



Partnerships to Achieve Deep GHG Reductions in Transportation

GLOBE Advance 2020 Summary Report



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Introduction

As part of the inaugural GLOBE Advance in February 2020, The Delphi Group and Pollution Probe hosted the ***Partnerships to Achieve GHG Reductions in Transportation*** session, sponsored by the Canadian Gas Association with support from the Global Automakers of Canada. The session brought together transportation providers, users, fuel suppliers, automakers including electric and hydrogen vehicle manufacturers, zero-emissions vehicle (ZEV) infrastructure organizations, policy makers, and corporate leaders. The outcomes of their discussion are captured in this report.

Achieving greenhouse gas (GHG) reductions in the transportation sector requires multi-stakeholder action and collaboration. The deployment of new technology, efficient logistics, and modal shift would not be possible without coordinated action across the private and public sectors. Building on the transportation-related discussions at GLOBE Forum 2020, and including brief presentations by leading collaborators (City of Toronto and Enbridge, FortisBC, Global Automakers of Canada), this session explored opportunities to collaborate across all fuels (natural gas, renewable natural gas, hydrogen, electricity, biofuels, etc.) to reduce GHGs in the transportation sector.





Context

The transportation sector in Canada accounts for approximately 24% of the nation's GHG emissions and is a priority in strategies to address the climate crisis. The Government of Canada has set a target to reduce GHG emissions by 30% by 2030 and is working towards achieving net-zero emissions by 2050. In order to achieve these objectives, significant GHG reductions will need to occur in transportation, involving the deployment of low-carbon fuels, technologies, and strategies.

Transportation is a diverse sector characterized by small-point source emissions and stakeholders ranging from large fuel suppliers to individual truck owner-operators. Individual stakeholders can face significant barriers to achieving GHG reductions, as they often only have control over a small piece of the low-carbon puzzle. For example, they can provide low-carbon fuel, but are not involved in vehicle technology development or vehicle selection, or they wish to adopt a low-carbon technology but require fueling infrastructure beyond their individual operations.

Provinces and municipalities across the country are driving partnerships and taking strong action to reduce transportation emissions. Many companies and organizations in Canada are also moving aggressively to reduce emissions and take advantage of the economic opportunities associated with deep GHG reductions in transportation. Coordinated action between governments, industry, academia and other stakeholders is needed to achieve GHG emissions reductions and contribute to meeting Canada's net-zero 2050 target.



Recommendations for Building Successful Partnerships

In the GLOBE Advance discussion, participants shared a number of recommendations for building successful partnerships to reduce GHGs in the transportation sector:



Build and maintain trust:

Trust within partnerships is foundational. Trust can be developed in many ways, including through previous joint endeavours, mutual track records of performance, and stage-gated approaches that allow trust to grow over a series of milestones.



Set clear goals:

Agree on a clear destination with outcomes that can be measured.



Be patient and trust the process:

Delays and barriers are inevitable and won't necessarily impact all partners equally. Be patient and focus on working constructively as a team, allowing for mistakes along the way as partners navigate unfamiliar territory.



Adaptation is key:

While there are benefits to a results-oriented project with clearly defined roles and measurable outcomes, it is important to avoid being locked into pre-determined outcomes and solutions. Flexibility is important on the part of the project partners throughout the implementation process.



Be a leader:

This applies to all members of the partnership. Leaders champion the partnership internally within their own organizations while providing strategic direction and management to the partnership.



Ensure there are mutual benefits:

Everyone involved needs to have a 'win' from the partnership outcomes.



