

Accelerating progress in the transportation sector: Developing North America's first low-carbon highway

Addendum to Building a Pan-Canadian Climate Plan: Policy options to meet or exceed Canada's 2030 emissions target¹

Purpose

The following policy option is an addendum to the Pembina Institute's June [submission](#) to the pan-Canadian climate consultation online portal. In this note we detail an opportunity for Canada to demonstrate leadership in the transportation sector by supporting the development of North America's first low carbon highway: a high profile, green infrastructure project designed to lower vehicle emissions along Highway 401 and Autoroute 20, one of North America's busiest highways, and a vital commercial link between Ontario and Quebec and into the United States.

Project concept

Canada has committed to meet or exceed its 2030 emissions reduction target of 30 per cent below 2005 levels of by 2030 – and is committed to creating a national climate change plan, as per the Vancouver Declaration of March 2016. At 171 Mt in 2014, transportation remains the second largest source of carbon pollution in Canada. In many Canadian provinces, including Ontario and Quebec, it is the largest and fastest growing source of emissions. Progress to curb emissions from Canada's transportation system has lagged relative to curbing large point-source emissions since 2005 and governments continue to look for high profile solutions that create jobs and markets for low carbon fuels and energy products.

Meanwhile, heavy haul trucking has grown substantially as a source of emissions in Canada. Heavy-duty trucking is the fastest growing sub-sector of transportation emissions, and is

¹ For complete submission see: <https://www.pembina.org/reports/submission-pan-canadian-climate-change-working-groups.pdf>

projected to become the largest energy-consuming segment of transportation globally by 2030.² In Canada, between 1990 and 2014, freight accounted for 32 Mt of the total 55 Mt increase in emissions from the transport sector.³

To address this problem, the Pembina Institute proposes that the federal government and its provincial government partners create North America's first low carbon highway. With quick action, the governments of Canada, Ontario and Quebec could achieve this vision for a full stretch of highway from Windsor to Quebec City by 2017.

A low-carbon highway would include infrastructure that supports low carbon technologies, including electric vehicle fast charging stations, compressed or liquified natural gas stations, and biofuels and hydrogen fueling stations. As new technologies become available, the best low-carbon options can be continually reconsidered. Further, a low-carbon highway could target metrics or standards, to reduce carbon intensity on a per kilometer basis.

This could have an upside for a wide array of stakeholders, including vehicle manufacturers, trucking companies, energy producers, service stations, automobile clubs, car sharing co-ops, and non-governmental organizations. A Windsor to Quebec City corridor program could be delivered through the Ontario-Quebec Continental Gateway Initiative.⁴

Benefits

- **For the environment:** This project is designed to drive down emissions from the transportation sector, especially freight.
- **For businesses:** The Windsor – Quebec City corridor is ideal for testing multiple low carbon transportation technologies and would create jobs and new markets. Government support for fueling infrastructure for a variety of low carbon options lowers risk for companies looking to test or adopt these technologies. Participating service stations would raise their green profile and increase customer loyalty.
- **For governments:** The project gives provincial and federal governments a high profile green infrastructure project that furthers Ontario and Quebec's climate leadership status and demonstrates that Canada is becoming a leader in adopting, developing and commercializing low carbon transportation technologies. This also aligns with components of both Ontario and Quebec's climate action plans. The Ontario

² ExxonMobil, *The Outlook for Energy: A View to 2040* report, <http://corporate.exxonmobil.com/en/energy/energy-outlook/meeting-growing-demand/demand>

³ Environment and Climate Change Canada, *National Inventory Report 1990-2014: Greenhouse Gas Sources and Sinks in Canada* (2016), Part 3, 41.

⁴ Government of Canada, <http://www.continentalgateway.ca/index2.html>. Depending if this Initiative is still active, a similar MOU could be struck between Quebec, Ontario and the federal government as referenced on this website.

government intends to invest in fast chargers for electric vehicles at ONroute stations⁵, and Quebec’s 2030 Energy Policy document references a desire to build “a network of multi-fuel service stations offering gasoline, biofuels, natural gas, propane, electricity and hydrogen.”⁶

- **For the public:** High visibility projects such as this touch millions of drivers per year. Around half of Canada’s population resides along the Windsor – Quebec City corridor – meaning that exposure to the project could spurr new learnings and conversation about the role of mobility, vehicles and fossil fuels in Canada – and the need to shift to low-carbon alternatives to live up to our international climate obligations.

⁵ Section 2.5.1 in the Ontario Climate Change Action Plan <https://www.ontario.ca/page/climate-change-action-plan#section-4>

⁶ Government of Quebec, *The 2030 Energy Policy: Energy in Quebec a Source of Growth* report, <https://politiqueenergetique.gouv.qc.ca/wp-content/uploads/Energy-Policy-2030.pdf>