

Urban Delivery Solutions Initiative

2021: A Year in Review

At the 26th UN Climate Change Conference of the Parties, we witnessed nations including Canada reaffirm the transformative role that zero-emission vehicles have in transport decarbonization to meet 2030 and 2050 climate targets. The result was that the Government of Canada and subnational governments like Quebec signed a global [Memorandum of Understanding](#) to reach 30% of sales of new ZE MHDVs by 2030 and a full transition to ZE MHDVs in new fleets by 2040.


In 2021, the Urban Delivery Solutions Initiative made meaningful contributions to support an efficient and low-carbon urban freight system in Canadian cities. To help businesses and fleet operators test and scale up short-haul, return-to-base ZEVs, including electric cargo bicycles, in Canadian cities, the Pembina Institute and UDSI partners developed tools and resources, and conducted research to inform public policies and best

practices. We also convened public events that brought together industry, NGOs, government, innovators, and academia to build greater awareness to the opportunities offered by ZE MHDVs, as well as to cultivate a community of practice for sustainable urban freight in Canada.

Our collective efforts and leadership have inspired other Canadian businesses and actors internationally to take an active role to advance low-carbon solutions, and we are thrilled that, as a result of our work together, the Urban Delivery Solutions Initiative is a 2022 recipient of a Canada's [Clean50 Top Project Award](#).

The Pembina Institute thanks all our partners for their contributions, collaboration, and leadership in reducing greenhouse gas emissions to help Canada achieve a net-zero economy by 2050. Looking forward, 2022 will be a pivotal year for the Initiative to help identify a viable pathway to implement clean freight policies and practices.

Our impact in 2021 at a glance

4 resources and tools targeted to business and fleet operators 

 **4** research reports and letters to strengthen ZEV policies in Canada

1 Canadian sustainability award 

 **5** public events

200% growth of Initiative partners since 2020 launch



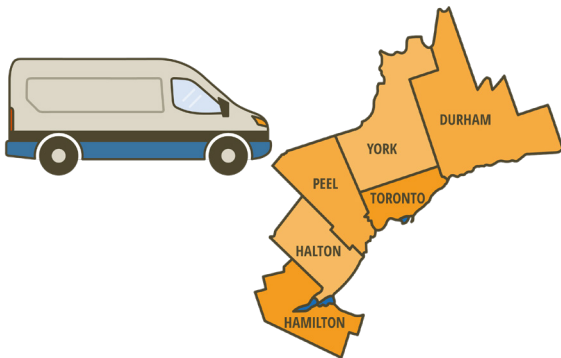
UDSI wins a Canada's Clean50 Top Project Award

In October 2021, the Initiative was a recipient of one of Canada's Clean50 Top Project Award. The Clean50 Awards recognizes leaders and projects for informing and inspiring Canadians to take active roles in expanding clean technology and renewable energy.

2022 
Clean50
exceptional contributors to the clean economy
contributeurs exceptionnels à l'économie propre
TOP PROJECT

Resources and tools

The Pembina Institute and UDSI Technical and Research Partners produced reports and resources to inform and advise business and government on zero-emission vehicle deployment.



by Pembina Institute

Making the Case for Electric Urban Delivery Fleets in the GTHA

Provides urban delivery fleet operators with the knowledge to better understand the considerations involved in switching to electric delivery vehicles.

