



Natural Resources  
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## 2024 Greening Freight Programs industry survey

### Final Report

#### Prepared for Natural Resources Canada

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Ce rapport est aussi disponible en français.

## 2024 Greening Freight Programs industry survey Final Report

Prepared for Natural Resources Canada  
Supplier name: Phoenix Strategic Perspectives Inc.  
March 2024

This public opinion research report presents the results of a 15-minute telephone survey 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. The fieldwork was conducted from January 3 to February 1, 2024.

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# Table of Contents

<b>Executive Summary</b> .....	<b>1</b>
1. Research purpose, objectives and intended use of results .....	1
2. Methodology.....	2
3. Contract value .....	2
4. Statement of political neutrality .....	2
5. Notes to readers.....	3
6. Summary of findings .....	3
<b>Detailed Findings</b> .....	<b>6</b>
1. Profile of responding companies .....	6
2. Government funding programs.....	11
3. Fleet energy assessments .....	15
4. Retrofits.....	17
5. Repowering .....	21
6. Communications .....	24
7. Fleet Profile .....	25
<b>Appendix</b> .....	<b>29</b>
1. Technical Specifications .....	29
2. Survey Questionnaire.....	31

## List of Figures

Figure 1: Location of head office .....	6
Figure 2: Size of Company – Employees .....	7
Figure 3: Number of drivers employed by responding companies .....	8
Figure 4: Eco-driving training .....	8
Figure 5: Metrics to track efficiency of fleets .....	9
Figure 6: Government funding for retrofits .....	11
Figure 7: Familiarity with federal green transportation programs .....	12
Figure 8: Awareness of provincial/territorial rebate programs for retrofits .....	13
Figure 9: Participation in green transportation programs .....	14
Figure 10: Third party energy assessment .....	15
Figure 11: Reasons for not considering an energy assessment .....	16
Figure 12: Implementation of retrofits .....	17
Figure 13: Number of truck fleet retrofits in past year .....	18
Figure 14: Type of retrofits .....	19
Figure 15: Barriers to retrofitting .....	20
Figure 16: Awareness of repowering existing fleet engines .....	21
Figure 17: Percentage of repowered fleet engines .....	22
Figure 18: Type of fuel used to repower fleet engines .....	22
Figure 19: Reason(s) why company is not interested in repowering their fleet .....	23
Figure 20: Information viewed as useful for decision-making .....	24
Figure 21: Type of Fleet .....	25
Figure 22: Number of trucks .....	26
Figure 23: Percentage of trucks in fleet less than five years old .....	26
Figure 24: Type of trucks in fleet .....	27
Figure 25: Use of trucks .....	27
Figure 26: Daily kilometers travelled .....	28

## Executive Summary

The department of Natural Resources Canada (NRCan) commissioned Phoenix Strategic Perspectives (Phoenix SPI) to conduct survey research to assess Freight Transportation Medium and Heavy-duty Vehicle (MHDV) industry awareness and uptake of fleet energy assessments, truck and trailer retrofits and engine repowers.

### 1. Research purpose, objectives and intended use of results

NRCan's Greening Freight Programs (*SmartWay*, *SmartDriver* and the Green Freight Program) are three programs that provide training, tools, and resources to help Canada's fleets lower fuel consumption, operating costs, and harmful vehicle emissions. The purpose of the research was to assess perspectives on reducing fuel use and improving energy efficiency in freight transportation among the MDHV industry.

The specific research objectives included:

- Determine whether companies have implemented retrofits and, if so, what types of retrofits were completed in the past three years.
- Understand the barriers, if any, to retrofitting fleets.
- Assess use, and perceived importance, of fleet energy assessments.
- Understand interest in fleet energy assessments, including reasons companies have not considered an assessment.
- Measure perceived importance of government funding programs that support fleet retrofits.
- Assess familiarity with the Green Freight Assessment Program<sup>1</sup> and awareness of provincial/territorial rebate programs for fleets retrofits.
- Measure participation in government funding programs for fleet retrofits and determine preferred types of funding.
- Understand whether government funding will motivate companies to consider retrofitting fleets.
- Explore awareness, and implementation, of repowering.
- Understand whether government funding will motivate companies to consider repowering engines.
- Assess intent to repower fleet engines in the next two to three years.

The results of this research will be used to: 1) enhance NRCan's understanding of inflection points and potential federal funding assistance needs to increase the uptake of ZEV purchases and retrofits; and 2) to inform program and policy development for natural resources or in relation to Government of Canada and Ministerial priorities.

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<sup>1</sup> This program has since been recapitalized and renamed the Green Freight Program (GFP), which launched on December 12, 2022.

## 2. Methodology

A 15-minute telephone survey was conducted with a random sampling of 300 representatives of the Canadian freight transportation industry who occupy a position of owner/operator or senior level manager.

The sampling frame was purchased from Dun & Bradstreet (D&B Canada) and drawn from NAICS code 4841 (General Freight Trucking)—specifically: 48411 (Local) and 48412 (Long Distance) and NAICS code 4842 (Specialized Freight [except Used Goods] Trucking Local—specifically: 484220 (Local) and 484230 (Long Distance).

All respondents were involved in, or knowledgeable about, the management or implementation of trucking fuel efficiency programs and policies within the business' fleet of vehicles. Thirty-seven percent (37%) of respondents described themselves as very knowledgeable in this regard and 63% as somewhat knowledge.

The results were weighted to reflect the actual distribution of businesses operating in this sector in Canada and can be considered accurate to within  $\pm 6\%$ , 19 times out of 20. The margins of error are greater for results pertaining to subgroups of the total sample.

The fieldwork was conducted from January 3 to February 1, 2024. More information on the methodology can be found in the Appendix: [Technical Specifications](#).

## 3. Contract value

The contract value was \$78,044.58 (including applicable taxes).

## 4. Statement of political neutrality

I hereby certify as a Senior Officer of Phoenix Strategic Perspectives 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 contain any reference to electoral voting intentions, political party preferences, standings with the electorate, or ratings of the performance of a political party or its leader.



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Alethea Woods  
President  
Phoenix Strategic Perspectives Inc.

## 5. Notes to readers

- All results are expressed as percentages, unless otherwise noted. Throughout the report, percentages may not always add to 100 due to rounding and/or multiple responses being offered by respondents.
- At times, the number of respondents changes in the report because questions were asked of sub-samples of the survey population. Accordingly, readers should be aware of this and exercise caution when interpreting results based on smaller numbers of respondents.
- Subgroup differences are identified in the report. Where subgroup differences are not discussed for certain questions, it can be assumed that there were no significant differences of note.
  - When reporting subgroup variations, if one or more categories in a subgroup are not mentioned in a discussion of differences (for example, if two out of four regions are compared), it can be assumed that significant differences were found only among the categories reported.
  - Only subgroup differences that are statistically significant at the 95% confidence level, pertain to a subgroup sample size of more than n=20 are, or are part of a pattern or trend are discussed in the report.
- Where relevant, results are compared to similar surveys conducted in 2018, Winter 2022, and Fall 2022/Winter 2023. For ease of reference throughout the report, the survey conducted in Winter 2022 is referred to as “2022” and the survey conducted in Fall 2022/Winter 2023 is referred to as “2023”.
- The survey questionnaire is [appended](#) to the report.

## 6. Summary of findings

### Company Profile

- Companies represented in this survey were distributed regionally as follows: Atlantic Canada (9%), Quebec (16%), Ontario (35%), and the West (24%).
- Most companies have fewer than 100 employees: 60% employ between five and 99 employees, 29% have less than five employees, and 11% have 100 or more.
- The vast majority of companies have fewer than 100 trucks in their fleets: 58% of companies operate fleets ranging from five to 99 trucks, 30% operate fleets with less than five trucks.
- More than one-third (38%) of companies provide eco-driving training to their truck drivers, while 60% do not.

### Government Funding Programs

- The majority of freight industry representatives surveyed believe that government funding programs that support fleet retrofits are at least somewhat important. Specifically, 38% said these programs are very important, while an additional 25% viewed them as somewhat important.

- Awareness of provincial/territorial rebate programs for greening freight transportation is low – 15% of freight industry representatives surveyed said they are aware of these rebate programs.
- Awareness of federal green transportation programs is also relatively low: 21% of freight transportation company representatives are aware of the Zero Emission Vehicle Awareness Initiative, 17% are aware of the SmartWay Transport Partnership program, 16% are aware of the SmartDriver Training, 15% are aware of the Incentive for Medium- and Heavy-Duty Zero Emission Vehicles Program, and 14% are aware of the Green Freight Program.

### Fleet Energy Assessments

- Nine percent of companies have had a third party conduct an energy assessment of their fleet. Among companies that have not had an energy assessment, 26% would consider having a third-party energy assessment.
- Freight industry representatives who said that their company would *not* consider having a third party complete an energy assessment were most likely to point to lack of need when asked to explain why. This is consistent with 2023. This year, four in 10 said their company does not need an assessment because they are not planning to retrofit their fleet (34%) or there is no need to retrofit their fleet (6%).

### Retrofits

- One-quarter (25%) of the companies surveyed have implemented retrofits to the trucks in their fleet in the past year and 72% of companies have *not* implemented any retrofits.
- Among companies that have recently implemented retrofits to their trucks, 58% installed cab heaters. Following this, 44% implemented cab coolers, 41% have incorporated predictive cruises and auxiliary power units.
- Cost continues to be the primary barrier to retrofitting: 39% reported costs as the barrier facing their company, while 23% of companies encounter no obstacles to retrofitting their trucks.

### Repowering

- Fifty-seven percent (57%) of companies surveyed are reportedly aware that repowering existing engines can be a cost-effective alternative to purchasing a new Original Equipment Manufacturer (OEM) vehicle. However, only 19% of companies have repowered any existing truck engines within their fleet.
- Sixty-four percent (64%) of companies are *not* considering repowering any of their fleet engines in the next two to three years. Among these, 30% cited high costs as the main reason for the lack of interest in repowering, 23% mentioned that it has no value or will not provide cost-savings, and 22% are already planning to buy a new fleet.

### Communications

- Over half of respondents found various types of information useful, including fuel consumption ratings for Medium- and Heavy-Duty Vehicles (65%), on-road performance of energy-efficient technologies (58%), business cases for adopting energy-efficient technologies and practices (54%), stories on fleets transitioning to decarbonizing operations (46%), and data on the energy efficiency of Canada's HDV fleet (46%).

## Fleet Profile

- Respondents reported a diverse range of fleet types, with 39% exclusively operating for-hire fleets, 37% exclusively operating private fleets, and 24% operating both for-hire and private fleets.
- Forty-one percent (41%) of freight industry representatives reported that up to one-quarter of their company's fleet is less than five years old.
- Forty-nine percent (49%) of surveyed freight transportation companies have dry vans in their fleet, followed by 18% with flatbeds, and 17% with specialized trucks.
- Seventy-five percent (75%) of companies surveyed use their trucks for regional deliveries, 61% for long hauls, and 32% last mile deliveries.
- The majority (68%) of surveyed companies reported that their trucks travel more than 200 kilometers daily.

## Concluding observations

The following are offered as concluding observations:

- Cost continues to be a major barrier to retrofitting and repowering fleets. In line with the 2023 results, most companies have still not implemented any retrofits to their fleet nor repowered any existing truck engines. This presents an opportunity to address the perception of high costs associated with retrofitting and repowering by promoting awareness of government programs, in particular, programs with financial incentives.
- Awareness of government programs continues to be relatively low. Consistent with 2023, awareness of provincial and territorial rebate programs for greening freight transportation is limited, with more than eight in 10 unaware of such programs. Likewise, familiarity with individual federal green transportation programs also continues to be fairly low. What has changed this year is the proportion of freight representatives familiar with at least one program. It has increased significantly compared to 2022 (when familiarity with programs was last measured), suggesting some improvement in overall awareness of the existence of these programs. A general increase in awareness, however, has not translated into increased program participation. There has been virtually no change in program participation rates over time. Levels have remained consistent since the baseline survey conducted in 2018.
- Use of fleet energy assessments continues to be limited as was the case in 2023, with lack of need mentioned as the primary reason for not considering an assessment. This finding points to a potential communications opportunity—addressing misperceptions and lack of understanding of the benefits of these assessments might help to increase uptake of fleet energy assessments.
- Many companies continue to track fuel efficiency metrics with their fleets, and this year, significantly more freight representatives said their company tracks average speed than was the case in 2022 (when use of these metrics was last measured).

