

Canada's

VENTURES TO VALUE CHAINS

TRANSPORTATION TECHNOLOGY

MAY 2025



FORESIGHT
CANADA



ACKNOWLEDGEMENTS

Foresight acknowledges that the lands on which we conducted this work are the traditional, ancestral, and unceded territories of the xwməθkwəy̓əm (Musqueam), Skwxwú7mesh (Squamish), and səlilwətał (Tsleil-Waututh) Nations.

This report was prepared by Foresight Canada. It was written by Deepthi Sendilkumar with support from Alyssa Kelly. Additional support was contributed by Kylie Williams, Randy Zadra, and Tyler Maksymiw. Design by Steffi Lai.

We'd like to acknowledge and thank the contributions of [Net Zero Insights](#) in compiling the transportation technology ecosystem data.

Thank you to Foresight's Net Zero Innovation Network in British Columbia (BCNZIN) team for their contributions. Foresight's Net Zero Innovation Network in BC is made possible by financial support from PacifiCan and the Province of British Columbia through the Ministry of Energy and Climate Solutions.

BC NET ZERO
INNOVATION NETWORK

Foresight is Canada's cleantech accelerator.

Foresight Canada helps the world do more with less, sustainably. As **Canada's largest cleantech innovation and adoption accelerator**, we de-risk and simplify public and private sector adoption of the world's best clean technologies to improve productivity, profitability, and economic competitiveness, all while addressing urgent climate challenges.

ABOUT



FORESIGHT
CANADA



TABLE OF CONTENTS

| | |
|---|-----------|
| INTRODUCTION | 6 |
| RATIONALE | 8 |
| TRANSPORTATION TECHNOLOGY: THE VALUE CHAIN | 9 |
| METHODOLOGY | 10 |
| CANADA'S TRANSPORTATION TECHNOLOGY COMPANIES | 11 |
| PROVINCIAL AND REGIONAL CLUSTERS | 13 |
| • BRITISH COLUMBIA | 16 |
| • QUEBEC | 18 |
| • ONTARIO | 20 |
| • ALBERTA | 22 |
| • PRAIRIES (MANITOBA AND SASKATCHEWAN) | 24 |
| • ATLANTIC PROVINCES (NS, NB, AND PEI) | 26 |
| • PROVINCES AND TERRITORIES NOT REPRESENTED | 28 |
| SECTORAL TRENDS AND CANADIAN OPPORTUNITIES | 29 |
| • OPTIMIZATION | 31 |
| • ELECTRIC VEHICLES | 33 |
| • FUELS | 35 |
| RECOMMENDATIONS | 36 |
| CONCLUSION | 39 |
| REFERENCES | 40 |
| • APPENDICES FOUND IN ACCOMPANYING DOCUMENT | |

INTRODUCTION

CANADA'S TRANSPORTATION SECTOR IS A CRITICAL AND DYNAMIC COMPONENT OF THE ECONOMY

It enables the daily movement of passengers across the country and enabling the flow of goods to and from international markets. The Trade Commissioner Service classifies the sector into seven key, often overlapping subsectors: urban transit, railway equipment and suppliers, intelligent transportation systems, shipbuilding, ports, trucking, logistics, and other transportation-related services.¹





The transportation sector is also a major contributor to Canada's greenhouse gas (GHG) emissions, accounting for 22% of the country's total emissions.² In economic terms, the transportation and warehousing sector directly contributed 4% to Canada's GDP in 2023, equivalent to \$88.5B.³ Notably, this figure excludes the manufacturing of vehicles and their components, which falls under the manufacturing sector. However, the transportation and warehousing sector supports other industries, particularly manufacturing, wholesale, and retail, by enabling the movement of inputs and finished goods to markets.⁴

The Government of Canada defines clean technology as "any good or service designed with the primary purpose of contributing to remediating or preventing any environmental damage." Clean technology adoption and supply chain resilience are increasingly recognized as critical to ensuring Canada's transportation sector's long-term sustainability and competitiveness.

Recent events have highlighted vulnerabilities in Canada's transportation sector. The Canadian Transportation Agency's Annual Report (2024) noted significant disruptions in 2023, including Alberta wildfires in May, a 13-day strike at BC ports in July, and a polar vortex in January 2024. While the establishment of the National Supply Chain Task Force in 2022 has helped mitigate such risks, the sector remains vulnerable to climate events, labour disputes, and supply chain disruptions, underscoring the need for a more resilient transportation system.⁵



In response, **federal, provincial, and municipal governments** have introduced various initiatives, bills, funds, and grants to promote innovation, sustainability, and infrastructure development across the transportation sector. Some of the most notable initiatives include:

-  **Zero-Emission Vehicle Infrastructure Program (ZEVIP):** Administered by Natural Resources Canada, ZEVIP provides funding to increase the availability of localized charging and hydrogen refuelling infrastructure across Canada, where people live, work, and play. The program addresses a critical barrier to zero-emission vehicle (ZEV) adoption – the limited availability of charging and refuelling stations. The Government of Canada has set a target to deploy 84,500 chargers and 45 hydrogen refuelling stations by 2029 to support the growing adoption of ZEVs. ⁶
-  **Clean Fuel Regulations (CFR):** Introduced by the Government of Canada, the CFR aims to reduce greenhouse gas (GHG) emissions by lowering the carbon intensity of fuels used in Canada. The regulations promote using cleaner fuels and alternative energy sources, fostering innovation and adopting clean technologies across the transportation sector. The CFR is part of a broader policy framework under Canada's 2030 Emissions Reduction Plan: Clean Air, Strong Economy, which sets the path toward net zero emissions by 2050. ⁷
-  **National Trade Corridors Fund (NTCF):** With a budget of \$4.6 billion over 11 years (until 2028) ⁸, the NTCF provides funding for strategic infrastructure projects that improve the flow of goods, support trade diversification, and address transportation challenges in the territorial North. The fund also aims to enhance the efficiency and reliability of Canada's transportation system across all modes, including road, rail, air, and marine. The NTCF is crucial in ensuring Canada remains globally competitive while strengthening its internal supply chains. ⁹
-  **Transportation 2030:** Launched in 2016, a strategic plan developed by Transport Canada to guide the future of Canada's transportation system. It focuses on five key themes, including green and innovative transportation, waterways, and trade corridors for global markets. The initiative aims to make Canada's transportation system smarter, cleaner, and safer. ⁹

Mapping technology innovators in the transportation sector help shape strategy by highlighting where Canadian companies are driving progress and seizing growth opportunities. This edition of Foresight's Ventures to Value Chains (V2VC) initiative aims to provide insights to our Helix-5™ partners on areas of strength for Canada, as well as opportunities for growth, by leveraging data we have collected on Canada's transportation technology companies.

With this report, Foresight aims to add to this existing sectoral knowledge by focusing on the current ecosystem of transportation technology innovation, research, and development. These insights are based on a dataset of 157 companies across Canada, each assigned to relevant steps along the sectoral value chain (VC steps). The report identifies regional and topical clusters of companies and potential innovation trends while referencing the existing body of work in the transportation sector to provide additional context. This report focuses on two key dimensions of the transportation sector: the movement of goods and the manufacturing of technologies that support sustainable transportation. It excludes harvesting and extracting raw materials for vehicle manufacturing and manufacturing electric vehicle (EV) batteries and related technologies since these processes are covered in other existing studies. The Transportation V2VC emphasizes technology, focusing on development, deployment, and scaling within the transportation sector to support Canada's transition to a clean economy.

Although these findings reflect only a snapshot of the current technology ecosystem, this installment of Foresight's V2VC initiative aims to contribute to the evolving dialogue on innovation in transportation and provide insights on possible areas where Canada can build on its strengths and potential opportunities for growth.



RATIONALE

VENTURES TO VALUE CHAINS

Ventures to Value Chains is a Foresight initiative that leverages data from technology companies and other key collaborators to map and categorize strategically important industry value chains for Canada in the clean economy.

This initiative will result in a report and web map, which can be used as tools to inform key industry leaders of Canada's competitive strengths, ecosystem gaps, and areas of opportunity and growth. These insights can assist in identifying where targeted programming, research and development, or funding will bolster Canada's leadership and economic development as we transition to a net zero economy.

TRANSPORTATION TECHNOLOGY: THE VALUE CHAIN

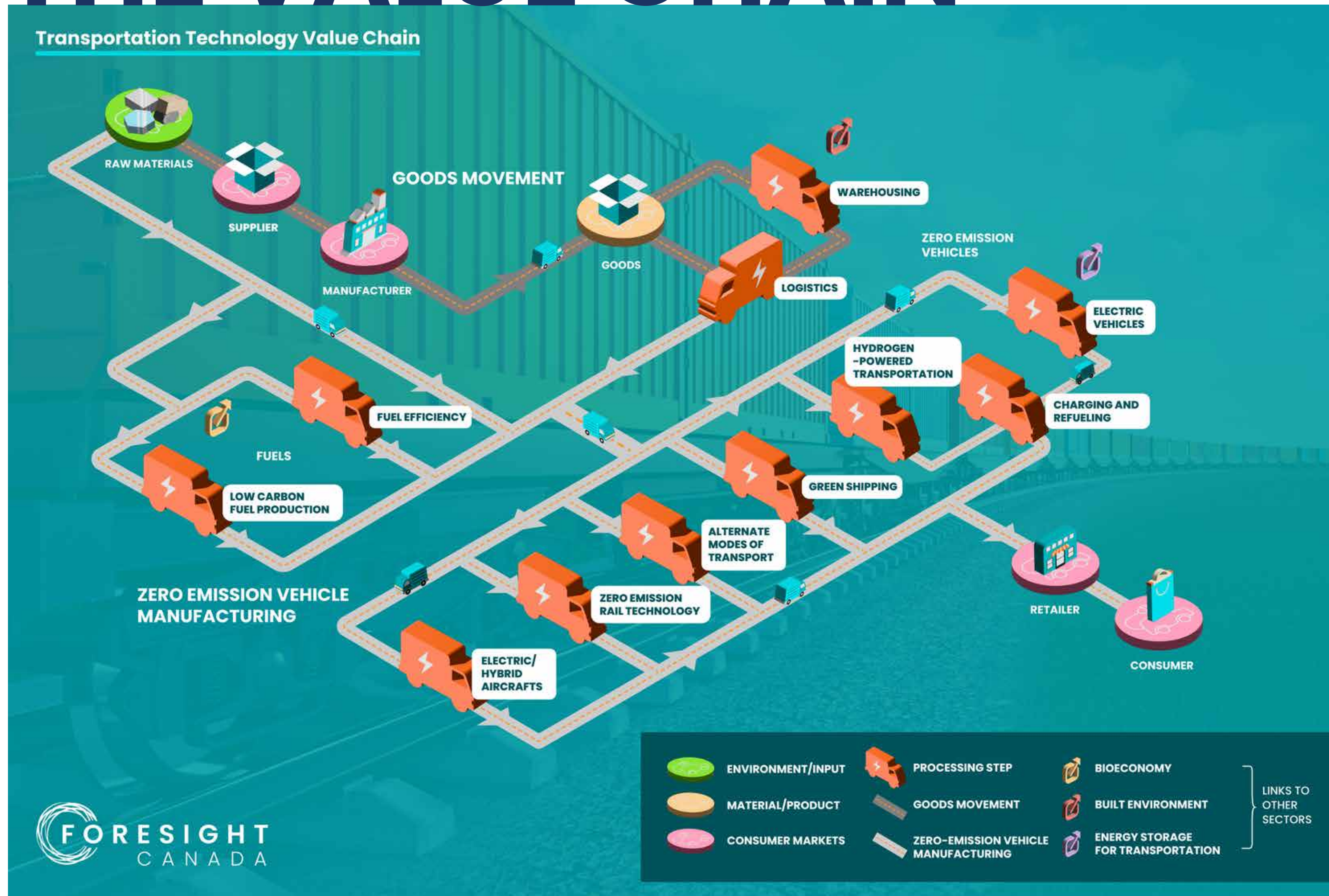


Figure 1 illustrates the steps in the transportation technology value chain. The value chain begins with procuring and extracting raw materials and ends with consumers through two distinct pathways. It outlines a series of processing steps, as well as the inputs and outputs at each stage. The two pathways are:

- 1. Movement of Goods:** This section highlights how goods are transported using sustainable methods, incorporating logistics and warehousing as key processing steps.
- 2. Manufacturing of Zero-Emission Vehicles:** This covers the production of vehicles across all sectors (road, rail, marine, and air), including the production of transportation fuels up to the end user.

