Working Paper for *Ontario Since Confederation*

Ontario and a Changing Climate

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1. Introduction: Climate change as a public policy issue

Climate change has been described as "perhaps the most profound challenge ever to have confronted human social, political, and economic systems… as the stakes are massive, the risks and politics bitter and complicated, the psychology puzzling, the impacts devastating, the interactions with other environmental and non-environmental issues running in many directions".[1]

The physical basis of the climate change problem is well understood. Solar radiation penetrates the Earth's atmosphere easily, but the thermal radiation that emits upwards from the earth does not. Certain gases, known as greenhouse gases (GHGs), including carbon dioxide, methane and Nitrous oxide, when present in the atmosphere, are extremely effective at absorbing this thermal infrared radiation, which contributes to the warming of the atmosphere.[2] Increased concentrations of greenhouse gases in the atmosphere reinforces the absorption and re-emission of infrared radiation to the earth, resulting in rising atmospheric temperatures.[3]

Although the potential for increased emissions of GHGs caused by human activities, such as burning fossil fuels, had been understood for some time, the defining event in modern climate change science occurred in Toronto, Ontario, at the 1988 "World Conference on the Changing Atmosphere.'" The conference led to the creation of the United Nations Environment Program (UNEP) sponsored Intergovernmental Panel on Climate Change (IPCC).[4] The IPCC was to coordinate global scientific efforts to understand the emerging problem of climate change. The IPCC's most recent (2014) assessment report concluded that:

> "Anthropogenic greenhouse gas emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. This has led to atmospheric concentrations of carbon dioxide, methane and nitrous oxide that are unprecedented in at least the last 800,000 years. Their effects, together with those of other anthropogenic drivers, have been detected throughout the climate system and are extremely

[1] J. Dryzek,, R. Norgaaed, and David Schlosberg. "Climate Change and Society: Approaches and Responses." In *The Oxford Handbook of Climate Change and Society,* eds. J. Dryzek, R. Norgaard, and D. Scholsberg. (Oxford: Oxford University Press, 2011), 3.
[2] Robert Ristinen and Jack Kraushaar. *Energy and the Environment*. (John Wiley & Sons, Inc., 2006), 332.
[3] Charles Pearson. *Economics and the Challenge of Global Warming*. (Cambridge, UK: Cambridge University Press, 2011).
[4] Libby Robin, Sverker Sorlin, and Paul Warde, eds. *The Future of Nature: Documents of Global Change.* (New Haven: Yale University Press, 2013).

likely to have been the dominant cause of the observed warming since the mid-20th century."[5]

"…warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen."[6]

Without any effective efforts to reduce GHG emissions, it has been estimated that greenhouse gas concentrations could rise from their current levels of 400 PPM CO2e to 700-900ppm CO2e by the end of the century and continue to rise after, potentially producing up to 5 degrees Celsius warming by the end of the century.[7] Even under scenarios of 2 – 3 degrees warming, the social, economic and environmental impacts of climate change are projected to be significant, including:[8]

- Melting glaciers increasing flood risk during wet seasons and reduce dry season water supplies to one-sixth of the global population;
- Declining crop yields leaving millions unable to produce a sufficient amount of food;
- Ocean acidification, having adverse impacts on marine ecosystems and fish stocks;
- Rising sea levels leading to tens to hundreds of millions of people in coastal areas flooded every year;
- increases in deaths due to vector-borne diseases, malnutrition and heat stress;
- Climate refugees becoming a significant issue with 200 million or more people being permanently displaced by mid-century;
- Ecosystems globally continuing to be threatened, with estimates as high as 40 per cent of all species becoming extinct.

There are also concerns about the potential for the processes of climate change to destabilize the global atmosphere in unpredictable ways.

In order to prevent what it has termed "dangerous" climate change (i.e., >2^{o}C average temperature increases), CO_2 emissions are projected to need to decline by about 25 per cent by 2030 relative to 2010 levels and reach net zero around 2070.[9] The most recent IPCC reports have emphasized that limiting warming to 1.5 degrees C may be necessary to prevent catastrophic impacts.[10] To achieve that goal, anthropogenic CO_2 emissions would need to decline by about 45 per cent from 2010 levels by 2030 and achieve net-zero around 2050.[11] Given that fossil fuels

[5] Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2014 Synthesis Report: Summary for Policymakers*, (Geneva: IPCC, 2014), https://archive.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf.
[6] IPCC, *2014 Assessment Report: Summary for Policy Makers*, 1.1.
[7] IPCC, *2014* Assessment Report, *Summary for Policy Makers,* 2.2.
[8] N. Stern, *The Economics of Climate Change* (Cambridge: Cambridge University Press, 2006), 65.
[9] IPCC, *Global Warming of 1.5^{0}C: Summary for Policy Makers* (Geneva: IPCC, 2018), ch.1., https://www.ipcc.ch/sr15/.
[10] IPCC, *Global Warming of 1.5^{0}C, SPM.*
[11] IPCC, *Global Warming of 1.5^{0}C, SPM,* C.1.

currently provide more than eighty per cent of the world's primary energy, the achievement of such reductions will require major structural shifts in global patterns of energy use.[12]

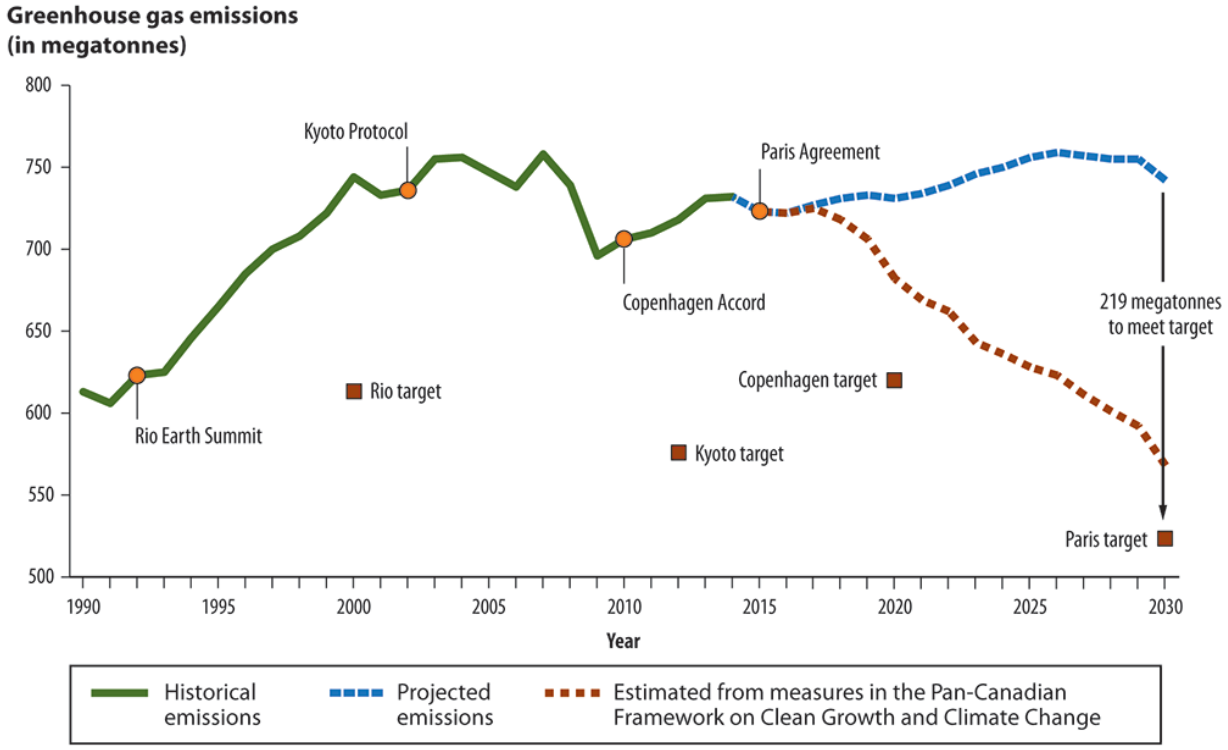
The emerging scientific consensus around climate change has prompted a series of global agreements intended to address the problem in which Canada has been a central, if not always constructive,[13] participant. The 1992 United Nations Framework Convention on Climate Change established a goal of stabilizing emissions 1990 levels by the year 2000. Under the succeeding 1997 Kyoto Protocol, the Canadian federal government committed to a 6 per cent reduction in emissions relative to 1990 by the protocol's first (2008-2012) commitment period. The arrival of the Obama administration in the United States, and re-engagement of the US in global climate negotiations, led to the 2009 Copenhagen accords. Under the Copenhagen accords Canada abandoned its Kyoto commitments, and instead choose to move in lockstep with the US, adopting a new reduction target of a 17 per cent reduction by 2020 relative to 2005, a substantial retreat from the Kyoto targets.[14]

Under the most recent international accord, the 2015 Paris agreement, Canada committed to a 30 per cent reduction in its emissions, relative to 2005, by 2030. The IPCC and others have highlighted the point that none of the international agreements have been effective in actually reducing GHG emissions.[15] Also, the cumulative impact of the individual country commitments made under the Paris Agreement still falls well short of what is required to meet the agreement's goal of limiting global warming to less than 2^0 C.[16]

As shown in **Figure 1**, Canada, for its part, has made some marginal progress in reducing its GHG emissions, although the reductions have fallen far short of Canada's international commitments. Such gains have primarily been the result of changing economic conditions and restructuring rather than, with one notable exception in Ontario, the impact of any specific policy intervention by Canadian governments.