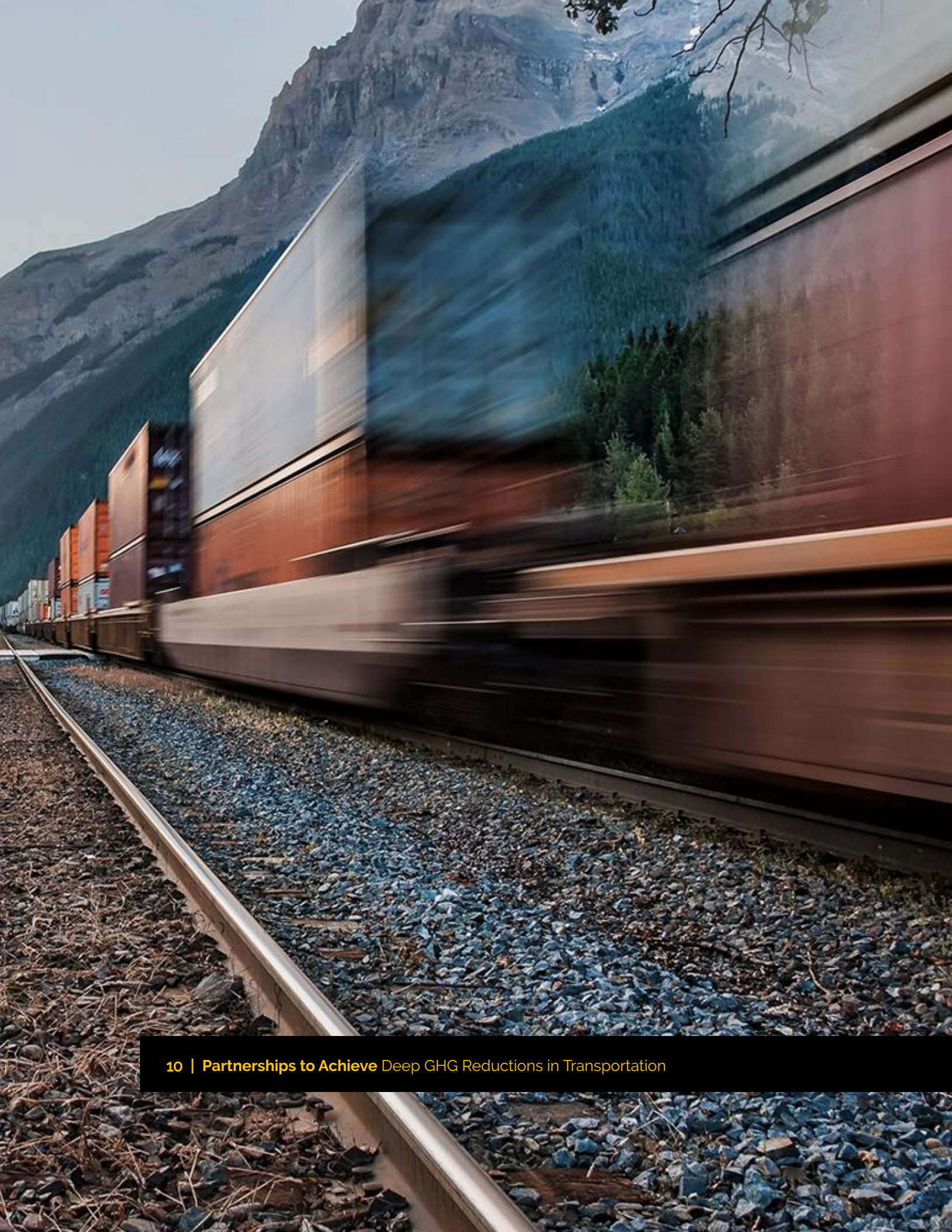
Maintain strong links with stakeholders:

Engaging stakeholders in the early stages of implementation can help ensure buy-in. As the project evolves, be transparent with stakeholders, share information and data, and communicate. Don't just focus on key project decision-makers — keep all stakeholders informed.



Evidence makes a strong foundation:

Science and data-based decisions ensure the project is non-partisan and unbiased. Being transparent with data reduces the potential for the project to be affected by ideological or political decisions in the future.





A Roadmap for Building Partnerships to Achieve GHG Reductions in Transportation

The public and private sectors have different and important roles to play in supporting partnerships for decarbonizing transportation. Discussion participants outlined how each can best support and enable GHG reductions.



Public Sector

Leverage partnerships to achieve policy goals: Partnerships dedicated to the decarbonization of transportation are an important opportunity for governments in developing and implementing new policy. Reducing GHGs from transportation sources is often very complex due to the interrelationships of organizations in the sector who must work in concert to deliver reductions. An example is the electrification of passenger fleets and deployment of zero-emission vehicles, where automakers, electric vehicle supply equipment (EVSE) suppliers, utilities, governments, and other stakeholders all have important roles to play.

