illustrates that with a multi-faceted approach, the emissions gap can be bridged.

Ontario's carbon emissions come from transportation (34 per cent), industry (30 per cent), buildings (17 per cent), and the electricity sector (9 per cent), with the balance from agriculture and waste, where the majority of waste emissions are methane emissions from landfills (see figure 3).[11]

Figure 3, Ontario's 2012 Carbon Emissions by Sector



Transportation Emissions

Transportation emissions can be most effectively reduced by putting a price on carbon pollution. Sixty-seven countries and 21 sub-national jurisdictions have implemented or are preparing to implement some form of carbon pricing by 2020.[12] One of the best examples of a successful and effective carbon pricing system can be found in the province of British Columbia.

B.C.'s carbon tax, which costs consumers less than $0.07 per litre, has reduced gasoline consumption by 12.5 per cent.[13] If the same occurred in Ontario, it would reduce emissions from the transportation sector by 5.5 MT.[14] It's important to note that B.C.'s carbon tax has decreased carbon pollution while B.C.'s economy has outperformed the rest of Canada.[15] Clearly, we don't need to choose between a healthy climate and a healthy economy. As B.C.'s carbon tax has shown, we can have both.

Industrial Emissions

Carbon pricing is also an effective way to reduce emissions from the industrial sector. By one estimate, a cap and trade program could reduce emissions from Ontario's industries by 3 MT by 2020.[16] California's cap and trade program reduced emissions from industries covered by that program by 4 per cent the year it was implemented.[17] If Ontario industries responded similarly to a cap and trade program, that would cut carbon pollution by 2 MT in the first year of the program.[18]

Reducing emissions from industries and buildings: Natural gas conservation

Natural gas produces 30 per cent (50 MT) of Ontario's emissions.[19] Emissions from both the industrial sector and buildings can be reduced with natural gas conservation.

Ontario has a policy to put "conservation first" and has recently increased the budgets for natural gas conservation.[20] However, the policy will fall short of achieving its stated goal of enabling all cost effective conservation unless the budgets and ambition of the program are increased.[21]

"Cost effective conservation" is defined as all instances where the costs of the conservation measure are more than offset by the savings delivered by the measure to the customer. Cost effective conservation, by definition, benefits the economy as well as the environment. And right now, we are nowhere near tapping conservation's full economic potential in Ontario.

If Ontario doubled the current rate of gas conservation we could remove another 5 MT of carbon emissions[22] and still be well below the level that would be considered cost effective. A recent report from Navigant consulting found that Enbridge could cost effectively reduce natural gas use for all of its customers by 28 per cent by 2024.[23] If this happened for all natural gas combustion in Ontario, emissions would decrease by nearly 14 MT.[24]

Electricity

Ontario's electricity sector has significantly reduced its carbon emissions thanks largely to the closure of the coal plants. Despite these massive reductions in carbon pollution, the current Long Term Energy Plan forecasts emissions rising from the electricity sector in the years ahead, due to an increased reliance on natural gas.[25] For Ontario to meet its carbon reduction targets, the province must continue to reduce emissions from the electricity sector, rather than see them rise as is currently projected.

The increase in emissions is partially due to the fact that the province has no plans to develop more wind and solar power after 2021.[26] This flies in the face of the global trend, where installed wind power jumped by 15 per cent in 2014 and solar PV prices have dropped by 80 per cent since 2008.[27] It's also problematic for the 31,000 people employed by Ontario's renewable energy sector.[28] Countries around the world are building more wind and solar power. Ontario can, and should, continue to support this growing sector.

To continue the long decline of carbon emissions from Ontario's electricity sector, we need to burn less natural gas, increase energy conservation, build more wind

and solar power, and take a serious look at hydro imports from Quebec (a low cost, low carbon option that hasn't yet received serious consideration.) If we replaced 10 terawatt hours of natural gas generation with a combination of electricity conservation, renewable generation, and hydro imports from Quebec, emissions from the electricity sector could be reduced by 3 MT. A 3 MT reduction in GHGs is equivalent to the expected increase in carbon pollution caused by an increased reliance on natural gas in 2020.[29]

Agricultural Soils

Agriculture is responsible for 9.4 MT or 6 per cent of Ontario's emissions. But the Environmental Commissioner of Ontario (ECO) has estimated that, with best management practices, the province's cropland and pastures could shift from carbon source to carbon sink. In 2011, the ECO estimated that 9 MT of carbon could be sequestered – captured and stored - in Ontario's soils by 2020.[30] It would be a stretch to achieve this level of reductions between now and 2020, but it's reasonable to imagine that half of them could be done, shaving another 4.5 MT of the totals.

Waste Management

Another significant opportunity lies in waste management. Emissions from waste in the city of Toronto have dropped by over 60 per cent since 1990, for a total reduction of 3 MT.[31] Meanwhile, emissions from waste in Ontario as a whole have increased by 25 per cent since 1990 and gone from 6 MT per year to 7.5 MT per year.[32] If emissions from waste were returned to 1990 levels by capturing landfill gas and by requiring organics diversion, that would reduce emissions by another 1.5 MT. Further reductions may be achieved by using the methane collected at landfill sites for power production, rather than simply burning it.