[12] Stern, *Economics of Climate Change.*
[13] M. Winfield and V. Scanga, "International Climate Change Policy in the Harper Era," in *Canadian Foreign Policy in the Harper Era*, ed. P. McKenna (Toronto: University of Toronto Press) In Press.
[14] Winfield, M., and D. Macdonald, "Federalism and Canadian Climate Change Policy" in *Canadian Federalism: Performance, Effectiveness and Legitimacy* 3rd edition, eds. G. Skogstad and H. Bakvis (Toronto: Oxford University Press, 2012).
[15] C. Kaiser, "State Steering in Polycentric Governance Systems: Climate Policy Integration in Ontario and California's Transportation Sectors" (PhD diss., York University, 2020), ch. 3.
[16] See for example, Vandyck, Toon, Kimon Keramidas, Bert Saveyn, Alban Kitous, and Zoi Vrontisi. "A global stocktake of the Paris pledges: implications for energy systems and economy." *Global Environmental Change* 41 (2016): 46-63. 10.1016/j.gloenvcha.2016.08.006.

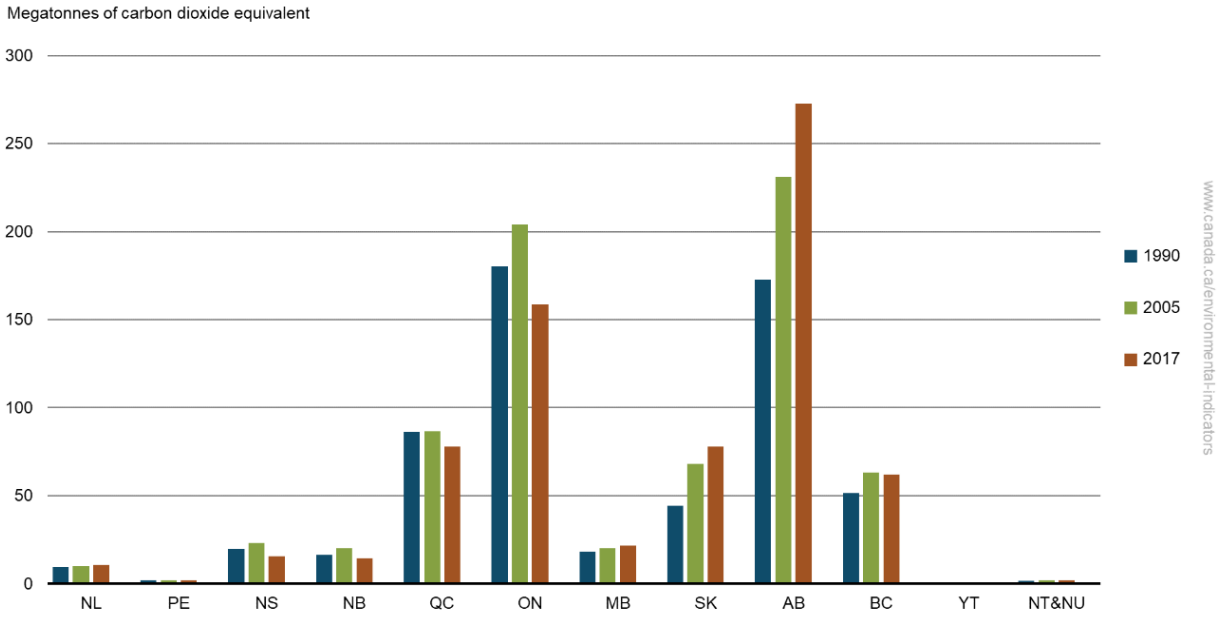
Figure 1: Greenhouse Gas Emissions and International Commitment.[17]



As shown in **Figure 2**, Ontario now holds second place in Canada, after Alberta, among the provinces in terms of total GHG emissions. The province saw a substantial drop in its emissions between 2005 and 2017, due to a combination of the phase-out of coal-fired electricity generation, and restructuring within the manufacturing sector.

[17] Commissioner for the Environment and Sustainable Development, *Report 1-Progress on Reducing Greenhouse Gases-Environment and Climate Change Canada*, (Ottawa: Supply and Services Canada, 2017), www.oag-bvg.gc.ca/internet/English/parl_cesd_201710_01_e_42489.html.

Figure 2: GHG Emissions by Province 1990-2017.[18]



Climate change Impacts in Ontario

The potential impacts of climate change at a regional level within Canada have been understood through modelling, with increasing levels of detail since the mid-1990s. A defining feature of the past decade has been growing recognition in Ontario, and elsewhere, that these impacts have moved from the realm of theory to that of lived experience.[19]

The most visible manifestations of the impacts of climate change in Ontario have been in the form of extreme weather events, reflecting an increasingly unstable climate. Examples have included ice storms, like that experienced in Toronto in 2013, and intense precipitation events resulting in flooding, such as that seen in the Muskoka and Ottawa River watersheds in the spring of 2019.[20] Among other things, these events have led to significant damage to infrastructure designed to withstand the most significant storm events experienced over the previous century (the 100-year standard) but which now are confronted with weather events beyond that design

[18] Environment and Climate Change Canada (ECCC), "Greenhouse gas emissions," https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/greenhouse-gas-emissions.html

[19] Environmental Commissioner of Ontario (ECO), *2015 Climate Change Progress Report* (Toronto: ECO, 2015), http://docs.assets.eco.on.ca/reports/climate-change/2015/2015-GHG.pdf.

[20] M. Rabson, "Ford links floods to climate change, says situation 'just rips your heart out'" *The Canadian Press*, April 26, 2019, https://www.ctvnews.ca/canada/ford-links-floods-to-climate-change-says-situation-just-rips-your-heart-out-1.4396432.

envelope. In the longer-term, deterioration of infrastructure is being accelerated due to unanticipated weather stresses.

In addition, there are potentially synergistic relationships between climate change impacts and air quality issues, leading to smog and heat episodes of increased frequency and intensity. Business as usual projections for southern Ontario, for example, indicate a future of summers defined by 30-40 "oppressive" (i.e., high heat, humidity and smog) days, with significant adverse impacts on human health, especially to vulnerable populations.[21] Additional public health concerns are emerging as a result of the expanded range for disease vectors traditionally limited by cold winters, leading to the increasing occurrence of illnesses not normally seen in Ontario, such as West Nile Virus, Hantavirus, and Lyme disease. [22]

Agriculture is seen to be at increased risk due to drought, pests, disease and climate variability.[23] Wildlife and fish will be placed at risk due to habitat loss, heat stress, increased presence of invasive species whose range was limited by colder winters. There will be intensified risks from insect pests and wildfires to forests.[24]

Even with increases in annual average precipitation, increased evaporation and evapotranspiration due to higher temperatures may lead to overall lower water levels. These may interfere with navigation and shipping, and hydro-electricity generation. In the far north, shorter and warmer winters may degrade winter ice road networks vital to remote northern communities.[25]

Climate Change Policy in Ontario

As shown in **Figure 3**, Ontario's GHG emissions are relatively concentrated in a few specific sectors. The key sources of emissions include fossil fuel use for road transportation, residential, commercial and institutional building space and water heating, and manufacturing and resource processing.

[21] ECO, *Facing Climate Change: 2016 Greenhouse Gas Progress Report* (Toronto: ECO 2016), 29, http://docs.assets.eco.on.ca/reports/climate-change/2016/2016-Annual-GHG-Report-EN.pdf
[22] ECO, *2016 Greenhouse Gas Progress Report*, 30.
[23] ECO, *Feeling the Heat: 2015 Greenhouse Gas Progress Report*, (Toronto: ECO 2015), 5, http://docs.assets.eco.on.ca/reports/climate-change/2015/2015-GHG.pdf
[24] ECO, *Facing Climate Change*, 30.
[25] ECO, *Feeling the Heat*, 6.

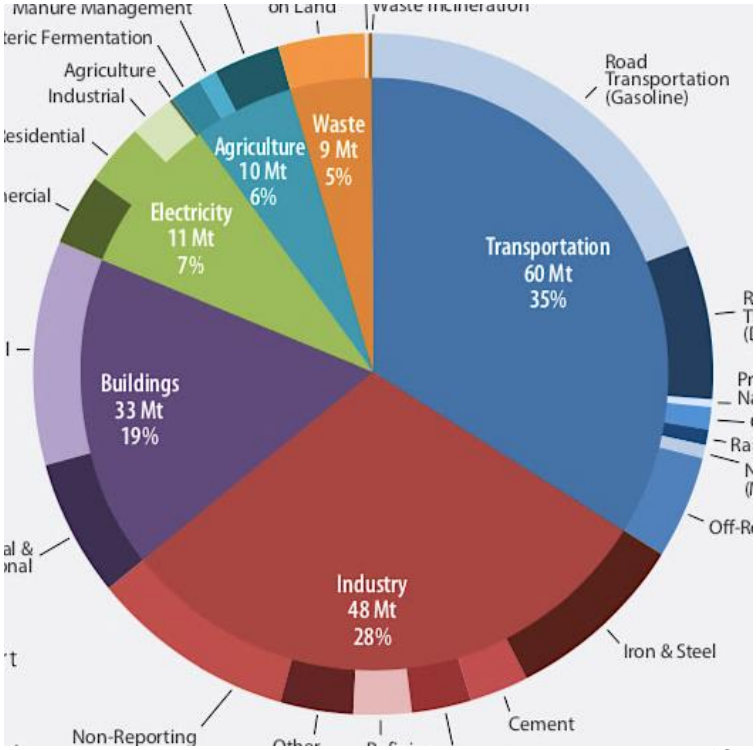


Figure 3. Ontario GHG Emissions in 2013 by sector.[26]

The province's emission profile does give it some potential advantages in responding to the challenge of climate change relative to other Canadian provinces. Although some oil and gas production continues to take place in southwestern Ontario, the province is not a major fossil fuel producer. Rather, it relies on imported fossil fuels, principally oil and natural gas from western Canada, for transportation and space and water heating, industrial uses, and some electricity generation.

