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CLIMATE CHANGE AND CARBON TARGETS

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CLIMATE CHANGE AND CARBON TARGETS

The scientific consensus is clear: climate change is real. Human activities have increased greenhouse gas concentration in Earth's atmosphere, and that increase has altered the global climate at a rate that is unprecedented over the last 2,000 years¹. The UN Intergovernmental Panel on Climate Change (IPCC) models suggest that global surface temperatures will continue to rise during the first half of this century. Achieving global net-zero emissions is needed to prevent that rise from exceeding an increase of two degrees Celsius by the end of the century – a level which would have a catastrophic impact on our planet.

Achieving net-zero emissions can only be done in one of two ways — either emitting no greenhouse gas emissions, or offsetting any emissions produced by removing greenhouse gases from the atmosphere through new carbon sinks, like tree planting. While we can all agree that planting more trees is a great idea, the fact is it would take approximately 67.2 billion new mature trees to offset Canada's annual carbon emissions² alone. The reality is there is no path to net-zero emissions without dramatic reductions in our greenhouse gas emissions (GHG).

Achieving net zero emissions will require every country to set and achieve climate change goals, and every person to do their part to help meet them. However, the task is different for countries like Canada.

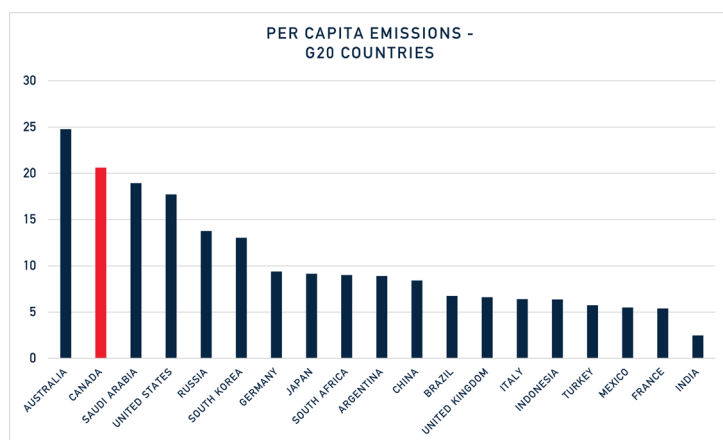
ONTARIO AND CANADA IN CONTEXT

Canada has a relatively small population, but we have a disproportionately large carbon footprint: despite ranking 38th in population globally, Canada emits the 10th most carbon emissions in the world³. On a per capita basis, Canada has a larger carbon footprint than the USA, China, Russia, and other large emitters.

Within Canada, Ontario produces 22 percent of the country's GHG emissions.

The province is second only to Alberta, which generates 38 percent of Canada's GHG emissions, primarily through the production of oil and natural gas.⁴

Three-quarters of Ontario's GHG emissions come from just three sectors – transportation, heavy industry, and buildings. The electricity sector, by comparison, accounts for only 1 percent of the province's total emissions. Ontario manages to have one of the cleanest electricity grids because it generates 94 percent of its electricity through carbon-free sources of power like hydroelectricity, nuclear, and renewables.



The Government of Canada has committed to reaching net-zero emissions by 2050 and has established a short-term emissions target of 40-45 percent below 2005 levels by 2030. The Government of Ontario has not committed to net-zero by 2050 and has only established an emissions reduction target of 30 percent below 2005 levels by 2030. The Auditor General of Ontario found that the province is unlikely to achieve even these lower emissions targets⁵.

If Canada is to achieve net-zero emissions by 2050, all provinces will need to work towards that goal. In Ontario,