Because this value chain intersects with other sectors, it also identifies areas that overlap with other sectoral value chains that Foresight is mapping. For this reason, technologies related to the manufacturing and designing of electric vehicle batteries, battery components, and end-of-life are included in the Energy Storage for Transportation V2VC. At the time of writing, a study encompassing the entire hydrogen value chain is planned and will be available in the future. This report will include hydrogen-powered transportation technologies only.

Figure 1 Transportation Technology Value Chain

¹ While these are labelled as processing steps, they include all types of actions within the value chain. For definitions of each of the processing steps, see Appendix A.

METHODOLOGY

This research was conducted by mapping the ecosystem of transportation technologies, categorizing companies based on value chain steps, and analyzing how the companies were distributed across the value chain.

The transportation database comprises technology companies, enablers, and knowledge generators. The value chain mapping and analysis focused on the technology companies, while the enablers and knowledge generators were used to provide additional context. Companies are included in the dataset based on the following criteria:

- 🚗 They are involved in tech innovation, research, or development in some capacity. Suppliers, distributors, service providers, consulting or law firms, among others, are excluded based on these criteria unless they also have their own technology.
- 🚗 They are headquartered in Canada or have a strong Canadian presence in transportation technology innovation, research, and development. Examples of a strong presence would include companies with a dedicated research and development branch located in Canada or a Canadian subsidiary with its own technology that has retained its brand identity.
- 🚗 Have a valid website or online presence.

Companies were assigned to up to three VC steps based on their innovation focus, then analyzed in an aggregated manner to identify regional and national clusters and potential trends. Keywords and comments were used to provide additional context to the potential trends. Secondary research was used to identify possible external factors (e.g., policy, natural resource availability, adjacent industries) that could contribute to clusters or trends. Because the data can only indicate clustering and concentrations, and not why trends exist, observations are communicated as:

- 🚗 **Areas of Strength:** Areas or clusters where the data and supporting research suggest that transportation technology is advancing and should continue to be supported.
- 🚗 **Opportunities:** Areas where the data and supporting research suggest that there is an opportunity to grow, either because of minimal or uneven concentrations, or because it is an area that can help meet the growing need for sustainable solutions.

See Appendix B for a more detailed methodology for mapping and analyzing companies.





CANADA'S TRANSPORTATION TECH COMPANIES

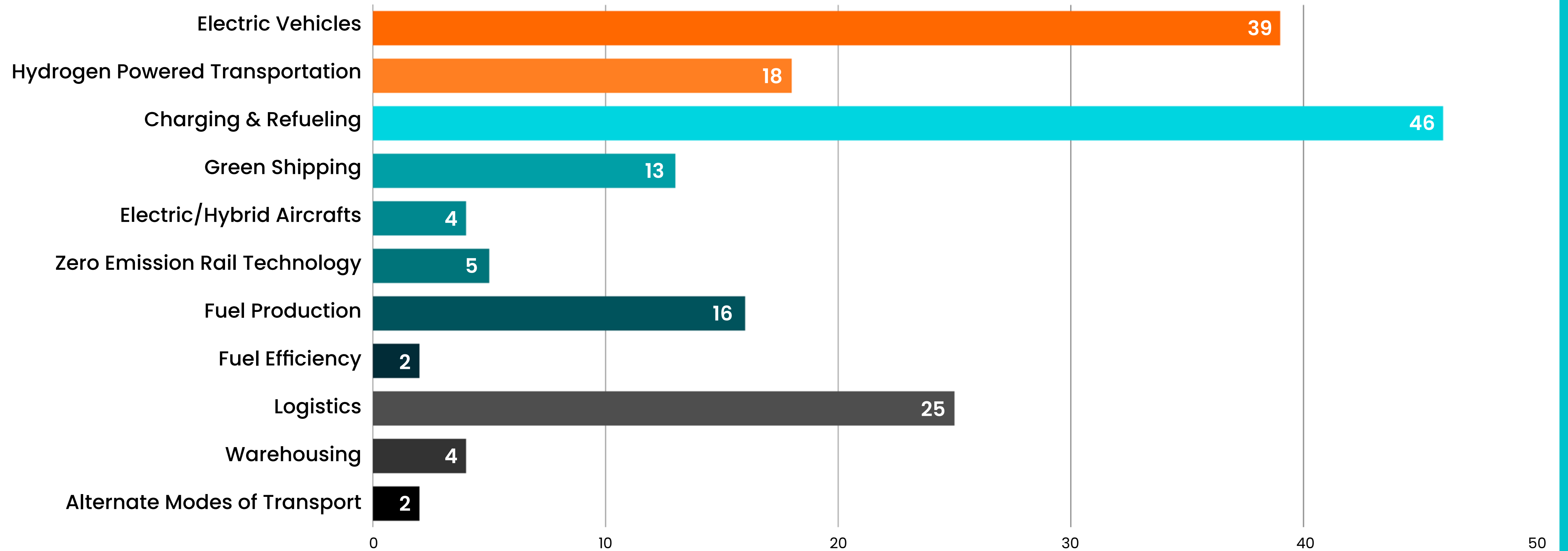


Figure 2


Distribution of transportation technology companies across the value chain.

157 COMPANIES ARE
ASSIGNED TO THE
TRANSPORTATION
VALUE CHAIN:

- 🚗 The top two VC steps with the highest number of companies assigned are charging and refuelling **(46)** and electric vehicles **(39)**.
- 🚗 The least represented VC steps are alternate modes of transportation **(2)** and fuel efficiency **(2)**.
- 🚗 A significant number of companies focused on fleet optimization were assigned to logistics **(25)**.

An aerial photograph of a large container ship sailing on a deep blue ocean. The ship is viewed from above, showing its deck and the numerous colorful shipping containers stacked on it. The ship is moving towards the right, leaving a white wake behind it. The text "PROVINCIAL AND REGIONAL CLUSTERS" is overlaid in large, white, bold, sans-serif capital letters on the left side of the image.

PROVINCIAL AND REGIONAL CLUSTERS



THIS SECTION EXPLORES HOW COMPANIES ARE DISTRIBUTED GEOGRAPHICALLY AND CONSIDER KEY CLUSTERS PROVINCIALY AND REGIONALLY.

Understanding where technology companies are clustered provincially and regionally can provide insights into how provinces can play to their existing strengths and build on potential growth opportunities. This is especially true when clusters include co-located university industrial assets, research centers, and government agencies that can enable collaboration, knowledge transfer, and technical advancements.

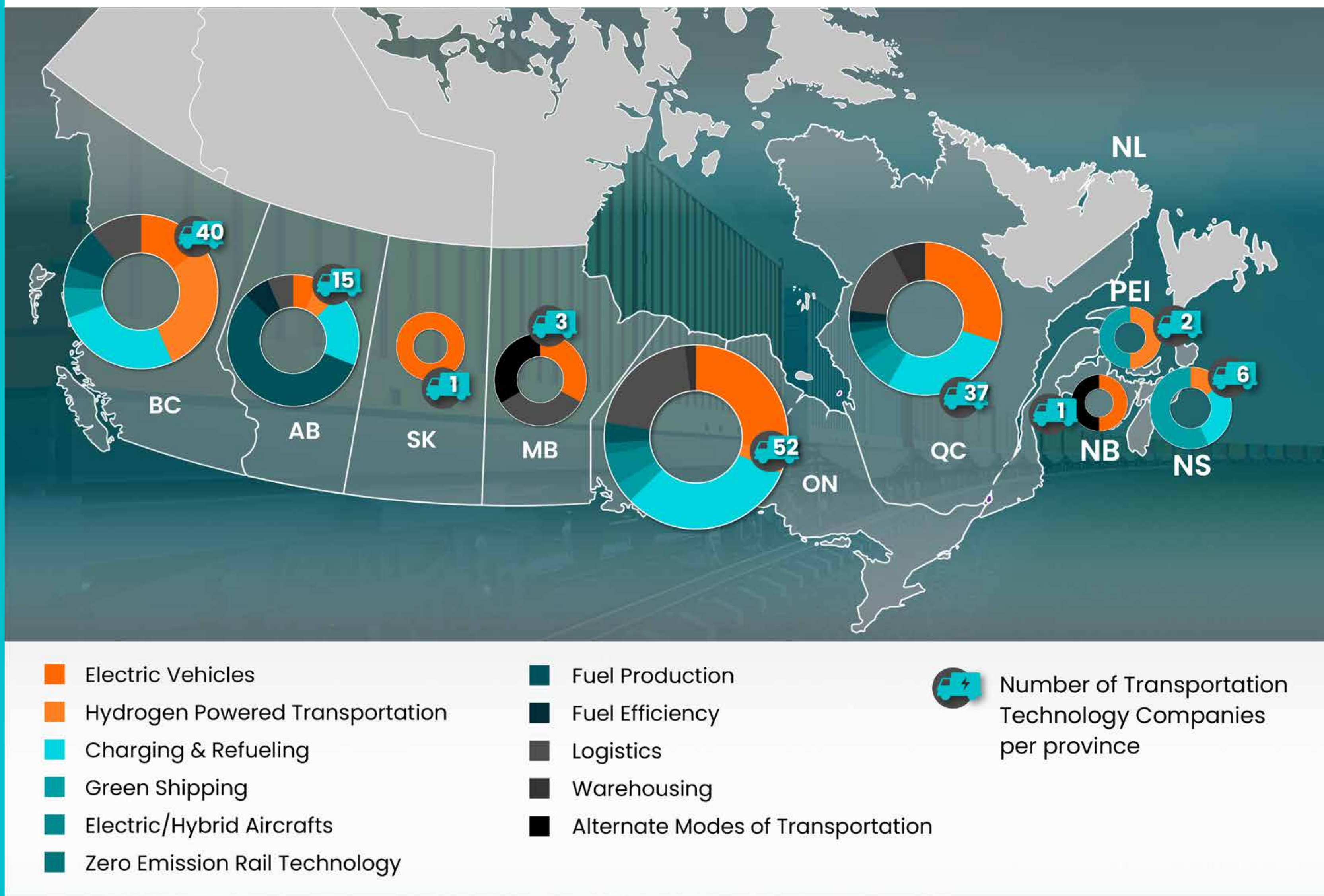


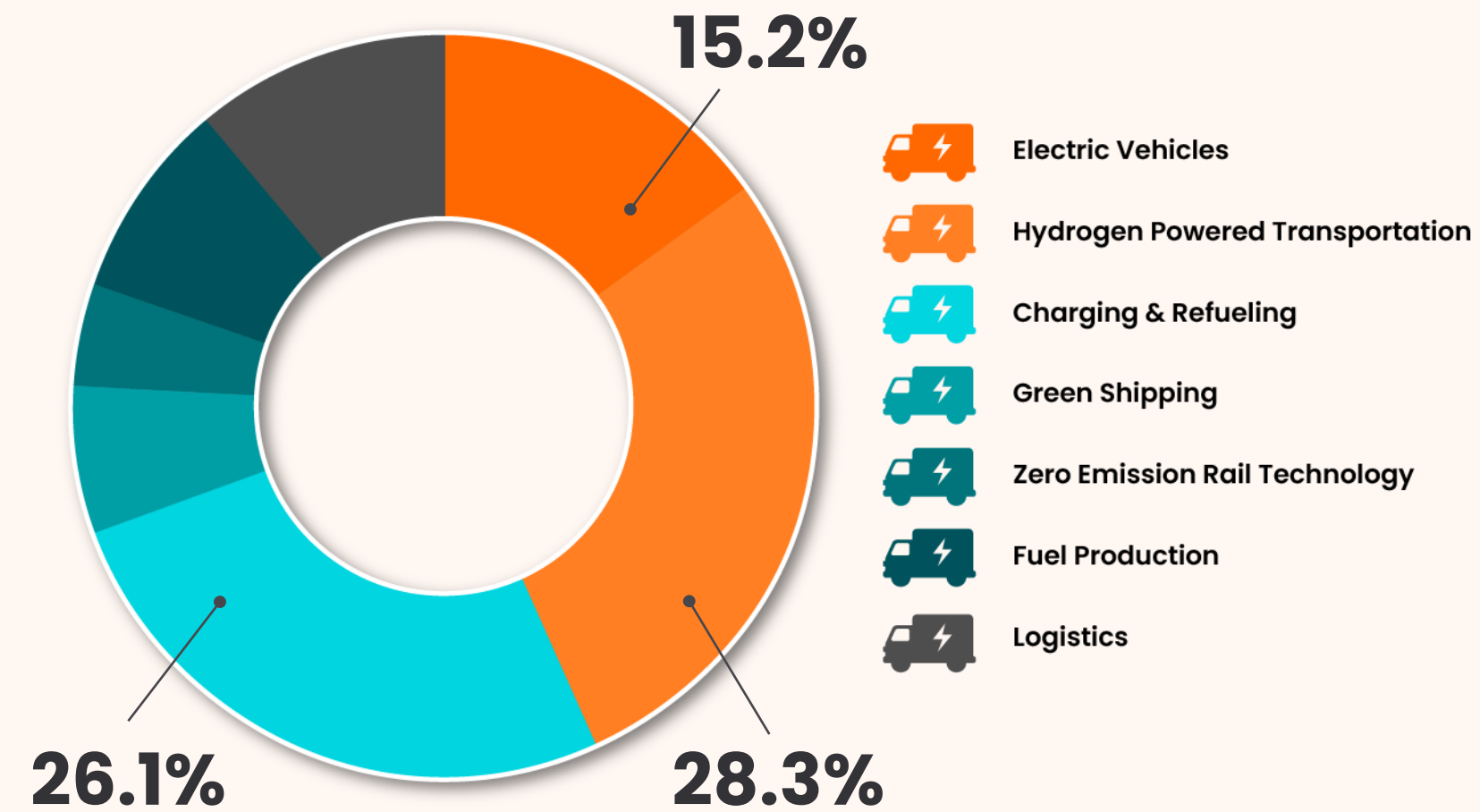
Figure 3 Canada's transportation technology companies.