As a result, addressing climate change by reducing GHG emissions through reductions in fossil fuel use is not perceived as an inherent threat to the province's existing economic structure in the same sense it is for the major fossil fuel producing and exporting provinces like Alberta and Saskatchewan.[27] In fact, reductions in imported fossil fuel use through efficiency gains, changes in transportation patterns and modes (e.g., transit and active transportation vs. automobiles) and fuel switching could be economically advantageous to the province. The situation potentially positions Ontario in its somewhat traditional moderating role in Confederation between the "carbon" provinces like Alberta and Saskatchewan, whose economies are heavily dependent on

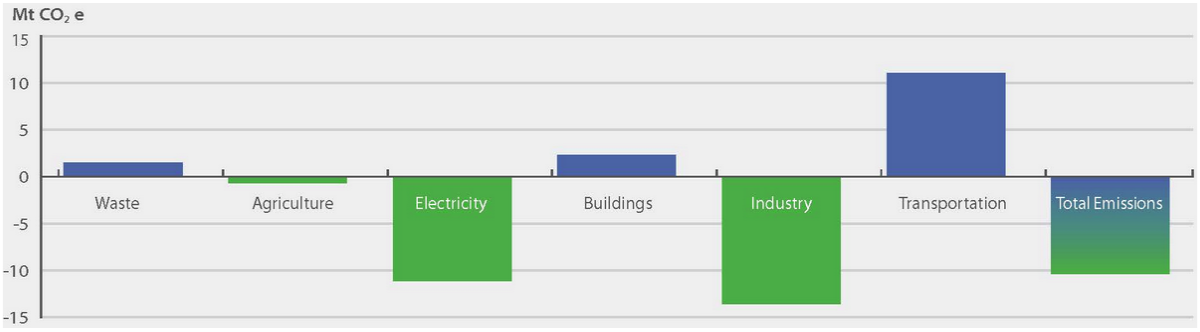
[26] ECCC, *National Inventory Report 1990-2014: Greenhouse Gas Sources and Sinks in Canada*, Part 3, Table A11-12, (2016), 55, cited in ECO, *Facing Climate Change*, Figure 2.
[27] ECCC, "Greenhouse Gas Emissions: Regional and Economic Sectors," Accessed March 31, 2020, https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/greenhouse-gas-emissions.html.

carbon-intensive fossil fuel extraction and export, and lower-carbon provinces, like BC, Manitoba, and Quebec, with substantial hydroelectric resources.[28]

Climate change emerged as a significant public policy issue in the mid-to-late 1990s. Major public health concerns came to the forefront regarding air quality (i.e., smog) issues in southern Ontario at the same time. There were, and continue to be, significant overlaps in the major sources of smog and GHG emissions in the province. These include automobile-based passenger transportation flowing from sprawling low-density urban development patterns in the Greater Toronto Area (GTA), fossil fuel (coal and natural gas) fired electricity generation, industrial activities and natural gas use for building space and water heating. The situation carried with it the implication of potentially significant mutually reinforcing benefits in the province's responses to both climate change and smog problems.

In Alberta and Saskatchewan growth in GHG emissions has been strongly concentrated in the industrial, and more specifically, oil and gas sectors. In contrast, economic restructuring in Ontario, principally in the form of a shift from manufacturing to information and service-based activities,[29] has meant that industrial GHG emissions outside of electricity generation have declined significantly (~25 per cent relative to 1990) without significant environmental or climate change policy interventions. As shown in Figure 4, growth in GHG emissions has instead been focused in the areas of passenger and freight transportation, and residential and commercial buildings.

Figure 4 Long-Term Changes in Ontario Emissions by Sector, 1990 to 2012[30]



[28] See generally. D. Macdonald, *Carbon Province, Hydro Province: The Challenge of Canadian Energy and Climate Change Federalism* (Toronto: University of Toronto Press, 2020).
[29] Ontario Ministry of Finance, *Ontario's Long-Term Report On The Economy*. (Toronto: Queen's Printer, 2017), http://www.fin.gov.on.ca/en/economy/ltr/2017/ltr2017.pdf.
[30] Ontario Ministry of Environment and Climate Change, *Ontario's Climate Change Update* 2014 (Toronto: Queen's Printer, 2014), https://www.ontario.ca/page/ontarios-climate-change-update-2014.

2. The Evolution of Climate Change Policy in Ontario

Beginnings: Rio, Peterson and Rae.

The first serious consideration of the implications of climate change for Ontario came from the September 1992 report of the Ontario Round Table on the Environment and the Economy. The Peterson government had established the multi-stakeholder Round Table in 1988 as part of Canada's overall response to the 1987 recommendations of the World Commission on Environment Development (a.k.a. The Bruntland Commission). The commission had introduced the concept of sustainable development, seeking the integration of environmental and economic decision-making.[31]

The Round Table had been asked by the incoming NDP government, elected in 1990 and led by Bob Rae, to address, for the first time, the issue of global climate change in the Ontario context. Reflecting a federal-provincial consensus at the time, Canada committed to the stabilization of its greenhouse gas (GHG) emissions at 1990 levels by 2000 through the United Nations Framework Convention on Climate Change, which was adopted at the 1992 Rio Conference. The Ontario Round Table recommended that in addition to the stabilization target, the province reduce its emissions by 20 percent by 2005 and by between 70 and 80 percent by 2030. Specific recommendations included requiring the Ontario Energy Board to adopt a "least-cost" planning approach and giving the Board authority over electricity rates, incentives to promote renewable energy, biennial upgrading of energy-efficiency standards, increasing public transit ridership, improving vehicle fuel efficiency, methane collection at large landfills, and implementation of market-based approaches to reduce emissions of carbon dioxide and other GHGs.[32]

In April 1994, the Minister of Environment and Energy formally committed Ontario to the goal of the stabilization of the province's GHG emissions by 2000, with a longer-term target of a 20 percent reduction.[33] Two months later, the Legislative Assembly endorsed a commitment to reduce Canada's GHG emissions by 20 percent relative to 1988 by 2005.[34] Ontario implicitly accepted voluntary action by major industrial emitters of GHGs as the primary policy tool for responding to emissions from industrial sources. These reduction efforts would be tracked under the federally sponsored voluntary Climate Registry, which was established under the auspices of the first federal-provincial National Action Program on Climate Change, released in 1995.

No other specific actions were taken on climate change. However, the NDP government did implement major reforms to the land-use planning system, emphasizing more compact and transit-supportive urban development patterns.[35] Those themes would later come to be understood as essential to reducing transportation-related emissions of GHGs and smog precursors.

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[31] M. Winfield, *Blue-Green Province: The Environment and Political Economy of Ontario* (Vancouver: UBC Press 2012), 57.
[32] Ontario Round Table on the Environment and Economy, *Report: Restructuring for Sustainability* (Toronto: ORTEE 2992), xiv-xvi.
[33] Memorandum to members of the externalities collaborative, Ministry of Environment and Energy, April 22, 1994.
[34] *Legislative Debates*, June 9, 1994, 6757, 6772
[35] Winfield, *Blue-Green*, 80-83.

The Lost Decade: Climate Change and the 'Common Sense Revolution' (1995-2003)

While the Rae government saw the first stirrings of action around climate change in Ontario, the potential for more substantive movement came to an abrupt halt with the defeat of the NDP government by Mike Harris' Progressive Conservatives in June 1995. The Harris government was elected based on an avowedly neoliberal 'Common Sense Revolution' platform. The new government embarked on an aggressive agenda of budget cuts and rewriting of the province's environmental and natural resources legislation.

The Rae government's reforms to the land-use planning system to control sprawl and promote transit-supportive urban development were an immediate target. At the same time, the province's transportation policy focus shifted from public transit to a major outwards expansion of the provincial highway network in the GTA. That strategy seemed virtually guaranteed to induce automobile-dependent long-distance commuting patterns and their accompanying emissions of GHGs and smog precursors.

Even more catalytic events followed. In July 1997, an external review raised significant concerns regarding the maintenance and safety of Ontario's nuclear power plants. In response, Ontario Hydro adopted a Nuclear Asset Optimization Plan (NAOP). Under the plan, the seven oldest of the utility's twenty power reactors were taken out of service for repair and overhaul. As part of the plan, Ontario Hydro relied on its coal-fired generating facilities (Lakeview [Mississauga], Nanticoke, Lambton, Thunder Bay, and Atikokan) to replace the power supplies lost through the temporary decommissioning of nuclear units at the Bruce and Pickering facilities. The result, predictably, was major increases in emissions of smog and acid rain precursors, heavy metals, and greenhouse gases from these facilities. Between 1995 and 2001, their greenhouse gas emissions increased by a factor of 2.3, and emissions of the smog and acid rain precursors, sulphur dioxide and nitrogen oxide, had doubled and increased by a factor of 1.7 respectively.[36] By 2001 the five coal-fired generating facilities accounted for approximately 20 per cent of the province's total GHG emissions.[37]

At the national level, the Harris government aligned itself closely with its ideological counterpart, Alberta Premier Ralph Klein's Conservative government, in its opposition to the federal government's efforts to ratify the UNFCCC Kyoto Protocol.[38] There seems to have been little thought to the possibility that Ontario's interests in the formulation of a national climate change policy might be different from those of a province whose economy was grounded in fossil fuel extraction and export.

