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Green Freight Programs Survey on Freight Industry

Report

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Canada

Green Freight Programs Survey on Freight Industry
Final Report

Prepared for Natural Resources Canada by Kantar TNS

January 2019

Natural Resources Canada (NRCan) commissioned Kantar TNS 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 company's fleet of vehicles were surveyed by telephone in November of 2018. This publication reports on the findings of this research.

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1. Executive Summary

1.1. Research Purpose and Objectives

The SmartWay program was designed to help Canadian freight transportation companies 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, companies 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 establish a baseline for future measures.

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;
- Determine which, if any, green freight programs are used to help to 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; and
- Determine the types and sources of information on fuel efficiency that are considered useful.

The results of this research will be used to inform program and policy development for Natural Resources Canada.

1.3. Methodology

The findings of this study are based on a telephone survey conducted from November 1, 2018 to November 23, 2018 among 300 representatives of the Canadian freight transportation industry (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 company's

fleet of vehicles. The survey obtained an overall response rate of 4.7% and holds a margin of error of +/-5.6 per cent 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 draw and used to achieve the completions outlined below:

- 484110: General freight trucking, local: N= 115
- 484121 and 484122: General freight trucking, long distance: N=127
- 484220 and 484230: Specialized Freight Trucking - excluding used goods: N=58

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, participation, and usage of green freight transportation programs, with a focus on FleetSmart- SmartDriver Training program, SmartWay Transport Partnership and the Green Freight Assessment Program.

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 (short haul, long haul and both), size of business, use of tracking, use of fuel reduction technologies or activities and familiarity with the green freight transportation programs such as, FleetSmart- SmartDriver Training program, SmartWay Transport Partnership and Green Freight Assessment Program. Only differences significant at the 95% confidence level are presented in this report.

The numbers presented throughout this report are rounded to the closest full number. Due to this rounding, in some cases it may appear that ratings collapsed together are different by a percentage point from when they are presented individually, and totals may not add up to 100%.

1.4. Contract Value

The total contract value for the project was **$76,119.63** including applicable taxes.

1.5. Statement of Political Neutrality

I hereby certify as a representative of Kantar TNS 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 TNS
Senior Director

1.6. Summary of Findings

Respondent Profile

Three-hundred representatives from the Canadian freight transportation industry were interviewed. Most representatives that were surveyed were from small businesses (1 to 99 employees) (89%) and were fairly well distributed regionally: Atlantic Canada (6%), Quebec (36%), Ontario, and the Prairies (24% each) and BC (11%).

Businesses surveyed had a variety of fleets; some had exclusively private fleets (41%) while others had exclusively for-hire fleets (35%) and the remaining (26%) had a combination of both. Furthermore, most (44%) businesses had a combination of short and long-haul trucks while nearly one-third (32%) had only short haul trucks (32%) and only one-quarter (24%) had only long-haul trucks.

Green Freight Programs

Familiarity with green transportation programs among the Canadian freight transportation industry is relatively low (30%) (4/5 on a 5-point scale) and nearly one-quarter (25%) report “no familiarity at all” with the FleetSmart-SmartDriver Training program, the SmartWay Transport Partnership or the Green Freight Assessment Program. Familiarity varies by program, with FleetSmart- SmartDriver Training program having the highest familiarity (21%) followed by SmartWay Transport Partnership (17%) and the Green Freight Assessment Program (10%).

Participation in green transportation programs among the Canadian freight transportation industry is moderately low; with approximately one-in-four (26%) businesses participating in at least one green transportation program. Participation is strongest for the SmartWay Transport Partnership and FleetSmart-Smart Driver Training programs (14% and 12% respectively) followed by the Green Freight Assessment program (5%) and “other” green freight transportation programs (2%).

Businesses that are more familiar with the SmartWay Transport Partnership, FleetSmart-Smart Driver Training and/or Green Freight Assessment programs are also more likely to participate in them. For example, businesses familiar with the FleetSmart-Smart Driver Training program were more likely to be participants in the SmartWay Transport Partnership program (36% vs. 9%) and the Green Freight Assessment program (11% vs. 4%) compared to those who were not familiar.