1 https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM_final.pdf

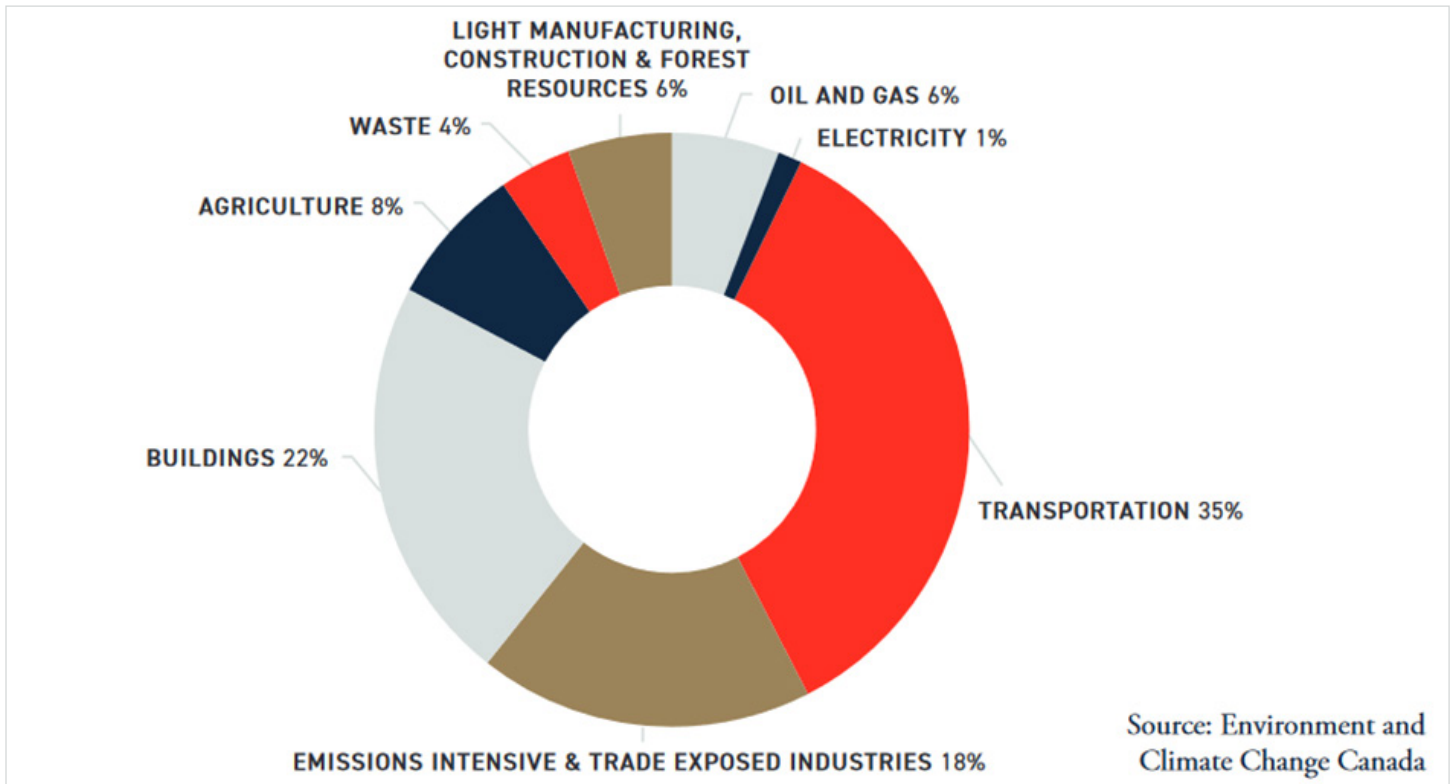
2 Arbor Day Foundation Tree Facts (<https://www.arborday.org/trees/treefacts/>), Canada's Greenhouse Gas Emissions Inventory (<https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/greenhouse-gas-emissions.html>), author's calculations

3 https://www.climatewatchdata.org/ghg-emissions?end_year=2018&start_year=1990

4 <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/greenhouse-gas-emissions.html>

5 https://www.auditor.on.ca/en/content/annualreports/arreports/en19/2019AR_v2_en_web.pdf





that means targeting the two sectors that together combine for more than half of the province's carbon emissions – transportation and buildings.

Major emissions reductions can be found just by focusing on transitioning these fossil fuel dependent sectors to clean electric power.

SOLUTIONS FOR THE PLANET

If Ontario and Canada are to achieve net-zero emissions by 2050, we need to electrify our economy and harness the carbon-free hydroelectric, nuclear, and renewable power that has made our electricity grid one of the cleanest in the world. That means rapidly electrifying transportation, switching from natural gas to ground and air source heat pumps and ensuring that we meet

this new demand for electricity with carbon-free sources of power generation. This will require immediate action expanding our clean electricity supply, investing in transmission capacity to get clean energy where it is needed, and upgrading our local distribution networks to handle the coming surge in electricity needs. Global net-zero emissions are achievable, and Canada's role is clear, but we must act now. As the IPCC models show, Earth is running out of time and Mother Nature is running out of patience. ■





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thesociety.ca
society@thesociety.ca

  @thesocietysays

416-979-2709
2239 Yonge St.,
Toronto, ON
M4S 2B5

