

AUX Energy: Heavy-Duty EV Charging Pilot Program Project Report

July 2025

Project Summary

Project Overview

- AUX Energy partnered with Natural Resources Canada (NRCan) to create scalable prototypes for Class 8 Electric Vehicle (EV) charging. Through this partnership, AUX Energy secured \$4.9M in non-repayable grant funding to develop EV charging infrastructure; to compliment the EV charging infrastructure, in certain cases, AUX Energy also provided Class 8 EVs.
- The project was well received, with **six (6)** prominent clients benefitting from AUX Energy's solutions.

Clients Served



*EV and Charging Infrastructure
at St. Jacobs, ON facility*



*EV and Charging
Equipment at two facilities
(ON & QC)*



*EV and Charging
Infrastructure at two
facilities in ON & BC.*



*EV and Charging
Equipment at Hensall,
ON facility*



*Charging Equipment
at Toronto, ON
facility*



*Charging Infrastructure at
Fort Erie, ON facility*

Company Overview:

- Home Hardware Stores Limited, founded in 1964 in St. Jacobs, Ontario, is Canada's largest Dealer-owned home improvement retailer with over 1,000 stores nationwide.

Distribution Network:

- Operates three (3) main Distribution Centres (St. Jacobs, ON; Wetaskiwin, AB; Debert, NS) and a bulk lumber DC in Kitchener, ON.

Fleet Operations:

- Private fleet of 150 trucks and 600+ trailers.
- Covers over 20 million km annually.
- Retires/acquires ~20 trucks per year.
- Includes highway and yard (shunt) trucks.
- Prioritizes safety, efficiency, and driver satisfaction.

Objectives:

- Explore the feasibility and Return-On-Investment of integrating Electric Vehicles (EVs) into the fleet to reduce fuel costs and support ESG goal.



Home Hardware is taking its first step towards transitioning its fleet to zero-emission vehicles with the purchase of two Volvo VNR electric trucks.



Completed Fast Charging infrastructure at Home Hardware' St. Jacobs, ON to support charging for the Class 8 EV vehicles.

Solution Provided with NRCan Funding

EV Charging Infrastructure:

- Three (3) ABB Terra 124 CC - Pedestal Mount – Dual Head Charger with provision included for future charger installation). Infrastructure included: new utility connection with upstream electrical equipment along with necessary civil works.



Class 8 EV Shunt Truck:

- One (1) Terberg YT203, 158 kWh Battery Truck.



Potential Benefits

Cost Management:

- EVs help address high fuel costs.
- Initial 3-EV investment expected to break even with current incentives.
- Positive ROI anticipated with increased utilization and scaling.

Strategic Flexibility:

- Full maintenance lease and “Charging as a Service” agreements mitigate risk.
- Option to return assets if ROI targets are not met.

Other Benefits include:

- Enhanced brand image and ESG alignment.
- Improved driver recruitment and retention.
- Employee perks via charger access.

Results and Outcomes

Deployment:

- Two (2) highway EV trucks and One (1) EV shunt truck operational since February 2025.
- Charging infrastructure fully functional with no major issues.

Performance:

- Shunt truck meets range expectations with effective opportunistic charging.
- Highway trucks still undergoing calibration for optimal range.
- Cold weather impacts range as expected.
- Maintenance needs are lower than diesel counterparts.

Driver Feedback:

- Positive reception due to quieter operation and ease of charging.
- Drivers appreciate not handling diesel fuel.

Infrastructure Use:

- Charging stations support employee EVs and are future-ready for public/commercial use.
- Potential for revenue generation from third-party charging.

Lessons Learned

Challenges:

- Charging station construction faced delays and cost overruns, impacting ROI projections.
- Class 8 truck deliveries were significantly delayed given supply chain disruptions after COVID.

Next Steps:

- Full-year performance review to validate ROI.
- Future EV investments will depend on:
 - OEM technology advancements.
 - Truck pricing and incentive availability.
 - Expansion of commercial charging infrastructure

Company Overview:

- General Logistics Systems B.V. (GLS) is a parcel, logistics and freight services provider operating in Europe and North America. In Canada, they provide coast-to-coast coverage, including strategically positioned facilities for overnight deliveries and warehousing services.
- GLS Canada aims to achieve carbon neutrality by 2045, with fleet decarbonization as a key strategy.

