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# 2022 Green Freight Programs Survey on Freight Industry

## Executive Summary

**Prepared for Natural Resources Canada**

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***Ce rapport est aussi disponible en français.***

# Green Freight Programs Survey on Freight Industry

**Final Report**

Prepared for Natural Resources Canada by Kantar

March 2022

Natural Resources Canada (NRCan) commissioned Kantar to conduct a public opinion research survey of the Canadian freight transportation industry. The aim of this research was to assess perspectives on reducing fuel use and improving energy efficiency in freight transportation among the heavy-duty trucking industry, as well as establish a baseline for future measures. A total of 300 representatives of the Canadian freight transportation industry who were involved in or knowledgeable about the management or implementation of trucking fuel efficiency programs and policies within the business' fleet of vehicles were surveyed by telephone in February and March of 2022. This publication reports on the findings of this research.

Cette publication est aussi disponible en français sous le titre: 2022 Sondage des programmes de transport de marchandises éco-énergétiques sur l'industrie du transport de marchandises



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# 1. Executive Summary

## 1.1. Research Purpose and Objectives

The SmartWay program was designed to help Canadian freight transportation businesses improve supply chain sustainability through measuring, benchmarking, and improving freight transportation efficiency and thus, resulting in reduced fuel costs for businesses while transporting goods in the cleanest most efficient way possible. While the program was launched in the US in 2004 by the Environmental Protection Agency (EPA), in 2012, Natural Resources Canada (NRCan) began to administer the program in Canada.

Responsibility to reduce emissions from supply chains is becoming increasingly important in customer and corporate decision-making. As a result, businesses are reaching out to business partners with similar goals, turning fuel efficiency and emissions reductions into a business-to-business proposition. By moving goods in the cleanest, most efficient way possible, SmartWay partners foster higher productivity while protecting the environment.

## 1.2. Research Objectives

The overall objective of the research was to assess perspectives on reducing fuel use and improving energy efficiency in freight transportation among the heavy-duty trucking industry, as well as to follow-up on a baseline survey conducted for Natural Resources Canada in November 2018.

The specific research objectives included:

- Assess familiarity with the SmartWay freight transportation partnership program;
- Determine the types of fuel efficiency information that businesses track;
- Understand the perceived importance of tracking fuel consumption;
- Understanding what, if any, fuel reduction activities have been implemented/managed in the last year;
- Determine which, if any, green freight programs are used to help track fuel use;
- Understand what, if any, fuel reduction technologies the heavy-duty trucking industry has invested in;
- Identify barriers to adopting fuel reduction activities/technologies;
- Determine the types and sources of information on fuel efficiency that are considered useful;
- Understand what impact, if any, the COVID-19 pandemic has had on the freight industry.

The results of this research will be used to inform program and policy development for Natural Resources Canada and to address several Government of Canada ministerial priorities such as investing in clean energy

technology delivering benefits to the environment and the economy and taking national leadership on climate change by protecting the environment and growing the economy.

### 1.3. Methodology

The findings of this study are based on a telephone survey conducted from February 18 to March 22, 2022, among 300 representatives of the Canadian freight transportation industry, representing general freight trucking (local and long distance) and specialized freight trucking (excluding used goods), who are involved in or at least knowledgeable about the management or implementation of trucking fuel efficiency programs and policies within their business' fleet of vehicles.

The survey obtained an overall response rate of 10.7%. The margin of error is +/-6% at 95% confidence level, 19 times out of 20.

The sample was drawn from a purchased list of NAICS codes 4841 (general freight trucking) and 4842 (specialized freight trucking - excluding used goods). A census-style approach was undertaken, meaning that all available sample was drawn and used to achieve the completions outlined below:

- 484110: General freight trucking, local: N=129
- 484121 and 484122: General freight trucking, long distance: N=133
- 484220 and 484230: Specialized Freight Trucking - excluding used goods: N=38

To meet the overall goal of identifying perspectives on reducing fuel use and improving energy efficiency, the study explores attitudes toward fuel consumption by assessing the importance of tracking fuel consumption and fuel efficiency activities and participation in such activities, as well as the perceived barriers to adopting fuel reduction activities and technologies. The study also explores familiarity with, participation in, and usage of green freight transportation programs, with a focus on the SmartDriver Training program, the SmartWay Transport Partnership, Green Freight Assessment Program and Zero Emission Vehicle Infrastructure Program. The study also addressed the impact of the COVID-19 pandemic on the freight transportation business.

#### 1.3.1. Sub-group analyses, statistical significance and rounding

Analysis was undertaken to establish any differences based on business characteristics such as location (region), type of fleet (private, for-hire and both), number of trucks, type of trucks, size of business, use of tracking, use of fuel reduction technologies or activities and familiarity with the green freight transportation programs noted above. Further, comparisons to the results of the baseline survey conducted for Natural

Resources Canada in November 2018 were also undertaken. Only differences significant at the 95% confidence level are presented in this report[1].
The numbers presented throughout this report are rounded to the closest full number. Totals may not add up to 100%.