Tracking Fuel Consumption and Investment in Fuel Reduction Technologies

Tracking fuel consumption is considered important (4/5 on a 5-point scale) by the majority (80%) of the businesses in the Canadian freight transportation industry. In fact, almost two-thirds (63%) considering it "very" important. Thus, it is not surprising to find that virtually all businesses in the Canadian freight transportation industry (99%) track at least some information related to the fuel efficiency of their fleets and/or invests in at least one fuel reduction technology or activity (95%). Those most commonly tracked information includes:

- Fuel consumption (91%);
- Total kilometers travelled (89%);
- Average speed and idle time (70% each);
- Driving habits (66%);
- Empty kilometers travelled annually (58%); and
- Annual average payload (53%).

While the most common technologies invested in or activities undertaken include:

- Electronic on-board devices (77%);
- Auxiliary power units and/ or cab heaters (66%);
- Tire technology (51%);
- Anti-idling equipment (51%);
- Aerodynamic equipment (47%);
- Driver-trainer or incentive programs (47%); and
- Improved trailer capacity utilization programs (36%).

Barriers to Adopting or Implementing Fuel Reduction Activities or Technologies

Nine-in-ten (90%) Canadian freight transportation businesses have faced barriers when trying to adopt or implement fuel reduction activities or technologies. A lack of human resources or time (54%), uncertainty about the performance of the fuel reduction activity or technology (53%) and/or an uncertainty about the return on investment (50%) are noted as challenges or barriers to the adoption or implementation of fuel reduction activities or technologies by at least half of all Canadian freight transportation businesses. Many businesses also indicated that competing operational priorities (46%), lack of knowledge (39%) and access to refueling infrastructures (26%) create barriers while a small number of businesses indicated that a lack of senior management buy-in (14%) or other reasons (15%) create barriers.

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 pre-determined list. Fuel consumption ratings for HDV (73%) and on-road performance of energy efficient technologies (71%) are considered useful by nearly three-quarters of businesses while more than half would find a business case for adopting energy efficient technologies and practices (57%) useful. Many also consider data on the energy efficiency of Canada's HDV fleet (46%) and stories on fleets transition to decarbonizing operations (38%) useful.

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 (short haul, long haul and both), size of business, etc. While most business characteristics have no impact on the business' perspectives and behaviour related to reducing fuel use and improving energy efficiency, the composition of fleet does tend to play a role. In particular, the type of trucks within the fleet (i.e., long or short-haul), the type of fleet (i.e., private or for-hire) and the number of trucks in the fleet tend to play a role in the businesses perspective and behaviours related to reducing fuel use and improving energy efficiency.

Companies with long or short-haul trucks tend to have different perspectives and behaviours related to fuel efficiency. More specifically companies with only short-haul trucks are:

- Less likely to consider tracking fuel-consumption important (62% vs. 88-89%);
- Less likely to track activities related to fuel-efficiency regardless of method;
- Less likely to invest in fuel reduction technology or activities (88% vs. 97-100% invest in at least one activity or technology); and
- Less familiar with the SmartWay Transport Partnership than those with only long-haul trucks (9% vs. 29%)~~;~~ and less likely to participate in the SmartWay Transport (7% vs. 23%).

Business with exclusively private fleets are more likely to find all information on fuel efficiency useful compared to those with only for-hire fleets and are also less familiar with SmartWay than companies with for hire or both in their fleet (7% vs. 23% and 26% respectively). As well, investment in fuel reduction technologies or activities tends to be higher as the number of trucks in a fleet increases. For example, businesses that have 20 or more trucks in their fleet are more likely to invest in most technologies or activities compared to those who have fewer trucks in their fleet.

Conclusions

In summary, participation in green transportation programs among the Canadian freight transportation industry is low. 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.

Addressing barriers related to a lack of knowledge on fuel efficiency activities or technologies, 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 Canadian freight transportation industry. Furthermore, outreach to companies that have short-haul and smaller fleets 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.

2. Detailed Findings

2.1. Familiarity and Usage of Green Transportation Programs and Activities

2.1.1. Familiarity with the Green Transportation Programs

Familiarity with green transportation programs among the Canadian freight transportation industry is relatively low. A mere 30% of Canadian freight transportation companies report being familiar (4/5 on a 5-point scale) with at least one of the following Canadian green transportations programs:

- FleetSmart- SmartDriver Training program
- SmartWay Transport Partnership
- Green Freight Assessment Program

One-quarter (25%) report “no familiarity at all” with any of the Canadian green transportation programs noted above.