Ironically the consequences of the Harris government's actions would lay the foundations for the land-use, transportation and energy policies of its successors. The perceptions and, indeed, the reality of out-of-control sprawling, automobile-dependent urban development on high- natural

[36] Winfield, *Blue-Green,* 111-112.
[37] See Melissa Harris, Marisa Beck, Ivetta Gerasimchuk, *The End of Coal: Ontario's coal phase-out* (Winnipeg: International Institute for Sustainable Development, 2015), 12, https://www.iisd.org/library/end-coal-ontarios-coal-phase-out.
[38] Winfield and Macdonald, "Federalism and Canadian Climate Change Policy."

heritage and agricultural value lands around Toronto, had set in motion discussions about transit-supportive, "smart" urban growth in the late stages of the PC government.[39] At the same time, the health impacts of deteriorating air quality flowing from growing automobile traffic and the effects of the NAOP were highlighted with increasing vigour by the Ontario Medical Association and public health officials. As a result, a phase-out of coal-fired electricity generation, a measure that would have major impacts on both air quality and GHG emissions, was a feature (albeit on different timelines) of the platforms of all three major parties in the following 2003 provincial election.[40]

Engaging more seriously: the McGuinty Decade (2003-2013)

A number of issues flowing from decisions made in the early stages of the 'common sense revolution' proved fatal to the PC government that succeeded Harris', led by Premier Ernie Eves.[41] Specifically, the combination of the May 2000 Walkerton drinking water disaster and subsequent judicial inquiry,[42] the collapse of the government's market-oriented approach to the province's electricity system,[43] inability to make progress on the smog issue,[44] and more general image of conflict and chaos in critical sectors, like education and health care, aided in the government's defeat. The October 2003 election resulted in a majority Liberal government, led by Dalton McGuinty.

There had been no mention of climate change per se in the Liberals' 2003 platform. Action on land-use planning, transit, and a commitment to phase-out coal-fired electricity by 2007 did, however, figure prominently.[45] Reflecting a more cooperative intergovernmental approach on the climate file, Ontario signed a bilateral agreement with the federal government in 2004, now led by Liberal Prime Minister Paul Martin, providing financial support for the phase-out of coal-fired electricity.[46]

The most significant environmental initiative of the first stages of the McGuinty government was a series of planning reforms adopted 2005-06 creating a Greenbelt and Growth Plan for the Greater Golden Horseshoe region surrounding Toronto. There was also a broader revision of the province's planning policies. The reforms were primarily motivated by concerns over urban sprawl and traffic congestion. The overall approach, which emphasized more compact development patterns, "complete" mixed-use communities, and facilitating transit and other non-

[39] C. Kaiser, "State Steering in Polycentric Governance Systems."
[40] Winfield, *Blue-Green*, 156-157.
[41] Winfield, *Blue-Green*, 149-151.
[42] See O'Connor, D., *Report of the Walkerton Inquiry: Part I -- the Events of May 2000 and Related Issues* (Toronto: Queen's Printer, 2002).
[43] MacWhirter, R., and M. Winfield, "The Search for Sustainability in Ontario Electricity Policy." in G. Albo and R. MacDermid eds., *Divided Province: Ontario Politics in the Age of Neoliberalism* (Kingston/Montreal: Queens-McGill University Press, 2019).
[44] See for, example, ECO, *2002/2003 Environmental Protection Report Thinking Beyond the Near and Now* (Toronto: ECO 2003).
[45] See Ontario Liberal Party, *Growing Strong Communities* (Toronto: OLP, 2002).
[46] See Ontario Ministry of Finance, *2007 Ontario Budget*, http://www.fin.gov.on.ca

automobile-based transportation options,[47] was consistent with the notion of low-carbon urban forms, and would ultimately be linked to the province's later climate strategies.

The McGuinty government's interest in the climate change file intensified with the arrival of the Conservative minority federal government led by Stephen Harper in January 2006. The new federal government, with its political base in western Canada, had a strong desire to back away from the previous Liberal governments' commitments under the Kyoto Protocol to reduce Canada's GHG emissions by 6 per cent relative to 1990 by the first (2008-12) commitment period under the protocol.[48] Ontario announced its own Go Green climate change plan in June 2007.[49] The plan committed to reducing the province's GHG emissions to 6 per cent below 1990 levels by 2014, 15 per cent by 2020, and 80 per cent by 2050. The centrepiece of the plan was the existing commitment to phase out coal-fired electricity generation[50], then accounting for 25 per cent of the province's electricity supply, supplemented by significant investments in public transit and a cap-and-trade system for other large industrial sources. The plan itself acknowledged that these measures alone would not be sufficient to meet its targets fully.[51]

Ontario also placed itself at the forefront of provincial efforts to work out a common approach to climate change through a succession of Council of the Federation meetings and a January 2008 Premiers' Forum on Climate Change. Instead of increased coordination, these efforts further highlighted the extent of the split over approaches to climate change between Alberta on one side and those, including Quebec, Ontario, Manitoba, and British Columbia, favouring more aggressive action, on the other.[52]

In the meantime, the province sought to build alliances with other subnational governments around climate change. Ontario announced its decision to join British Columbia, Manitoba, and Quebec as a partner in the Western Climate Initiative (WCI). The WCI, which emerged in February 2007, was initially a partnership between the states of California, Arizona, New Mexico, Oregon, and Washington, focused on the development of common GHG emission reduction targets (a 15 percent reduction relative to 2005 levels by 2020) and the creation of a regional cap-and-trade system for GHGs.[53] Ontario also announced its intent to join a second regional initiative, the Regional Greenhouse Gas Initiative, among northeastern states the following month.[54]

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[47] Winfield, *Blue-Green*, 158-163.
[48] D. Macdonald, "The failure of Canadian Climate Change Policy: Veto Power, Absent Leadership, and Institutional Weakness," in eds. VanNijnatten and Boardman, *Canadian Environmental Policy and Politics,* 3rd edition, 152-66.
[49] Ontario Ministry of the Environment, *Go Green -- Ontario's Action Plan on Climate Change* (Toronto: Queen's Printer, 2007).
[50] C. Kaiser, "Decarbonizing Road Transportation in Ontario" (working paper, Joint Clean Climate Transportation Research Partnership, 2018), https://jcctrp.org/wp-content/uploads/2018/11/JCCTRP_Working-Paper-2018-1_Ontario_Nov28_Final.pdf
[51] See ECO, *Finding a Vision for Change: Annual Greenhouse Gas Progress Report 2008/09* (Toronto: December 2009). See also Pembina Institute, *Highlights of Provincial Greenhouse Gas Reduction Plans* (Drayton Valley, AB, August 2009).
[52] K. Howlett, J. Hunter, and I. Bailey, "Four Provinces Unite in Emissions Fight," *Globe and Mail,* January 30, 2008.
[53] www.westernclimateinitaitive.org
[54] Winfield, *Blue-Green*, 173.

Several factors drove the province's participation in these initiatives. There was seen to be a need to create markets large enough for cap-and-trade systems to be viable. Ontario was also concerned about the potential distributional impacts of the Harper government's approach to the climate change issue, which was seen to favour the western oil and gas industry at the expense of manufacturing in eastern Canada.[55] In this context, both Ontario and Quebec saw potential advantages in locking into the WCI system, the most evolved initiative in the United States, and which was likely to have a strong influence on any overall North American GHG emission regime. In addition, with a provincial election looming in the fall of 2007, there were potential political advantages in running against the federal Conservatives' weak record on climate change in a period of high public concern for the environment in general and climate change in particular.[56]

The October 2007 election provided the McGuinty government a second majority government. The Liberal's 2007 platform had committed them to carry through on their climate plan, with a coal phase-out to be completed by 2014. The fall 2008 global financial crisis profoundly disrupted the government's plans. Among other things, the financial collapse triggered a further crisis in the North American automobile manufacturing industry. As a result, the province's economy lost nearly 250,000 jobs between the fall of 2008 and the spring of 2009. The government's response to the situation was two-directional.