SUMMARY

- 🚗 Ontario (**52**), British Columbia (**40**), and Quebec (**37**) are the most represented provinces.
- 🚗 The value chain distributions in Ontario are the closest to the national distribution.
- 🚗 British Columbia is strongest in hydrogen-powered transportation.
- 🚗 Ontario has the most companies in electric vehicles, charging and refuelling, electric/hybrid aircraft, and logistics.
- 🚗 Nova Scotia is the most represented Atlantic province.
- 🚗 **32%** of the companies are located in Canada's three largest census metropolitan areas (CMAs):
 - Vancouver (**20**)
 - Toronto (**20**)
 - Montreal (**10**)
- 🚗 The VC step of charging and refuelling is the most well-represented across Canada.

BRITISH COLUMBIA

BRITISH COLUMBIA



Hydrogen-powered transportation—along with charging and refuelling—are areas of strength for British Columbia. With **40** companies total, British Columbia is the second most-represented nominally, after Ontario. Overall, companies related to hydrogen are clustered within British Columbia.

BRITISH COLUMBIA

KEY VC STEP OBSERVATIONS

🚗 The most represented VC steps in British Columbia are **hydrogen-powered transportation (13)** and **charging and refuelling (12)**.

🚗 Proportionate to population, British Columbia has the second highest concentration of companies.

DISCUSSION

Positioned on the western coast, British Columbia is key to Canada's Western Asia-Pacific trade corridor, making it a strategic hub for technology exports to Asia.⁹ The transportation sector is the largest single source of GHG emissions in British Columbia, accounting for approximately 40% of the province's total annual emissions.¹⁰ As a response, the province has positioned itself as a leader in ZEV adoption, clean energy infrastructure, and hydrogen development, leveraging its natural resources and strategic initiatives to advance low-carbon transportation.

In 2023, British Columbia achieved the highest per capita rate of ZEV adoption in Canada. Light-duty ZEVs accounted for 22.65% of new vehicle sales, while medium- and heavy-duty ZEVs comprised 0.57% of total sales.¹¹ The province has set ambitious targets, aiming for ZEVs to represent 26% of new light-duty vehicle sales by 2026, 90% by 2030, and 100% by 2035.¹⁰

To support ZEV adoption, BC Hydro is developing an extensive charging network, with the CleanBC Roadmap to 2030 identifying charging infrastructure as critical for meeting emission reduction goals. The roadmap also emphasizes the need for clean technology innovation and adoption, classifying technologies related to personal travel as being in early deployment and commercial transportation as emergent, with a target for both to reach full deployment by 2030. In alignment with these goals, the province has committed to completing BC's Electric Highway by 2024 and increasing the number of public EV charging stations to 10,000 by 2030.¹⁰

BC has implemented several policy initiatives and strategic plans to further its leadership in sustainable transportation:

- 🚗 **BC Low Carbon Fuel Standard:** Expanding access to low-carbon fuels, including Indigenous community participation.
- 🚗 **CleanBC Heavy-Duty Vehicle Efficiency Program:** Aimed at improving fuel efficiency and reducing emissions in commercial transport.
- 🚗 **Collaborative Pilots:** The province is partnering with Innovate BC, the Prince Rupert Port Authority, and industry to test zero- and low-emission heavy-duty trucks, supporting long-term sustainability in freight transportation.¹²

20 companies are headquartered in Vancouver. Many prominent universities and research centers are found in the city. The City of Vancouver actively collaborates with well-known partners such as TransLink and BC Hydro to improve infrastructure and implement programs to support the transition to zero-emission.¹³

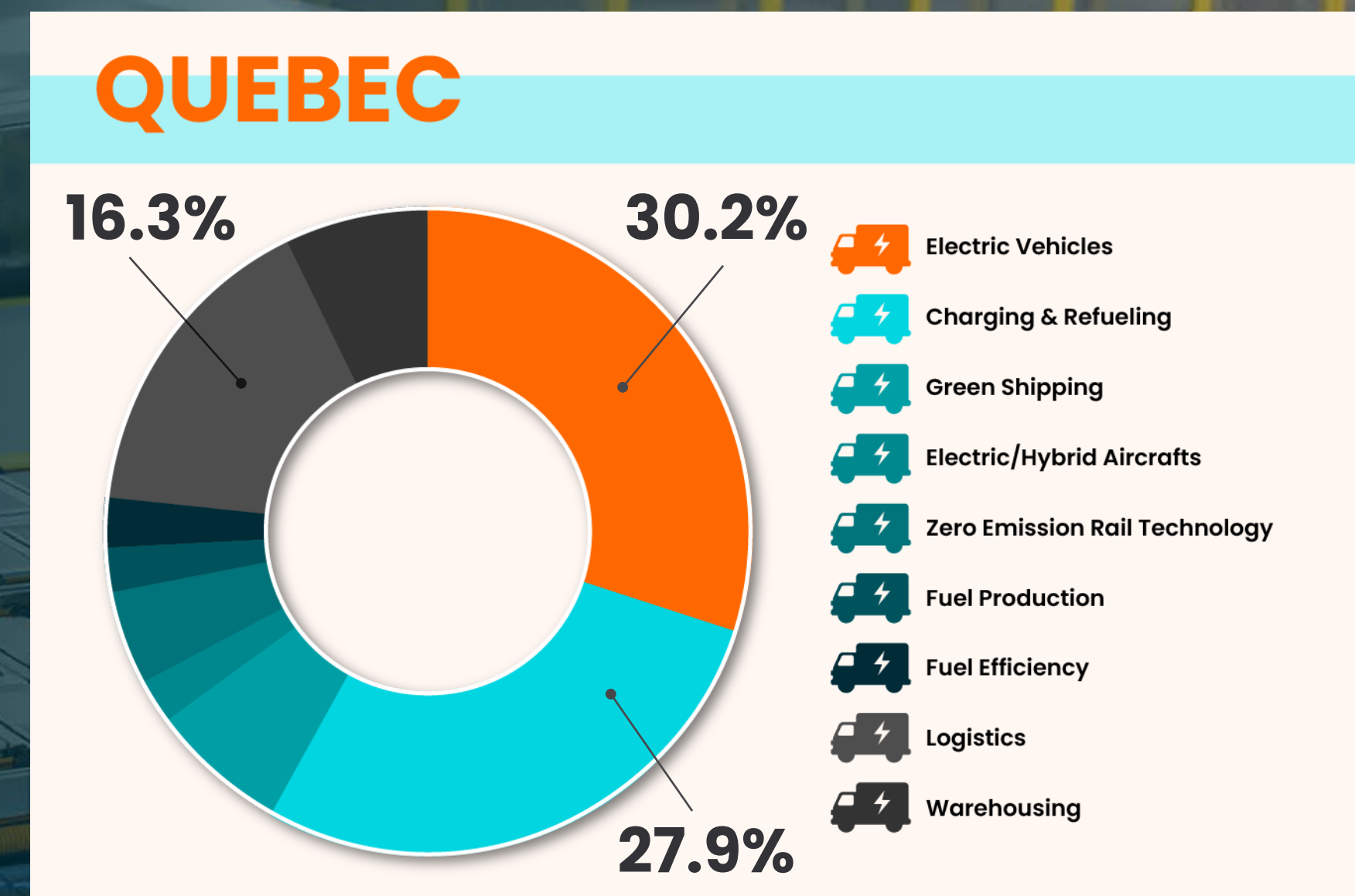
British Columbia is a national leader in hydrogen-powered transportation, home to more than 50% of Canada's hydrogen and fuel-cell companies. The province accounts for nearly 60% of the country's research investment in hydrogen and fuel-cell development. In 2021, BC became the first province in Canada to release a comprehensive hydrogen strategy outlining a framework for production, distribution, and end-use applications.¹⁴ However, rollout has been slower than expected. Some bottlenecks include delays in government subsidies, a limited number of final investment decisions (FIDs), inadequate infrastructure, and inconsistencies in defining clean hydrogen.¹⁵

The province's hydrogen ecosystem is expanding through initiatives such as HTEC's H2 Gateway project, which is estimated to reduce transportation-related emissions by approximately 133,000 tonnes annually.¹⁶ The provincial government has also committed to supporting low-carbon hydrogen innovation and increasing clean fuel requirements, doubling the target for renewable fuel production in BC to 1.3 billion liters by 2030.¹⁰ Another pillar in the BC's Hydrogen Strategy is the export of hydrogen fuel cells to the Asian, European, and US market to support economic growth and international trade.¹⁴

British Columbia integrates zero-emission vehicle adoption, infrastructure expansion, and hydrogen innovation into its broader approach to sustainable transportation. The Goods Movement Action Plan identifies carbon reduction as a strategic advantage,¹⁷ reinforcing the province's leadership in low-carbon freight and logistics. Leveraging its natural resources, policy framework, and industry expertise, British Columbia plays a key role in Canada's transition to a low-carbon transportation sector.

QUEBEC

With **37** companies, Quebec is the third most-represented province, following Ontario and British Columbia. The Quebec companies represented are primarily focused on the manufacturing of electric vehicles and their components and the development of electric vehicle charging infrastructure, such as hardware and software for energy management.



QUEBEC

KEY VC STEP OBSERVATIONS

- 🚗 The most represented VC steps in Quebec are **electric vehicles (13)**, and **charging & refueling (12)**.
- 🚗 Strong presence of companies working on **logistics optimisation** and assigned to logistics value chain step **(7)**.

DISCUSSION

Quebec continues to lead Canada in ZEV adoption, with ZEVs accounting for 42% of new vehicle registrations in Q4 2024, representing 60% of all ZEV registrations nationwide.