Encourage partnerships through funding: The public sector can also be a key source of funding for partnerships which are working to decarbonize transportation and can complement private sector investments. Funding programs to accelerate development, testing and uptake of new technologies will be critical, particularly for transportation modalities for which low carbon solutions are less advanced.

Lead by example: In addition to providing funding, the public sector can also lead by example in the deployment of innovative new technologies and processes that decarbonize transportation. Government infrastructure and procurement policies in particular are important opportunities to prioritize the purchase of low-carbon products and technologies.

Create a simple and effective regulatory framework: Regulations such as emissions standards can accelerate the development of new decarbonization technologies. At the same time, regulations have the potential to be unintended barriers to the introduction of new technologies or services, sometimes due to unnecessary complexity or a lack of harmonization between jurisdictions. Streamlined regulatory programs and standards can stimulate decarbonization activities in the private sector.



Private Sector

Provide long-term stability: The private sector can provide long-term stability to decarbonization projects. The market-driven perspective of business will also ensure sound implementation and execution.

Access technical expertise: Private sector partners can bring technical expertise that an organization may not have in-house.

Provide financing: There is a critical role for private sector financing, either by itself or in partnership with public sector financing. Private sector financing may come in many forms, from financial instruments such as green bonds, to direct investments in promising cleantech start-ups.

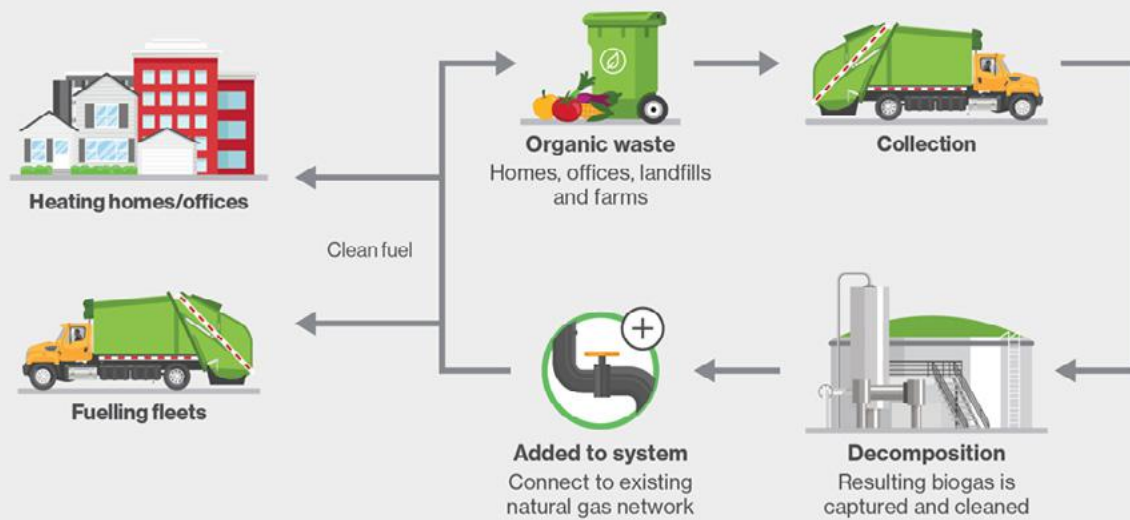
Catalyze RD&D projects: Businesses can be the catalyst for creating and supporting research, development and demonstration partnerships by bringing together post-secondary institutions, government and industry focused on decarbonization. Such partnerships can be the foundation for strong applications to access private and public sector funding sources.

Share outcomes: Reporting out decarbonization project outcomes, including measurable data where available, will be important in influencing government and private sector policies and spurring further action.





Case Studies



SOURCE

<https://www.enbridgegas.com/Natural-Gas-and-the-Environment/Enbridge-A-Green-Future/Renewable-Natural-Gas>



City of Toronto and Enbridge Partnership for Leading Circular Economy Innovation

CASE STUDY

The City of Toronto's existing and closed landfill sites and anaerobic digestion/organics processing facilities are some of the largest producers of biogas and landfill gas in Ontario. These facilities have the potential to produce a total of 63.8M m3 of renewable natural gas (RNG) per year. Recently, the City identified an opportunity to partner with Enbridge on a project to upgrade its biogas and landfill gas to RNG at the Dufferin Solid Waste Management Facility. The partnership will also cover operation and maintenance for the first 15 years.

