

Climate Policy Leadership in Ontario

The Pembina Institute's recommendations to future leaders

Carolyn Kim, Cedric Smith, Saeed Kaddoura, Betsy Agar and Kendall Anderson
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For voters and candidates alike, elections are an opportunity to discuss issues that are existential to the province, such as climate change.

Ontario's electoral candidates have many options for policy change and incentives to pursue as they build their party platforms and consider how they will lead Ontario for the next four years. The Pembina Institute's hope is to add policies that decrease GHGs emissions caused by transportation, buildings and electricity generation to all party platforms.

Below are a number of recommendations for consideration, each of which will move Ontario one step further towards a vital energy transition that will help meet Canada's climate goals and stave off the worst effects of climate change.

The coming world-wide energy transition will be a job generator, with International Energy Agency estimating 14 million new energy jobs and 16 million new jobs in energy efficiency worldwide.¹ With the right policies and incentives, Ontario's workforce is poised to reap the benefits and show that Ontario is a leading jurisdiction when it comes to climate change.

Context

- Ontario accounts for 22% of Canada's emissions. It is the second highest emitter in terms of absolute emissions (163 Mt).
- However, given its large population, it has the second lowest per capita emissions in Canada (11.2 tonnes per person).
- The largest source of emissions in Ontario is transportation (36%), followed by buildings (24%) and heavy industry (17%). Since 2005, transportation and buildings emissions

¹ International Energy Agency, *Net Zero by 2050: A Roadmap for the Global Energy Sector* (2021), Summary for Policy Makers, 8. <https://www.iea.org/reports/net-zero-by-2050>.

increased by 3% and 8% respectively, while emissions from heavy industry decreased by 20%.²

- Ontario is already doing some things well: electricity generation is currently one of the cleanest in the country, though we need to avoid rolling back those gains.
- But on GHGs produced through transportation and buildings, we have a long way to go:
 - Ontario has a low rate of zero-emission vehicle (ZEV) uptake — less than 2% of cars sold in Ontario are fully electric.³
 - The majority of space and water heating in Ontario buildings still comes from fossil-fuel based systems.

Creating a climate plan

Overall, party platforms should set out an immediate, sustained and coordinated decarbonization strategy that involves ministries responsible for transportation, housing, economic development, energy, natural resources, and environment as well as labour, training, and skills development, as well as other orders of government. This will provide policy coordination, alignment and clarity on net-zero pathways so that government, businesses and individuals understand what needs to happen.

Ontario needs a robust, measurable climate plan with five-year sectoral targets to achieve deep and early emissions reductions in line with Canada's 2030 and 2050 targets, anchored in science and respecting a carbon budget to limit warming to 1.5 degrees Celsius. Ontario's governing party should:

- Commit to reducing emissions by 40-45% from 2005 levels by 2030.
- Commit to net-zero emissions by 2050 with rigorous sectoral pathways to reach this goal.
- Work with other governments, including federal, fellow provinces, local governments, First Nations, Métis, Inuit peoples, as well as the United States.
- Focus on the highest-emitting sectors first: transportation, buildings, and industry.
- Show that taking action on climate goes hand-in-hand with supporting economic growth and prosperity for Ontarians and businesses. Support policies that create decent work, quality jobs and an equitable future for all workers and communities.

² Nichole Dusyk et al., *All Hands on Deck: An assessment of provincial, territorial and federal readiness to deliver a safe climate* (Pembina Institute, 2021). www.pembina.org/pub/all-hands-on-deck

³ Cedric Smith, Saeed Kaddoura and Morigan Simpson-Marran, *Taking Charge: How Ontario can create jobs and benefits in the electric vehicle economy* (Pembina Institute, 2021), 15. <https://www.pembina.org/pub/taking-charge>

- Uphold the rights and sovereignty of Indigenous peoples by legislating UNDRIP.⁴
- Institute policies and incentives that avoid placing an unfair burden on those who can least afford it.

Ensuring accountability

Accountability and transparency are also critical in implementing robust policies. Ontario's governing party should:

- Allow for Ontario's progress on climate action to be independently verified and reported on publicly by the Auditor General.
- Mandate the disclosure of material environmental, social and governance (ESG) information by public companies, in particular climate-related disclosures in line with the Task Force on Climate Related Financial Disclosures recommendations. Phase in requirements over time, potentially with the use of a comply-or-explain model, with flexibility for resource-constrained small- and medium- sized enterprises.
- Represent environmental benefits and grid stabilization benefits appropriately in cost-benefit analyses by the Independent Electricity System Operator (IESO) in long-term scenarios.
- Establish best practices for energy and just transition policies that enable the creation of equitable and decent work.