### 1.4. Contract Value

The total contract value for the project was **$88,758.68** including applicable taxes.

### 1.5. Statement of Political Neutrality

I hereby certify as a representative of Kantar that the deliverables fully comply with the Government of Canada political neutrality requirements outlined in the Communications Policy of the Government of Canada and Procedures for Planning and Contracting Public Opinion Research. Specifically, the deliverables do not include information on electoral voting intentions, political party preferences, standings with the electorate or ratings of the performance of apolitical party or its leaders.

Tanya Whitehead
Kantar
Vice President

### 1.6. Summary of Findings

**Respondent Profile**

Three-hundred representatives from the Canadian freight transportation industry were interviewed. Half of the respondents surveyed were from businesses with fewer than 10 employees (51%) while the remaining 49% had 10 or more employees.

Businesses represented in this survey were distributed regionally as follows: Atlantic Canada (6%), Quebec (31%), Ontario (26%) the Prairies (27%) and BC (9%).

Businesses surveyed had a variety of fleet types: 39% had exclusively private fleets, 35% had exclusively for-hire fleets, and 24% had a combination of both.

[1] The number of percentage points that is considered statistically significant varies based on the size of the sample. For example, 3% difference would be signification for a sample of n=1,000 but not for a sample of n=300.

Furthermore, 46% of businesses had fewer than 10 trucks while 48% had 10 or more trucks in their fleet.

Businesses indicated they had a variety of trucks in their fleets. Most common were dry vans (30%), followed by flatbeds (28%), heavy haul trucks (25%) and specialized (21%). Further, trucks tend to be used mostly for regional (62%) (within a particular region, typically less than 200 km from home terminal) or long-haul (58%) (more than 200 km from the home terminal) while some (18%) are last mile (the final step in the supply chain where a package transfer from a business to a consumer).

**Green Freight Programs**

Familiarity and participation in green transportation programs among the Canadian freight transportation industry remains the same as found in the 2018 survey, and continues to be relatively low. A little more than one-third (36%) of Canadian freight transportation businesses report being familiar (4 or 5 on a 5-point scale) with at least one of the following Canadian green transportations programs: SmartDriver Training Program, Green Freight Assessment Program, SmartWay Transport Partnership and/or Zero Emission Vehicle Infrastructure Program.

No changes have been observed since the 2018 survey in relation to participation in green transportation programs with approximately one-in-four (26%) businesses participating in at least one. Participation continues to be strongest in the Smart Driver Training (11%) programs and the SmartWay Transport Partnership (9%), followed by the Zero Emission Vehicle Infrastructure Program (8%) Green Freight Assessment program (5%) and “other” green freight transportation programs (4%).

Familiarity varies by program, with the SmartDriver Training Program having the highest familiarity (21%) followed by the SmartWay Transport Partnership (17%), Zero Emissions Vehicle Infrastructure Program (16%) and Green Freight Assessment Program (11%). As in 2018, businesses that are more familiar with green transportation programs are also more likely to participate in them.

**Tracking Fuel Consumption and Investment in Fuel Reduction Technologies**

Similar to 2018, a majority (82%) of the businesses in the Canadian freight transportation industry consider tracking fuel consumption important (4 or 5 on a 5-point scale) with two-thirds (66%) considering it “very” important. In 2018, demographic differences between businesses played a role in the perceptions of the importance of tracking fuel consumption. In 2022, perceptions are similar regardless of demographics, especially with regard to fuel tracking.

Given the perceived importance of tracking fuel consumption, it is not surprising to find that virtually all businesses in the Canadian freight transportation industry (98%) track at least some information related to the fuel efficiency of their fleets and/or invest in at least one fuel reduction technology or activity (92%).

The most commonly tracked information includes:

- Fuel consumption (90%);

- Total kilometers travelled (89%);
- Driving habits (69%);
- Average speed (65%)
- Idle time (63%);
- Empty kilometers travelled annually (51%); and
- Annual average payload (51%).

The most common technologies invested in or activities undertaken include:

- Electronic on-board devices (67%);
- Auxiliary power units and/or cab heaters (59%);
- Driver-trainer or incentive programs (50%);
- Tire technology (50%);
- Anti-idling equipment (43%);
- Aerodynamic equipment - truck (40%);
- Improved trailer capacity utilization programs (33%);
- Aerodynamic equipment- trailer (31%); and
- Engine power (30%)

There has been a decrease in 2022 from 2018 in terms of investment in a number of technologies: electronic on-board devices (to 67% from 77% in 2018); auxiliary power units and/or cab heaters (59% from 66%) and anti-idling equipment (43% from 51%) This may be a function of previous investments made by businesses and more modern fleets that come with these technologies as standard.