The project uses a closed-loop approach in which organics collection trucks are powered by the waste product they collect. Previously using diesel engines, analysis revealed that converting the aging fleet to compressed natural gas (CNG) and eventually RNG had a potential saving of \$22.2M over 12 years, as well as other environmental and social benefits.

This advances the Waste Division's mandate to be an international leader in sustainable solid waste management and supports the City's move towards achieving a circular economy.





FortisBC

Multi-fuel Path for Low-carbon Transportation

CASE STUDY

FortisBC serves 1.2 million customers in 135 communities, delivering 21% of B.C.'s energy needs through a combination of electricity, conventional and renewable natural gas, and alternative energy solutions. FortisBC invests over \$590 million annually in B.C.'s energy assets, including pipelines, hydroelectric generation and distribution, liquid natural gas (LNG), and underground gas storage.

Fortis BC values partnerships:

- + FortisBC electric is in the process of expanding the network of charging infrastructure in southeastern B.C. with the addition of 22 new charging stations. This is the result of a partnership between FortisBC, local governments, the Province of B.C., and Natural Resources Canada's Electric Vehicle and Alternative Fuel Infrastructure Deployment Initiative.
- + Through a partnership between FortisBC, the Port of Vancouver, and provincial and federal governments, Vancouver will be the West Coast port of call for LNG ship-to-ship bunkering by 2022. The development of LNG bunkering services will enable adoption of LNG as a marine fuel by ships engaged in trans-Pacific trade.
- + FortisBC and Translink have partnered on an initiative to fully switch Translink's natural gas bus fleet to an RNG fuel source by 2024.





Global Automakers of Canada

CASE STUDY

Driving significant and lasting reductions in greenhouse gases across the transportation sector requires a comprehensive approach that not only looks critically at what organizations are doing today, but what they may be looking to do tomorrow in a highly competitive and highly regulated market. Increasingly, the picture of tomorrow is one in which automotive original equipment manufacturers (OEMs) are partnering with competitors or other organizations that possess unique technologies and expertise, have access to complementary capital and/or production capacity, or that operate on complementary business models such as transportation-as-a-service.

The development and rollout of expensive advanced technologies is funded largely by the sale and production of conventional technologies that they will eventually supplant over many years and product cycles. Partnerships offer an efficient means with which to bring new technologies and services to market, with accelerated development timelines and cost-sharing of the associated risk. A short list of partnerships that were either formed or continue to operate over the past three years include the following:

- **BMW Group & Daimler:** The two companies are joining forces via a \$1.1B collaborative investment to offer joint charging, ride-hailing and car-sharing.
- **Toyota & Quebec Hydro:** Pilot program involving 50 Marai Fuel Cell vehicles to replace internal combustion models.

- **BMW Group & Toyota:** Recently signed binding agreements aimed at long-term collaboration between the two companies for the joint development of a fuel cell system (Li-Air) and light-weight technologies.
- **Toyota & Panasonic:** Collaborative partnership to produce Li-Ion batteries and next-gen solid-state batteries, leveraging Panasonic's battery expertise and Toyota's mass-production expertise in automotive applications.
- **Honda & Toyota:** Collaboration on fuel-cell infrastructure buildout in Montreal.
- **BMW Group & Toyota:** Teamed up with eleven leading energy, transport and industrial companies in 2017 to launch the Hydrogen Council, with the goal of accelerating a hydrogen-fueled energy revolution. By June 2019, the Council had grown to 60 member companies.
- **Mazda & Toyota:** Development and production collaboration on products utilizing Mazda's Sky-Activ compression-ignition engines with Toyota's expertise in hybrid powertrains and connected and automated vehicle technologies.
- **Toyota & Subaru:** Collaboration on joint BEV platform combining Subaru AWD and Toyota electrification technologies.



**If you're interested in partnering with us
on sustainable mobility, contact:**

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