Decreasing carbon pollution in how we live: Transportation and buildings

Electrifying homes, buildings and transportation can make significant strides to reaching Ontario's 2030 climate target. While changing fuel sources is vital, so is finding ways to make how we live more efficient and less energy intensive. Ontarians also need to engage in additional measures to reduce overall energy use.

Transportation

Even though a recent study said that 80% of Canadians are open to owning an electric vehicle⁵ and Ontario is the largest automotive sector in Canada, Ontario is not doing well in terms of electric vehicle adoption — less than 2% of new cars sold each year are EVs.⁶ Ontario needs a

⁴ United Nations, *United Nations Declaration on the Rights of Indigenous Peoples* (2007).

https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf

⁵ Clean Energy Canada, "Poll: Almost 80% of Canadians open to owning an electric vehicle," media release, March 4, 2022. <https://cleanenergycanada.org/poll-almost-80-of-canadians-open-to-owning-an-electric-vehicle/>

⁶ *Taking Charge*, 15.

revenue-neutral policy intervention that signals a long-term change is on its way — offering a clear, transparent and consistent signal for businesses to confidently invest in electric vehicle manufacture and purchase, especially for the most polluting vehicles on the road such as passenger buses and freight trucks. Further investments in various forms of charging infrastructure will be needed to decrease range anxiety and increase confidence in electric vehicle use.

Encourage alternatives

- Make it easier to get around without a car by improving access to active transportation, through building bike lanes and walkable cities.
- Invest in public transit, including on-demand transit within and between urban and rural and remote communities.
- Capitalize on transit infrastructure and support transit ridership by concentrating residential and commercial development around mobility hubs and transit corridors.

Set clear regulatory signals

- Adopt a mandatory ZEV sales requirement for personal vehicles by 2030.
- Establish a medium/heavy-duty ZEV sales target of at least 100% by 2040, at the latest.

Lead by example

- Commit to electrifying publicly owned fleets, especially public transit and school buses.
- Work with school boards and the federal government to electrify school buses.
- Work with the federal government and private capital to support green infrastructure investments.

Offer incentives

- Introduce a time-limited financial incentive program to reduce the difference in purchase price between EVs and comparable internal combustion engine vehicles and support the purchase of private EV chargers for homes, workplaces, and fleets. Priority should be given to increase EV accessibility to lower-income households and small- and medium-sized enterprises.
- Extend incentives to used EVs.
- Maintain the existing Green Plate program for access to HOV and HOT lanes, parking bylaw, incentives and more, which give preferential treatment to zero-emission vehicles — and on the flip side, put restrictions on high-polluting vehicles.
- Mobilize private capital by issuing a green bond to finance infrastructure for electric vehicles.

- Fund these incentives through a revenue-neutral system where the most-polluting vehicles fund EV incentives for new vehicles.

Support charging infrastructure

- Continue to invest in public charging stations, including Level 2 chargers and DC fast chargers.
- Require charging infrastructure in new multi-unit residential buildings.
- Fund charging infrastructure incentive programs to directly target freight vehicles, with flexibility for private, single-use access, and to ensure coverage of higher-powered stations.
- Work with regulators and utilities to ensure transmission and grid capacity exists to serve return-to-base operations that will be common in freight and transit use.

Build EVs in Ontario for Ontarians

- Invest in auto sector growth and ZEV supply chain, including battery recycling.
- Invest in R&D as well as production of alternative fuels for medium and heavy-duty fleets.
- Ensure government procurement for public infrastructure prioritizes lower-carbon materials, fuels, and processes, thereby creating new markets, supporting jobs, and stimulating demand for these products.⁷

Buildings

Ontario needs to eliminate carbon pollution from homes and buildings by phasing out inefficient space- and water-heating systems that burn fossil fuels, and switching to heating that uses low-carbon energy systems. Switching to clean electricity (from wind, solar, and hydro) is the most scalable and market-ready way to provide low-carbon heating to buildings.