## Detailed Findings

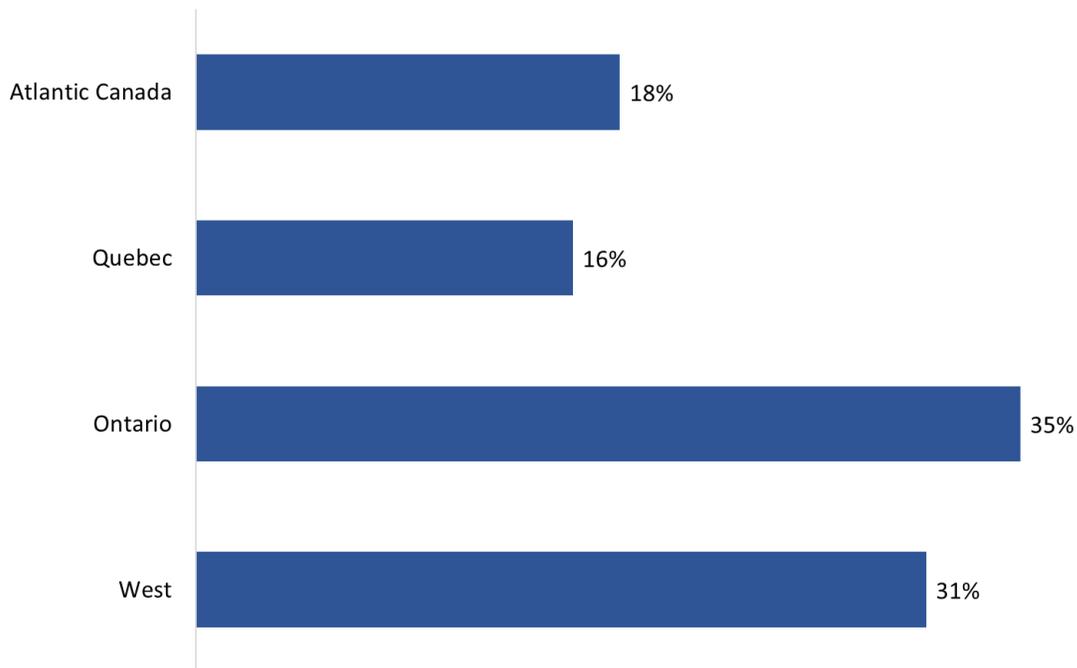
### 1. Profile of responding companies

In total, 85% of the interviews were completed in English and 15% were completed in French. All respondents were involved in, or knowledgeable about, the management or implementation of trucking fuel efficiency programs and policies within the business' fleet of vehicles. Specifically, 37% of surveyed freight industry representatives described themselves as very knowledgeable in this regard and 63% characterized themselves as somewhat knowledgeable. This section of the report provides a profile of the companies represented in the survey. Information about these companies' fleets can be found in [Section 7: Fleet Profile](#).

#### More than a third of head offices are located in Ontario.

Just over one-third (35%) of companies have their head offices located in Ontario, and almost as many (31%) are headquartered in the West. Following this, 18% of companies are headquartered in Atlantic Canada and 16% are located in Quebec.

Figure 1: Location of head office

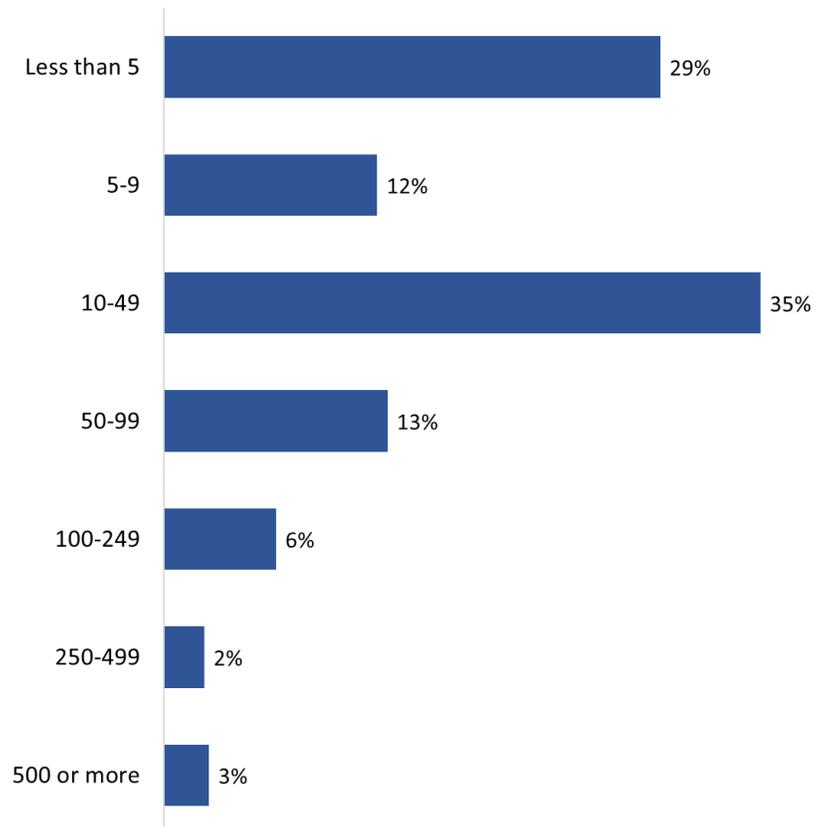


Q4. In which province or territory is your company's head office located? Base: n=300; All respondents.

### Six in 10 companies employ between 5 and 99 employees.

Six in 10 (60%) companies employ between five and 99 employees. Specifically, 12% employ five to nine employees, 35% employ 10 to 49 employees, and 13% employ 50 to 99 employees. Three in 10 (29%) companies employ up to four employees (i.e., are micro-sized companies), while one in 10 (11%) have 100 or more employees.

Figure 2: Size of Company – Employees

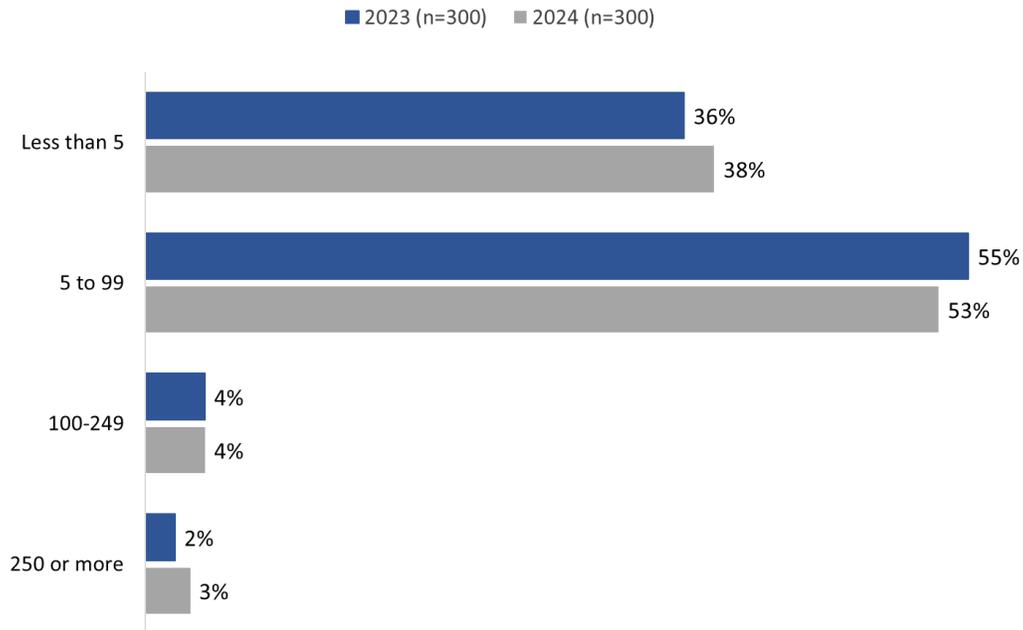


Q5. How many employees work for your company? Base: n=300; All respondents.

### The vast majority of companies employ fewer than 100 drivers.

Consistent with the 2023 survey, the vast majority (91%) of companies employ fewer than 100 drivers. Specifically, 53% employ five to 99 drivers and 38% employ up to four drivers. Among companies that employ five to 99 drivers, 13% employ five to nine, 33% employ 10 to 49, and 7% employ 50 to 99 drivers. Relatively few companies (7%) employ 100+ drivers. The median number of drivers employed by responding companies is eight.

Figure 3: Number of drivers employed by responding companies

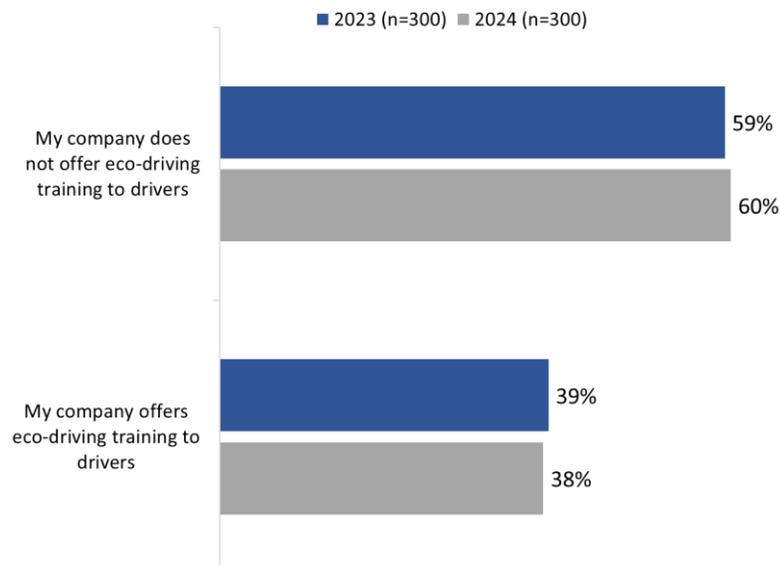


Q6. How many of these employees are employed as drivers for your company? Base: All respondents.

**More than one-third of companies continue to offer eco-driving training to drivers.**

More than one-third (38%) of companies provide eco-driving training to their truck drivers, while 60% do not. The incidence of eco-driving training is unchanged year over year, but compared to 2022, there has been a considerable increase in the proportion of companies offering this training to drivers. In 2022, 17% of companies provided eco-driving training to their drivers compared to 38% in 2024.

Figure 4: Eco-driving training



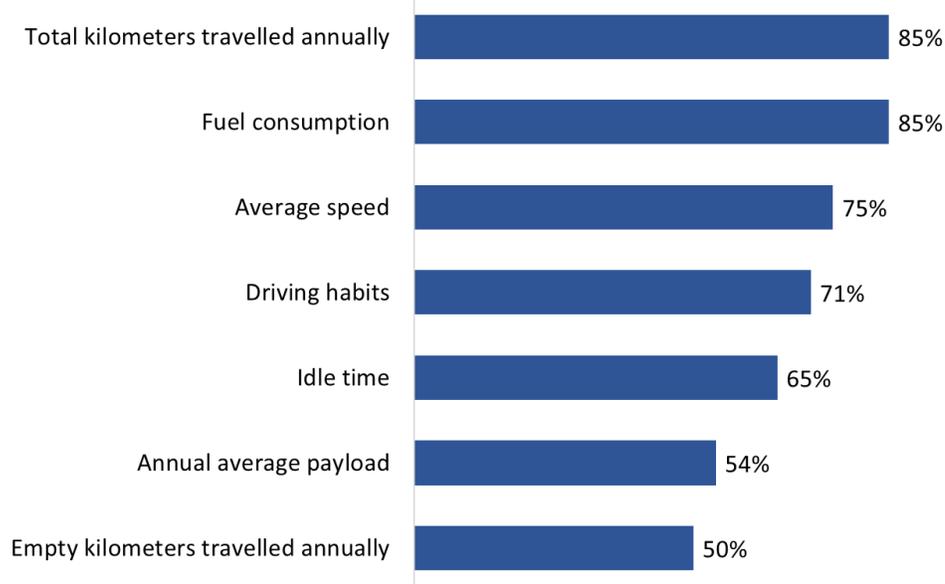
Q33. Does your company offer eco-driving training to its truck drivers? Base: All respondents.

Companies headquartered in Atlantic Canada (70%), micro-sized companies (73%), and those with fleets of fewer than five trucks (70%) were most likely to *not* offer eco-driving training. In addition, companies that do not offer eco-driving training to their drivers were more likely to be unfamiliar with federal green transportation programs (72%), to consider government funding programs that support fleet retrofits to be unimportant (69%), and to be unaware of repowering as a cost-effective alternative (68%).