Familiarity varies by program, with FleetSmart- SmartDriver Training program having the highest familiarity (21%) followed by SmartWay Transport Partnership (17%) and the Green Freight Assessment Program (10%).

For the most part, familiarity with the various programs does not vary based on company demographics with the exception of familiarity with the SmartWay Transport Partnership; where companies with fleets of private vehicles are less familiar with SmartWay (7%) than companies with for hire (23%) or both (26%) in their fleet. As well, companies with only long-haul trucks are more familiar with the SmartWay Transport Partnership than those with only short-haul trucks (29% vs. 9%).

Businesses with familiarity of at least one green transportation program have higher familiarity among other Canadian green transportation programs. For example, those who are familiar with the FleetSmart- SmartDriver Training program are more familiar with the SmartWay Transport Partnership (47% vs. 10%) and the Green Freight Assessment Program (39% vs. 2%).

Exhibit 2.1.1.a. Familiarity with the Green Transportation Programs

	FLEETSMART SMARTDRIVER TRAINING PROGRAM	SMARTWAY TRANSPORT PARTNERSHIP	GREEN FREIGHT ASSESSMENT PROGRAM
Base = actual	(300) %	(300) %	(300) %
Net: Familiar	21	17	10
5 – Very familiar	12	11	5
4	9	6	5
3	18	15	15
2	15	10	14
1 – Not at all familiar	46	57	62
Don't know	*	1	-

Q11. 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 Canadian green transportation programs?
*Note: * less than 0.5%*
- no data

Exhibit 2.1.1.b.1. Familiarity with the Green Transportation Programs: FleetSmart SmartDriver Training Program

FLEETSMART SMARTDRIVER TRAINING PROGRAM		TYPE OF FLEET			LONG/SHORT HAUL		
	TOTAL	PRIVATE	FOR HIRE	BOTH	LONG	SHORT	BOTH
Base = actual	(300) %	(127) %	(104) %	(66) %	(69) %	(98) %	(129) %
Net: Familiar	21	15	24	26	23	15	24
5 – Very familiar	12	10	10	18	10	9	15
4	9	6	14	8	13	6	9
3	18	13	17	27	20	16	18
2	15	21	15	3	20	15	12
1 – Not at all familiar	46	50	44	43	38	55	45
Don't know	*	1	-	-	-	-	1

Q11. 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 Canadian green transportation programs?
*Note: * less than 0.5%*
- no data

Exhibit 2.1.1.b.2. Familiarity with the Green Transportation Programs: FleetSmart SmartDriver Training Program

FLEETSMART SMARTDRIVER TRAINING PROGRAM	FAMILIAR WITH PROGRAM - SMARTDRIVER TRAINING		FAMILIAR WITH PROGRAM - SMARTWAY		FAMILIAR WITH PROGRAM - GFAP	
	YES	NO	YES	NO	YES	NO
Base = actual	(60) %	(239) %	(50) %	(248) %	(28) %	(272) %
Net: Familiar	100	-	56	13	81	14
5 – Very familiar	56	-	35	6	54	7
4	44	-	20	6	27	7
3	-	22	17	18	16	18
2	-	19	7	17	-	17
1 – Not at all familiar	-	58	20	52	3	51
Don't know	-	-	-	*	-	*

Q11. 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 Canadian green transportation programs?
*Note: * less than 0.5%*
- no data

Exhibit 2.1.1.c.1. Familiarity with the Green Transportation Programs: SmartWay Transport Partnership Program

SMARTWAY TRANSPORT PARTNERSHIP		TYPE OF FLEET			LONG/SHORT HAUL		
	TOTAL	PRIVATE	FOR HIRE	BOTH	LONG	SHORT	BOTH
Base = actual	(300) %	(127) %	(104) %	(66) %	(69) %	(98) %	(129) %
Net: Familiar	17	7	23	26	29	9	17
5 – Very familiar	11	5	15	15	21	5	9
4	6	3	8	11	8	4	8
3	15	15	17	10	23	12	12
2	10	8	11	10	10	15	6
1 – Not at all familiar	57	69	47	53	38	64	63
Don't know	1	-	1	1	-	-	2

Q11. 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 Canadian green transportation programs?
*Note: * less than 0.5%*
- no data