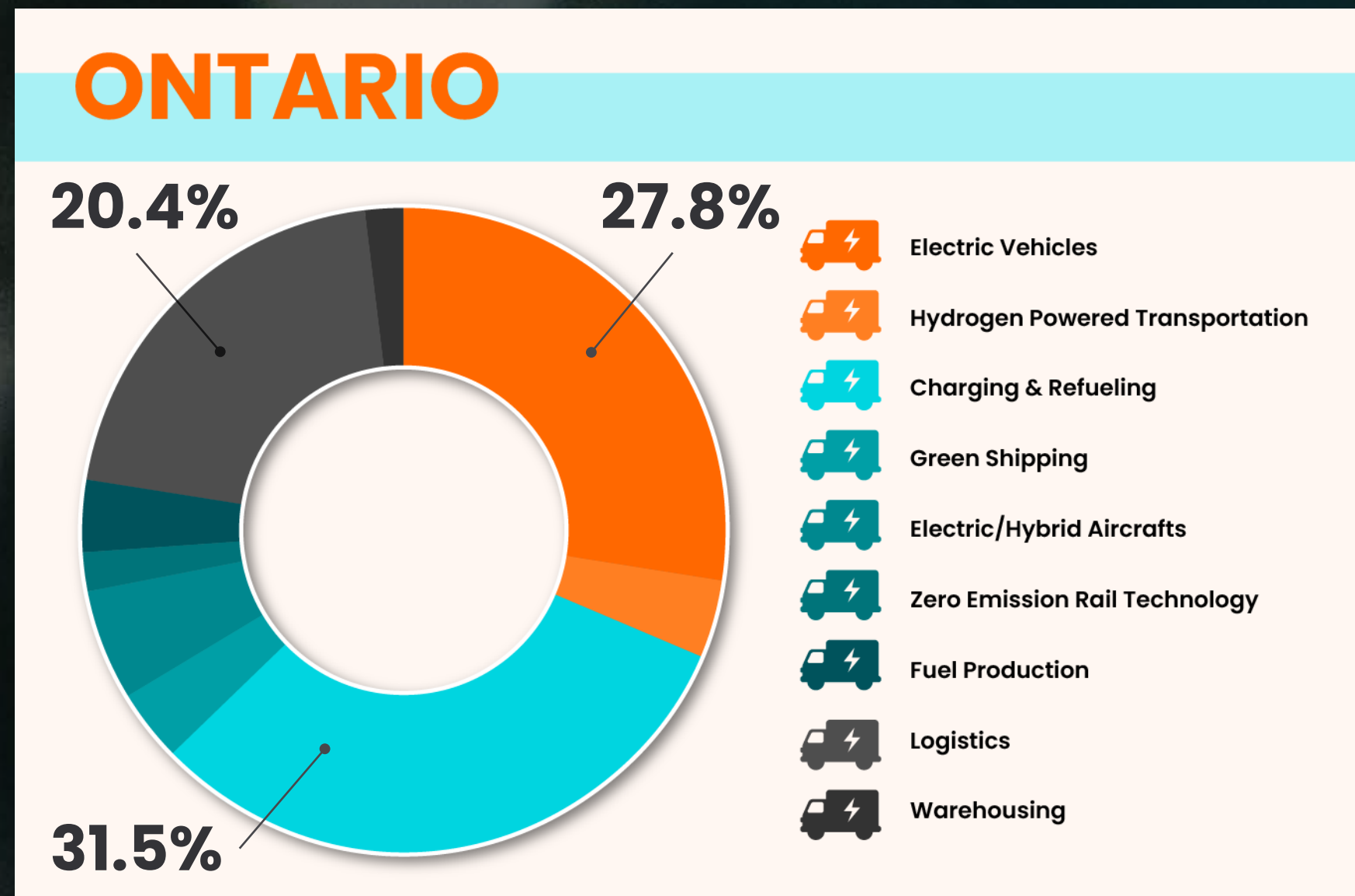
However, there have been some roadblocks for EV adoption as Quebec has temporarily suspended subsidies for electric vehicle purchases and residential charging stations from February 1 to April 1, 2025, due to funding limitations in the Roulez vert program.¹⁸ As the province's main utility and provincial crown corporation, Hydro-Québec operates the Electric Circuit, which is the largest fast-charging network in Quebec. At the time of writing, the network includes over 7,500 charging stations, with more than 1,000 fast chargers, accounting for 60% of the province's DC fast chargers.¹⁹ A major contributor to the widespread adoption of EV is that over 99% of Quebec's energy is from renewable sources with over 90% being hydro power.²⁰ This provides customers access to inexpensive clean electricity for charging. Hydro-Québec is also the largest producer and distributor of electricity in the province.²¹

Given Quebec's abundant critical mineral deposits, the province has attracted significant public investment in EV battery and component manufacturing. However, concerns have emerged following Northvolt's bankruptcy in Sweden, raising questions about the future of its planned \$7B battery plant in Quebec. To date, the Quebec government has invested \$270M in the project, while the Caisse de dépôt et placement du Québec (CDPQ) has contributed \$200M. Additionally, Quebec granted Northvolt \$240M for land acquisition in the Montérégie region.²² The company is now actively seeking a buyer, highlighting uncertainties in the sector and the risks associated with large-scale investments.

Quebec's Sustainable Mobility Policy 2030 reinforces its commitment to electrification and energy-efficient vehicle deployment. The policy targets \$15B in annual sales for the land transportation equipment sector while aiming to reduce GHG emissions, solo car trips, and petroleum consumption. It also emphasizes improving transportation system efficiency through multimodal logistics, fleet electrification, and charging infrastructure expansion.²³ The province is also home to a significant portion of logistic companies focused on improving efficiency of fleets. With strong manufacturing, R&D and innovation support in the country, the province is well positioned moving forward.



ONTARIO



Ontario has the highest total number of companies in the dataset **(52)**, but relatively low representation across many value chain steps compared to its population. Its strong automotive industry and manufacturing sector remain key strengths.

ONTARIO

KEY VC STEP OBSERVATIONS

- 🚗 Ontario has the highest total number of companies in **electric vehicles (15)**, **charging and refueling (17)**, and **logistics (11)**.
- 🚗 Ontario does not have any companies in the value chain steps of **fuel efficiency** and **alternate modes of transport**.

DISCUSSION

Being the most populated province in the country, Ontario leads the total number of companies. Ontario has the highest number of companies involved in the EV charging and refueling value chain steps in Canada. The composition of companies across the transportation value chain in Ontario and Quebec is similar, with both provinces attracting major investments in EV and battery manufacturing from international companies.²⁴ Within just four years, dozens of companies announced more than \$46B of new investment in EV production and the EV supply chain in Ontario and Quebec. Ontario is well positioned for the adoption and manufacturing of ZEVs with supportive government policy, new mandates that all new vehicles must be zero-emission by 2035, and a mines-to-mobility strategy designed to leverage resources in the mineral-rich north to supply EV production in the south.²⁵

Ontario, in particular, has seen significant public investment in EV production. Canada's first full-scale EV manufacturing plant officially opened in southern Ontario at the end of 2022. General Motors Co. invested \$2B to retool its Ingersoll production plant for all-electric vehicle production, with a target of 50,000 EVs by 2025.²⁴ However, this project has been considerably scaled back.²⁵

Ford also committed \$1.8B in 2020 to transition its Oakville, Ontario plant to EV production.²⁴ Originally scheduled for retooling in May 2024, the facility was set to close for eight months. However, in April 2024, Ford extended the timeline for the closure by two years and delayed the start of EV production until 2027, alongside adjustments to its public commitments for EV battery manufacturing.²⁶ As of 2025, the plan was cancelled altogether with Ford planning to build gas-powered trucks instead.²⁵ Other projects have also been on hold, cancelled, or scaled back.

Ontario has the largest automotive sector in Canada, directly employing over 100,000 people.²⁷

KEY ACTIVITY

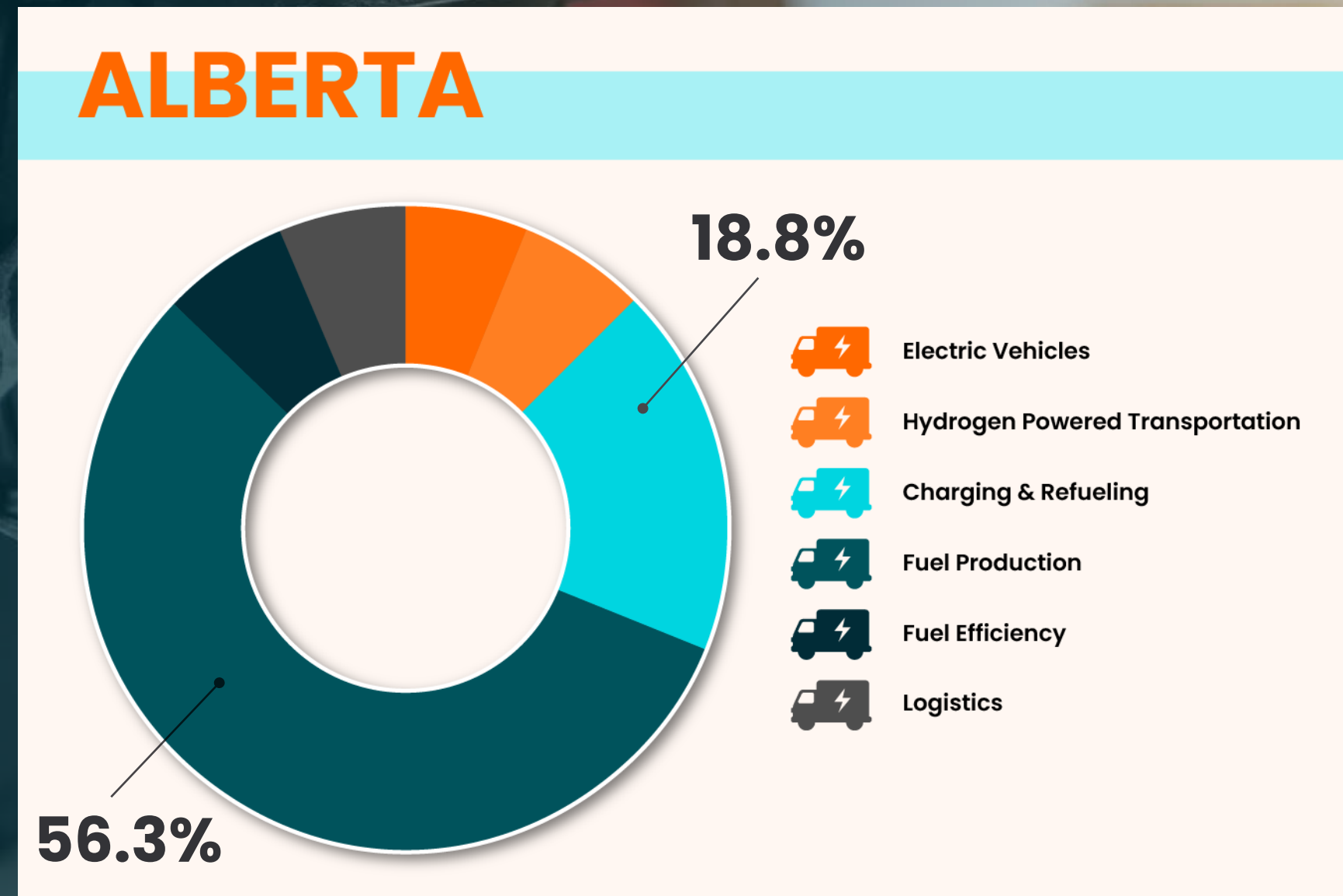
In early 2025, Linamar, a global parts manufacturer headquartered in Guelph, is posed to be investing over \$1B to develop and commercialize advanced vehicle powertrain solutions and green automotive technologies. This initiative encompasses six projects, leading to the expansion and retooling of multiple facilities across the province. The investment is expected to create more than 2,300 jobs, strengthening Ontario's position in the North American automotive industry. The Government of Ontario is supporting this endeavour with a \$100.3M grant, complemented by a federal contribution of up to \$169.4M through the Strategic Innovation Fund.²⁸ The transition to electric vehicle manufacturing presents significant opportunities for Ontario's automotive industry.

The province has access to essential critical minerals, a growing tech ecosystem, and increasing support for domestic manufacturing. However, concerns about the sector's future are rising due to escalating production costs, uncertainty in EV adoption rates, and global supply chain disruptions.

Ontario has also seen strong support with respect to green shipping. In November 2024, Transport Canada up to \$25.5M for four Ontario-based projects under the Green Shipping Corridor Program. The projects are focused on alternative fuels, fueling infrastructure, and shore power solutions.²⁹ Algoma Central Corporation, based in St. Catharines, Ontario, received nearly \$600,000 from the Green Shipping Corridor Program's Clean Vessel Demonstration Stream. The funding went to explore biofuel development, biofuel powered vessels, and wind assisted propulsion systems.³⁰ These investments reflect Ontario's commitment to advancing sustainable marine transportation and reducing emissions in the shipping sector, supporting the broader transition to a low-carbon economy.

ALBERTA

There are **15** companies mapped in Alberta's transportation technology value chain, making it the province with the fourth-most companies. The province has a strong emphasis on fuel production.



ALBERTA

KEY VC STEP OBSERVATIONS

- 🚚 The most represented VC steps in Alberta are **fuel production (9)** and **charging and refuelling (3)**.
- 🚚 Alberta has the highest number of ventures associated with **fuel production** compared to any other province.