**Companies tend to track metrics, such as total annual kilometers travelled, fuel consumption, and average speed.**

In addition to offering eco-driving training, many of the surveyed companies track fuel efficiency metrics. More than eight in 10 companies track both the total kilometers travelled annually (85%) and the fuel consumption of their freight trucks (85%). In addition, three-quarters (75%) track the average speed of their trucks, 71% track driving habits, such as keeping steady speeds, coasting to decelerate, etc., and two-thirds (65%) track idle time. At least half track annual average payload (54%) and the empty kilometers travelled annually (50%).

**Figure 5: Metrics to track efficiency of fleets**



Q32A-G. Thinking about the freight trucks that your company uses, which of the following do you track...? [Multiple responses accepted] Base: n=300; All respondents.

This question was not asked of survey respondents in 2023, but it was asked of respondents in 2018 and 2022. The table below compares the 2024 results to those of 2018 and 2022.

	2018 (n=300)	2022 (n=300)	2024 (n=300)	Difference between 2022 and 2024
Total kilometers travelled annually	89%	89%	85%	-4%
Fuel consumption	91%	90%	85%	-5%
Average speed	70%	65%	75%	10%
Driving habits	66%	69%	71%	2%

Idle time	70%	63%	65%	2%
Annual average payload	53%	52%	54%	2%
Empty kilometers travelled annually	58%	51%	50%	-1%

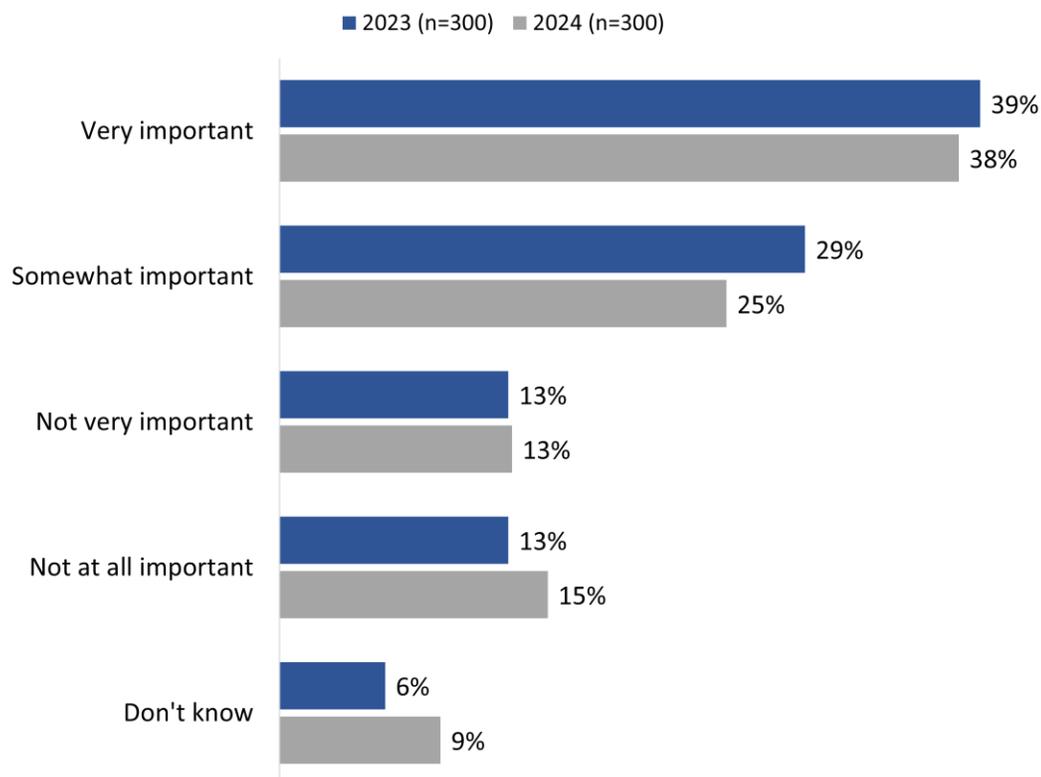
## 2. Government funding programs

This section of the report presents respondents' views of government funding and awareness and use of government green transportation programs.

### Majority believe government funding for retrofits are an important investment.

Nearly two-thirds (63% compared to 69% in 2023) of freight transportation representatives said that government funding programs that support fleet retrofits are at least somewhat important. Specifically, 38% view these programs as very important, while an additional 25% consider them somewhat important. Conversely, one-quarter of respondents consider government funding programs to be not very (13%) or not at all (15%) important.

Figure 6: Government funding for retrofits



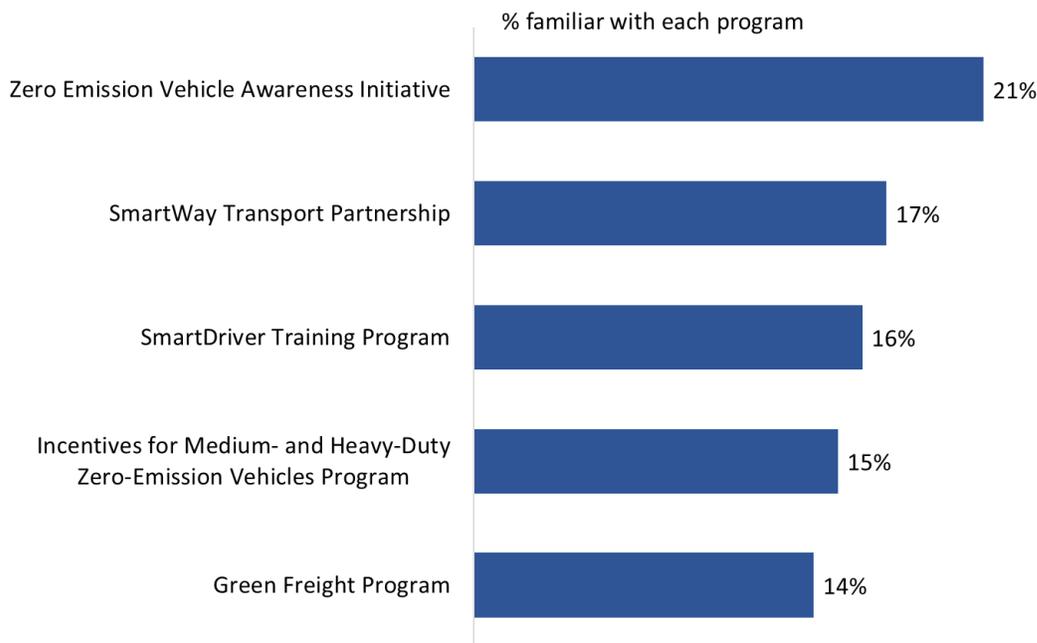
Q7. How important are government funding programs that support fleet retrofits? Base: All respondents.

Larger companies were more likely than micro-sized companies to attribute importance to government funding programs that support fleet retrofits (76% of companies with 50 to 99 employees and 80% of companies with 100+ employees versus 58% of micro-sized companies). In addition, companies that offer eco-driving training (71%) and companies aware of provincial and territorial rebate programs for greening freight transportation (81%) were more apt view these funding programs as important.

### Familiarity with individual federal green transportation programs is low.

As indicated in figure 7, familiarity with federal green transportation programs is fairly low, ranging from 14% who are familiar with the Green Freight Assessment program to 21% who are familiar with the Zero Emission Vehicle Awareness Initiative. Taken together, just over half (57%) of respondents rated themselves as familiar with at least one of the five federal green transportation programs. This represents a significant increase since 2022 when this question was last asked of survey respondents and approximately one-third (36%) rated themselves as familiar with at least one of the federal green transportation programs.<sup>2</sup>

Figure 7: Familiarity with federal green transportation programs



Q8A-Q8E. How familiar are you with the following federal green transportation programs? [Multiple responses accepted]  
Base: n=300; All respondents.

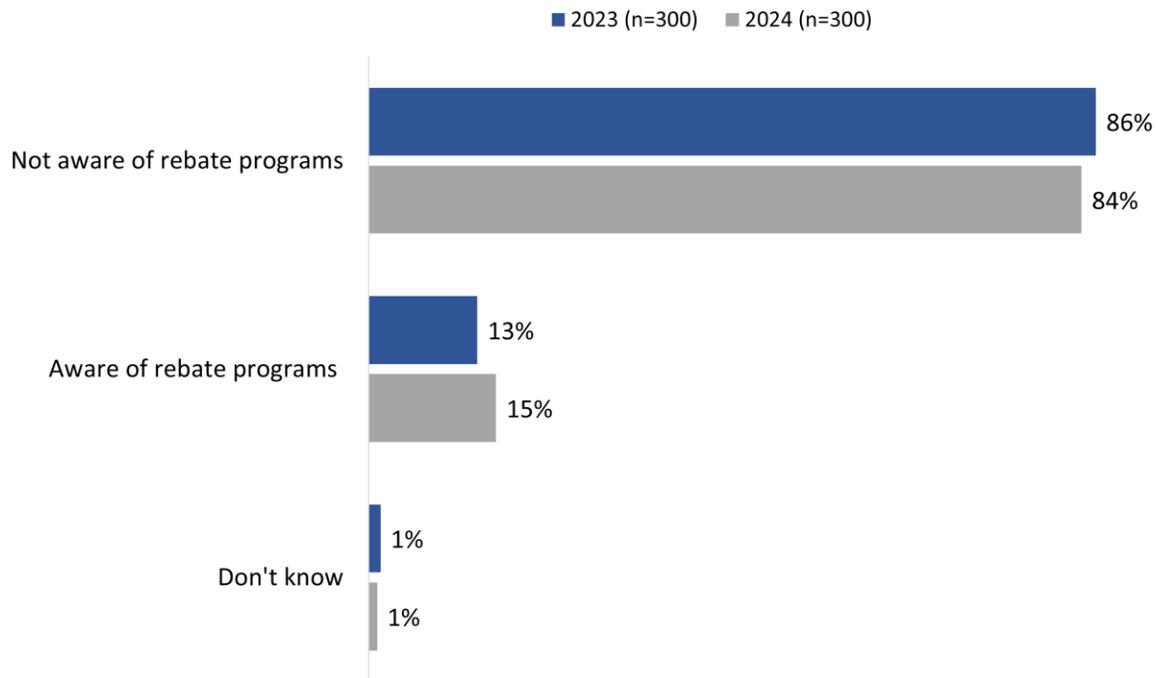
Familiarity with at least one of these programs tended to be higher in Quebec (76%) than in Atlantic Canada (37%) or the West (54%) and was considerably higher among respondents from larger companies (77% of companies with 50 to 99 employees and 82% of companies with 100+ employees versus 52% of micro-sized companies). It was also higher among companies that have implemented retrofits (77%) and that offer eco-driving training (73%).

### Low awareness of provincial/territorial rebate programs for retrofits.

As is the case with federal green transportation programs, awareness of provincial and territorial rebate programs for greening freight transportation continues to be limited. Fifteen percent of freight transportation companies surveyed are aware of these programs, while more than eight in 10 (84%) are not aware of them. Awareness of the provincial and territorial rebate programs is unchanged year over year.

<sup>2</sup> This comparison should be viewed with caution because the 2022 survey asked about familiarity with only four programs. It did not include the program: Incentives for Medium- and Heavy-Duty Zero-Emission Vehicles.

Figure 8: Awareness of provincial/territorial rebate programs for retrofits



Q9. Are you aware of any provincial/territorial rebate programs for greening freight transportation? Base: All respondents.

Respondents from companies headquartered in Atlantic Canada (94%) were more likely to be *unaware* of these rebate programs (compared to their counterparts in Quebec, 71%, and Ontario, 83%).

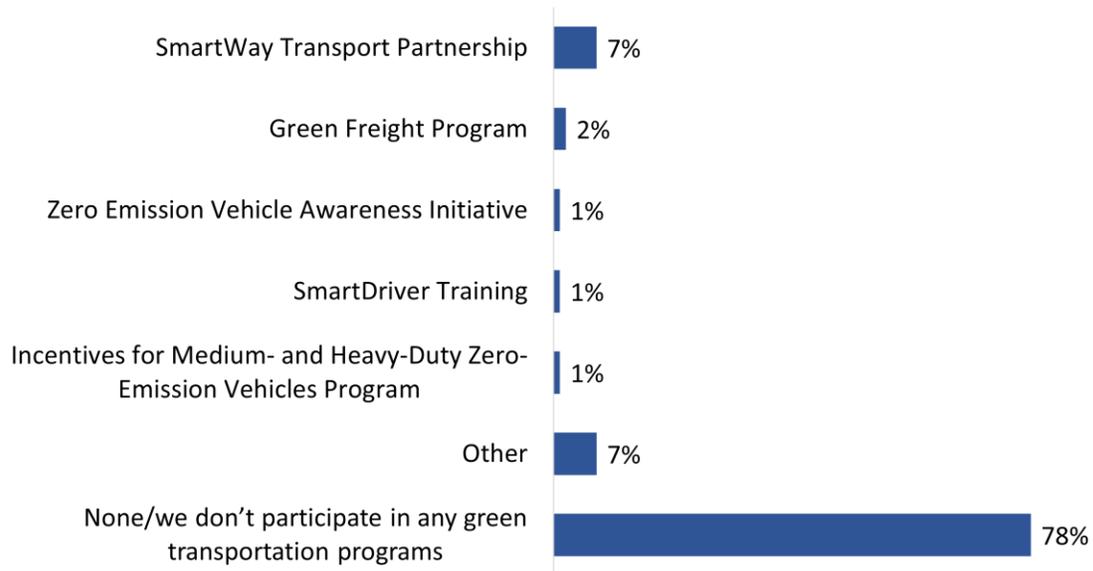
#### Low participation in green transportation programs.