Exhibit 2.1.1.c.2. Familiarity with the Green Transportation Programs: SmartWay Transport Partnership Program

SMARTWAY TRANSPORT PARTNERSHIP	FAMILIAR WITH PROGRAM - SMARTDRIVER TRAINING		FAMILIAR WITH PROGRAM - SMARTWAY		FAMILIAR WITH PROGRAM - GFAP	
	YES	NO	YES	NO	YES	NO
Base = actual	(60) %	(239) %	(50) %	(248) %	(28) %	(272) %
Net: Familiar	47	10	100	-	50	14
5 – Very familiar	25	7	63	-	30	9
4	21	3	37	-	20	5
3	19	14	-	18	20	14
2	6	11	-	12	4	11
1 – Not at all familiar	25	65	-	70	23	61
Don't know	3	-	-	-	3	*

Q11. 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 Canadian green transportation programs?
*Note: * less than 0.5%*
- no data

Exhibit 2.1.1.d.1. Familiarity with the Green Transportation Programs: Green Freight Assessment Program

GREEN FREIGHT ASSESSMENT PROGRAM		TYPE OF FLEET			LONG/SHORT HAUL		
	TOTAL	PRIVATE	FOR HIRE	BOTH	LONG	SHORT	BOTH
Base = actual	(300) %	(127) %	(104) %	(66) %	(69) %	(98) %	(129) %
Net: Familiar	10	8	7	18	10	6	13
5 – Very familiar	5	3	4	8	3	3	7
4	5	5	3	10	7	3	6
3	15	18	13	12	17	17	12
2	14	22	7	8	17	14	11
1 – Not at all familiar	62	53	72	63	56	63	64
Don't know	-	-	-	-	-	-	-

Q11. 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 Canadian green transportation programs?
Note: - no data

Exhibit 2.1.1.d.2. Familiarity with the Green Transportation Programs: Green Freight Assessment Program

GREEN FREIGHT ASSESSMENT PROGRAM	FAMILIAR WITH PROGRAM - SMARTDRIVER TRAINING		FAMILIAR WITH PROGRAM - SMARTWAY		FAMILIAR WITH PROGRAM - GFAP	
	YES	NO	YES	NO	YES	NO
Base = actual	(60) %	(239) %	(50) %	(248) %	(28) %	(272) %
Net: Familiar	39	2	28	6	100	-
5 – Very familiar	19	1	14	3	47	-
4	19	2	15	3	53	-
3	21	13	19	13	-	16
2	17	13	8	15	-	15
1 – Not at all familiar	23	72	44	66	-	68
Don't know	-	-	-	-	-	-

Q11. 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 Canadian green transportation programs?
Note: - no data

2.1.2. Participation in Green Freight Programs

Participation in green transportation programs among the Canadian freight transportation industry is moderately low; with approximately one-in-four (26%) businesses participating in at least one green transportation program. Participation is strongest for the SmartWay Transport Partnership (14%) and FleetSmart-Smart Driver Training programs (12%) followed by the Green Freight Assessment program (5%) and "other" green freight transportation programs (2%) such as in-house training, GPS (e.g., Geotab), and the Eco-trucking program (1% each).

Participation in green freight programs does not generally vary by company demographics except for the type of trucks in their fleet (i.e., short or long-haul). More specifically, business with only short-haul trucks (7%) are less likely to participate in the SmartWay Transport Partnership compared to those that have only long-haul trucks in their fleets (23%).

Businesses that are more familiar with the SmartWay Transport Partnership, FleetSmart-Smart Driver Training and Green Freight Assessment programs are also more likely to participate in them. For example, businesses familiar with the FleetSmart-Smart Driver Training program were more likely to be participants in the SmartWay Transport Partnership program (36% vs. 9%) and the Green Freight Assessment program (11% vs. 4%). However, it should be noted that familiarity with a program does not ensure participation. Among those who are familiar with any green freight assessment program (30%), only 60% participate in at least one green freight program. Participation among those who are familiar with the program varies widely by individual programs. More specifically, among those familiar with the FleetSmart-Smart Driver Training program (21%), 42% participate in the program; among those who are familiar with the Green Freight Assessment program (17%), 12% participate in the program and among those who are familiar with the SmartWay Transport Partnership (10%), 40% participate in the program.