The Rest

This is far from an exhaustive list of actions that could help Ontario reduce its carbon pollution.

Other actions Ontario could take include requiring energy audits for homes when they are sold and requiring mandatory energy labelling and reporting in commercial buildings. These would go a long way toward ensuring that more energy efficient buildings have a higher market value. Fuel efficiency is a key factor when consumers make a vehicle choice. It would become a key factor in consumers' decisions about buying or renting a home or office if they had accurate and accessible information about the energy efficiency of homes and/or office buildings.

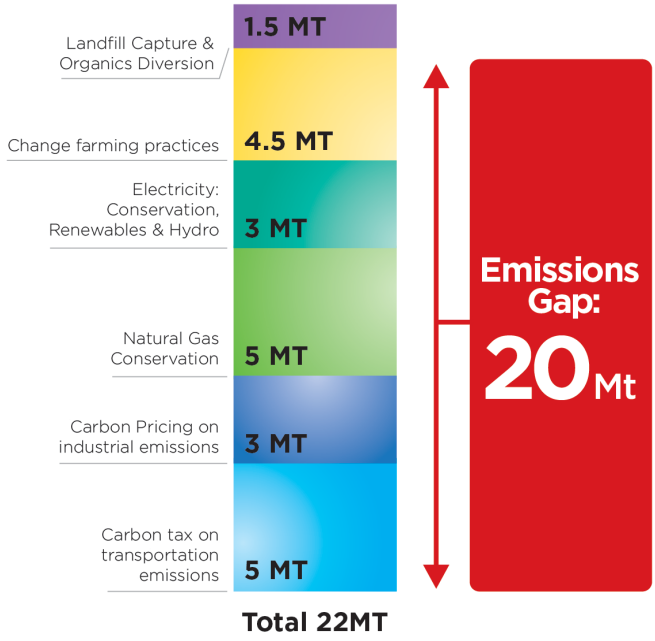
The province can also make changes to building codes. It can implement better appliance standards, provide low-interest financing for building retrofits, and

develop a technology fund to spur low-carbon innovation, among other things. Furthermore, the province should coordinate these and other activities more closely with cities as cities are a major source of emissions and where many of the programs and initiatives that can bring about emissions reductions occur.

Adding it up

The objective of this primer is to illustrate that, while there is no simple solution to Ontario's climate challenge, the gap can be bridged. If the initiatives discussed in this primer were implemented, together they could reduce emissions by 22 MT, allowing Ontario to beat its 2020 target (see figure 4.)

Figure 4, Actions to Bridge the Carbon Emissions Gap



Getting to 2050 and beyond

Ontario's 2050 target is to reduce carbon pollution by 80 per cent. The ultimate goal is to create a carbon neutral economy. Achieving these reductions will require all of the actions above, but also rethinking how urban growth occurs.

We need to put an end to the 1950s model of growth, where farmland and forests are paved over to build far apart car-dependent subdivisions. Curbing urban sprawl and reducing dependence on cars will not only help our shared climate, it will improve our quality of life, reduce aggravation caused by commuting through gridlock, improve local air quality, and cost people less.[33]

Ontario has the tools for smarter growth. Ontario's land-use plans – the Growth Plan, the Greenbelt Plan, Oak Ridges Moraine Plan and the Niagara Escarpment Plan – together help protect forests and farmland while encouraging more transit friendly, livable and walkable complete communities. In 2015, the plans will be reviewed and this will be critical to defining how the Greater Golden Horseshoe grows.

Further, we need to ensure that land use planning and transit planning are integrated – so growth occurs in places where there will be access to decent public transit. The good news is the province is making progress on public transit. Increased GO service and its planned electrification are positive, and plans to build express and high-speed rail will help. It's also vital that the province's transit plans become fully funded, and do not suffer from further delays.

In addition, more support for cycling and other forms of active transportation will help with public health goals and environmental objectives. And continued incentives to support electric vehicle adoption are needed, as cars will be important for years to come.

Conclusion

Ontario has a climate challenge, which is driven by carbon pollution. With the release of the province's discussion paper, a conversation has been restarted about how the province will tackle that problem. And as this primer shows, the challenge can be solved.

With the Green Energy Act, the creation of the Greenbelt and the closure of coal-fired electricity plants, Ontario has shown leadership in the past. It's time for the province to show leadership once again and to further demonstrate that Ontarians don't have to choose between the environment and the economy. Ontario has at its disposal a number of tools and levers that can reduce emissions, improve our quality of life, and help us further develop a vibrant clean economy.

Over the next weeks and months, Environmental Defence will be engaging in the development of Ontario's climate change strategy and plans. We invite other stakeholders to engage with us, and with the province, to make the most of this opportunity. Our future depends on it.

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