DISCUSSION

Alberta is actively investing in alternative fuels and technologies for transportation as part of its sustainability initiatives. Alberta's Renewable Fuel Standards require commercial fuel producers and importers to blend renewable products into their fuels at varying degrees.³¹ With a prominent oil and gas sector, ventures can leverage existing infrastructure. There is also a significant push in recovering biomass resources in the province. This biomass in turn can potentially be used in biofuel production. Alberta ran the Bioenergy Producer Program between 2017-2020 to support biofuel production with a funding of \$63 million.³²

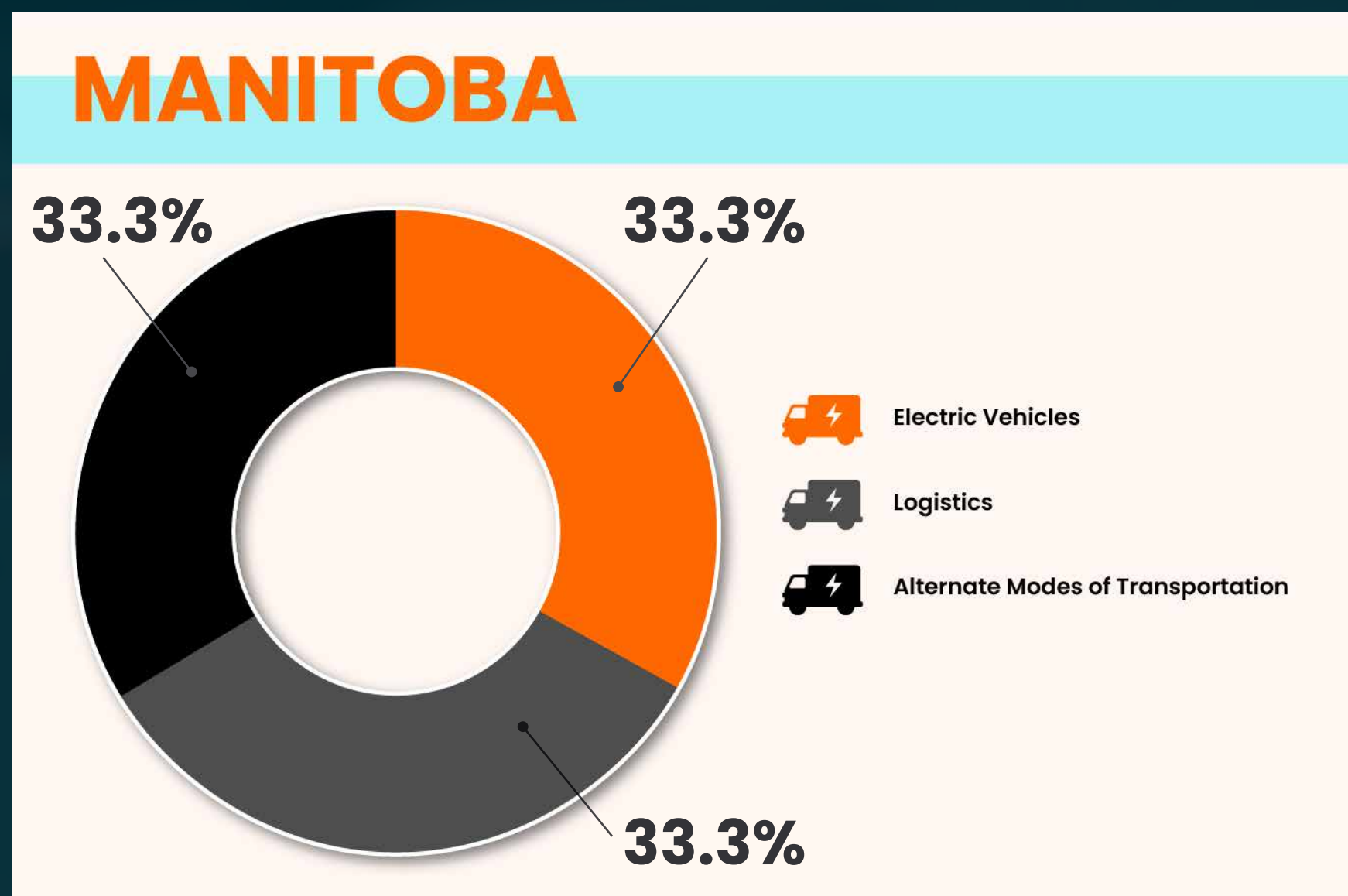
Recently, the provincial government has committed over \$20 million to Rocky Mountain Clean Fuels' synthetic diesel facility, which uses natural gas and natural gas liquids as feedstocks. This investment aims to attract further private sector funding and create job opportunities in the province.³³

In 2021, Alberta released the Alberta Hydrogen Roadmap, highlighting the province's strengths in hydrogen production, including its well-established petrochemical processing facilities and abundant natural gas resources. The roadmap underscores the potential for low-carbon hydrogen in transportation, especially with large captive fleets such as buses and commercial trucks which were identified as key early adopters in Alberta.³⁴

The ongoing Alberta Zero-Emissions Truck Electrification Collaboration (AZETEC) project features the design, manufacture, and deployment of two prototype heavy-duty extended-range hydrogen fuel cell electric trucks that will move freight between Edmonton and Calgary, including a demonstration fuelling station.³⁵



PRAIRIES (MANITOBA AND SASKATCHEWAN)



Of the Prairie provinces (excluding Alberta), Manitoba has **3** companies and Saskatchewan has **1**, representing a total of **4** companies in the database.

PRAIRIES

SUPPORTING DATA

- 🚗 The most represented VC steps are **electric vehicles (2)**
- 🚗 Manitoba houses the only company assigned to the value chain step **alternate modes of transport**.

DISCUSSION

The Prairie region is a key hub for trade, export, and agriculture. At the end of 2023, Prairies Economic Development Canada (PrairiesCan) identified major economic opportunities for the region through engagement with industry leaders and communities. Many of these opportunities align with clean transportation, including: ³⁶

- 🚗 Increasing value-added production in the energy and manufacturing sectors, positioning the Prairies as a leading supplier of hydrogen and biofuels to meet growing domestic and international demand.
- 🚗 Supporting the mining sector in becoming a clean and secure supplier of critical minerals for batteries and other clean technologies while expanding the critical minerals value chain.
- 🚗 Enhancing sustainability and resilience for businesses and communities through the development and deployment of new clean technologies and processes.

A key concern for Saskatchewan, Alberta, and Manitoba is the improvement of trade corridors and sustainable transportation infrastructure, which are critical enablers of trade and economic growth. ³⁶ To address this, the three provinces signed a Memorandum of Understanding in 2023 to strengthen economic corridors and enhance their shared transportation network. ³⁷ Additionally, connectivity remains a challenge—particularly in rural areas—impacting the delivery of goods, services, and public transportation. Addressing these gaps is essential for regional economic development and mobility.