Exhibit 2.1.2.a Participation in Green Freight Programs

PROGRAMS OR ACTIVITIES	TOTAL	LONG/SHORT HAUL			FAMILIAR WITH PROGRAM - SMART DRIVER TRAINING		FAMILIAR WITH PROGRAM - SMARTWAY		FAMILIAR WITH PROGRAM - GFAP	
		LONG	SHORT	BOTH	YES	NO	YES	NO	YES	NO
Base = actual	(300) %	(69) %	(98) %	(129) %	(60) %	(239) %	(50) %	(248) %	(28) %	(272) %
SmartWay Transport Partnership	14	23	7	15	36	9	59	5	42	11
FleetSmart - SmartDriver Training	12	15	12	11	42	5	29	9	41	9
Green Freight Assessment Program	5	8	3	4	11	4	12	4	14	4
In-house training	1	3	1	-	-	1	-	1	-	1
GPS (e.g. Geotab, etc.)	1	-	2	-	2	*	2	*	-	1
Eco trucking program	1	2	-	1	2	1	-	1	4	*
None	74	65	80	74	41	82	31	83	38	78

Q12. Which of the following green freight programs, if any, does your company participate in?
*Note: * less than 0.5%*
- no data

Exhibit 2.1.2.b Participation in Green Freight Programs Among those who are Familiar with the program

PROGRAMS OR ACTIVITIES	FAMILIAR WITH PROGRAM	PARTICIPATE IN PROGRAM	
		YES	NO
Base = actual	(300) %	(Varies by Program) %	(Varies by Program) %
SmartWay Transport Partnership	10	40	57
FleetSmart - SmartDriver Training	21	42	58
Green Freight Assessment Program	17	12	88
Any	30	60	40

Q11. 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 Canadian green transportation programs?
Q12. Which of the following green freight programs, if any, does your company participate in?
*Note: * less than 0.5%*
- no data

2.2. Attitudes towards Fuel Consumption

2.2.1. Importance of Tracking Fuel Consumption

A majority (80%) of the businesses in the Canadian freight transportation industry consider tracking fuel consumption important (4/5 on a 5-point scale) with almost two-thirds (63%) considering it “very” important. Few businesses do not consider tracking fuel consumption important (9%) (1/2 on a 5-point scale).

For the most part, the importance of tracking fuel consumption does not vary based on company demographics with the exception of the type of trucks in their fleet (i.e., long or short-haul). In general, businesses that only have short-haul trucks in their fleets are less likely to consider tracking fuel-consumption important (62%) compared to businesses that have fleets with only long-haul trucks (89%) or both long and short-haul trucks (88%).

Businesses that invested in fuel reduction technologies or activities consider the tracking of fuel consumption more important than those who don’t (81% vs. 52%; 5/4 on a 5-point scale).

Exhibit 2.2.1. Importance of Tracking Fuel Consumption

		LONG/SHORT HAUL			FUEL REDUCTION TECH/ACTIVITY	
	TOTAL	LONG	SHORT	BOTH	YES	NO
Base = actual	(300) %	(69) %	(98) %	(129) %	(284) %	(16) %
Net: Important	80	89	62	88	81	52
5 – Very Important	63	72	46	70	66	20
4 - Important	17	17	17	17	16	32
3 - Neither important, nor unimportant	11	6	20	6	10	21
2 - Not important	5	1	11	4	5	16
1 - Not at all important	4	4	7	2	3	12
Net: Not important	9	5	17	6	8	28

Q4. Using a scale of 1 to 5 where 1 is not at all important and 5 is very important, how important would you say it is to track fuel consumption within your fleet?

2.3. Fuel Efficiency Activities

In this section we explore the activities undertaken for tracking fuel efficiency along with technologies that business have invested in.

2.3.1. Tracking Fuel Efficiency Activities

Virtually all businesses in the Canadian freight transportation industry (99%) track at least some information related to the fuel efficiency of their fleets. Fuel consumption (91%) and total kilometers travelled annually (89%) are the most commonly tracked information, followed by average speed and idle time (70% each), driving habits (66%), empty

kilometers travelled annually (58%), annual average payload (53%) and other (25%). Other tracking activities include: maintenance (5%), cost of fuel, mileage (4% each), tire quality, brakes, tonnage (2% each) and fuel quality and safety items (1% each).