Fleet Operations:

- Includes light-, medium-, and heavy-duty vehicles, with Class 8 trucks being major contributors to emissions in long-haul and urban delivery applications.

Objectives:

- Integrate zero-emission Class 8 trucks into daily operations, reduce diesel dependency, and gather insights to guide future fleet transitions. The electric trucks are deployed in energy-intensive urban delivery routes and are key to reducing local emissions and noise pollution.



GLS actively demonstrating its commitment to carbon neutrality by 2045 but implementing a fleet decarbonization as a key strategic pillar.

Solution Provided with NRCan Funding

EV Charging Infrastructure:

- Two (2) e-TRIEVER Charger Cabinets, 22 kW, 480V.

Class 8 EV Shunt Truck:

- Two (2) e-TRIEVER Terminal Truck, 180 kWh Battery Shunt Trucks.



Class 8 EV Road Truck:

- One (1) 2025 Freightliner eCascadia, 6x4 438 kWh Battery Truck.



Potential Benefits

Environmental:

- Supports organization's global decarbonization goals.
- Improves local air quality in dense urban areas.

Social:

- Boosts employee pride and driver retention.
- Enhances community perception of GLS as a responsible corporate citizen.

Strategic:

- Builds internal expertise for future fleet procurement and transition planning.
- Aligns with broader sustainability initiatives.

Results and Outcomes

Operational Integration:

- Trucks are actively integrated and used in urban delivery routes with reliable performance and strong driver satisfaction.

Preliminary Impact:

- Early data shows reduced GHG emissions and operational costs.
- EVs are proving feasible for last-mile operations in Canadian climates.

Technology Deployment:

- Use of Geotab and internal BI tools to monitor fuel savings, cost efficiency, and emissions.
- EV shunter truck meets yard operation needs effectively.

Roadmap Development:

- Insights are shaping a strategy to scale zero-emission trucks across other Canadian urban centers.

Lessons Learned and Next Steps

Vehicle-Route Compatibility:

- EV performance varies by route type and season; must be factored into future planning.

Charging Infrastructure:

- Design must accommodate vehicle size, trailer turning radius, and port location.
- Winter energy demands (e.g., heating) significantly higher and impact range and must be planned for.
- Investment planning should consider future growth but avoid costly premature electrical upgrades.

Procurement Strategy:

- OEM supply delays are a risk; intermediaries can help secure inventory and leasing options.
- Electrical upgrades should be scalable but cost-effective.

Next Steps:

- Publish an internal case study to share insights.
- Explore EV deployment opportunities in Toronto, Vancouver, and other regions.
- Align RNG and EV initiatives under a unified decarbonization strategy.



Company Overview:

- The TDL Group Corp. and its subsidiaries and affiliates (together, "TDL"). TDL is the franchisor of Tim Hortons® restaurants in Canada, and operates corporate offices, Distribution Centres ("DC"), manufacturing facilities, and a small number of corporately-owned restaurants across the country.
- TDL has 4,000 Tim Hortons retail locations in Canada and the brand has nine distribution centres, five of which are company-owned.
- TDL is expanding its electric vehicle (EV) fleet to support its broader sustainability goals and reduce its environmental impact.

Fleet Operations:

- Includes utilizes heavy-duty vehicles, with Class 8 trucks to deliver various products to locations across Canada.

Objectives:

- Integrate zero-emission Class 8 trucks into daily operations, to reduce diesel dependency, and gather insights to guide future fleet transitions.



Tim Hortons' first zero-tailpipe emissions electric transport truck on the road in Ontario.

Testimonial Highlight

"Working with AUX Energy allowed us to expand our environmental goals. Through capitalizing on grants available, AUX Energy was able to assist us with not only a charger for our Langley site, but a charger for Guelph which allowed us to expand our EV fleet to more than we had planned in 2025."

– TDL, Manager, National Fleet, Maintenance & Compliance

Solution Provided at Guelph DC in Ontario

EV Charging Infrastructure:

- One (1) ABB Terra 184 - Pedestal Mount – Dual Head Charger Infrastructure included: connection with upstream electrical equipment along with necessary civil works.