Very few companies participate in green transportation programs. Seven percent participate in the SmartWay Transport Partnership program (compared to 9% in 2022), 2% in the Green Freight Program (compared to 5% in 2022), and 1% each in the Zero Emission Vehicle Awareness Initiative (compared to 8% in 2022), SmartDriver Training (compared to 11% in 2022), and Incentive for Medium- and Heavy-Duty Zero Emission Vehicles Program.

There has been virtually no change in participation rates since 2018 and 2022, when 74% of companies surveyed did not participate in green transportation programs. This year, more than three-quarters (78%) of surveyed companies reportedly do not participate in any such programs.

Seven percent of respondents volunteered that their company participates in other green transportation programs. Programs grouped in the “other” category include Heavy-duty Vehicle Efficiency (HDVE) Program, the Manitoba Efficient Trucking Program, and Ontario’s Green Licence Plate Program, among others.

Figure 9: Participation in green transportation programs



Q10. Which green transportation programs, if any, does your company participate in? [Multiple responses accepted]  
Base: n=300; All respondents.

Companies that do *not* participate in green transportation programs were more likely to be headquartered in Atlantic Canada (89%) than in Quebec (80%) or Ontario (75%) and to have fewer than five employees (93%).

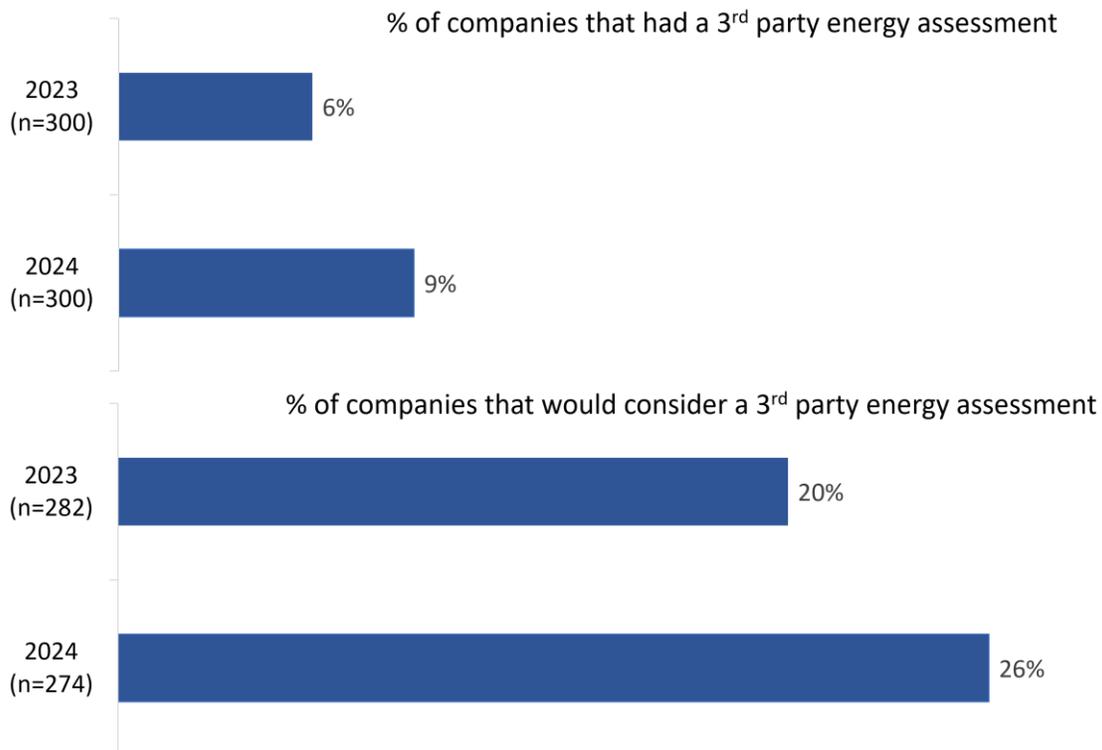
### 3. Fleet energy assessments

This section of the report discusses fleet energy assessments.

**Very few companies have had an energy assessment; one in four companies that haven't had one would consider a third-party energy assessment.**

One in 10 (9%) companies have had a third party conduct an energy assessment of their fleet. Among companies that have not undergone an energy assessment (n=282), 26% (compared to 20% in 2023) would consider engaging a third party to conduct such an assessment.

Figure 10: Third party energy assessment



Q12. Has your company ever had a third party conduct an energy assessment of your fleet? Base: All respondents.

Q14. Would your company ever consider having a third party conduct an energy assessment of its fleet? Base: Companies that have not had a third party conduct an energy assessment of their fleet.

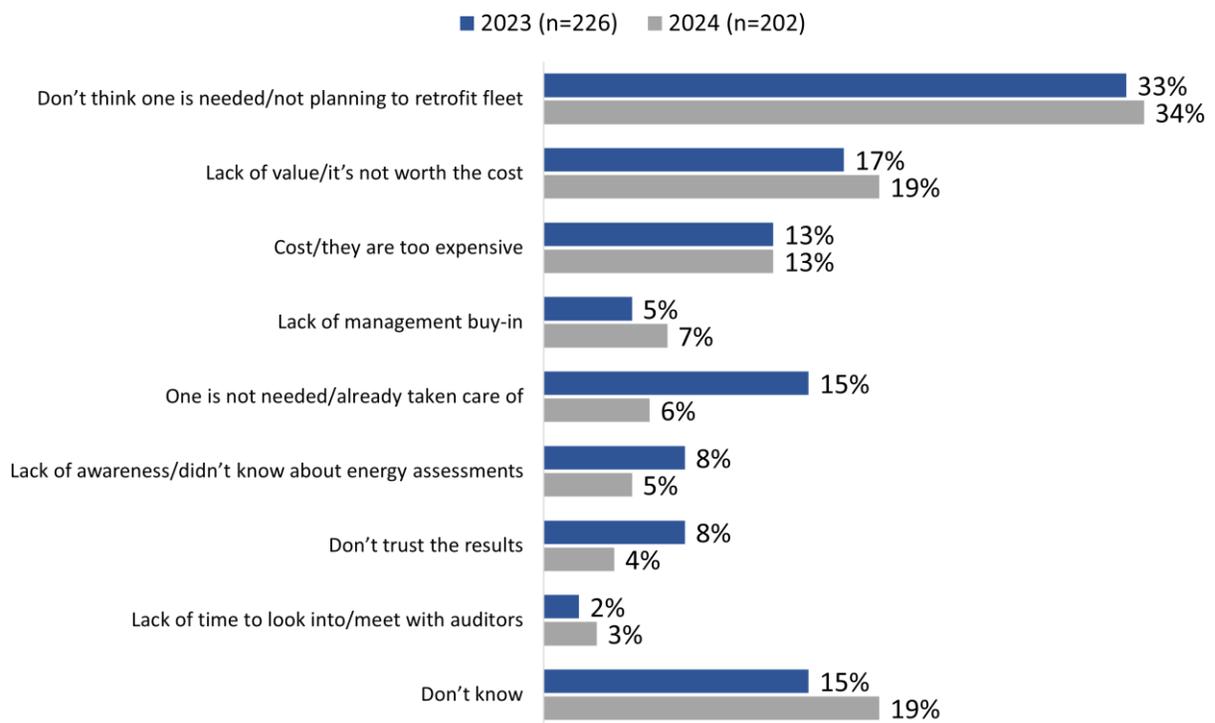
Companies with fewer than five employees (93%) and companies that have not implemented retrofits (91%) were more likely to have *not* had an energy assessment conducted by a third party.

Most representatives of companies that have had a third party conduct an energy assessment of their fleet (n=26) said that the assessment was important when determining retrofits should be made to the company fleet.

### Many still feel that fleet energy assessments are not needed.

Freight industry representatives who said that their company would *not* consider having a third party complete an energy assessment (n=202) were most likely to point to lack of need when asked to explain why. This is consistent with 2023. This year, four in 10 said their company does not need an assessment because they are not planning to retrofit their fleet (34%) or there is no need to retrofit their fleet (6%). Other reasons for not considering an energy assessment included the perception that a third-party assessment lacks value and is not worth the cost (19%) and that they are too expensive (13%). The full range of responses can be found in figure 11.

Figure 11: Reasons for not considering an energy assessment



Q15. Why hasn't your company considered a fleet energy assessment? [Multiple responses accepted] Base: Companies that did not consider a fleet energy assessment.

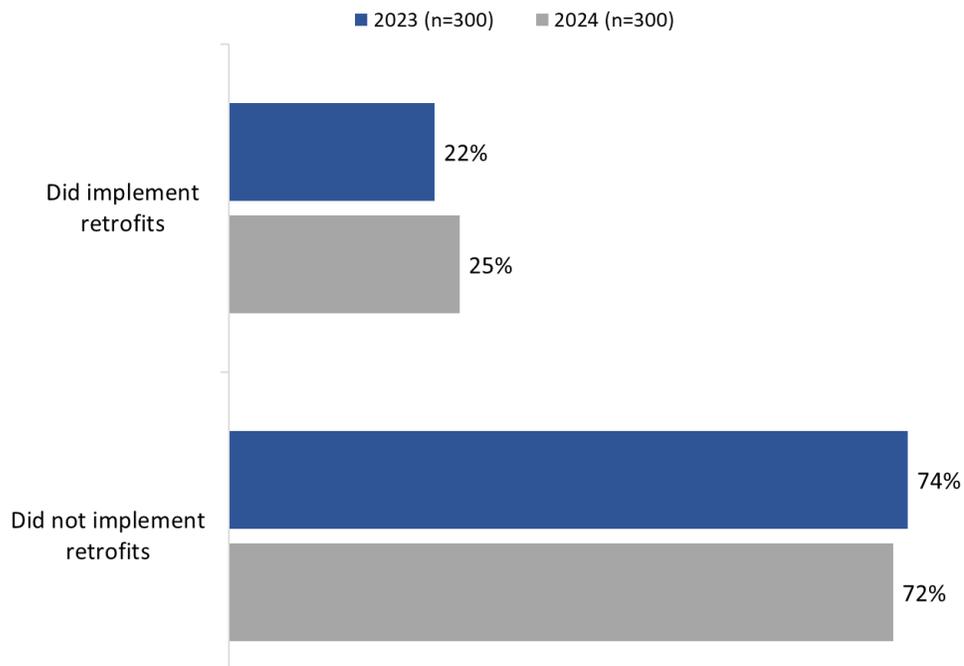
## 4. Retrofits

This section of the report discusses the retrofits implemented by companies in the past year.

**Majority have still *not* implemented retrofits to their fleet.**

Seventy-two percent (virtually unchanged from 2023) of companies have *not* implemented any retrofits to the trucks in their fleet in the past year. The incidence of implementing retrofits is consistent year over year: 25% implemented retrofits this year compared to 22% in 2023.

Figure 12: Implementation of retrofits



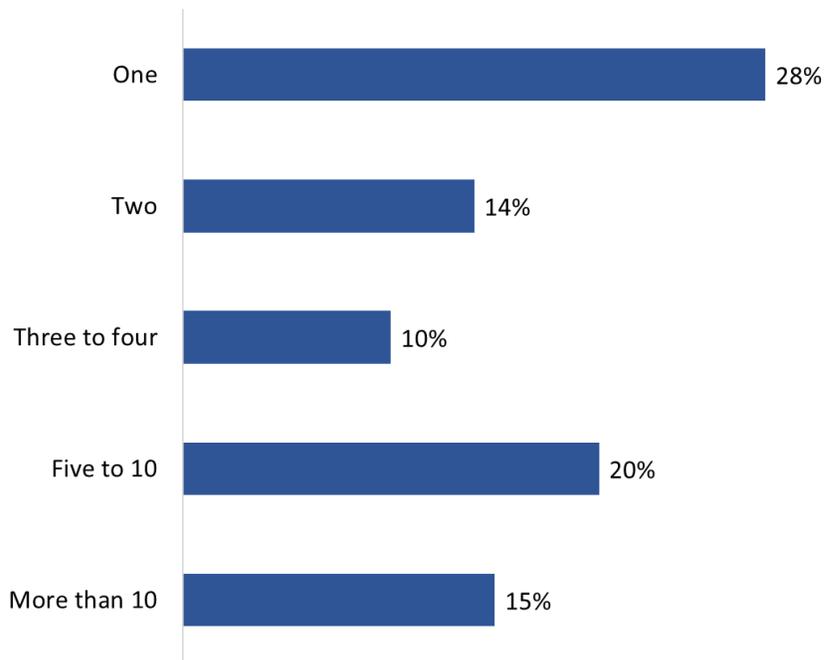
Q16. In the past year, has your company implemented any retrofits to its truck fleet? Base: All respondents.