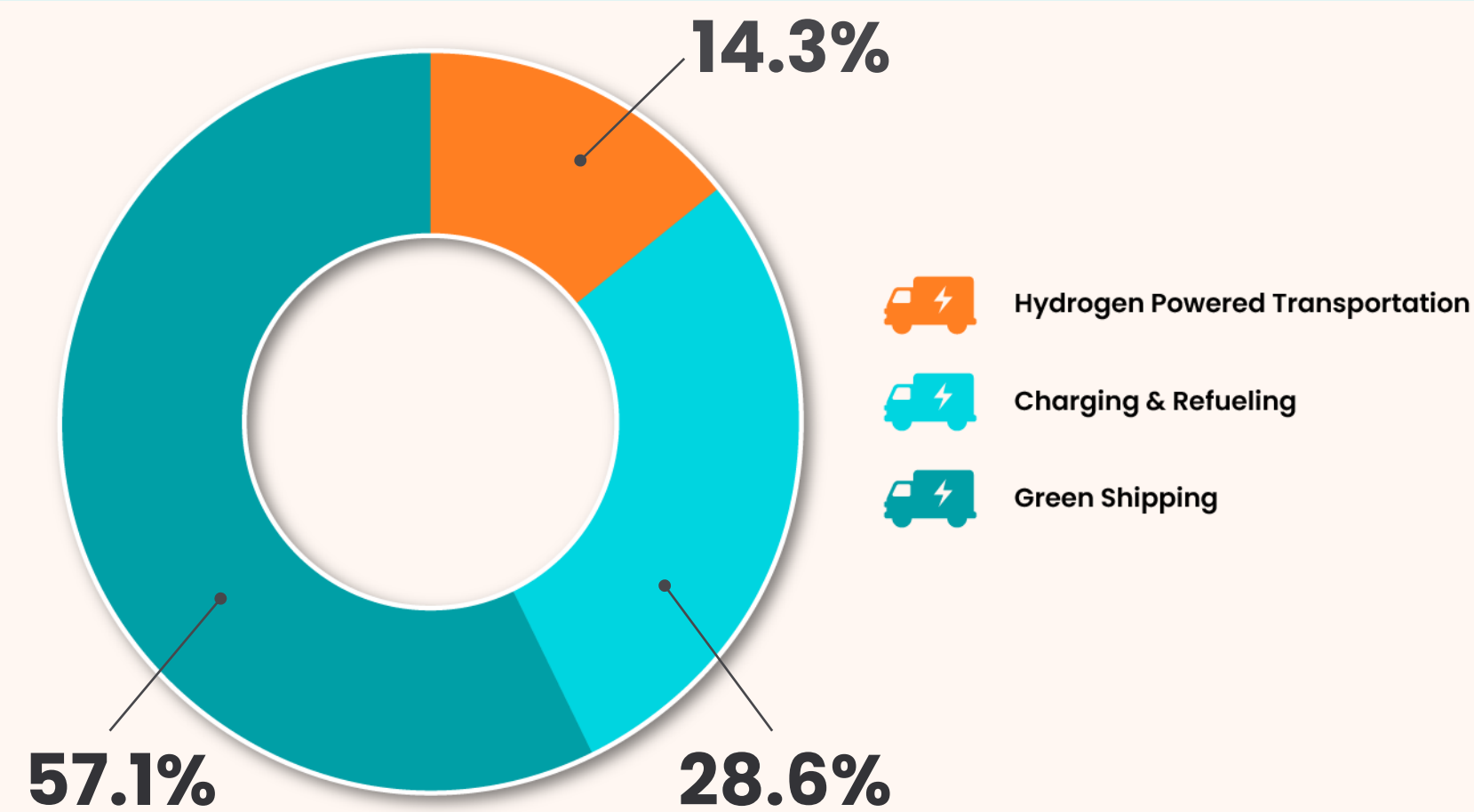


ATLANTIC PROVINCES

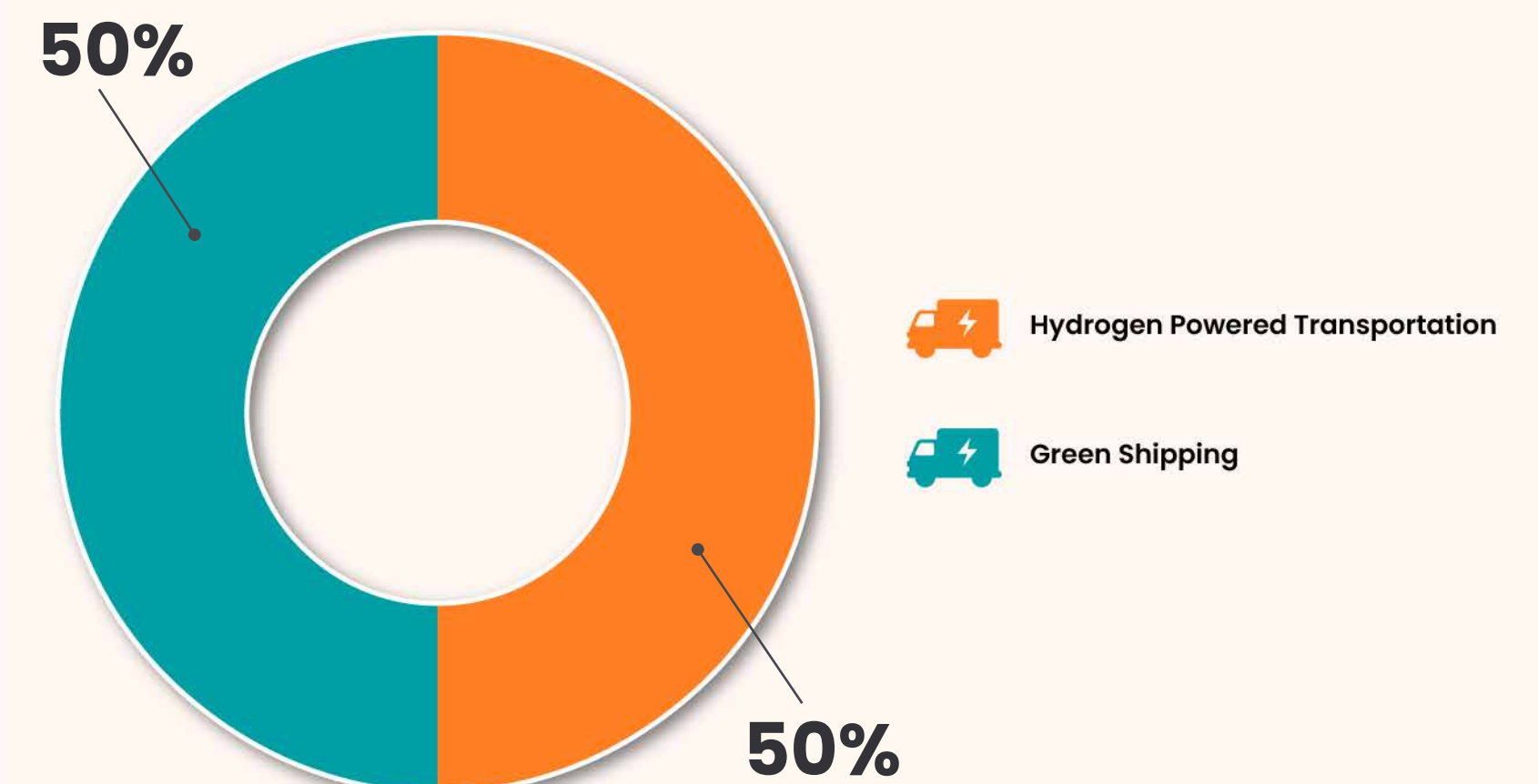
(NS, NB, and PEI)

Of the Atlantic provinces, **6** Nova Scotia has companies, Prince Edward Island has **2** companies, and New Brunswick has **1** company in the database.

NOVA SCOTIA



PEI



ATLANTIC PROVINCES

(NS, NB, and PEI)

SUPPORTING DATA

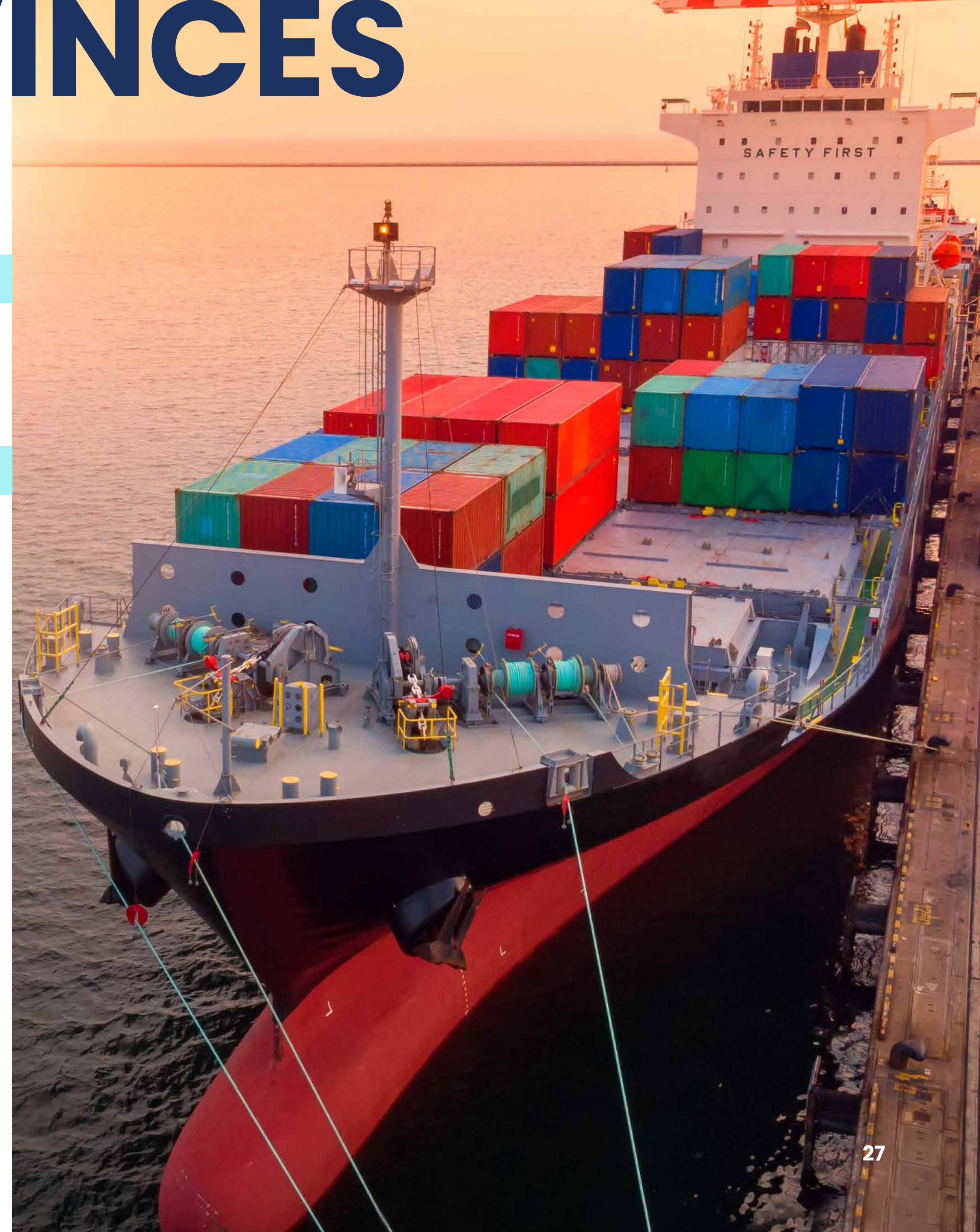
- 🚚 The most represented VC steps in the Atlantic provinces are **green shipping (5)**.
- 🚚 **Hydrogen-powered transportation** and **charging and refueling** each have **2** companies.

DISCUSSION

Nova Scotia being the most represented Atlantic province has been consistent across most sectors covered in Foresight's V2VC reporting, likely due to it being the most populated Atlantic province and home to several universities. Newfoundland and Labrador is not represented in this database. All six companies in Nova Scotia are based in the Halifax area.

The Atlantic region has the highest concentration of companies assigned to the green shipping category, while being Canada's largest hub for marine activity with over 12,000 registered fishing vessels and four of the **country's**¹⁷ Port Authorities. The Port of Halifax ranks as Canada's fourth-busiest port for container cargo, while Port Saint John is the third largest by volume and the largest in Eastern Canada. The region is also served by two Class 1 railways, CN and VIA, along with two passenger rail operations. Additionally, a dedicated freight rail corridor links the iron mines in Labrador to the Port of Sept-Îles, QC.³⁸

The transportation and warehousing sector comprised 3.4% of Atlantic Canada's Gross Domestic Product (GDP)—\$4.0B, with truck transportation being the largest sector. In Atlantic Canada, the truck industry experienced low freight volumes in 2024 compared to the previous year, but activity is expected to rebound in 2025. The industry is forecasted to experience slow to moderate growth through the rest of the forecast period.³⁹

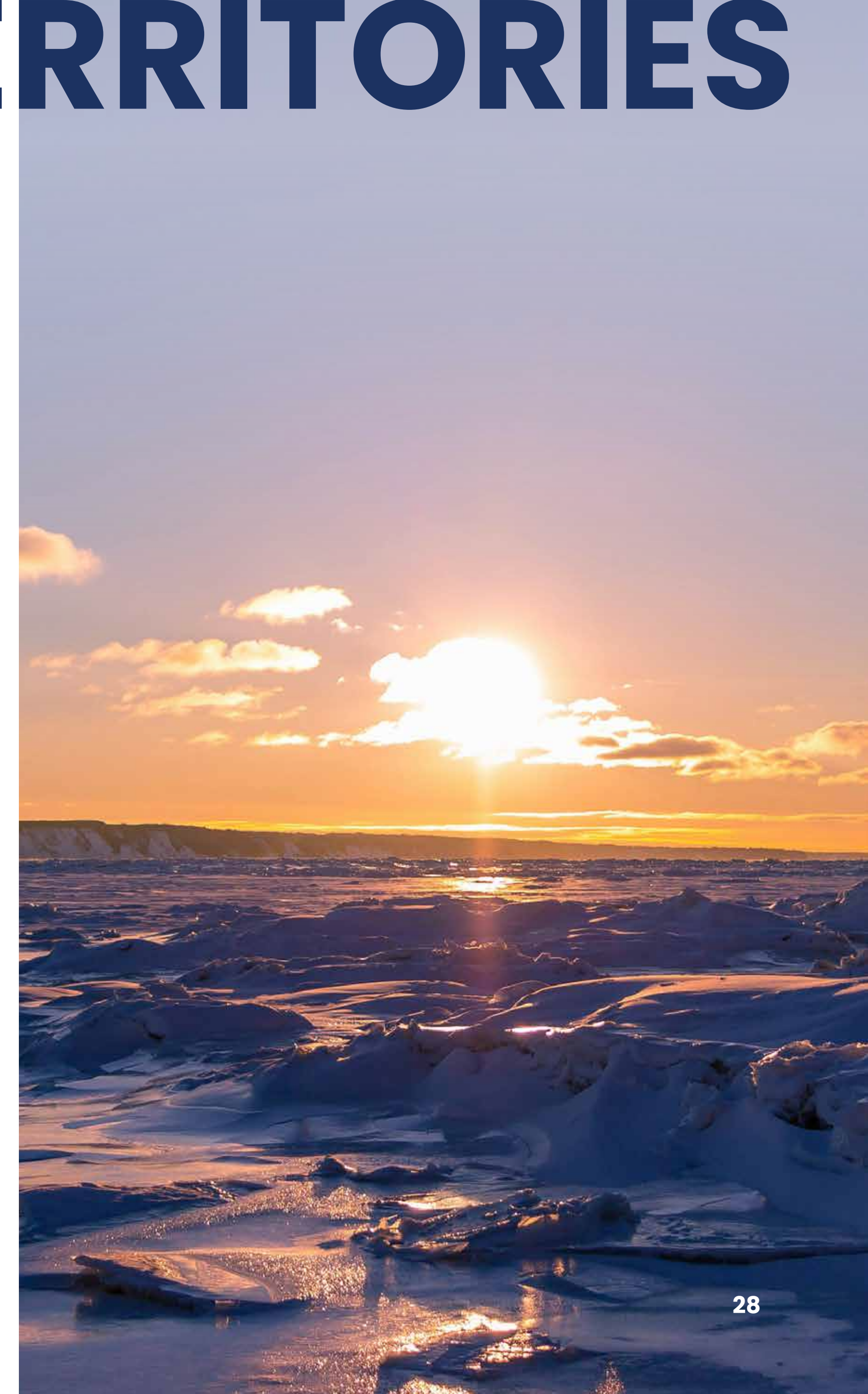


PROVINCES AND TERRITORIES NOT REPRESENTED

Some provinces and territories are not represented in the dataset. These include Newfoundland and Labrador, and all three territories (Nunavut, Northwest Territories, and the Yukon). This is likely due to the regions' limited population. However, there are still relevant activities and opportunities these provinces can build on:

- 🚌 Similar to other major cities in Canada, the federal, provincial, and municipal governments are investing over \$35M in 18 public transit projects in St. John's, including accessible hybrid buses and shared-use paths to improve transit accessibility, reduce emissions, and promote active transportation.⁴⁰
- 🚌 With respect to territories, sustainable transportation solutions applied in the rest of the country may not work. For instance, biofuels such as ethanol are not Arctic grade and are not compatible with the extreme cold. The Government of Northwest Territories has therefore proposed the usage of "drop-in" fuels such as renewable gasoline and renewable diesel, which will also not require any change in the existing fuel distribution system and equipment.⁴¹
- 🚌 Electrification is also seen as a key solution to reducing emissions in Canadian territories. In the Northwest Territories the number of registrations for hybrid electric vehicles nearly doubled to 105 as of 2021 compared with 57 in 2020. Plug in electric vehicle registration is also slowly increasing.⁴²
- 🚌 Another concern in rural communities, particularly in northern regions, is the maintenance of transportation infrastructure. To address this, the federal government is investing almost \$14M through the Investing in Canada Infrastructure Program, the Disaster Mitigation and Adaptation Fund, the Active Transportation Fund, and the Rural Transit Solutions Fund. This funding will support four transportation improvement projects across the Northwest Territories, focusing on road infrastructure, accessibility enhancements, and drainage improvements.⁴³

A common theme when looking into expanding clean technology adoption in rural areas is the need for significant infrastructure improvements. Therefore, it is important to support innovation in these regions by identifying the necessary requirements to foster growth. While innovation is typically concentrated in larger, denser population centers, where government entities, academic institutions, and industry networks create a competitive environment, it is important to foster innovation and adoption across Canada.