In general, the type of information tracked does not vary by company demographics although the type of trucks in the fleet (i.e., long or short-haul) does. Companies that have only short-haul trucks are less likely to track fuel-efficiency regardless of method. As well, businesses that invest in fuel reduction technologies or activities, are more likely to track fuel efficiency than those who do not invest in fuel reduction technologies. Furthermore, companies that are familiar with SmartDriver, SmartWay and/or the Green Freight Assessment Program are more likely to track average annual payload and idle time compared to companies that are not familiar with these programs. As well, participants in the SmartDriver, SmartWay and/or the Green Freight Assessment Programs are more likely to track driving habits (85% vs. 61%) and idle time (84% vs. 67%) compared to those who are not participants. For complete details please see the table below.

Exhibit 2.3.1.a Tracking Fuel Efficiency Activities

	TOTAL	LONG/SHORT HAUL			FUEL REDUCTION TECH/ACTIVITY	
		LONG	SHORT	BOTH	YES	NO
Base = actual	(300) %	(69) %	(98) %	(129) %	(284) %	(16) %
Annual average payload	53	67	41	55	55	20
Fuel consumption	91	99	81	95	93	60
Total kilometers travelled annually	89	91	81	94	91	44
Empty kilometers travelled annually	58	72	39	65	61	20
Driving habits, for example, keeping steady speeds, coasting to decelerate, etc.	66	83	55	66	69	15
Average speed	70	78	56	77	72	32
Idle time	70	75	53	80	73	26
OTHER (NET)	25	29	28	19	25	8
Safety items	1	1	2	1	1	-
Cost of fuel	4	5	4	2	4	-
Maintenance of vehicle/mechanics	5	4	4	5	5	-
Distance/mileage	4	4	6	3	4	-
Tire quality	2	1	2	2	2	-
Brakes	2	1	2	1	2	-
Weight/tonnage	2	3	3	1	2	-
Gas stations/Fuel quality or cost by jurisdiction	1	3	2	-	2	-
Misc. Other	12	13	14	11	13	8
None of the above	1	-	3	-	*	12

Q5. Now, thinking about freight trucks that your company uses, which of the following do you track? Please indicate yes or no for each answer.
*Note: * less than 0.5%*
- no data

Exhibit 2.3.1.b Tracking Fuel Efficiency Activities

	TOTAL	FAMILIAR WITH PROGRAM - SMART DRIVER TRAINING		FAMILIAR WITH PROGRAM - SMARTWAY		FAMILIAR WITH PROGRAM - GFAP	
		YES	NO	YES	NO	YES	NO
Base = actual	(300) %	(60) %	(239) %	(50) %	(248) %	(28) %	(272) %
Annual average payload	53	69	48	67	49	89	49
Fuel consumption	91	97	90	98	90	97	90
Total kilometers travelled annually	89	97	87	92	88	97	88
Empty kilometers travelled annually	58	75	54	66	56	73	57
Driving habits, for example, keeping steady speeds, coasting to decelerate, etc.	66	77	64	83	63	77	65
Average speed	70	76	68	67	71	90	68
Idle time	70	89	65	87	67	92	68
OTHER (NET)	25	18	26	22	25	22	25
Safety items	1	3	1	-	2	3	1
Cost of fuel	4	5	4	4	4	4	4
Maintenance of vehicle/mechanics	5	5	4	2	5	4	5
Distance/mileage	4	3	4	4	4	4	4
Tire quality	2	1	2	-	2	-	2
Brakes	2	-	3	2	2	-	2
Weight/tonnage	2	2	2	2	2	7	2
Gas stations/Fuel quality or cost by jurisdiction	1	-	2	-	2	-	2
Misc. Other	12	9	13	16	12	15	12
None of the above	1	-	1	-	1	-	1

Q5. Now, thinking about freight trucks that your company uses, which of the following do you track? Please indicate yes or no for each answer.
*Note: * less than 0.5%*
- no data