Companies based in Quebec (73%), those with private fleets (39%), companies familiar with federal green transportation programs (33%), and companies aware of provincial/territorial rebate programs for greening freight transportation (51%) were more likely to have implemented retrofits.

### Half have retrofitted up to four trucks in the past year.

Among companies that have implemented retrofits in the past year (n=75), half (52%) have retrofitted up to four trucks, including 28% that retrofitted one truck. One in five companies (20%) retrofitted five to 10 trucks and 15% retrofitted more than 10 trucks in the past year. The number of trucks that had been retrofitted in the past year ranged from one to 150, with the median number of trucks retrofitted being three.

Figure 13: Number of truck fleet retrofits in past year



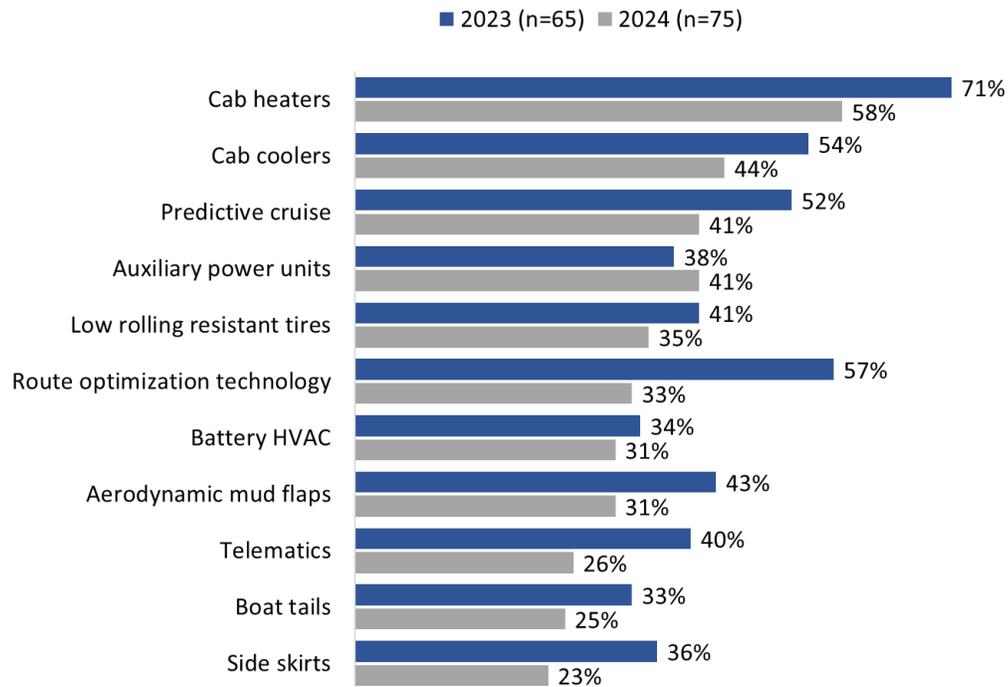
Q17. How many of your company's truck fleet has been retrofitted in the past year? Base: n=75; Companies that implemented retrofits to their truck fleet in the past year.

### More than half have implemented cab heaters; many have also implemented cab coolers, predictive cruise, and auxiliary power units.

More than half (58%) the companies that completed retrofits in the last year implemented cab heaters (compared to 71% in 2023)<sup>3</sup>. Following this, approximately four in 10 companies implemented cab coolers (44%), predictive cruise (41%), and auxiliary power units (41%) in the last year. The full range of retrofits completed by companies over the last year can be found below in figure 14.

<sup>3</sup> Year-over-year comparisons should be viewed with caution because the timeframe for implementing retrofits was three years when the survey was administered in 2023.

Figure 14: Type of retrofits



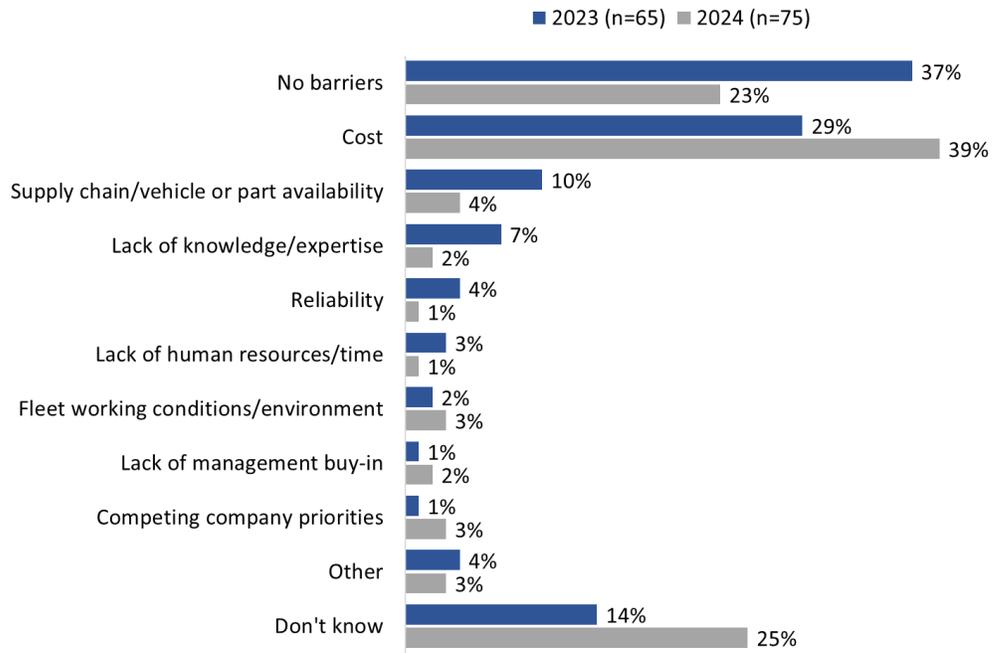
Q18. Which of the following retrofits has your company completed in the past year? [Multiple responses accepted] Base: Companies that implemented retrofits to their truck fleet in the past year.

**Many companies continue to face various barriers to retrofitting their fleet, with cost being the most commonly reported one.**

Half of companies surveyed (52%) reported at least one barrier when it comes to retrofitting their fleet. Barriers remain diverse, although cost was the most frequently reported barrier experienced, with nearly four in 10 (39%) mentioning cost this year compared to 29% of survey respondents in 2023. Conversely, almost one-quarter (23%) of these companies encountered no obstacles to retrofitting their trucks compared to more than one-third (37%) in 2023.

The complete list of barriers identified by respondents is outlined in figure 15. The types of barriers grouped in the “other” category include the age of the vehicles or equipment, geography/location, truck turnover (i.e., they replace trucks relatively frequently, so retrofitting is not needed), driver preferences (i.e., some do not want changes), the downtime for retrofitting, questions/concerns about performance, among others.

Figure 15: Barriers to retrofitting



Q19. What barriers does your company face when it comes to retrofitting its fleet? [Multiple responses accepted] Base: Companies that implemented retrofits to their truck fleet in the past year.

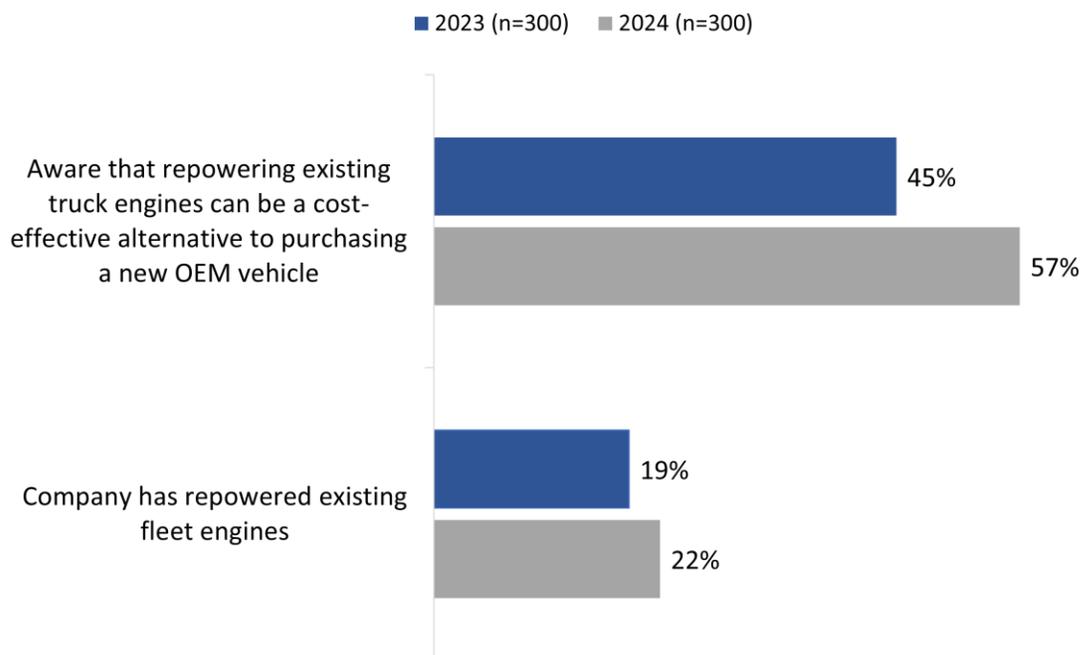
## 5. Repowering

This section of the report presents respondents' views and actions in relation to repowering.

**More than half of respondents are aware that repowering existing engines can be cost-effective, and almost one in four have already repowered their engines.**

More than half of freight transportation companies surveyed are aware that repowering existing truck engines can be a cost-effective alternative to purchasing a new Original Equipment Manufacturer (OEM) vehicle. Awareness, then, has increased year over year, from 45% in 2023 to 57% in 2024. One in five (22%) companies have already repowered existing fleet engines.

Figure 16: Awareness of repowering existing fleet engines



Q20. Are you aware that repowering your existing truck engines can be a cost-effective alternative to purchasing a new OEM vehicle?

Q21. Has your company repowered any of its existing fleet engines?

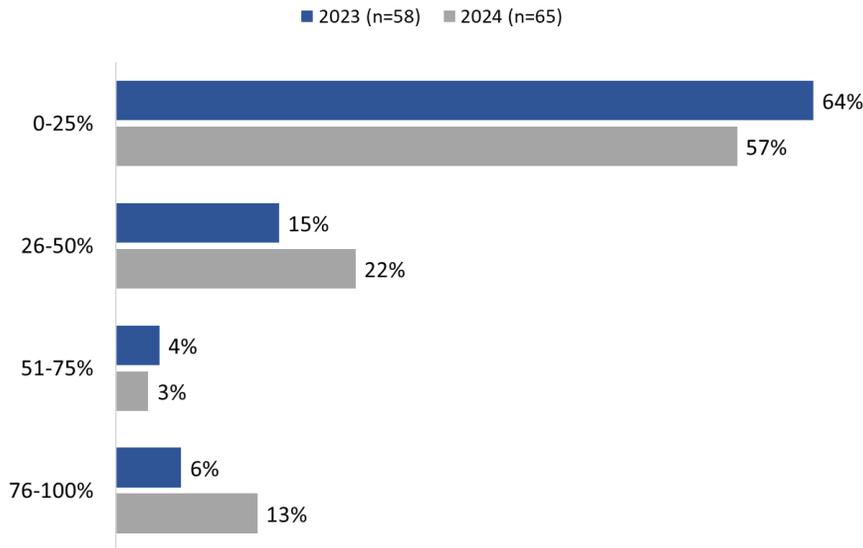
Base: All respondents.

The following groups of companies were more likely to be aware that repowering existing truck engines can be a cost-effective alternative to purchasing a new OEM vehicle: companies aware of provincial/territorial rebate programs for greening freight transportation (74%), companies that have repowered their fleet engines (81%), and companies that offer eco-driving training (65%).