SECTORAL TRENDS AND CANADIAN OPPORTUNITIES



THIS SECTION COVERS SOME OF THE KEY OVERALL TRENDS WITHIN THE NATIONAL VALUE CHAIN AND DISCUSSES HOW CERTAIN TYPES OF TECHNOLOGIES AND INNOVATIONS CAN PROVIDE SUPPORT IN ADDRESSING CHALLENGES AND IMPROVE SUSTAINABILITY AS THE SECTOR GROWS. THIS SECTION FOCUSES ON QUANTIFYING AND CONTEXTUALIZING THE ECOSYSTEM OF CURRENT TECHNOLOGY COMPANIES AS REPRESENTED IN THE DATASET.

OPTIMIZATION

A KEY THEME IN PROVINCIAL AND FEDERAL ROADMAPS TO NET ZERO EMISSIONS AND SUSTAINABLE TRANSPORTATION IS THE NEED TO STRENGTHEN VALUE CHAINS, ENSURING THEY ARE RESILIENT AND RESISTANT TO EXTERNAL PRESSURES. ⁴⁴ TO HELP ACHIEVE THIS, OPTIMIZING ALL STAGES OF THE VALUE CHAIN IS KEY.

ZERO EMISSION VEHICLES

3 companies were assigned to manufacturing optimization. These ventures aim to enhance manufacturing efficiency through various technologies, including software solutions that support real-time performance monitoring, error reduction, and minimized downtime. Some leverage advanced tools such as artificial intelligence or machine learning, while others focus on streamlining workflows and improving system integration.

Both companies focused on fuel efficiency are developing analytical software for fleets (including rail, truck, and marine) to monitor and reduce fuel consumption, lower emissions, and cut costs. In addition to the development of lower carbon intensity fuels, optimizing fuel usage is a critical strategy for decarbonizing the sector.

Similarly, **16 companies** are working on route optimization services for all types of transportation (rail, truck, marine, and air). These platforms offer more comprehensive solutions, including fleet management and route planning, with the goal of reducing emissions, lowering fuel consumption and operating costs, and improving productivity, and overall fleet performance.

OPTIMIZATION

ARTIFICIAL INTELLIGENCE

Of the **25** companies assigned to the logistics value chain step, **7** utilize **artificial intelligence** in their technologies.

AI is playing an increasingly influential role in the logistics sector, enhancing efficiency across supply chain management, route optimization, and predictive maintenance. By enabling smarter analytics, AI helps improve fuel efficiency, reduce operational costs, and support the development of more sustainable transportation systems. Applications of AI in this space include partial automation, battery material management, route and logistics optimization, advanced flight controls, obstacle detection for shipping, autonomous driving, shuttle operations, and more. Supporting these advancements, the National Research Council of Canada has established an Artificial Intelligence for Logistics program that leverages AI technologies and provides R&D expertise to build resilience supply chains.⁴⁵

In Canada, Economic Development Canada has identified the transportation sector as a leading area for the commercial application and scalability of AI technologies, particularly in the electric vehicle industry.⁴⁶ Additional areas of potential include the scaling of clean hydrogen production, alternative fuel development, and energy storage innovation. Supporting this growth, the Cleantech Group ranks Canada third globally for risk capital investment in AI-enabled cleantech innovation.⁴⁶ Together, these developments position Canada as a key player in the global transition toward intelligent, low carbon transportation solutions.

MOVEMENT OF GOODS

In terms of the movement of goods, recent legislative and policy initiatives have further shaped Canada's transportation sector domestically and globally. The Transportation 2030 strategic plan focuses on making the system smarter, cleaner, and safer, with an emphasis on global trade corridors and waterways.⁹ The National Trade Corridors Fund (NTCF) supports strategic infrastructure projects aimed at improving trade flow, addressing transportation needs in the territorial North, and enhancing multimodal transportation efficiency.⁹ Additionally, Bill C-49 (Transportation Modernization Act) primarily impacts rail and air transportation by increasing transparency in railway tariffs, providing dispute resolution tools for shippers, and requiring the Canadian Transportation Agency to set interswitching rates.⁹

Efficiency and innovation remain a priority within the sector. The Annual Transport Report (2024) highlights the importance of fostering a culture of continuous improvement, innovation, and data-driven decision-making to enhance overall system performance. These efforts are supported by Transport Canada's broader strategy, which aims to optimize transportation networks and maintain Canada's competitiveness in global trade.⁵ Supporting the development of green shipping corridors, low-emission freight vehicles, and smart logistics systems further contributes to building a resilient and sustainable transportation ecosystem.

ELECTRIC VEHICLES

MANUFACTURING

13 Canadian companies manufacture electric vehicles in the country.

Canada has a significant opportunity to scale its electric vehicle manufacturing sector. While only 40,000 EVs have been built in Canada to date, far below initial expectations, there is strong potential for growth. A single assembly plant has the capacity to produce 200,000 vehicles annually, highlighting the untapped potential within the industry. Additionally, the shift to EVs presents an opportunity to create high-quality jobs and strengthen Canada's position in the global automotive market.²⁵ Some recurring concerns and insights across publications include:

- 🚗 **Affordability & Consumer Demand:** Addressing rising vehicle costs can help boost adoption rates and increase consumer confidence in EVs.
- 🚗 **Charging Infrastructure:** Expanding and enhancing charging networks will be critical to supporting EV adoption and ensuring long-term market growth.
- 🚗 **Trade & Market Access:** Ongoing trade discussions and tariff considerations highlight the need for strategic partnerships and policies that protect and enhance Canada's role in the global EV supply chain.

On a municipal level, many transportation sustainability initiatives include public fleet electrification. This presents an opportunity for domestic manufacturers to actively supply fleet electrification across the country. For instance, the Toronto Transit Commission (TTC), is planning to have a total electric bus fleet of 400 vehicles by 2026, making it the largest electric fleet in North America.⁴⁷ In 2019, a test performance was conducted with 60 vehicles from BYD Auto, New Flyer, and Proterra. However, the remaining 340 vehicles will be made in Canada and are manufactured by NewFlyer Industries Canada and Nova Bus (parent company is Volvo).⁴⁸ Other prominent electric bus manufacturers in Canada are GreenPower Motor in British Columbia and Lion Electric in Quebec.

Given the current unpredictable status of trade relations and the deeply integrated North American automobile industry, now is a crucial opportunity to strengthen Canada's automotive sector and transportation sector as a whole. The automotive industry makes up over 10% of intraregional trade in North America, making it highly sensitive to shifts in trade policy.⁴⁹ Strengthening domestic capabilities will reduce vulnerability to global trade disruptions, support innovation, and improve competitiveness in emerging areas such as electrification.

By leveraging its strong automotive manufacturing base, access to critical minerals, and growing expertise in clean transportation, Canada is well-positioned to expand its role in the global EV market. Continued investment in domestic production, charging infrastructure, and trade policies will be essential to overcoming existing challenges and ensuring long-term industry growth.

ELECTRIC VEHICLES

CHARGING AND REFUELING

7 ventures have been identified to offer comprehensive EV charging solutions that include proprietary hardware and software, covering installation as well as integrated systems for payment, billing, energy monitoring, and elements of energy management.

In addition to these, **17 companies are active in the energy management space**. Here, energy management space refers to systems used to monitor and optimize energy usage during EV charging. Only two companies focus on hardware solutions, while the rest provide software platforms ranging from cloud-based systems to charging management tools designed to optimize EV charging and enhance reliability. There is a growing trend toward smart charging technologies that enable customers to access insights and analytics related to their energy usage and management.

Canada saw a 24.2 per cent jump in public EV charging stations between March 2024 and 2025.

⁵⁰ A study by Dunsky Energy, prepared for Natural

Resources Canada, projects the need for approximately **679,000 public charging ports by 2040**. This equates to one port for every 31 light-duty EVs, based on the federal EV Availability Standard and provincial ZEV sales mandates. While electric medium- and heavy-duty vehicles primarily rely on depot-based charging, demand for public charging infrastructure is expected to grow significantly. Dunsky estimates the need for 41,000 public charging ports by 2030, rising to 120,000 by 2035 and reaching 275,000 by 2040, excluding private and fleet depot charging.⁵¹

Currently, charging infrastructure is primarily concentrated in urban areas and more densely populated provinces, with Quebec, British Columbia, and Ontario leading in network development.⁵⁰ Although electric long-haul trucks have yet to see widespread commercial adoption, planning for connected highway charging networks is essential, particularly to support goods movement. Rural and remote regions also present important opportunities for future infrastructure expansion.

16 VENTURES HAVE BEEN IDENTIFIED AS WORKING ON FUEL PRODUCTION FOR TRANSPORTATION APPLICATIONS.

Of these, **6 are developing hydrogen-based fuels**. The development of renewable fuels is complex and involves a variety of inputs. Among the identified ventures, inputs include biomass, syngas, and other feedstocks. These ventures are highly focused on producing low-carbon fuels, with some incorporating carbon capture, utilization, and storage (CCUS) technologies to further reduce their carbon footprint.

Among the ventures identified, many are actively developing or producing sustainable aviation fuels (SAF), which play a critical role in decarbonizing the aviation industry. In 2023, the Canadian Council for Sustainable Aviation Fuels released a national roadmap to establish a domestic SAF supply chain, with a goal of producing 1 billion litres of SAF by 2030 and SAF accounting for 25% of all jet fuel used in Canada by 2035.⁵² In December 2024, Parkland successfully produced Canada's first batch of low-carbon aviation fuel at its Burnaby Refinery. Utilizing non-food grade canola and tallow, this pilot project yielded approximately 101,000 litres of fuel, which was purchased by Air Canada. This initiative marks a significant step toward establishing a domestic SAF supply chain.⁵³

These efforts signal growing momentum within Canada's clean transportation sector, particularly in advancing domestic production of low-carbon fuels. As demand increases across aviation, further adoption and innovation will be critical to scaling fuel production and achieving national decarbonization targets.

RECOMMENDATIONS

VENTURES, INVESTORS, GOVERNMENT, AND INDUSTRIES CAN ALL BENEFIT FROM THESE INSIGHTS ABOUT THE TRANSPORTATION SECTOR AS WE TRANSITION TO A NET ZERO ECONOMY.

VENTURES SHOULD LEVERAGE THIS REPORT AND WEB MAP TO:

- 🚚 Identify innovation opportunities, potential partnerships, and competitors segmented both by geography and position in the value chain.
- 🚚 Apply a broader understanding of where technologies fit on the value chain to better promote their existing strengths and make informed business decisions.
- 🚚 Deepen ecosystem awareness to understand how industry clusters operate nationally and identify areas of priority to target.

INVESTORS AND INDUSTRY CAN USE THIS REPORT AND WEB MAP AS VALUABLE TOOLS TO EVALUATE INVESTMENT AND ACQUISITION OPPORTUNITIES, AND TO:

- 🚚 Understand the value-add that prospective ventures provide by identifying their role in the value chain.
- 🚚 Determine existing competitors in the ecosystem.
- 🚚 Identify strengths, opportunities, and potential trends in the Canadian market to inform business decisions.