On the one hand, picking up on signals from the incoming Obama administration in the United States, the province made strong moves on linking its economic recovery strategy to environmental sustainability, particularly in the form of the 2009 *Green Energy and Green Economy Act* (GEGEA). The act provided, among other things, the authority for a feed-in tariff (FIT) mechanism similar to those employed in Germany, Spain, and Denmark, for low-impact renewable energy sources. FIT mechanisms pay the owners and operators of renewable energy projects a guaranteed fixed price for the electricity produced by their facilities.[57] In addition to supporting the phase-out of coal-fired electricity through the development of renewable energy sources, it was hoped that the FIT program would prompt the development of a renewable energy technology manufacturing and services sector in the province. It was expected that this would help to replace some of the manufacturing jobs lost in the 2008 economic downturn.[58] In contrast to these progressive directions, the province also revived many of the de-regulatory themes of the 'common sense revolution" in an 'Open for Business" strategy.[59]

The *GEGEA*, for its part, prompted major debates over the cost of the FIT program and the approval process created for renewable energy projects through the legislation.[60] Along with several competitive request-for-proposal processes, the legislation did facilitate a substantial increase in renewable energy capacity in the province. From a starting point of virtually zero in

[55] I. Urquhart, "Don't Look to Premiers for Leadership," *Toronto Star,* August 10, 2007.
[56] K. Howlett, "McGuinty Plans to Target Green Vote," *Globe and Mail,* January 1, 2007.
[57] Pembina Institute, *Fact Sheet: How feed-in tariffs maximize the benefits of renewable energy,* (Calgary: The Pembina Institute, N.D.), https://www.pembina.org/reports/feed-in-tariffs-factsheet.pdf
[58] Winfield, M., "Ontario's Green Energy and Green Economy Act as an Industrial Development Strategy" in S. McBride and C. Carla Lipsig-Mummé eds., *Work and the Challenge of Climate Change: Canadian and International Perspectives* (Kingston and Montreal: McGill-Queens University Press, 2015).
[59] Winfield, *Blue-Green*, 180.
[60] M. Winfield and B. Dolter, "Energy, Economic and Environmental Discourses and their Policy Impact: The Case of Ontario's Green Energy and Green Economy Act," *Energy Policy* 68 (May 2014): 423-435, https://doi.org/10.1016/j.enpol.2014.01.039

2005, approximately 4500MW of wind and 450MW of solar PV capacity had been installed by the end of 2018.[61]

The run-up to the October 2011 provincial election was defined by a consistently strong lead in the polls for the Progressive Conservatives. The PC lead was driven in part by unhappiness in rural Ontario over wind energy developments flowing from the *GEGEA*[62] and the source water protection requirements flowing from the implementation of the Walkerton Inquiry's recommendations. However, a host of broader issues, including the introduction of the harmonized sales tax, were also at work.

The Liberals' 2011 election platform had been very thin on new commitments related to the environment, energy, or natural resources. Its principal environmental element had been a vague proposal to expand the GGH Greenbelt, an option recycled from the party's 2007 document, along with the phase-out of coal-fired electricity. The Liberals emerged from the election just short of a majority government (a "major minority" in Premier McGuinty's words).

Electricity issues plagued Premier McGuinty's final term in office. Serious complications arose around the government's cancellation of proposed gas-fired electricity plants in Oakville[63] and Mississauga in the run-up to the 2011 election. The plants had faced very strong local opposition in both communities.[64] It would emerge in the aftermath of the election that the cost of cancellation of the plants, for which contracts had been signed between the province's power authority and the proponents, would approach $600 million.[65]

The legislative opposition's pursuit of the issue, in the context of the minority legislature produced by the October 2011 election, would be central to McGuinty's October 2012 decision to prorogue the legislature and announce his intention to resign.[66] In the face of these difficulties, the province's ongoing weak economic performance, and the withdrawal of any serious threat of federal action on GHG emissions,[67] the government did not move forward with the implementation of the WCI GHG cap and trade system. It had initially been scheduled to be launched in 2012.

The Wynne Climate Change Plan (2013-2018)

Kathleen Wynne succeeded McGuinty as Liberal leader in February 2013. Wynne was generally regarded as the more progressive of the two leading candidates (the other being Sandra Pupatello). Wynne's leadership platform had included several specific environmental components,

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[61] Independent Electricity System Operator (IESO), *Ontario's Supply Mix,* accessed March 30, 2020, http://www.ieso.ca/en/Learn/Ontario-Supply-Mix/Ontario-Energy-Capacity.

[62] L. C. Stokes, "The Politics of Renewable Energy Policies: The Case of Feed-in Tariffs in Ontario, Canada." *Energy Policy*, 56, (May 2013): 490–500, https://doi.org/10.1016/j.enpol.2013.01.009

[63] J. Jenkins and A. Artuso, "Cancelled Oakville Gas Plant to be Moved to Napanee," *St. Catharines Standard*, September 24, 2012.

[64] "Liberals Halt Mississauga Power Plant: Gas-Powered Plant Will Be Relocated," September 24, 2011. http://www.cbc.ca/news/canada/toronto/ story/2011/09/24/tor-election-power-plant.html

[65] A. Artuso, "Gas Plant Cancellations Cost $585 Million: Ontario Power Authority**,"** *The Toronto Sun*, April 30, 2013.

[66] K. Howlett, A. Morrow, and P. Waldie, "Ontario Premier Dalton McGuinty Resigns," *The Globe and Mail*, October 15, 2012.

[67] See D. Macdonald, "Climate Change Policy" in *Canadian Environmental Policy and Politics: The Challenges of Austerity and Ambivalence,* 4th ed., ed. D. L. VanNijnatten (Toronto: Oxford, 2015), 220-234.

although many were carried over commitments and ideas from the McGuinty era. These included completing the coal-phase-out by the end of 2014 and continuing investments in public transit. There were also references to improving the efficiency of water and waste-water infrastructure, and enhancing energy conservation and recycling rates.[68]

A major retreat from the McGuinty government's high-profile green energy initiatives began to materialize in the early stages of the Wynne government's term in office. A moratorium had already been placed on the controversial *Green Energy Act* FIT program in March 2012. In May 2013, the permanent termination of the FIT program for large projects (>500kw) in favour of competitive bidding processes, was announced. At the same time, there was a commitment to dedicate the remaining 900MW of grid capacity space for renewable energy projects, available until 2018, to smaller projects. Such projects were now to be subject to requirements for community support and municipal participation. There were no commitments to any additional renewable energy supplies beyond 2018.[69]

The phase-out of coal-fired electricity was completed in April 2014.[70] The phase-out reduced provincial emissions by 17 per cent and is widely regarded as the largest single GHG emission reduction initiative taken in North America to date.[71] The phase-out was facilitated by a combination of energy efficiency measures, continuing declines in electricity demand, the construction of new gas-fired generating facilities, new renewable energy sources, and the return to service of some of the nuclear facilities taken out of service through the NAOP.[72]

The June 2014 election resulted in an unexpected majority government for Premier Wynne's Liberals. Despite a focus on energy and electricity issues in the run-up to the election, environmental questions were not perceived as having a significant impact on the outcome. The Liberals were the only one of the three other major parties to say anything at all about climate change, and even they simply reiterated their existing commitment to their 2020 targets.[73]

In practice, action on climate change would emerge as the major environmental theme of the Wynne majority government. In February 2015 the province released a discussion paper indicating its intention to put a price on carbon, potentially in conjunction with Quebec's cap and trade system for greenhouse gas emissions, which had been in place since January 2013.[74]

A Climate Change Strategy was released in November 2015, setting out the government's vision to 2050 for how it would grow a low-carbon and resilient society and economy. Carbon

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[68] Winfield, M., "Environmental Policy: Greening the Province from the Dynasty to Wynne" in *Government and Politics of Ontario*, 6th ed., eds. J. Malloy and C. Collier (Toronto: University of Toronto Press, 2016).
[69] Ontario Ministry of Energy, "Ontario Working with Communities to Secure Clean Energy Future," News Release, May 30, 2013.
[70] Government of Ontario, "The End of Coal," https://www.ontario.ca/page/end-coal.
[71] Sarah Petrevan, "Ontario's coal phaseout in perspective." *Clean Energy Canada.* January 17, 2017, http://cleanenergycanada.org/ontarios-coal-phaseout-perspective/.
[72] See Melissa Harris, Marisa Beck, Ivetta Gerasimchuk, *The End of Coal: Ontario's coal phase-out* (Winnipeg: International Institute for Sustainable Development, 2015), https://www.iisd.org/library/end-coal-ontarios-coal-phase-out. See also Winfield and MacWhirter, "The Search for Sustainability in Ontario Electricity Policy."
[73] Winfield, "Greening the Province."
[74] Ministry of Environment and Climate Change, Re: *EBR Posting 012-3452 Ontario Climate Change Discussion Paper* (Toronto: Queen's Printer, 2015).

pricing was to be the cornerstone of the government's plans[75]. The strategy committed to the development of a more detailed five-year climate change plan outlining specific commitments and initiatives to meet interim and long-term emission reduction targets. [76]

The *Climate Change Mitigation and Low Carbon Economy Act* (2016)[77] was adopted in May 2016. The legislation provided an overall framework for addressing climate change in Ontario and established targets for greenhouse gas (GHG) reductions. These were set at 15 per cent below 1990 levels for 2020, 37 per cent below 1990 levels by 2030, and 80 per cent below 1990 levels for 2050.[78]

The central element of the government's approach to GHG emission mitigation was to proceed with the introduction of the cap and trade system, first proposed as part of the WCI activities in 2007, beginning in 2017. Proceeds from the program were to be directed to a new fund, the Greenhouse Gas Reduction Account, supporting activities and projects that would reduce GHG emissions.[79] The 2016 legislation also required the development of a comprehensive climate change action plan and provided a framework for reviewing and revising GHG reduction targets.