**Driver Training**

Two-thirds (66%) of freight transportation businesses allocate at least some time annually for training, while just over one-quarter (28%) do not allocate any time for driver training. Just under one-in-five (17%) of freight transportation businesses offer eco-driver training in particular.

**Barriers to Adopting or Implementing Fuel Reduction Activities or Technologies**

Most Canadian freight transportation businesses (89%) say they face barriers when trying to adopt or implement fuel reduction activities or technologies. Competing priorities are a larger barrier in 2022 than 2018 (cited by 46% of respondents vs. 36%) while a lack of buy-in from senior management as a barrier has reduced compared to 2018 (9% vs. 14%). Other common barriers include uncertainty about the return on investment (51%), lack of human resources or time (47%), uncertainty about the performance of fuel reduction activities or technologies (44%), competing operational priorities (36%), lack of funds (34%) and lack of knowledge (33%).

**Information on Fuel Efficiency**

Canadian freight transportation businesses were asked to identify the types of information on fuel efficiency they consider most useful from a set list. Similar to 2018, about three-quarters of businesses consider on-road performance of energy efficient technologies (74%) and fuel consumption ratings for heavy duty vehicle (HDV) (72%) to be useful. More than half of businesses (56%) continue to find a business case for adopting energy efficient technologies and practices to be useful. Somewhat fewer consider data on the energy efficiency of Canada's HDV fleet (45%) and stories on fleets transition to decarbonizing operations (41%) to be useful.

**Impact of COVID-19**

Respondents were asked about the impact of the COVID-19 pandemic on their business. Just over half (51%) indicated the COVID-19 pandemic had a negative impact (1 or 2 on a 5-point scale), while 15% indicated the COVID-19 pandemic had a positive impact on their business.

The top three reasons cited as a negative impact included:

- Lack of workers, not enough drivers (40%);
- Government mandates, restrictions and/or lockdowns (22%); and
- The pandemic slowed down the general operation of the business (12%)

The top three reasons cited as a positive impact included:

- Increased business, service demand and/or volume of work (53%);
- More people were staying home (15%); and
- Their business was considered an essential service (10%)

Businesses were also asked about the impact of the COVID-19 pandemic on investments related to fuel reduction, new truck purchases and retrofitting. About two in three respondents indicated the pandemic had no impact on investment in fuel reduction (64%) or retrofitting (67%), while 49% indicated it had no impact with regard to new truck investment.

**Demographic Differences**

Analysis was undertaken to establish any differences based on business characteristics such as region, type of fleet (private, for-hire and both), number of trucks, type of trucks, etc. While most business characteristics have no impact on the business' perspectives and behaviour related to reducing fuel use and improving energy efficiency, the number of trucks does tend to play a role.

Businesses with 20+ trucks in their fleet tend to have different perspectives and behaviours related to fuel efficiency. More specifically:

- They are more familiar with the SmartWay Transport Partnership than businesses with fewer than 20 trucks (29% vs. 7-9%);
- They are more likely to participate in at least one green transportation program (42% vs. 15-19%);
- They are more likely to invest in more technologies or activities compared to those who have fewer trucks; and
- They are more likely to offer the training compared to those with fewer than 20 trucks (28% vs. 12-16%).

**Conclusions**

In summary, Canada's freight transportation industry still has low awareness of Natural Resources Canada's green transportation programs, however research outcomes indicate they have a strong interest in improving energy efficiency.

***Low participation***

Participation in green transportation programs among the freight transportation industry continues to be relatively low and this is especially true for businesses with fleets of private vehicles or those with less than 20 trucks. Low participation is likely driven by low familiarity with the programs given the high importance of tracking fuel consumption among businesses as well as their high participation in tracking activities and investment in fuel-efficient technologies and activities.

***Barriers on fuel efficiency activities or technologies***

A majority of the freight transportation industry invest in at least one fuel reduction technology or activity however, most of them face barriers when trying to adopt or implement fuel reduction activities or technologies. Addressing barriers related to a lack of knowledge on fuel efficiency activities or technologies and uncertainties about the performance of various fuel-efficient technologies and the return on investment can further encourage the uptake of tracking fuel-efficiency and fuel-efficient technologies among the freight transportation industry.

***Outreach smaller fleets (less than 20 trucks)***

Furthermore, outreach to businesses that have smaller fleets (less than 20 trucks) may also help to improve uptake given their lower overall uptake and participation in green freight programming and adoption of fuel efficiency tracking and technology.

***Impact of COVID-19***

It is important to consider the impact of the COVID-19 pandemic on the results of this research. Specifically, over half of businesses indicated that COVID-19 pandemic has had a negative impact on their business which is likely to have an impact on willingness and financial ability of freight transportation industry to invest in this area along with the capacity given the labour shortages experienced.