Class 8 EV Road Truck:

- One (1) Volvo VNRE, (452 kWh usable) energy.



Solution Provided at Langley DC in British Columbia

EV Charging Infrastructure:

- One (1) Power Electronics NB180- Pedestal Mount – Dual Head Charger. Infrastructure included: connection with upstream electrical equipment along with necessary civil works.





Results and Outcomes

Partnership Impact:

- Collaboration with AUX Energy enabled access to grants, allowing the purchase of chargers for both Langley and Guelph sites and enabled the fleet expansion to exceed initial 2025 targets.

Operational Readiness:

- Concrete timelines and clear responsibilities were established.
- Collaborative planning with DC leads ensured driver availability and route compatibility.

Roadmap Development:

- Insights will further TDL's learnings on truck electrification and how to effectively operationalize and scale this action to meet their 2030 goals. TDL intends to purchase more vehicles at both DCs.

Lessons Learned

- Environmental goals were balanced with financial viability.
- Early stakeholder engagement involvement of DC leads ensured operational feasibility and user buy-in.
- Defined timelines and accountability were critical to project success and avoided premature infrastructure upgrades by aligning charger installation with actual fleet needs.

Potential Benefits

Environmental:

- Supports carbon emissions reduction and aligns with sustainability goals.
- Helps mitigate the environmental impact of quick-service restaurant operations.

Strategic Learning:

- Piloting new EV units provides valuable insights into performance and suitability.
- Continuous learning helps optimize future fleet decisions for maximum carbon footprint reduction.

Social and Operational:

- Enhances employee engagement and organizational pride.
- Builds internal capacity for managing EV infrastructure and operations.

Next Steps

- Complete charger installations and receive new EV units.
- Monitoring EV usage and adoption, Operational efficiency of chargers and tractors and User feedback and satisfaction.
- Publish internal findings and continue refining EV strategy.

Company Overview:

- Hensall Co-op stands as the 8th largest non-financial cooperative in Canada, with over 6,000 farm member-owners operating across Canada.
- Hensall Co-op is committed towards sustainability and efficiency initiatives such as greenhouse gases reduction, responsible power consumption and increasing operational productivity.

Fleet Operations:

- Includes traditional diesel-powered shunt trucks, commonly used for short-distance transport within hubs contributing to green house gas emissions.

Objectives:

- Reduce Carbon footprint by utilizing EV vehicles within the agricultural industry, given the significant logistical demands associated with the movement of goods between several key processing points.



One of the new electric shunt trucks at Hensall's Ontario facility.

Solution Provided with NRCan Funding

EV Charging Infrastructure:

- One (1) e-TRIEVER Charger Cabinets, 22 kW, 480V.

Class 8 EV Shunt Truck:

- Two (2) e-TRIEVER Terminal Truck, 180 kWh Battery Shunt Trucks.



Lessons Learned

- Financial support was critical for the acquisition of the electric shunt trucks and the charging station.

Results and Outcomes

Lower Emissions:

- These trucks produce zero tail-pipe emissions reducing air pollution and aligning with the corporate sustainability goals.

Reduced Operating Costs:

- Electricity is generally cheaper than diesel, and electric trucks tend to require less maintenance as they contain fewer moving parts.

Quieter Operations:

- Reduced noise levels enhance the workplace safety and improve the working environment for the employees.
- Trucks are quiet, smooth on rough ground and can clear winter frost with instant heat.

Next Steps

- Closely monitor truck performance to evaluate their viability in daily operations and determine if seasonal changes impact overall operations.
- Re-evaluate Hensall Co-op's sustainability goals and determine next steps to move towards sustainable logistics.

Company Overview:

- Based in Ontario, ITD Industries is an industry leader in transportation equipment, both as an OEM of trailers (vans, chassis, electric trailers and specialty vehicles), and dealer of zero-emissions trucks. In 2026, ITD will be manufacturing Class 4, 5 and 6 trucks out of its Etobicoke plant.
- ITD's dealer and service network ranges from coast to coast and its strategic investments in smart and electric trailer technology will help to power our customers shift to a cleaner more sustainable future.