**Those who repowered their fleet engines were more likely to repower less than a quarter of their fleet engines.**

The majority of companies that have repowered existing fleet engines (n=65) have repowered less than a quarter of these engines (57% compared to 64% in 2023). Conversely, 22% have repowered a quarter to half of their fleet engines, and 16% have repowered more than half their fleet engines (compared to 10% in 2023).

Figure 17: Percentage of repowered fleet engines

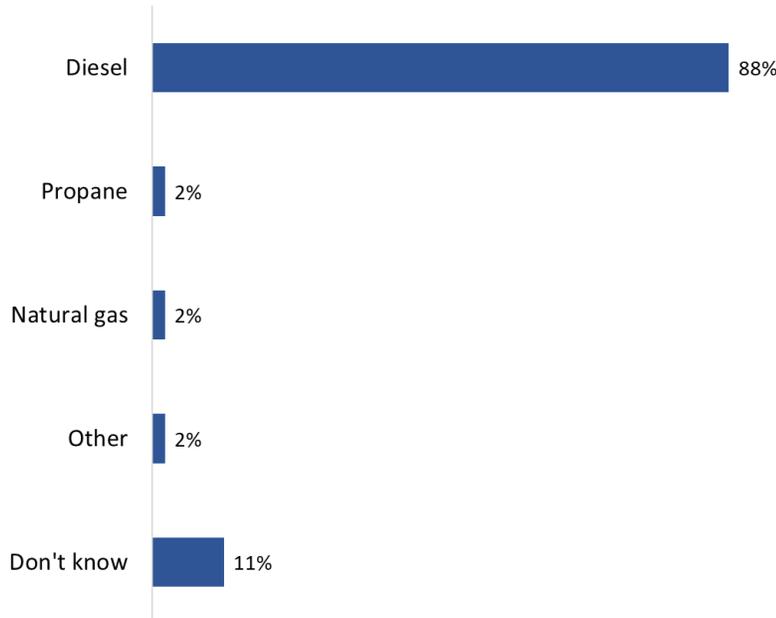


Q22. What percentage of your company's fleet engines have been repowered? Base: n=65; Those who repowered existing fleet engines.

**Large majority of repowered fleet engines continue to use diesel.**

Among freight transportation companies that have repowered existing fleet engines, the vast majority (88%; compared to 94% in 2023) use diesel fuel. Very few companies use propane (2%) or hydrogen (2%) to fuel their repowered fleets.

Figure 18: Type of fuel used to repower fleet engines

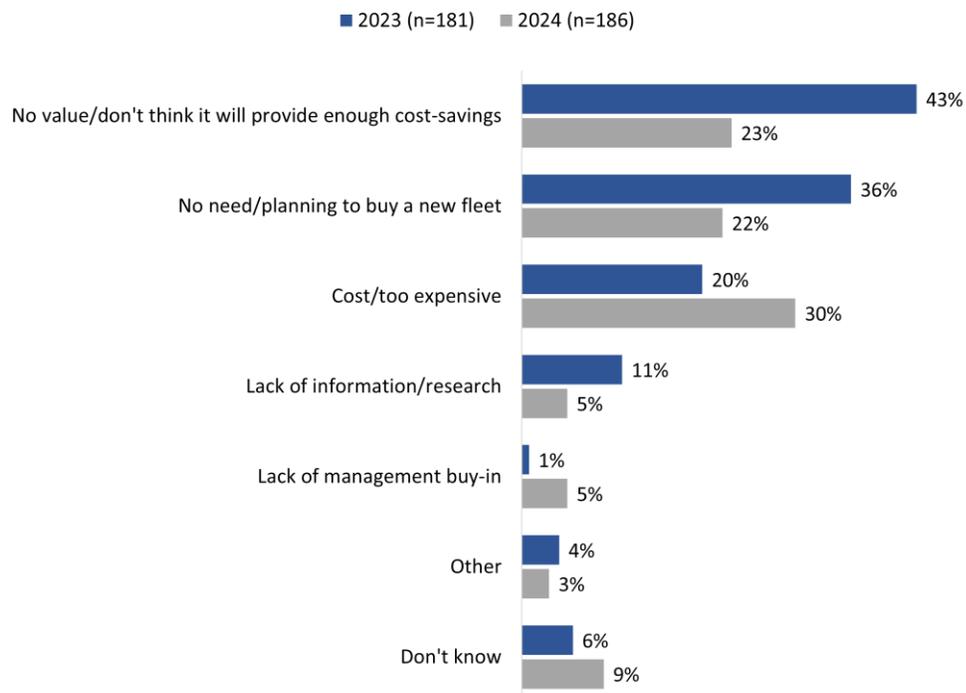


Q23. Which fuel types do your company's repowered fleet use? [Multiple responses accepted] Base: n=65; those who repowered company's fleet engines.

Many feel that repowering their fleet would be too expensive, while others believe it would neither provide enough value nor result in sufficient cost savings.

Nearly one-third (64%) of respondents said their company is *not* thinking about repowering any of its fleet engines in the next two to three years. Among companies not interested in repowering any fleet engines (n=186), there has been an increase in those who cited high costs as the reason (30%, up 10% from 2023). On the other hand, there has been a decrease in those who feel it will have no value or will not provide cost-savings (23%, down 20% from 2023) and those who said their company is planning to buy a new fleet (22%, from 14% from 2023).

Figure 19: Reason(s) why company is not interested in repowering their fleet



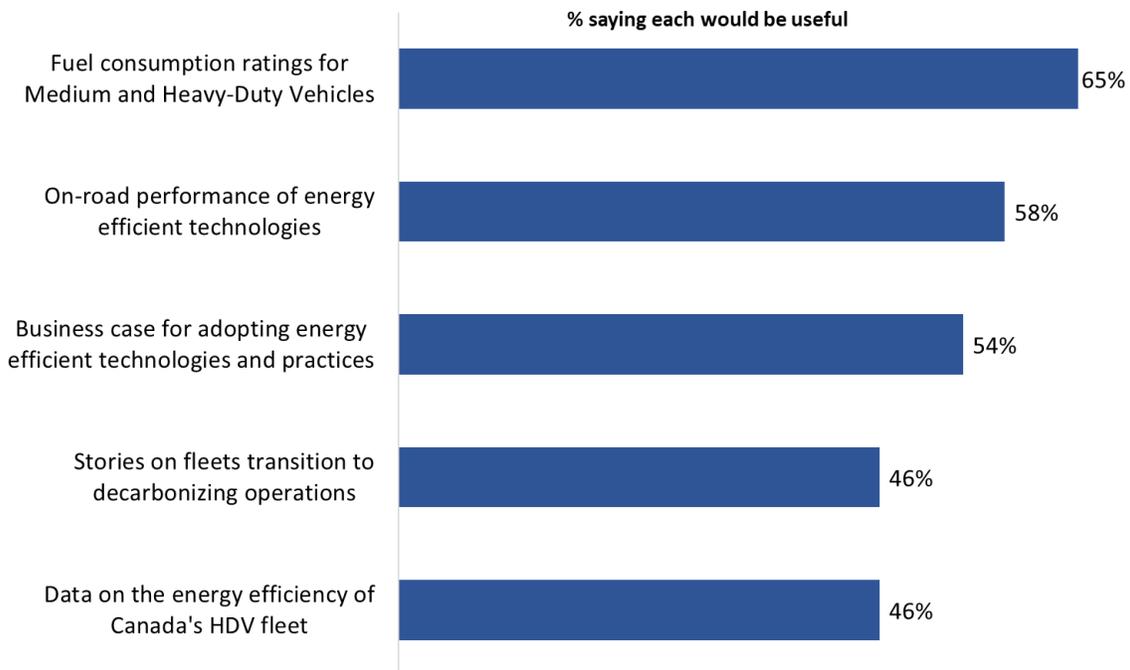
Q25. Why is your company not interested in repowering any of its fleet engines? [Multiple responses accepted] Base: n=186; those whose company is not considering repowering.

## 6. Communications

Surveyed industry representatives were asked whether different types of information would be useful for decision-making about their company's investments in fuel reducing technologies, initiatives, or programs.

Half or more felt that each of the following would be useful. Two-thirds (65%) viewed information on fuel consumption ratings for Medium- and Heavy-Duty Vehicles as useful when it comes to decision-making, while just over half considered on-road performance of energy efficient technologies (58%) and business cases for adopting energy efficient technologies and practices (54%) useful information. Forty-six percent each attributed utility to stories on fleets transitioning to decarbonizing operations and to data on the energy efficiency of Canada's HDV fleet.

Figure 20: Information viewed as useful for decision-making



Q11. When it comes to decision-making about company investments in fuel reducing technologies, initiatives, or programs, are any of the following types of information useful? [Multiple responses accepted] Base: n=300; All respondents.

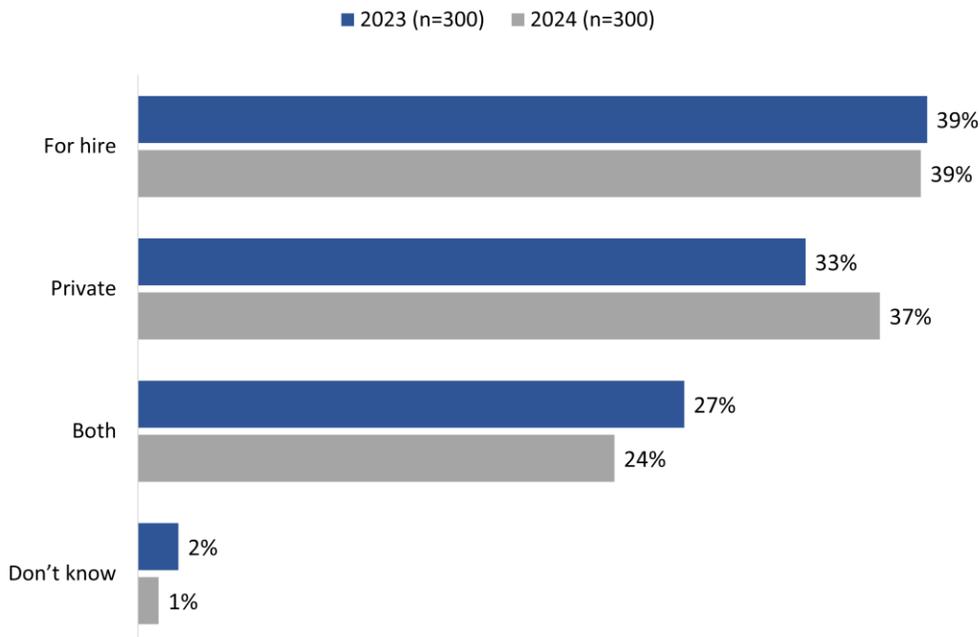
## 7. Fleet Profile

This section of the report presents a profile of the truck fleets of responding companies.

### Fleet type continues to be varied.

The type of fleet reported by companies continues to be varied, with 39% exclusively operating for-hire fleets and 37% exclusively operating private fleets. Among the rest, one-quarter (24%) operate both for-hire and private fleets. Year-over-year changes are not significant.

Figure 21: Type of Fleet



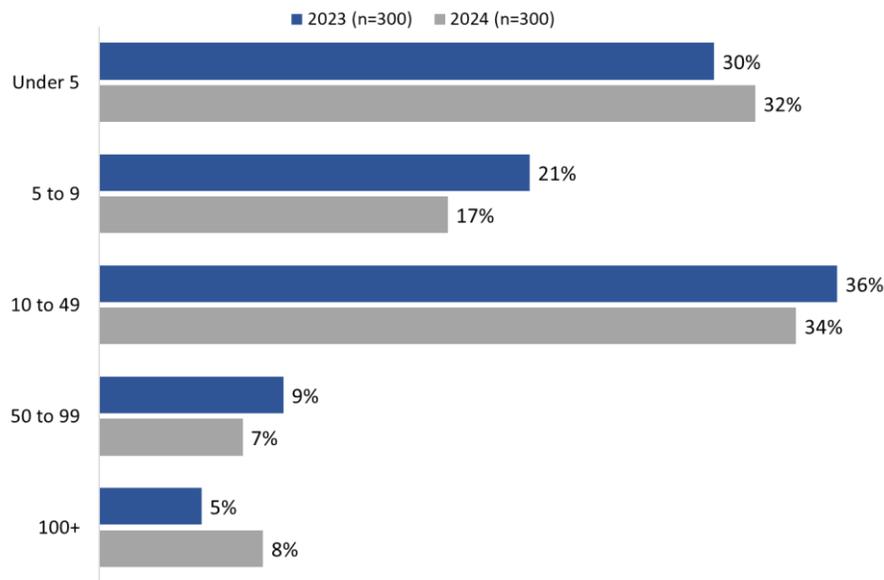
Q26. Is your fleet... Base: n=300; All respondents.