Under the cap and trade program, caps were established for emissions allowances for the first compliance period (2017-2020) and dates for subsequent three-year compliance periods. There were three types of participants under the program: 1) mandatory participants including facilities emitting over 25,000 tonnes of CO2 per year, fuel suppliers selling more than 200 litres of fuel per year, and electricity importers; 2) voluntary participants who could choose to opt-in to the program and emit between 10,000 - 25,000 tonnes of CO2 per year, and 3) market participants who opt-in to trading in the carbon market. A November 2017 revision to the program allowed the province to link its carbon market with California and Quebec through the Western Climate Initiative. The first joint auction took place in February 2018.[80]

For the initial (2017-2020) compliance period, eligible capped participants (i.e., virtually all industrial facilities), except fuel suppliers/distributors, electricity importers and most electricity generators, were provided free allowances as a 'transitional measure.'[81] With the large final emitters being given allowances for free, most of the early revenue generated from the system came from allowances purchased by transportation and heating fuel distributors. These costs were generally passed through directly to consumers. The effective result, at least initially, was a *de facto* carbon tax on heating and transportation fuels. Given California's dominant position in the Ontario-Quebec-California carbon market, it acted as the price setter, with a carbon allowance cost

[75] Kaiser, "Decarbonizing Road Transportation in Ontario", 7.
[76] Government of Ontario, *Ontario's climate change strategy* (Toronto: Queen's Printer 2016), https://dr6j45jk9xcmk.cloudfront.net/documents/4928/climate-change-strategy-en.pdf.
[77] S.O. 2016, c. 7.
[78] *Climate Change Mitigation and Low-carbon Economy Act,* SO 2016, c 7, s.6.
[79] Government of Ontario, "Cap and trade: program overview," last modified October 22, 2019, https://www.ontario.ca/page/cap-and-trade-program-overviewed, cited in Kaiser "State Steering in Polycentric Governance Systems", 86.
[80] Ontario, "Cap and trade: program overview," cited in Kaiser, "Decarbonizing Road Transportation in Ontario" 10.
[81] Ontario, "Cap and trade: program overview," cited in Kaiser, "Decarbonizing Road Transportation in Ontario," 10.

of approximately $15USD/ton.[82] In Ontario, carbon allowance auctions were expected to generate between $1.5 and $2 billion per year in revenues during the initial phase of the program.[83]

The Climate Change Action Plan

As required by the *Climate Change Mitigation and Low Carbon Economy Act* (2016), the provincial government released its Climate Change Action Plan in June 2016.[84] In addition to initiatives meant to ensure that the short term (2020) emission reduction target was met, the Plan set a mid-term 2030 target focusing on buildings and shifting to a lower-carbon transportation system.[85] In support of these directions, the plan referenced land-use planning changes to promote active transportation and transit expansion. It also contained initiatives to promote the diffusion of cleaner (i.e., hybrid and electric) vehicles, with the objective that these vehicles make up 5% of sales by 2020.

With respect to buildings, key initiatives included incentives to install and retrofit clean energy systems and new rules to increase the energy efficiency of new buildings. A 'green bank' was created to aid businesses and homeowners in paying for energy-efficient technologies, helping businesses adopt lower carbon technologies, and intensify efforts to support low-carbon innovation, research and development.[86] CAD 375 million was dedicated to cleantech research and development.[87] A Municipal GHG Challenge Fund was established to aid municipalities in funding plans and projects that would result in emission reductions. In addition, a Green Ontario Fund was established as a not-for-profit government agency to assist homeowners and businesses with the cost of making energy-saving retrofits and installations.[88]

The Dismantling of Ontario's Climate Change Regime: 2018-present

The election of a Progressive Conservative Government, led by Doug Ford in June 2018, resulted in a dramatic shift in government orientation with regards to climate change. Although

[82] J. Larson, *The Footprint of US Carbon Pricing Plans* (New York: Rhodium Group, 2018), https://rhg.com/research/the-footprint-of-us-carbon-pricing-plans/.
[83] Financial Accountability Office of Ontario, *Cap and Trade: A Financial Review of the Decision to Cancel the Cap and Trade Program* (Toronto: Queens Printer 2018), https://www.fao-on.org/web/default/files/publications/ending%20cap%20and%20trade%20oct%202018/Cap%20and%20Trade.pdf.
[84] Office of the Premier, "Ontario Releases New Climate Change Action Plan: Plan Charts Course to an Innovative, Low-Carbon Economy," June 8, 2016, https://news.ontario.ca/opo/en/2016/06/ontario-releases-new-climate-change-actionplan.html
[85] Government of Ontario, *Ontario's Five Year Climate Change Action Plan: 2016 – 2020* (Toronto: Queen's Printer, 2016), http://www.applications.ene.gov.on.ca/ccap/products/CCAP_ENGLISH.pdf cited in Kaiser, "Decarbonizing Road Transportation in Ontario".
[86] Ontario, *Five Year Climate Change Action Plan* cited in Kaiser, "State Steering in Polycentric Governance Systems," 88.
[87] A. Morrow and G. Keenan, "Ontario to spend $7-billion on sweeping climate change Plan," *The Globe and Mail,* May 16, 2016, https://beta.theglobeandmail.com/news/national/ontario-to-spend-7-billion-in-sweepingclimate-change cited in Kaiser, "Decarbonizing Road Transportation in Ontario," 12.
[88] Ontario, *Five-Year Climate Change Action Plan.*

the impact of the cap and trade system on the election outcome is a matter of debate[89], the new government, elected in part based on promises to reduce short-term energy costs to consumers, moved quickly to dismantle the previous government's climate change strategy.

Almost immediately after being elected, the government withdrew Ontario from the Western Climate Initiative and moved to cancel the cap and trade program.[90] The province's flagship climate legislation, the *Climate Change Mitigation and Low Carbon Economy Act* (2016) was repealed in November 2018. The new government also moved to cancel all of the programs that were to be funded through the cap and trade system revenues, including those related to electric and hydrogen vehicles, building retrofits, and municipal climate change action. The cancellation of the final round of 738 new, mostly municipally, community or First Nations-led renewable energy projects was announced in July 2018.[91] The province's "Conservation First" framework for electricity conservation was cancelled in March 2019.[92]

The initiatives affecting climate change on the part of the Ford government extended well beyond the immediate dimensions of climate and energy policy. Amendments made by the government to land-use planning legislation and the GGH growth plan significantly weakened the focus of the 2006-2017 changes on intensification, increasing density, and promoting transit and active transportation supportive urban design. The likely result, if these changes remain in place, will be to encourage low-density sprawling development and embed automobile-dependent commuting patterns more deeply. [93]

Conflict with the federal government

The new government's approach to climate change placed it in direct conflict with the federal Liberal government elected in 2015. The Liberal government was elected in part based on commitments to substantive action on climate change.[94] Under the terms of the December 2016 Pan-Canadian Framework for Green Growth and Climate Change (PCF), the Federal *Greenhouse Gas Pollution Pricing Act* (2018), had provided for a federal carbon backstop price, to be applied

[89] Erick Lachapelle and Simon Kiss, "Opposition to carbon pricing and right-wing populism: Ontario's 2018 general election," *Environmental Politics* 28, no. 5 (2019): 970-976, 10.1080/09644016.2019.1608659. See also M. Winfield, "Environmental positions show divisions among Ontario Parties," *The Hamilton Spectator,* June 4, 2018.
[90] Office of the Premier Designate, "Premier-Designate Doug Ford Announces an End to Ontario's Cap-and-Trade Carbon Tax," June 15, 2018, https://news.ontario.ca/opd/en/2018/06/premier-designate-doug-ford-announces-an-end-toontarios-cap-and-trade-carbon-tax.html
[91] Ministry of Energy, "Backgrounder: Ontario Reducing Costs by Centralizing and Refocusing Conservation Programs," March 21, 2019, https://news.ontario.ca/mndmf/en/2019/03/ontario-reducing-costs-by-centralizing-and-refocusing-conservation-programs.html.
[92] Ontario Ministry of Energy, Northern Development and Mines, "Backgrounder: Ontario Reducing Costs by Centralizing and Refocusing Conservation Program," May 21, 2019, https://news.ontario.ca/mndmf/en/2019/03/ontario-reducing-costs-by-centralizing-and-refocusing-conservation-programs.html.
[93] S. Novakovic, "Ontario's Growth Plan Changes: The End of Smart Growth?" *Urban Toronto,* January 22, 2019, https://urbantoronto.ca/news/2019/01/ontarios-growth-plan-changes-end-smart-growth.
[94] Liberal Party of Canada, *A New Plan for a Strong Middle Class* (2015), ch. 3, https://www.liberal.ca/wp-content/uploads/2015/10/New-plan-for-a-strong-middle-class.pdf.

in provinces that did not introduce carbon pricing systems of their own. The Wynne government had been a signatory to the Pan-Canadian Framework. Under the terms of the PCF, it was accepted that any federal carbon pricing backstop would not apply in Ontario as a result of the implementation of the province's cap and trade system.[95]

With the termination of the cap and trade system by the Ford government, the federal government made it clear that it would then implement the backstop federal carbon price in Ontario, beginning April 1, 2019.[96] The federal backstop carbon price, set to start at $20/tonne CO2e in 2019, and rising to $50/tonne by 2022, has two components; a charge on heating and transportation fuels; and an output-based pricing system for large (>50,000 tonnes/yr) industrial emitters.[97] The Ford government joined Saskatchewan and Alberta in launching a legal challenge against the federal carbon-backstop pricing regime for provinces that did not implement carbon pricing systems of their own. The Ontario Court of Appeal found the federal government's backstop carbon pricing regime was constitutionally sound[98] in August 2019. A notice of appeal of the Court of Appeal's findings was subsequently submitted to the Supreme Court of Canada by Ontario, Saskatchewan and Alberta.[99]

In addition to the lost revenue due to its cancellation of the cap and trade system (~CAD 2 billion/year), the province may also be denied its CAD 420 million share of the federal Low Carbon Economy Fund.[100] The fund was established by the federal government to encourage provincial participation in the PCF.[101]

In an effort to forestall the imposition of a federal backstop carbon price, the Ford government released a "Made-in-Ontario " environment plan in December 2018.[102] The plan did recognize the significance of the climate change problem and of the need to deal with its impacts on the province. Considerable attention was paid within the plan to the need to adapt to climate change at the provincial and local levels.