Exhibit 2.3.1.b Tracking Fuel Efficiency Activities

	TOTAL	SMART DRIVER TRAINING MEMBER		SMART-WAY MEMBER		GFAP MEMBER		MEMBER ANY PROGRAM	
		YES	NO	YES	NO	YES	NO	YES	NO
Base = actual	(300) %	(35) %	(265) %	(41) %	(259) %	(15) %	(285) %	(62) %	(238) %
Annual average payload	53	57	52	64	51	73	52	60	51
Fuel consumption	91	93	91	94	91	92	91	96	90
Total kilometers travelled annually	89	97	88	94	88	100	88	96	87
Empty kilometers travelled annually	58	66	57	70	57	78	57	67	56
Driving habits, for example, keeping steady speeds, coasting to decelerate, etc.	66	87	64	86	63	100	65	85	61
Average speed	70	83	68	64	71	77	70	70	70
Idle time	70	84	68	81	68	72	70	84	67
OTHER (NET)	25	12	26	10	27	19	25	15	27
Safety items	1	2	1	-	1	-	1	1	1
Cost of fuel	4	3	4	-	4	6	4	3	4
Maintenance of vehicle/mechanics	5	-	5	-	5	-	5	-	6
Distance/mileage	4	3	4	2	4	-	4	3	4
Tire quality	2	4	2	-	2	6	2	3	2
Brakes	2	3	2	2	2	12	1	3	2
Weight/tonnage	2	3	2	-	2	-	2	2	2
Gas stations/Fuel quality or cost by jurisdiction	1	-	2	-	2	-	2	-	2
Misc. Other	12	5	13	8	13	6	13	8	14
None of the above	1	-	1	-	1	-	1	-	1

Q5. Now, thinking about freight trucks that your company uses, which of the following do you track? Please indicate yes or no for each answer.
*Note: * less than 0.5%*
- no data

2.3.2. Fuel-efficiency technologies and activities

The vast majority of the Canadian freight transportation industry invests in at least one fuel reduction technology or activity (95%). The most common technologies or activities undertaken include: electronic on-board devices (77%), auxiliary power units and/ or cab heaters (66%), tire technology (51%), anti-idling equipment (51%), aerodynamic equipment (47%), driver-trainer or incentive programs (47%), improved trailer capacity utilization programs (36%) and “other” (10%). Other activities include using different fuels or fuel-efficient supplements (4%), investing in newer more fuel-efficient technologies (2%) and miscellaneous others (5%).

Investment in fuel reduction technologies or activities tends to be higher as the number of truck in a fleet increases. For example, businesses that have 20 or more trucks in their fleet are more likely to invest in most technologies or activities compared to those who have fewer trucks. Complete details can be found in the table below.

Furthermore, businesses with long-haul or both types of trucks in their fleets are also more likely to invest in fuel reduction technology or activities compared to those with only short-haul trucks in their fleet (97% for long-haul; 100% for both vs. 88% for short-haul).

Businesses that are familiar with green transportation programs like the Green Freight Assessment program, FleetSmart-Smart Driver Training program, and SmartWay Transport Partnership program, are more likely to invest in fuel reduction technologies or activities. Complete details can be found in the table below.

Exhibit 2.3.2.1. Fuel-efficiency technologies and activities

	TOTAL	TYPE OF FLEET				LONG/SHORT HAUL		
		<5	5 -9	10-19	20+	LONG	SHORT	BOTH
Base = actual	(300) %	(80) %	(55) %	(51) %	(103) %	(69) %	(98) %	(129) %
Electronic on-board services such as electronic logs, GPS, etc.	77	67	58	85	90	99	55	82
Anti-idling equipment	51	41	32	46	71	61	33	59
Aerodynamic equipment	47	36	35	43	61	59	27	54
Tire technology	51	57	49	34	56	72	34	55
Low carbon vehicles (electric and/or hybrid, natural gas)	13	13	14	7	16	19	11	11
Auxiliary power units and/ or cab heaters	66	60	53	69	77	87	34	79
Improved trailer capacity utilization programs or policies	36	34	30	35	41	44	31	36
Driver-trainer or incentive programs	47	29	48	50	59	51	40	51
OTHER (NET)	10	15	12	10	5	10	12	10
Following the speed limit	1	3	-	-	-	4	-	-
Use different fuel type vehicles or fuel-efficient supplements	4	5	7	2	1	-	7	4
Buying new vehicles with fuel efficient technologies	2	1	6	-	-	1	1	2
Avoid rush hour or traffic	1	-	2	-	1	-	-	2
Misc. Other	5	6	3	8	4	5	5	5
None of the above	5	9	8	1	3	-	12	3