Companies based in Quebec (86%) are the most likely to operate a private fleet.

### Almost half of companies have fleets of fewer than 10 trucks.

Almost half of companies operate fleets of fewer than 10 trucks—specifically, 32% have one to four trucks and 17% have five to nine trucks in their fleet. The single greatest proportion—34%—have 10 to 49 trucks in their company fleet. Just 15% of companies have 50 or more trucks in their fleet, including 8% with more than 100 trucks. The median number of trucks in the fleets of responding companies was 10. Fleet size has changed very little since 2023.

Figure 22: Number of trucks

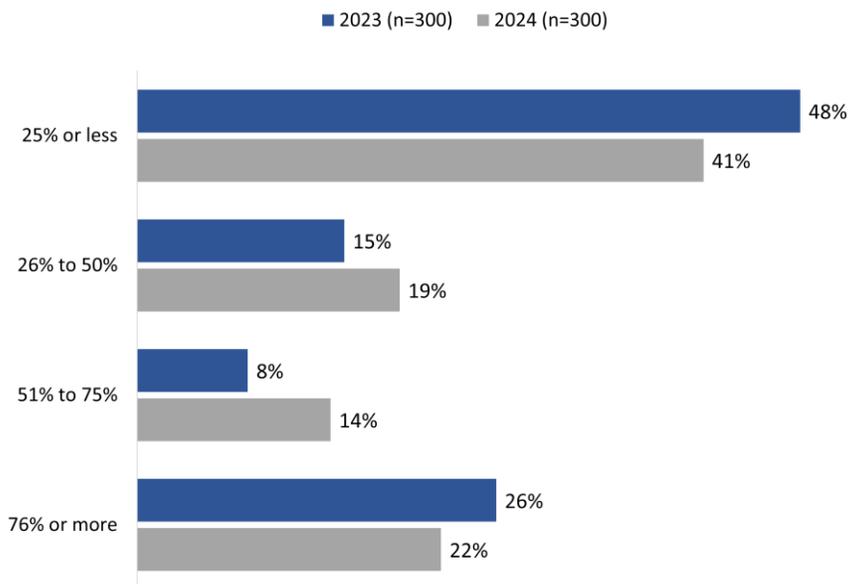


Q27. How many trucks are in your company's fleet? Base: n=300; All respondents.

**Six in 10 companies report that up to half the trucks in their fleet are under five years old.**

Four in 10 (41%) freight industry representatives said that up to one-quarter of their company's fleet is less than five years old (compared to 41% in 2023). Following this, two in 10 (19%) said that 26 to 50 percent of the trucks in their company's fleet are less than five years old. In total, therefore, six in 10 (60%) companies operate fleets where up to half the trucks are less than five years old. At the other end of the scale, approximately one-third (36%) reported that more than half the trucks in their company's fleet are less than five years old, including 22% who said that 76% or more of the trucks in their fleet met this criterion.

Figure 23: Percentage of trucks in fleet less than five years old

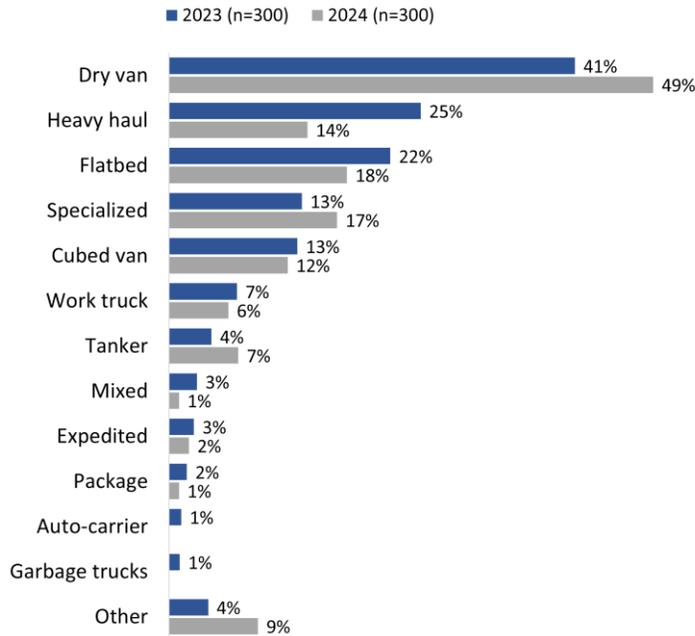


Q28. Approximately what percentage of trucks in your fleet are less than five years old? Base: n=300; All respondents.

**Nearly half of companies have dry vans in their fleet.**

Forty-nine percent of freight transportation companies surveyed have dry vans in their fleet, while 18% have flatbeds, and 17% have specialized trucks. Year-over-year changes are not significant. The full list of trucks is listed below in figure 24.

**Figure 24: Type of trucks in fleet**

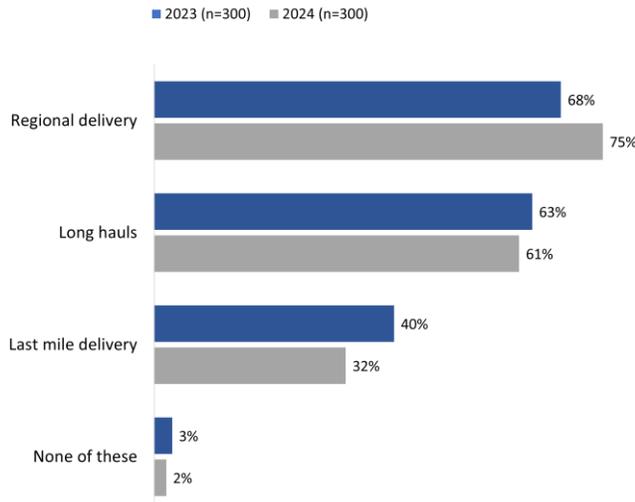


Q29. What type of trucks are in your company's fleet? [Multiple responses accepted] Base: n=300; All respondents.

**Three-quarters use their trucks for regional delivery.**

Seventy-five percent of companies surveyed use their trucks for regional deliveries, 61% for long hauls, and 32% last mile deliveries.

**Figure 25: Use of trucks**

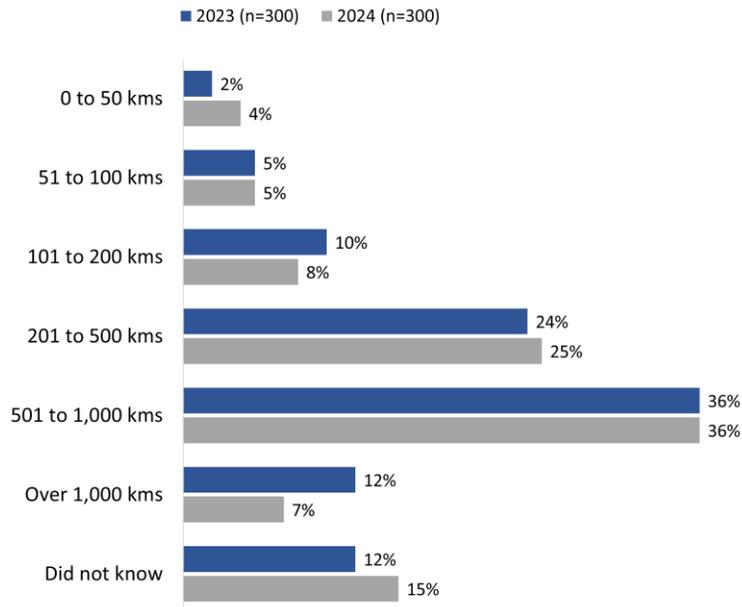


Q30. Are your trucks used for...? [Multiple responses accepted] Base: n=300; All respondents.

**The majority still travel more than 200 kilometres on a daily basis.**

The majority (68%) of surveyed companies said that their trucks travel more than 200 kilometers daily. Specifically, 25% travel between 201 and 500 kilometers, 36% travel between 501 to 1,000 kilometers, and 7% travel more than 1,000 kilometers daily. The median number of kilometers travelled daily was 500 kilometers.

**Figure 26: Daily kilometers travelled**



Q31. In an average day, how many kilometers do your trucks travel? Base: n=300; All respondents.

## Appendix

### 1. Technical Specifications

The following specifications applied to this survey:

- A 15-minute telephone survey was administered to 300 representatives of the freight transportation industry using a computer-assisted telephone interviewing or CATI system.
- The target respondent was individuals involved in, or knowledgeable about, the management or implementation of trucking fuel efficiency programs and policies within the business' fleet of vehicles.
- The sample of freight transportation companies was obtained from Dun & Bradstreet Canada. The sample frame was drawn from NAICS code 4841 (General Freight Trucking)—specifically: 48411 (Local) and 48412 (Long Distance) and NAICS code 4842 (Specialized Freight [except Used Goods] Trucking Local—specifically: 484220 (Local) and 484230 (Long Distance).
- The unweighted distribution of completed surveys by NAICS code was:

NAICS code	No. of interviews
General freight: local (484110)	149
General freight: long distance (484121, 484122)	134
Specialized freight trucking excluding used goods (484220, 484230)	17

- The questionnaire was pre-tested in advance of the fieldwork to ensure that it measured what it intended to measure and that respondents understood the questions.
- Based on a sample of this size, the overall results can be considered accurate within  $\pm 6\%$ , 19 times out of 20).
- The response rate was 11%. The following table presents information about the final call dispositions for the survey and calculation of the response rate:

<b>Total Numbers Attempted</b>	<b>7,004</b>
<b>Out-of-scope - Invalid</b>	<b>1,549</b>
<b>Unresolved (U)</b>	<b>3,532</b>
No answer/answering machine	3,532
<b>In-scope - Non-responding (IS)</b>	<b>1,336</b>
Language barrier	18
Incapable of completing (ill/deceased)	29
Respondent refusal	434
Callback scheduled/not completed	777
Termination	78
<b>In-scope - Responding units (R)</b>	<b>587</b>
Completed interview	300
Quota reached	6
Not eligible	281

<b>Response Rate<sup>4</sup> [R=R/(U+IS+R)]</b>	<b>10.76%</b>
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- The survey data was weighted by industry against the sample frame data from Dun & Bradstreet in order to ensure the sample is representative of the population. The table below shows the unweighted and weighted proportions by NAICS code.

<b>NAICS code</b>	<b>Unweighted No. of interviews</b>	<b>Weighted No. of interviews</b>
General freight: local	149	139
General freight: long distance	134	144
Specialized freight trucking excluding used goods	17	17

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<sup>4</sup> This means that the response rate is calculated as the number of responding units [R] divided by the number of unresolved [U] numbers plus in-scope [IS] non-responding households and individuals plus responding units [R].

## 2. Survey Questionnaire

### 1<sup>st</sup> POINT OF CONTACT/GATEKEEPER:

Hello/bonjour, my name is [Interviewer's name]. Would you prefer to continue in English or French? / Prêférez-vous continuer en anglais ou en franais? May I speak to someone at your company who is most familiar with fuel efficiency tracking and management within your organization?

### IF ASKED BY GATEKEEPER:

I'm calling on behalf of Phoenix SPI, a public opinion research company. We're conducting a survey for Natural Resources Canada about important issues facing the freight transportation industry across Canada. May I speak to the person who is most familiar with the fuel efficiency programs and policies within your company's fleet of vehicles?

- IF PERSON IS AVAILABLE, CONTINUE. GO TO RESPONDENT INTRODUCTION.
- IF NOT AVAILABLE, SCHEDULE CALL-BACK.

### RESPONDENT:

Hello/Bonjour, my name is [INSERT NAME]. I'm calling on behalf of Phoenix SPI, a public opinion research company. We're conducting a survey for Natural Resources Canada with people who have knowledge about fuel efficiency tracking and management within the freight transportation industry. The results of this study will help guide future public policy on clean energy technology and addressing climate change.

The survey takes about 15 minutes and is voluntary. Your responses will be kept confidential and anonymous, and the information provided will be administered according to the requirements of the Privacy Act, the Access to Information Act, and any other pertinent legislation.

This survey is registered with the Canadian Research Insights Council's survey validation system. May I continue?

- Yes, now [CONTINUE]
- No, call later. Specify date/time: Date: Time:
- Refused [THANK/DISCONTINUE]

INTERVIEWER NOTE: IF A RESPONDENT ASKS ABOUT THE LEGITIMACY OF THIS SURVEY, SAY: This survey is registered with the Canadian Research Insights Council's survey validation system. The registration number is: 20231222-PH444.