Partnership Focus:

- The project is a collaborative field deployment between ABB E-mobility and ITD Industries, showcasing the importance of partnerships in accelerating EV adoption in commercial transportation.

Objectives:

- To support ITD customers' electric fleet operations from their headquarters located in Etobicoke, Ontario.



The first A400 All-in-One charger in North America designed and installed to deliver the highest uptime and charging success rate.

Testimonial Highlight

As part of our strategic plan to supply our fleet customers with best-in-class zero emissions trucks, our partnership with ABB E-mobility puts us on the leading edge of fast charging technology which will help to accelerate adoption of EVs in Canada's trucking market."

– Philip Turi, COO at ITD Industries

Solution Provided with NRCan Funding

EV Charging Infrastructure:

- One (1) ABB A400 EV Charger , 400kW, dual port. Infrastructure included: connection with upstream electrical equipment along with necessary civil works.
- The first A400 All-in-One charger in North America designed to deliver the highest uptime and charging success rate.



Potential Benefits

Environmental:

- Supports organization's global decarbonization goals.
- Improves local air quality in dense urban areas.

Reduced Charging Time:

- For businesses, shorter charging times translate to improved vehicle turnover rates, shorter wait times, and increased productivity.

Social:

- Boosts employee pride and supports EV owners with a local fast charger.
- Enhances perception of ITD as a responsible corporate citizen.

Strategic:

- High-speed charging alleviates range anxiety, a major barrier to EV adoption, by providing quick charging solutions for longer journeys.
- Aligns with broader organizational sustainability initiatives.
- Faster charging allows for better management of vehicle fleets and more efficient operations for ITD and nearby fleet operators.

Results and Outcomes

Technology Deployment:

- The ABB A400 charger is now operational and supporting ITD's fleet.
- The charger is undergoing real-world field testing to validate performance in demanding fleet environments.

Environmental Impact:

- Supports the transition to zero-emission transportation.
- Reduces local air pollution and greenhouse gas emissions.

Roadmap Development:

- Insights will further learnings on truck electrification and how to effectively operationalize fleets.

Lessons Learned

Strategic Partnerships:

- Collaboration with ABB E-mobility was key to ensuring the charger was delivered to the customer on time.
- Active communication and quick decision making supported quick the design and installation of the charger in a very short duration.

Potential Benefits

Field Testing Value:

- Real-world deployment provides critical data on charger performance, reliability, and integration with fleet operations.

Customer-Centric Design:

- The A400 is designed to meet the high demands of fleet customers, ensuring seamless and efficient charging.

Next Steps

- Monitoring EV usage and adoption, Operational efficiency of chargers and tractors and User feedback and satisfaction.
- Publish findings through OEM and continue refining EV strategy.

Company Overview:

- Pride Group logistics is a North American truckload carrier with core activities tied to connecting the Ontario and the Quebec marketplace.
- Pride EV is a leading force in sustainable infrastructure, consistently driving innovation to meet the evolving needs of fleet electric mobility with the aim to help customers transition towards EV fleet.

Fleet Operations:

- Maintain a modern reefer-equipped fleet with both tridem and tandem variations and provides 53' dry vans for their customers' requirements.

Objectives:

- Pride EV wanted to achieve electrification goals by developing and deploying critical energy solutions for their long-haul operations

Results and Outcomes

- Pride Group suffered from bankruptcy and the newly installed infrastructure has not been operated to realize the organization's objectives.

Solution Provided with NRCan Funding

EV Charging Infrastructure:

- Included 18 DC fast connectors, ranging from overnight 50 kW units up to high-power fast 350 kW connectors for opportunity charging, to electrify more than 70 trucks per day and support the mileage range of commercially available electric trucks.

Lessons Learned

- The site is strategically planned to integrate microgrids with increased capacity for future expansion.
- Worked with regional fleets, offering them the opportunity to leverage this advanced charging infrastructure.
- Project was a recipient of Zero Emission Vehicle Infrastructure Program funding.

Next Steps

- Pride Group suffered from bankruptcy with its filing before the courts, with Ernst & Young as monitor.
- AUX Energy is actively working with Ernst & Young to determine next steps.