Combined with deep retrofits, low-carbon energy systems like heat pumps can improve air quality and thermal comfort, and increase occupant health and safety during extreme weather and health events, which disproportionately impact vulnerable populations such as a seniors and people living with chronic illnesses.⁸

⁷ Blue Green Canada, *Buy Clean: How public construction dollars can create jobs and cut pollution* (2021). Available at <https://www.pembina.org/pub/buy-clean-how-public-construction-dollars-can-create-jobs-and-cut-pollution>

⁸ Madi Kennedy and Tom-Pierre Frappé-Sénéclauze, *Canada's renovation wave: A plan for jobs and climate* (Pembina Institute, 2021). <https://www.pembina.org/pub/canadas-renovation-wave>

To eliminate carbon pollution emitted from Ontario’s homes and buildings by 2050, we need to ramp up deep retrofits and fuel-switching to a rate of 4–6% of the existing building stock per year, starting immediately.

Ontario has an opportunity to invest in jobs by way of investing in home and building retrofits. The economic returns from investing in envelope upgrades (e.g., with high-performance windows, air-sealing, and adding insulation) and switching to low-carbon energy systems (e.g., with cold climate heat pumps) could result in more than 76,000 well-paying, long-term jobs per year, distributed in communities throughout the province, as well as a growth of \$18.4 billion in GDP per year.⁹

Set targets with teeth

- Work with federal government to develop carbon reduction targets for the building sector for 2030, 2040, and 2050.
- Set carbon targets and regulate them by adopting the latest National Building Codes, including the Retrofit Code that is due to be released in 2024.
- Develop a step code such as the [Toronto Green Standard](#) that clearly signals the long-term provincial building code direction and allows the industry’s manufacturers, suppliers and contractors to prepare for more rigorous energy and carbon performance targets.
- Adopt provincial heating equipment standards requiring greater than 100% efficiency and cap allowable carbon emissions from heating systems, such as through performance-based building codes.

Build right the first time and retrofit

Work with the federal government on the National Net-Zero Emissions Building Strategy by helping to:

- Mobilize knowledge and increase uptake of retrofit programs through impactful engagement such as concierge services provided through the Ontario Energy Rebates website and partnering with local government and on-the-ground NGO partners.
- Maximize impact of commitments by coordinating and aligning with utility and federal and local government incentives and programs.
- Mandate collection of home performance data by requiring EnerGuide home labeling audits and disclosure at trigger points such as point of sale or lease.
- Match funding and improve the effectiveness of the Greener Homes Grant program by rewarding deeper energy and carbon reduction targets with higher grant amounts.

⁹ *Canada’s Renovation Wave*, 18.

- Mandate energy and carbon benchmarking and disclosure for Part 3 buildings and work with the real estate and investment sectors, utilities and local governments to chart a data-informed path to reaching net zero buildings through reward and cost mechanisms, such as tax holidays, PACE financing, tax riders and/or fines.
- Co-finance with the federal government deep retrofits of public, commercial, and institutional buildings with a focus on vulnerable occupants and energy and carbon-intensive buildings such as schools, hospitals, and social housing.
- Invest in upskilling and education of trades and builders so they can both help homeowners and businesses make the best decisions and deliver high quality solutions.
- Track and share program outcomes, e.g., through net-metering, so the industry can continuously improve.

Phase out reliance on fossil fuels

Avoid vulnerability to oil and gas price volatility by decreasing reliance on oil and natural gas for space and water heating:

- Coordinate with utility demand-side management programs to avoid fossil fuel lock-in by:
 - Stipulating rebate and incentive programs support only deep retrofit measures and low-carbon energy systems for space heating and cooling and domestic hot water, such as heat pumps.
 - Requiring all new and replacement space and water heating systems perform at efficiencies of at least 100% by 2025.
 - Supporting smart integration of on-site renewable generation for new homes and deep retrofits to help utilities meet their demand-side management objectives while protecting the safety, integrity, and reliability of grid electricity.
- Eliminate requirements for new buildings to have natural gas hook ups and make sure buildings have access to sufficient electrical capacity and can be smart-grid integrated.
- Align with transportation strategies by amending the Ontario Building Code to require 100% of parking spaces in new residential buildings be EV-ready.
- Reward home and building owners for fuel-switching with discounted electricity pricing.