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[95] Winfield and Macdonald, "Federalism and Canadian Climate Change Policy."
[96] Government of Canada, "Ontario and pollution pricing," May 7, 2019, https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution.
[97] Environment and Climate Change Canada, *Technical Paper on Carbon Pricing Backstop* (2017), https://www.canada.ca/en/services/environment/weather/climatechange/technical-paper-federal-carbon-pricing-backstop.html.
[98] Reference *re Greenhouse Gas Pollution Pricing Act*, 2019 ONCA 544 \
[99] J. Keller, "Ontario files appeal with Supreme Court in fight against federal carbon Tax," *The Globe and Mail*, August 28, 2019, https://www.theglobeandmail.com/canada/articleontario-files-appeal-with-supreme-court-in-fight-against-federal/ cited in Kaiser, "State Steering in Polycentric Governance Systems," 119.
[100] Kaiser, "State Steering in Polycentric Governance Systems," 119.
[101] S. Wechsler, "Trudeau government reviewing $420 million in transfer payments to Ontario after Doug Ford begins 'orderly wind-down' of green programs," *Canada's National Observer*, July 3, 2018, https://www.nationalobserver.com/2018/07/03/news/trudeaugovernment-reviewing-420-million-transfer-payments-ontario-after-doug-ford.
[102] Ontario Ministry of Environment, Conservation and Parks, *A Made-in-Ontario Environment Plan* (Toronto: Queen's Printer 2018), https://www.ontario.ca/page/made-in-ontario-environment-plan.

At the same time, the plan significantly weakened the province's GHG emission reduction goals, to the point, by some interpretations that they were one third[103] as ambitious as those put forward by the previous government. The plan made references to a regulatory framework for industrial emitters, but this was not fully articulated. The province did eventually submit a proposed framework for industrial sources, seeking an exemption from the federal OBPS, in July 2019. This was widely regarded as substantially weaker than the federal requirements.[104]

There were some progressive provisions in the plan, although most were carried over from the previous Liberal Climate Change Action Plan. These elements included references to changing land-use planning rules to take into account climate change considerations, the development of municipal energy and climate change plans, and commitments to consider climate change in government decision-making. There was also a strong emphasis on energy efficiency and conservation. However, an analysis of the plan tabled in December 2019 by the Auditor-General and Environmental Commissioner of Ontario concluded that little had been done to implement the plan and that even if there were implementation efforts, there were little prospects of the plan being able to meet even the province's reduced GHG emission reduction targets.[105]

4. Analysis and Discussion: Shifting Landscapes, Institutions, Discourses and Societal Forces

A number of factors have shaped Ontario's approach to the challenge of climate change. Some flow from the province's changing economic structure, specifically the restructuring and accelerating transition from an industrial to more knowledge and service-based economy. [106] Others relate to shifting relationships with the federal government and the introduction of new ideas, discourses and societal actors into the climate change policy landscape.

As noted in the introduction, the province has moved from recognizing the existence of climate change and projecting its potential impacts in the1990s, to seeing impacts in the 2010s in various forms, including extreme weather events, floods, damage to infrastructure, the emergence of new health threats, and stresses on water resources, wildlife, forests and agriculture.

The situation has produced complicated political and economic dynamics around climate change. Industrial emissions have declined significantly relative to the early 1990s. At the same time, emissions have continued to grow in sectors like transportation and buildings, which are difficult to decarbonize. Buildings involve long-term capital stocks, while progress on transportation-related emissions may require significant investments to change urban form and provide lower-carbon transportation alternatives like transit, active transportation and electric

[103] See Office of the Auditor General of Ontario/Environmental Commissioner of Ontario, *2019 Annual Report: Volume 2 (Reports on the Environment)* (2019), ch. 3, http://www.auditor.on.ca/en/content/annualreports/arreports/en19/2019AR_v2_en_web.pdf

[104] Isabelle Turcotte, Jan Gorski, and Brianne Riehl, *Carbon Emissions: Who makes big polluters pay: A comparison of provincial and federal industrial carbon pricing systems for industrial emitters* (Calgary: The Pembina Institute, 2019), https://www.pembina.org/pub/carbon-emissions-who-makes-big-polluters-pay.

[105] Auditor-General of Ontario/Environmental Commissioner of Ontario, *2019 Annual Report Volume 2: Chapter 3.*

[106] Ontario Ministry of Finance, *Ontario's Long-Term Report On The Economy*.

vehicles. Carbon pricing, on its own, is unlikely to be effective for reducing these sources of emissions.

This was particularly the case in Ontario, where the initial carbon price for industrial emitters under the 2017-2018 system was effectively zero due to the distribution of free allowances. While the program applied to heating and transportation fuels, the initial price for allowances for these fuels, when flowed through into gasoline prices and consumer's gas bills, amounted to an estimated 4.3 cents/litre for gasoline and $5 per month in household natural gas costs.[107] This was likely far too low to affect consumer behaviour significantly. In fact, a carbon price would have to be raised to levels far beyond the realm of political acceptability to affect consumer behaviour significantly in areas like transportation and buildings.[108]

Rather, in Ontario's case, while carbon pricing via the cap and trade system was the most prominent element of the 2016 plan, it may not have been its most important operational component in terms of reducing GHG emissions. Instead, the primary function of the cap and trade system in the 2016 plan may have been to generate revenue to finance investments in low-carbon transitions in the building and transportation sectors. Reflecting this underlying primary function, cap and trade systems with low implicit prices are increasingly referred to as 'cap and invest' systems in the North American context.[109]

In an Ontario context, such an approach makes a certain amount of sense, as the two sectors driving the growth of emissions (transportation and buildings) are very difficult to affect through carbon pricing alone. Regulatory tools such as standards and codes for appliances, buildings, vehicle fleets, and changes in land-use planning rules, are also likely to play central roles in addressing these sectors. Importantly, all of these measures require substantial governmental capacity to develop and implement.

In effect, in Ontario's case, what are often considered "complementary" climate change policies, emerged as being more important to the province's strategy than the "core"[110] climate policy element of carbon pricing. The risk with such an approach is that political decision-makers may be tempted to invest carbon pricing revenues in politically attractive projects, rather than

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[107] Government of Ontario, *Cap and Trade in Ontario*, last updated October 22, 2019, https://www.ontario.ca/page/cap-and-trade-ontario.

[108] See Mark Jaccard, Mikela Hein and Tiffany Vass, *Is Win-Win Possible? Can Canada's Government Achieve Its Paris Commitment. . . and Get Re-Elected?* (Burnaby: Energy and Materials Research Group, Simon Fraser University, 2016), http://rem-main.rem.sfu.ca/papers/jaccard/Jaccard-Hein-Vass%20CdnClimatePol%20EMRG-REM-SFU%20Sep%2020%202016.pdf.

[109] Karen Glitman, *Cap-and-Invest: A review of policy, design and models and their applicability in Vermont,* (San Diego: Center for Sustainable Energy, 2019), https://energycenter.org/sites/default/files/docs/nav/resources/2019-04_Cap-and-Invest-A-Review_Report.pdf; Transportation Climate Initiative, *Cap-and-Invest Program to Reduce Pollution* (2019), https://www.transportationandclimate.org/sites/default/files/TCI Cap-and-Invest 101_0.pdf.

[110] Ann E. Carlson, "Designing Effective Climate Policy: Cap-and-Trade and Complementary Policies," *Harvard Journal on Legislation* 49, no. 2 (Summer 2012): 207-248, https://heinonline.org/HOL/P?h=hein.journals/hjl49&i=215

effective climate change mitigation and adaptation measures. Mechanisms to address those risks were never fully developed prior to the 2018 provincial election.

From the recognition of the climate change problem in the late 1980s up to the June 2018 election, the province enjoyed a relatively high level of autonomy around climate policy, with limited direct federal pressure for action. Canadian provinces have strong jurisdictional positions around climate change mitigation and adaptation. Provinces have authority over public and private land use, road transportation and public transit, natural resource management, electricity systems, municipal governments, and widely accepted capacity to regulate GHG emissions and price carbon if they choose to do so. [111] The direct federal role in Ontario, through the Chretien and Martin governments, was principally limited to providing financial incentives for provincial cooperation on climate change.[112]

That said, the province's initial engagement with the WCI was at least in part intended to counter moves seen as potentially hostile to the province's interests by the Conservative federal government led by Stephen Harper. Engagement with the WCI also strengthened Ontario's alignment with other provinces, particularly BC and Quebec, who were moving forward on the climate change file, even in the absence of significant federal action. Up to the 2018 provincial election, the Wynne government allied Ontario with the Trudeau federal government (elected in 2015) and other provinces, now including then NDP-led Alberta, in advancing carbon pricing through the 2016 Pan-Canadian Framework on Green Growth and Climate Change.