### A. Screening and Quotas

Before we start,

#### 1. May I confirm that your company operates freight transportation trucks?

01. Yes

- 02. No [TERMINATE]
- 03. Don't know [TERMINATE]

INTERVIEWER NOTE: IF ASKED WHAT FREIGHT TRANSPORTATION TRUCKS ARE, SAY: These typically include medium- and heavy-duty trucks used for moving goods and does not include vans.

- 2. **How knowledgeable would you say you are with the fuel efficiency programs and policies within your company's fleet of vehicles? This includes the tracking, management or implementation of such programs and policies. Are you... [READ LIST]**
  - 01. Very knowledgeable [SKIP TO Q4]
  - 02. Somewhat knowledgeable [SKIP TO Q4]
  - 03. Not very knowledgeable [ASK Q3]
  - 04. Not at all knowledgeable [ASK Q3]
  - 05. [DO NOT READ] Prefer not to answer [TERMINATE]
  
- 3. **[IF Q2=02] Can you direct me to someone at your company that is knowledgeable about the tracking, management or implementation of fuel efficiency programs and policies within your company?**
  - 01. Yes [GO TO RESPONDENT INTRODUCTION WITH NEW PERSON]
  - 02. No [SAY: May I speak to your receptionist again? GO TO GATEKEEPER INTRODUCTION]
  - 03. No one at my company is knowledgeable about these programs [TERMINATE]
  
- 4. **In which province or territory is your company's head office located? [DO NOT READ LIST]**
  - 01. Alberta
  - 02. British Columbia
  - 03. Manitoba
  - 04. New Brunswick
  - 05. Newfoundland and Labrador
  - 06. Northwest Territories
  - 07. Nova Scotia
  - 08. Nunavut
  - 09. Ontario
  - 10. Prince Edward Island
  - 11. Quebec
  - 12. Saskatchewan
  - 13. Yukon Territory
  - 14. Prefer not to answer [TERMINATE]
  
- 5. **How many employees work for your company? Please include part-time employees as full-time equivalents. [DO NOT READ LIST]**
  - 01. Less than 5
  - 02. 5-9
  - 03. 10-49
  - 04. 50-99
  - 05. 100-249
  - 06. 250-499

- 07. 500 or more
- 08. Prefer not to answer [TERMINATE]

6. **And, how many of these employees are employed as drivers for your company?**

- 01. [NUMERIC OPEN; ACCEPTED RANGE = 1-9999]
- 02. Don't know

**B. Government Programs**

7. **In your view, how important, if at all, are government funding programs that support fleet retrofits? [READ LIST]**

- 01. Not at all important
- 02. Not very important
- 03. Somewhat important
- 04. Very important
- 05. [DO NOT READ] Don't know

8. **Using a scale of 1 to 5 where 1 is not at all familiar and 5 is very familiar, how familiar are you with the following federal green transportation programs? [READ LIST]**

**PROGRAMS (RANDOMIZE LIST)**

- a) SmartDriver Training Program
- b) SmartWay Transport Partnership
- c) Green Freight Program
- d) Incentives for Medium- and Heavy-Duty Zero-Emission Vehicles Program
- e) Zero Emission Vehicle Awareness Initiative

**RESPONSE OPTIONS**

- 01. 1 Not at all familiar
- 02. 2
- 03. 3
- 04. 4
- 05. 5 Very familiar
- 06. [DO NOT READ] Don't know

9. **Are you aware of any [INSERT BASED ON Q4: provincial / territorial] programs for greening freight transportation?**

- 01. Yes
- 02. No
- 03. Don't know

10. **Which green transportation programs, if any, does your company participate in? [DO NOT READ LIST; ACCEPT MULTIPLE RESPONSES]**

- 01. SmartWay Transport Partnership
- 02. SmartDriver Training

- 03. Green Freight Program
- 04. Incentives for Medium- and Heavy-Duty Zero-Emission Vehicles Program
- 05. Zero Emission Vehicle Awareness Initiative
- 06. None/we don't participate in any green transportation programs
- 07. Other (specify)
- 08. Don't know

11. **When it comes to decision-making about company investments in fuel reducing technologies, initiatives or programs, are any of the following types of information useful? [READ LIST; PAUSE FOR A YES/NO AFTER EACH]**

**[RANDOMIZE]**

- a) On-road performance of energy efficient technologies
- b) Fuel consumption ratings for Medium- and Heavy-Duty Vehicles
- c) Stories on fleets transition to decarbonizing operations
- d) Business case for adopting energy efficient technologies and practices
- e) Data on the energy efficiency of Canada's HDV fleet

**RESPONSE OPTIONS**

- 01. Yes
- 02. No
- 03. [DO NOT READ] Don't know

**C. Fleet Energy Assessments**

Changing topics,

12. **Has your company ever had a third party conduct an energy assessment of your fleet? [INTERVIEWER NOTE: IF ASKED, SAY: 'An energy fleet assessment is an analysis of your fleet's performance that can be used to help your company decide whether to invest in fuel-reducing technologies and retrofit your fleet.']**

- 01. Yes
- 02. No [SKIP TO Q14]
- 03. Don't know [SKIP TO Q14]

13. **[IF Q12=01] How important are fleet energy assessments when determining which retrofits should be made to your fleet? [READ LIST]**

- 01. Not at all important
- 02. Not very important
- 03. Somewhat important
- 04. Very important
- 05. [DO NOT READ] Don't know

**SKIP TO Q16 UNLESS Q12=02 OR 03**

14. **[IF Q12=02,03] Would your company ever consider having a third party conduct an energy assessment of its fleet?**

- 01. Yes [SKIP TO Q16]
- 02. No
- 03. Don't know

**15. [IF Q14=02,03] Why hasn't your company considered a fleet energy assessment? [DO NOT READ LIST; ACCEPT MULTIPLE RESPONSES]**

- 01. Cost/they are too expensive
- 02. Lack of awareness/didn't know about energy assessments
- 03. Don't trust the results
- 04. Lack of value/it's not worth the cost
- 05. Don't think one is needed/not planning to retrofit fleet
- 06. Lack of time to look into/meet with auditors
- 07. Lack of management buy-in
- 08. Other [specify]
- 09. Don't know

#### **D. Retrofits**

These next questions are about retrofits to your company's freight transportation trucks.

**16. In the past year, has your company implemented any retrofits to its truck fleet? [INTERVIEWER NOTE: IF ASKED, SAY: 'By retrofits we are referring to upgrades made to your truck(s) with energy efficient devices'.]**

- 01. Yes
- 02. No [SKIP TO Q19]
- 03. Don't know [SKIP TO Q19]

**17. [IF Q16=01] How many of your company's truck fleet has been retrofitted in the past year?**

- 01. [NUMERIC OPEN]
- 02. Don't know

**18. [IF Q16=01] Which of the following retrofits, if any, has your company completed in the past year? [RANDOMIZE/READ LIST; ACCEPT MULTIPLE RESPONSES] [INTERVIEWER NOTE: IF ASKED, PLEASE REMIND RESPONDENTS THAT WE ARE ASKING ABOUT RETROFITS TO EXISTING TRUCKS.]**

- 01. Auxiliary power units
- 02. Side skirts
- 03. Boat tails
- 04. Cab heaters
- 05. Cab coolers
- 06. Aerodynamic mud flaps
- 07. Battery HVAC
- 08. Predictive cruise
- 09. Diesel-electric refrigeration units
- 10. Electric refrigeration units
- 11. Low rolling resistant tires

12. Wide based tires
13. Telematics
14. Tractor or trailer solar panels
15. Wheel covers
16. Gap reducers
17. Cab extenders
18. Route optimization technology
19. [DO NOT READ] Don't know
20. [DO NOT READ] None of these

**19. What barriers, if any, does your company face when it comes to retrofitting its fleet? [DO NOT READ LIST; ACCEPT MULTIPLE RESPONSES]**

01. Cost
02. Lack of knowledge/expertise
03. Lack of human resources/time
04. Competing company priorities
05. Lack of management buy-in
06. Other [specify]
07. Don't know
08. No barriers

**E. Repowering**

Changing topics again,

**20. Are you aware that repowering your existing truck engines can be a cost-effective alternative to purchasing a new OEM vehicle? [INTERVIEWER NOTE: IF ASKED, 'OEM' REFERS TO ORIGINAL EQUIPMENT MANUFACTURER. IF ASKED ABOUT 'REPOWERING', SAY: An engine repower consists of replacing an existing engine with a new one that has been certified to meet cleaner emission standards.]**

01. Yes
02. No
03. Don't know

**21. Has your company repowered any of existing fleet engines?**

01. Yes
02. No [SKIP TO Q24]
03. Don't know [SKIP TO Q24]

**22. [IF Q21=01] What percentage of your company's fleet engines have been repowered?**

01. [NUMERIC OPEN; ACCEPTED RANGE = 1-100%]
02. Don't know

**23. [IF Q21=01] Which fuel types do your company's repowered fleet use? [DO NOT READ; ACCEPT MULTIPLE RESPONSES]**

- 01. Propane
- 02. Compressed natural gas (CNG)
- 03. Renewable natural gas (RNG)
- 04. Hydrogen
- 05. Ethanol
- 06. Other [Specify]
- 07. Don't know

24. **[IF Q21=02,03 OR Q22=1-99%] Is your company thinking about repowering any of its fleet engines in the next 2 to 3 years?**

- 01. Yes
- 02. No
- 03. Don't know

25. **[IF Q24=02] Why is your company not interested in repowering any of its fleet engines? [DO NOT READ LIST; ACCEPT MULTIPLE RESPONSES]**

- 01. Cost/too expensive
- 02. No value/don't think it will provide enough cost-savings
- 03. Lack of information/research
- 04. No need/planning to buy a new fleet
- 05. Lack of management buy-in
- 08. All trucks are new
- 09. More cost-effective to buy a new vehicle
- 06. Other [specify]
- 07. Don't know

## **F. Fleet Profile**

These last questions are about your company's fleet.

26. **Is your fleet... [READ LIST]**

- 01. Private
- 02. For hire
- 03. Both
- 04. [DO NOT READ] Don't know

27. **How many trucks are in your company's fleet?**

- 01. [NUMERIC OPEN; ACCEPTED RANGE = 1-9,999]
- 02. Don't know

28. **Approximately what percentage of trucks in your fleet are less than five years old?**

- 01. [NUMERIC OPEN; ACCEPTED RANGE = 0-100%]
- 02. Don't know

**29. What type of trucks are in your company's fleet? [IF HELPFUL, PROMPT BY READING SOME ITEMS; ACCEPT MULTIPLE RESPONSES; IF A RESPONDENT MENTIONS A BRAND OF TRUCK, SAY: FOR THIS QUESTION, WE'RE INTERESTED IN THE TYPE OF TRUCK NOT THE BRAND]**

01. Refrigerated
02. Package
03. Specialized
04. Expedited
05. Tanker
06. Flatbed
07. Mixed
08. Dry van
09. Heavy haul
10. Auto-carrier
11. Garbage trucks
12. Cubed van
13. Work truck
16. Chassis
17. Utility
14. Other [Specify]
15. Don't know

**30. Are your trucks used for... [READ LIST; ACCEPT MULTIPLE RESPONSES]**

01. Last mile delivery
02. Regional delivery
03. Long hauls
04. [DO NOT READ] None of these
05. [DO NOT READ] Don't know

**31. In an average day, how many kilometers do your trucks travel?**

01. [NUMERIC OPEN; ACCEPTED RANGE = 1-9999]
02. Don't know

**32. Now, thinking about the freight trucks that your company uses, which of the following do you track? [READ LIST; PAUSE FOR A YES/NO AFTER EACH]**

**[RANDOMIZE; ROTATE C AND D AS A BLOCK RANDOMIZING THE ORDER OF C AND D]**

- a) Annual average payload
- b) Fuel consumption
- c) Total Kilometers travelled annually [ROTATE AS A BLOCK WITH D]
- d) Empty kilometers travelled annually [ROTATE AS A BLOCK WITH C]
- e) Driving habits, for example, keeping steady speeds, coasting to decelerate, etc.
- f) Average speed
- g) Idle time

**RESPONSE OPTIONS**

01. Yes

- 02. No
- 03. [DO NOT READ] Don't know

**33. Does your company offer eco-driving training to its truck drivers? Eco-driving training refers to any training designed to improve drivers' knowledge of fuel efficiency techniques.**

- 01. Yes
- 02. No
- 03. Don't know

Finally,

**34. What's your position within the company? [DO NOT READ LIST. ACCEPT ONE RESPONSE]**

- 01. Owner/operator
- 02. Operation manager
- 03. Freight manager
- 04. General manager
- 05. Administrator
- 06. Other [Specify]
- 07. Prefer not to answer

**Thank you very much for your time and participation. The results of the research will be available to the general public, on the Library and Archives website, in the coming months.**