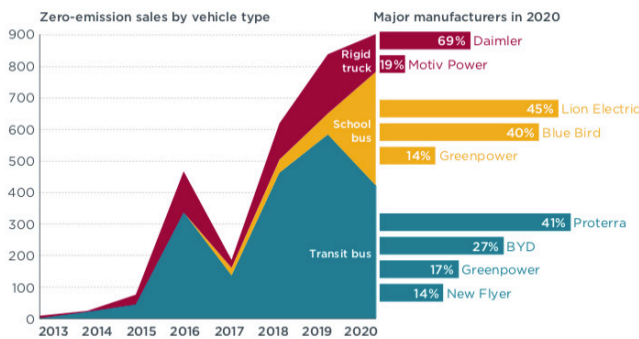
20 steps to fleet electrification

- Understanding your needs**
 - Develop the business case for fleet electrification
 - Determine your preferred vehicle specifications
 - Set a minimum vehicle utilization standard
- Exploring what's available on the market**
 - Identify suitable electric vehicle models
- Developing a strategy**
 - Create a phasing plan that incorporates a trial or pilot period
- Assessing facility and site infrastructure requirements**
 - Determine your charging strategy
 - Identify your ideal ratio of chargers to vehicles
 - Identify your charging speed requirements
 - Consider smart charging as an option
 - Engage your local distribution company to create a power delivery roadmap
 - Identify need for site infrastructure updates
- Determining your financial strategy**
 - Find out if you're eligible for funding grants
 - Select your preferred financing or leasing model
- Seeking external approvals**
 - Obtain approval from the Electrical Safety Authority
 - Obtain building permits
- Deploying charging infrastructure**
 - Install hardware
 - Install software
- Training your employees**
 - Train your drivers
 - Train your maintenance staff
- Evaluation**
 - Evaluate your EV performance

by Pembina Institute

Making the Switch: A step-by-step action plan for commercial electric vehicle deployment

Provides a step-by-step guide and key tips to deploy battery-electric urban delivery vehicles with on-site depot charging in the GTHA and beyond.



by International Council on Clean Transportation

Zero-emission bus and truck market in the United States and Canada: a 2020 update

The fact sheet provides an overview of the 2020 market for new zero-emission commercial vehicles in the United States and Canada.

ZERO-EMISSION TECHNOLOGY INVENTORY

SELECT A VEHICLE PLATFORM

SELECT A REGION

SELECT A VEHICLE MANUFACTURER

REPORTED VEHICLE AVAILABILITY THROUGH 2023

Available 2021 2022 2023

by CALSTART

Zero-emission Technology Inventory Tool

The ZETI tool is an interactive online resource and regularly updated to provide fleets and government with information where zero-emission brands are available for purchase and a timeline for new models.

Building a strong community and generating awareness

Pembina Institute and its partners regularly contributed to the public dialogue to inform and connect practitioners on sustainable freight practices in North America. Click on the links below to learn more.

- **Going Electric:** The Pembina Institute hosted panelists from Purolator and Geotab who discussed challenges and opportunities in urban delivery electrification.
- **Primed for Pickup:** National Association of City Transportation Officials, Bloomberg Associates and the Pembina Institute discussed the online shopping boom from cargo e-bikes to low-emission zones to new warehouse and supply chain models.
- **Smart Freight Symposium:** The Smart Freight Centre featured leaders from government, industry, non-profits, and researchers on goods movement.
- **Op-ed:** “Why it’s time to electrify medium- and heavy-duty vehicles”: Shayna Rector Bleeker from 7 Generation Capital in iPolitics.

Informing policies and best practices

Pembina Institute identified opportunities to support ZEVs for goods movement in Canada:

- Examined the **economic growth potential** of growing the EV economy in Ontario and identified actions that the **Ontario government** could take to support transportation electrification. This resulted in the establishment of a **Ontario Transportation Electrification Council**.
- Identified **actions that GTHA municipalities** could take to support transport electrification.
- Generated **research** on cargo e-bike regulations supported the City of Toronto’s approval of a **new large cargo e-bike pilot** and supportive bylaws.
- Leveraged findings from the **Building a Zero-Emission Goods Movement System report** to **recommend** that the federal government provide greater funding to empower fleets to uptake ZEVs. Resulted in \$500 million over five years in financial incentives for MHDVs as well as \$36 million over five years to expand and create skills-training programs.

pembina.org/UDSI

February 2022

PEMBINA
institute



SIEMENS

FedEx



ONTARIO POWER
GENERATION



icct
THE INTERNATIONAL COUNCIL
ON CLEAN TRANSPORTATION



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About the Pembina Institute

The Pembina Institute is a charitable non-profit organization. For 35 years, the Institute has been working to solve today’s greatest energy challenges — reducing the harmful impacts of fossil fuels while supporting the transition to an energy system that is clean, safe, and sustains a high quality of life. We envision a world in which we produce and use energy in a way that creates a transportation system that transforms passenger and goods movement to support clean air and efficient land use, and helps achieve inclusive, affordable, and healthy communities.