GOVERNMENTS CAN USE KEY INSIGHTS FROM THIS ANALYSIS TO IDENTIFY TARGETED AREAS FOR SUPPORT IN A MORE COORDINATED AND INTENTIONAL WAY. THEY CAN USE THIS REPORT TO:

-  Leverage and build on provincial strengths and regional clusters to support a thriving innovation ecosystem.
-  Invest in northern, remote, and rural communities where some of the greatest needs, climate change impacts, and opportunities for innovation exist, and explore opportunities to foster strategic technological innovation in these underrepresented regions.
-  Support policies and investments that reduce reliance on international suppliers for critical components, while ensuring a resilient and competitive domestic supply chain.
-  Invest in demonstration projects, pilot programs, and deployment of early-stage technologies to bridge the gap between innovation and commercialisation.
-  Continue funding R&D and incentives for materials and technologies in sustainable transportation sectors.

CONCLUSION

ACROSS CANADA, **THE DIVERSE ECOSYSTEMS AND INDUSTRIES THAT SHAPE THE TRANSPORTATION TECHNOLOGY SECTOR DEMONSTRATE ITS CRITICAL IMPORTANCE** FROM BOTH AN ENVIRONMENTAL AND ECONOMIC STANDPOINT.

WITH THE PRESSING NEED TO ACCELERATE INNOVATION AND DECARBONIZE KEY SECTORS, **THE TRANSPORTATION SECTOR IS POISED FOR SIGNIFICANT GROWTH**. CANADA HAS A PRIME OPPORTUNITY TO LEAD IN THE TRANSITION TOWARDS SUSTAINABLE TRANSPORTATION.

Interested in learning more about Canada's transportation technology value chain?



Please contact [Alyssa Kelly](#), Director of Research at Foresight Canada: akelly@foresightcac.com

REFERENCES

1. Canada, G. A. Transportation. GAC <https://www.tradecommissioner.gc.ca/sectors-secteurs/transportation-transports.aspx?lang=eng> (2015).
2. Transport Canada. Taking Action on the Environment. Preprint at https://publications.gc.ca/collections/collection_2024/tc/T42-32-2024-eng.pdf (2023).
3. Transport Canada. Transportation in Canada Overview Report 2023. Preprint at https://tc.canada.ca/sites/default/files/2024-06/TC_2023_Annual_Report_EN_2024-05-29.pdf (2024).
4. Transport Canada. Transportation in Canda Overview Report. Preprint at https://tc.canada.ca/sites/default/files/2021-07/transportation_canada_2020_overview_report.pdf (2020).
5. Canadian Transportation Agency. Annual Report 2023 – 2024. Preprint at https://otc-cta.gc.ca/sites/default/files/publications/annual_report_2023_2024.pdf (2024).
6. Natural Resources Canada. Zero Emission Vehicle Infrastructure Program. <https://natural-resources.canada.ca/energy-efficiency/transportation-alternative-fuels/zero-emission-vehicle-infrastructure-program/21876> (2019).
7. Environment & Canada, C. C. What are the Clean Fuel Regulations? <https://www.canada.ca/en/environment-climate-change/services/managing-pollution/energy-production/fuel-regulations/clean-fuel-regulations/about.html> (2020).
8. Canada, T. Transport Canada's National Trade Corridors Fund (NTCF). Transport Canada <https://tc.canada.ca/en/corporate-services/transparency/briefing-documents-transport-canada/2023/current-topics/transport-canada-s-national-trade-corridors-fund-ntcf> (2023).
9. Transportation Association of Canada. Understanding Goods Movement in Canada: Trends and Best Practices. (2021).
10. cleanBC. Roadmap to 2030. Preprint at https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_roadmap_2030.pdf.
11. Chen, C. Prince Rupert To Welcome Next-Gen Trucks: Blue and Green Revolution. Trade and Invest BC <https://www.britishcolumbia.ca/news-stories/prince-rupert-to-welcome-next-gen-trucks-blue-and-green-revolution/> (2024).
12. Innovate BC. Zero and low-emission trucks to be tested at Port of Prince Rupert through B.C.'s Integrated Marketplace. <https://www.innovatebc.ca/en/news/zero-and-low-emission-trucks-to-be-tested-at-port-of-prince-rupert-through-b.c.s-integrated-marketplace> (2024).
13. City of Vancouver. Climate Action through Transportation. <https://vancouver.ca/green-vancouver/transportation.aspx>.
14. cleanBC. B.C. Hydrogen Strategy. Preprint at https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/electricity/bc-hydro-review/bc_hydrogen_strategy_final.pdf (2021).
15. Day, P. Canada's hydrogen strategy advances, challenges remain. Reuters (2024).
16. Government of British Columbia. Hydrogen project will create jobs, fuel B.C.'s clean economy, reduce emissions. <https://news.gov.bc.ca/releases/2024EMLI0028-000807> (2024).
17. Government of British Columbia. B.C.'s Goods Movement Action Plan. <https://www2.gov.bc.ca/gov/content/transportation/transportation-reports-and-reference/reports-studies/planning-strategic-economic/goods-movement-action-plan> (2024).
18. CBC. Quebec suspends financial assistance for EV buyers. CBC News (2024).
19. Circuit électrique inc. The Electric Circuit. The Electric Circuit <http://lecircuitelectrique.com/en/>.
20. Canada Energy Regulator. Provincial and Territorial Energy Profiles – Quebec. <https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-quebec.html> (2024).
21. Hydro-Québec. Production Generation. <https://www.hydroquebec.com/generation/>.
22. Olivier, A. & Lapierre, M. Northvolt declares bankruptcy in Sweden, raising concerns about Quebec battery plant's future. CBC News (2025).
23. Gouvernement du Québec. Transporting Québec Towards Modernity. (2018).
24. Dubey, R. Here's a list of recent electric vehicle and battery plant announcements in Canada. CityNews Toronto <https://toronto.citynews.ca/2024/04/25/heres-a-list-of-recent-electric-vehicle-and-battery-plant-announcements-in-canada/> (2024).
25. Sweeney, B. Canada's EV Industry Has a Bumpy Road Ahead. Maclean's Inc. <https://macleans.ca/technology-3/canadas-ev-industry-has-a-bumpy-road-ahead/> (2025).
26. CBC. Ford delays start of EV production at Oakville plant until 2027. CBC News (2024).
27. Invest Ontario. Automotive. <https://www.investontario.ca/automotive>.
28. Invest Ontario. Linamar invests over \$1 billion in automotive technology in Ontario. <https://www.investontario.ca/press-release/linamar-invests-over-1-billion-automotive-technology-ontario> (2025).
29. Transport Canada. Green Shipping Corridor Program – Clean Ports stream contribution funding in Ontario. Government of Canada <https://www.canada.ca/en/transport-canada/news/2024/11/green-shipping-corridor-program---clean-ports-stream-contribution-funding-in-ontario.html> (2024).
30. Niagara Economic Development. St. Catharines-based Algoma Central receives nearly \$600K under green shipping program. <https://niagaracanada.com/st-catharines-based-algoma-central-receives-nearly-600k-under-green-shipping-program/> (2024).
31. Government of Alberta. Renewable Fuels Standard. <https://www.alberta.ca/renewable-fuels-standard>.
32. Bioenergy Producer Program Outline. {Government of Alberta} <https://open.alberta.ca/publications/bioenergy-producer-program-outline> (2017).
33. Alberta Government News Release: Driving rural energy innovation and investment. Wheatland County <https://wheatlandcounty.ca/alberta-government-news-release-driving-rural-energy-innovation-and-investment/> (2024).
34. Government of Alberta. Hydrogen Roadmap. <https://www.alberta.ca/hydrogen-roadmap> (2021).
35. Alberta Zero Emissions Truck Electrification Collaboration (AZETEC). Emissions Reduction Alberta <https://www.eralberta.ca/projects/details/alberta-zero-emissions-truck-electrification-collaboration-azetec/> (2023).
36. Government of Canada. Green Prairie Economy Summary of Engagement. Preprint at <https://www.canada.ca/content/dam/pedc-decp/documents/gc-gpe-summary-engagement-en.pdf> (2023).
37. Saskatchewan, Alberta and Manitoba Continue Collaboration on the Joint Memorandum of Understanding. Government of Saskatchewan <https://www.saskatchewan.ca/government/news-and-media/2024/july/04/saskatchewan-alberta-and-manitoba-continue-collaboration-on-the-joint-memorandum-of-understanding> (2024).
38. Transport Canada. Atlantic Region. <https://tc.canada.ca/en/corporate-services/transparency/briefing-documents-transport-canada/2021/corporate-structure/tc-regions/atlantic-region> (2021).

REFERENCES

39. Government of Canada. Sector Profile – Transportation and Warehousing: Atlantic Region 2024. <http://www.jobbank.gc.ca/contentjmr.xhtml> (2024).

40. Government of Newfoundland and Labrador. St. John’s Transportation Network Enhancements Will Help Increase Accessibility and Reduce Carbon Footprint. <https://www.gov.nl.ca/releases/2023/ti/0428n06/> (2023).

41. Government of Northwest Territories. Transportation in NWT. Preprint at https://ehq-production-canada.s3.ca-central-1.amazonaws.com/36c54c1fd898451e6cb6a446c0b1795d367b0659/original/1687293975/1132cf56d140e99f1a7e35a3420b56c8_PLR__5_Transportation_in_the_NWT.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIA4KKNQAKIFWFOUYFI%2F20250317%2Fca-central-1%2Fs3%2Faws4_request&X-Amz-Date=20250317T131008Z&X-Amz-Expires=300&X-Amz-SignedHeaders=host&X-Amz-Signature=6ed62e7e4d5ad5a2827ff85bfd5774ac2931bc0ab5953e0db0e8ecf167cd659c.

42. Statistics Canada. Commuting in Yellowknife: A slice of efficiency and sustainability. <https://www.statcan.gc.ca/ol/en/plus/2673-commuting-yellowknife-slice-efficiency-and-sustainability> (2023).

43. Communities Canada. Backgrounder: Federal government and Northwest Territories invest in transportation in the North. <https://www.canada.ca/en/housing-infrastructure-communities/news/2025/02/backgrounder-federal-government-and-northwest-territories-invest-in-transportation-in-the-north.html> (2025).

44. Transport Canada. Overview of Canada’s Transport Sector. <https://tc.canada.ca/en/corporate-services/transparency/briefing-documents-transport-canada/2023-dm/overview-canada-s-transport-sector> (2023).

45. National Research Council Canada. Artificial Intelligence for Logistics program. <https://nrc.canada.ca/en/research-development/research-collaboration/programs/artificial-intelligence-logistics-program> (2019).

46. Sharma, P. On the Cleantech Frontier: How Artificial Intelligence is Impacting Innovation. Export Development Canada <https://www.edc.ca/en/guide/edc-cleantech-report.html> (2024).

47. Toronto Transit Commission. TTC welcomes new battery-electric buses. <https://www.ttc.cahttps://www.ttc.ca/news/2024/September/TTC-welcomes-new-battery-electric-buses> (2024).

48. TTC brings on two battery-electric buses. Mass Transit <https://www.masstransitmag.com/bus/vehicles/hybrid-hydrogen-electric-vehicles/press-release/55143558/toronto-transit-commission-ttc-ttc-brings-on-two-battery-electric-buses> (2024).

49. Foran, A. Potential Hazards Ahead: Trade Risks in the North American Automotive Industry. {TD Economics} <https://economics.td.com/ca-north-american-auto-trade-risks> (2025).

50. Yakub, M. 2025 EV charging network report: Canada closes in on 13,000 public stations. Electric Autonomy Canada <https://electricautonomy.ca/data-trackers/public-charging-networks/2025-03-06/2025-public-ev-charging-networks-canada/> (2025).

51. Natural Resources Canada. Electric Vehicle Charging Infrastructure for Canada. <https://natural-resources.canada.ca/energy-efficiency/transportation-energy-efficiency/resource-library/electric-vehicle-charging-infrastructure-canada> (2024).

52. Canadian Council for Sustainable Aviation Fuels. A Roadmap to Building a SAF Supply Chain in Canada. <https://www.bennettjones.com/Blogs-Section/A-Roadmap-to-Building-a-SAF-Supply-Chain-in-Canada> (2023).

53. Parkland. Parkland’s Burnaby Refinery becomes the first to successfully produce low carbon aviation fuel in Canada. https://www.parkland.ca/newsroom/user-stories/parklands-burnaby-refinery-becomes-the-first-to-successfully-produce-low-carbon-aviation-fuel-in-canada?utm_source=chatgpt.com (2024).



FORESIGHT
CANADA