In contrast, the post-2018 election situation has introduced an extraordinary level of conflict between the federal government and Ontario around climate change. The outcome of the October 2019 federal election in Ontario was widely interpreted as a major defeat for the Ford government around the issue of carbon pricing, and its handling of the climate change question more generally.[113]

Although some Ontario municipalities have shown great leadership with regards to prioritizing action on climate change, capacity remains very limited, and supportive policy measures at the provincial level were only established very late in the province's climate change policy process.[114] The 2016 Climate Change Action Plan did include substantial amendments to

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[111] Bryan P. Schwartz, *Legal Opinion on the Constitutionality of the Federal Carbon Pricing Benchmark & Backstop Proposals* (2017), 15-16, https://www.gov.mb.ca/asset_library/en/climatechange/federal_carbon_pricing_benchmark_backstop_proposals.pdf.

[112] Winfield and Macdonald, "Federalism and Canadian Climate Change Policy.

[113] Philippe J. Fournier, "A 338Canada analysis: Where the Conservatives lost," *McLean's*, October 27, 2019, https://www.macleans.ca/politics/ottawa/a-338canada-analysis-where-the-conservatives-lost/. See also K. Brooks, "Climate Action and the Environment won – that's the big take away from the 2019 Federal Election," *Environmental Defense*, October 23, 2019, https://environmentaldefence.ca/2019/10/23/climate-action-environment-won-thats-big-take-away-2019-federal-election/.

[114] Kaiser, "State Steering in Polycentric Governance Systems"; M. Winfield, S. Wyse and S. Harbinson, "Enabling community energy planning? Polycentricity, governance frameworks, and community energy planning in Canada," (working paper, York University Sustainable Energy Initiative, 2020),

the *Municipal Act*, *Planning Act*, and Greater Golden Horseshoe Growth Plan, emphasizing the integration of climate change mitigation and adaptation into land-use and transportation planning. The plan also made provisions for substantial financial support to municipalities for energy and climate change plan development and implementation. While the legislative and planning policy changes have survived the Wynne/Ford transition, the funding mechanisms for municipal action were terminated with the cap and trade system.[115]

Climate change as a public policy issue has evolved from its recognition within the scientific community to more mainstream awareness, particularly since the mid-2000s. The last few years have seen increasing connections being made between climate change and its visible and lived impacts (floods, forest fires) in Ontario, Canada and internationally in the media. The 2018 wildfires in northern and central Ontario and 2019 floods in many parts of the province strongly reinforced these connections.[116] A 2019 poll following the release of the Ontario Progressive Conservative climate change plan, found that while 89% of Ontarians said they are very or somewhat concerned about climate change.[117] The situation has been described as "a new normal in terms of the level of interest in this issue, and the policy choices that governments make around it."[118]

In general, the Liberal administrations of Peterson, McGuinty and Wynne and, Bob Rae's NDP government, employed ecological modernist frames[119] around environmental, energy and climate change issues. These emphasized win-win (economy-environment) outcomes when discussing transitioning to a low-carbon and more sustainable economy. Health framings were also widely utilized, proving very effective in building support for closing the province's coal-fired power plants over the objections of major institutional actors in the electricity sector, and the province's major industrial electricity consumers.[120]

In contrast, incoming PC Premier Ford framed the previous government's climate change policies as a liberal elitist project and a justification to expand government and spending. Action on climate change was characterized as being disconnected from the real needs of "the people." Cap-and-trade was simply as a government tax grab. The legislation to repeal the cap and trade system was presented as providing 'relief' from high energy costs, to which the carbon pricing

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https://sei.info.yorku.ca/files/2020/01/Community-Energy-Planning-paper-January-15-2020-for-Posting-1-1.pdf?x10807.

[115] M. Winfield, S. Wyse and S. Harbinson, "Enabling community energy planning?"; Kaiser, "State Steering in Polycentric Governance Systems".

[116] Rabson, "Ford links floods to climate change, says situation 'just rips your heart out'."

[117] A. Jones, "Internal poll finds voters have negative opinion of PCs environmental Policies," *CBC News*, March 31, 2019, https://www.cbc.ca/news/canada/toronto/ontarioenvironment-ford-poll-climate-carbon-tax-1.5079010.

[118] B. Anderson and D. Coletto, "Trump Attracts Most Canadians' Attention; Jobs, Climate Change & Khadr Hot Button Issues," *Abacus* Data, July 21, 2017, https://abacusdata.ca/trump-attracts-most-canadians-attentionjobs-climate-change-khadr-hot-button-issues/.

[119] J. Drysek, *The Politics of Earth: Environmental Discourses* (Oxford: Oxford University Press, 2013), 162-180.

[120] Harris, Beck and Gerasimchuk, *The End of Coal: Ontario's coal phase-out*.; Winfield and MacWhirter, "The Search for Sustainability."

system, along with the renewable energy FIT program, was a contributor.[121] If nothing else, the Wynne government's failure to focus on the broader vision as opposed to explaining the details of the mechanics, failed to resonate with voters who were concerned about making ends meet and being able to pay day-to-day bills like hydro.

In institutional terms, the speed with which much of Ontario's climate change governance regime was dismantled highlighted the vulnerability of emergent climate governance regimes. The core element of the regime, the cap and trade system, was only in place for just over a year and free allowances had been given to industrial emitters as part of the initial compliance phase. With little industrial investment in the system, there was little push-back in its repeal. The situation might have been quite different had the cap and trade system, and the programs financed through it, been in place for a longer period of time.

The longer-term landscape is potentially more hopeful. The Ford government's right-wing populist approach has become deeply unpopular, suggesting that the 2018 election may have been an aberration flowing from an unpopular premier, and an insufficiently appealing alternative offered by the NDP.[122] The spring 2019 floods, August 2019 Ontario Court of Appeal's finding in favour of the constitutionality of the federal backstop carbon pricing system, gas-pump stickers blaming the federal carbon pricing backstop for higher gas prices - that wouldn't stick to the pumps,[123] the October 2019 federal Liberal success in Ontario,[124] and December 2019/January 2020 Australian Wildfires,[125] all seemed to be converging to place Mr. Ford on the wrong side of history on the climate change file.

4. **Conclusions: where do we go from here?**

The 2018 provincial election led to a dramatic shift in direction in the province's approach to the climate change issue. The province had engaged with the issue incrementally from 1990 onwards. Still, movement on the implementation of a comprehensive climate change strategy did not occur until the late stages of the Wynne government. The core elements of that strategy, particularly the cap and trade system and portfolio of programs to be funded through it, were swiftly dismantled by the incoming Ford government.

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[121] Office of the Premier Designate, "Premier-Designate Doug Ford Announces an End to Ontario's Cap-and-Trade Carbon Tax," June 15, 2018, https://news.ontario.ca/opd/en/2018/06/premier-designate-doug-ford-announces-an-end-toontarios-cap-and-trade-carbon-tax.html.

[122] M. Winfield, "Will the Ford era lead to a political realignment in Ontario?" *Policy Options* (May 2019), https://policyoptions.irpp.org/magazines/may-2019/will-the-ford-era-lead-to-a-political-realignment-in-ontario/

[123] R. Benzie, "It seems the Ontario government's gas-pump stickers aren't sticky enough," *The Toronto Star*, September 12, 2019, https://www.thestar.com/politics/provincial/2019/09/12/it-seems-the-ontario-governments-gas-pump-stickers-arent-sticky-enough.html.

[124] Philippe J. Fournier, "A 338Canada analysis: Where the Conservatives lost," *McLean's*, October 27, 2019, https://www.macleans.ca/politics/ottawa/a-338canada-analysis-where-the-conservatives-lost/.

[125] The Guardian, "Australia bushfires factcheck: are this year's fires unprecedented?" November 22, 2019, https://www.theguardian.com/australia-news/2019/nov/22/australia-bushfires-factcheck-are-this-years-fires-unprecedented.

Where the province goes from there is an open question. The physical realities of the impacts of climate change have become more difficult to ignore, and the public salience of the issue has grown substantially over the past two years. Municipalities, who are confronted directly with the health, environmental and infrastructural impacts of climate change, have become increasingly engaged in community energy and climate change planning, regardless of the province's direction.

Some form of carbon pricing seems likely to continue in the province as long as a moderately progressive federal government remains in power.[126] The technological means for low-carbon transitions, from electric vehicles to advanced grid management, renewable energy and energy storage technologies, are largely available, with improving technical performance and falling costs. These factors have the potential to reinforce a long-term low-carbon trajectory for the province.

At the same time, significant challenges remain. Decision-making around major infrastructure projects, particularly around electricity and transportation, has become deeply politicized. The situation carries with it significant risks of embedding pathways that do not align with climate change mitigation and adaptation goals. The Ford government's weakening of land-use rules around urban development seems likely to encourage sprawl and embed automobile-dependent commuting patterns more deeply than ever, making the mitigation of transportation-related emissions even more challenging.

The province's electricity system has been the source of Ontario's largest gains in terms of GHG emission reductions through the phase-out of coal-fired electricity generation. However, the system is about to become much more carbon-intensive as nuclear power plants are permanently or temporarily decommissioned, and their output likely replaced with newly built natural gas-fired generation. Broader discussions about the role of natural gas in a low-carbon transition in a province where it provides an overwhelming majority of building space and water heating services, and a significant degree of energy system resiliency, are only beginning.

Whatever the outcome of the 2022 provincial election, it seems likely that climate change will remain a central issue within the province's political and policy life.

[126] *Reference re Greenhouse Gas Pollution Pricing Act*, 2019 ONCA 544; *Reference re Greenhouse Gas Pollution Pricing Act*, 2019 SKCA 40