Electricity

Current projections indicate a continual increase in GHG emissions from electricity generation if we continue on the current electricity generation pathway.¹⁰ Ontario's grid is mostly decarbonized, but as we electrify transportation and buildings, we will need to invest in more non-emitting sources to meet Ontario's mounting needs without raising GHG emissions, while also optimizing our energy use by adopting energy efficiency tactics. Ontario needs to invest in renewables, especially wind and solar which are the lowest cost for energy, as well as storage to address concerns around reliability and energy security.

Set targets and standards

- Commit to fully decarbonizing Ontario's electricity grid by 2035, in association with the federal government and to match international targets, such as those set by Germany, U.K., and U.S., and as indicated by the International Energy Agency.
- Eliminate Ontario's use of natural gas-fired electricity by executing a moratorium on new unabated gas-fired power plants, and establishing a realistic timeline to phase out remaining gas plants.
- Produce regular long-term energy plans, including energy efficiency programs and gas phase-out. This will provide policy clarity to businesses working in Ontario's energy sector.
- Work with the federal government to institute a clean electricity standard for Ontario that mandates a net-zero grid by 2035.
- Support regulatory reform for rate structure initiatives to enable greater demand side management, electrification, and utility innovation, such as the ultra-low overnight electricity rate.

Invest in Ontario

- Diversify energy production and use. Consider renewables, storage, low-carbon hydrogen and more.
- Scale up energy storage pilots, such as battery electric, pumped hydro, and green hydrogen storage.
- Incentivize energy demand management by providing customers with programs that offer expanded choices for managing their energy use and improving their energy efficiency.

¹⁰ IESO, *2021 Annual Planning Outlook*, 74. <https://www.ieso.ca/en/Sector-Participants/Planning-and-Forecasting/Annual-Planning-Outlook>

- Work with the federal government and neighbouring provinces and states on interprovincial transmission.
- Institute a mechanism that drives bilateral agreements to attract private capital to renewable energy development.¹¹

Involve businesses and utilities

- Encourage the [corporate procurement of renewables](#) by enabling physical and virtual Power Purchase Agreements (PPAs).
- Establish mandates for utilities so they can offer [green pricing programs](#).
- Incorporate environmental performance into utilities' mandates and business models.
- Quantify environmental performance and grid stabilization services as economic benefits in IESO's long-term planning.
- Instruct the Ontario Energy Board to allow utilities to monetize environmental programs and services.

Other reading

- [How to Get Net Zero Right: Principles, tools and steps for safe, inclusive net-zero pathways](#) (March 2021)
- [All Hands on Deck: An assessment of provincial, territorial and federal readiness to deliver a safe climate](#) (July 2021)
- [Sustainable finance for a safe climate: Perspectives on mobilizing capital for a swift, resilient recovery](#) (March 2021)
- [Energy Policy Leadership in Alberta](#) (March 2019)
- [Taking Charge: How Ontario can create jobs and benefits in the electric vehicle economy](#) (August 2021)
- [Buy Clean: How public construction dollars can create jobs and cut pollution: Recommendations for Canada to align its infrastructure and climate priorities](#) (February 2021)
- [Green stimulus in Canada's building sector](#) (April 2020)
- [Canada's Renovation Wave: A plan for jobs and climate](#) (July 2021)
- [Make Way for Mid-Rise](#) (April 2015)
- [Connecting provinces for clean electricity grids: Regional collaboration to unlock the power of hydro, wind and solar to decarbonize Canada's economy](#) (September 2021)

¹¹ Jan Gorski, Binu Jeyakumar, and Spencer Williams, *Connecting provinces for clean electricity grids: Regional collaboration to unlock the power of hydro, wind and solar to decarbonize Canada's economy* (Pembina Institute, 2021). <https://www.pembina.org/pub/connecting-provinces-clean-electricity-grids>

- [Progress from Coal to Clean: Comparing Canadian electric utilities' approaches to energy transition](#) (December 2021)
- [From Coal to Clean: Canada's progress toward phasing out coal power](#) (October 2021)
- [Towards a Clean Atlantic grid: Clean energy technologies for reliable, affordable electricity generation in New Brunswick and Nova Scotia](#) (January 2022)

About the Pembina Institute

The Pembina Institute is a national non-partisan think tank and charity that advocates for strong, effective policies to support Canada's clean energy transition. We employ multi-faceted and highly collaborative approaches to change. Producing credible, evidence-based research and analysis, we consult directly with organizations to design and implement clean energy solutions, and convene diverse sets of stakeholders to identify and move toward common solutions.

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