Q6. Which of the following fuel reduction technologies or activities has your company implemented? Please indicate yes or no for each one.
*Note: * less than 0.5%*
- no data

Exhibit 2.3.2.2. Fuel-efficiency technologies and activities

	FAMILIAR WITH PROGRAM - SMARTDRIVER TRAINING		FAMILIAR WITH PROGRAM - SMARTWAY		FAMILIAR WITH PROGRAM - GFAP	
	YES	NO	YES	NO	YES	NO
Base = actual	(60) %	(239) %	(50) %	(248) %	(28) %	(272) %
Electronic on-board services such as electronic logs, GPS, etc.	88	74	93	73	88	76
Anti-idling equipment	72	45	75	46	84	47
Aerodynamic equipment	60	44	68	42	63	45
Tire technology	67	47	73	47	85	48
Low carbon vehicles (electric and/or hybrid, natural gas)	24	10	25	10	25	12
Auxiliary power units and/ or cab heaters	74	64	78	63	79	64
Improved trailer capacity utilization programs or policies	58	31	58	31	67	33
Driver-trainer or incentive programs	71	41	74	41	82	43
OTHER (NET)	14	9	4	11	10	10
Following the speed limit	-	1	-	1	-	1
Use different fuel type vehicles or fuel-efficient supplements	6	3	-	5	2	4
Buying new vehicles with fuel efficient technologies	4	1	-	2	-	2
Avoid rush hour or traffic	2	*	-	1	4	*
Misc. Other	7	5	4	5	3	5
None of the above	1	6	2	6	-	6

Q6. Which of the following fuel reduction technologies or activities has your company implemented? Please indicate yes or no for each one.
*Note: * less than 0.5%*
- no data

2.3.3. Barriers to adopting fuel reduction activities/technologies

Most Canadian freight transportation businesses have faced barriers when trying to adopt or implement fuel reduction activities or technologies (90%). More than half of businesses identified a lack of human resources or time (54%), uncertainty about the performance of fuel reduction activities or technologies (53%) and/or uncertainty about the return on investment (50%) as challenges or barriers to the adoption or implementation of fuel reduction activities or technologies. Many businesses also indicated that competing operational priorities (46%), lack of knowledge (39%) and access to refueling infrastructures (26%) create barriers to adopting fuel reduction activities or technologies. A small number of businesses indicated that a lack of senior management buy-in (14%) or other reasons (15%) create barriers. Other reasons cited included costs of fuel or fuel reduction technologies (3%), the belief that new trucks have reduced efficiency (2%) the belief that emission technology acts a barrier (2%), drivers ignore fuel efficiency to reach destinations on time, legislation (1% each) and miscellaneous others (8%).

Exhibit 2.3.3. Barriers to adopting fuel reduction activities/technologies

BARRIERS	TOTAL
Base = actual	(300) %
Lack of funds	38
Uncertainty about the performance	53
Lack of knowledge	39
Lack of human resources or time	54
Competing operational priorities	46
Lack of senior management buy-in	14
Uncertainty about the return on investment	50
Access to refueling infrastructures	26
OTHER (NET)	15
Weather/Climate	*
Lack of good drivers	1
Increased costs of fuel, fuel reduction technologies (e.g. Air Def Systems, etc.)	3
Newer trucks/Newer devices on trucks have reduced the efficiency	2
Technical ability not there/Alternative technology not available	-
Drivers ignore fuel efficiency to reach destinations on time	1
Hauling heavier loads	-
Lack of parking spaces, rest stops, etc.	1
Emission technology is a barrier/Gets in the way	2
Legislation gets in the way	1
Misc. Other	8
None of the above	10

Q8. Which of the following challenges or barriers, if any, has your company encountered when trying to adopt or implement fuel education activities or technologies? Please answer yes or no for each one.
*Note: * less than 0.5%*
- no data

2.3.4. Usefulness of Fuel Efficiency Information

Canadian freight transportation businesses were asked to identify the types of information on fuel efficiency they consider most useful from a set list. Fuel consumption ratings for HDV (73%) and on-road performance of energy efficient technologies (71%) are considered useful by nearly three-quarters of businesses while more than half would find a business case for adopting energy efficient technologies and practices (57%) useful. Many also consider data on the energy efficiency of Canada's HDV fleet (46%) and stories on fleets transition to decarbonizing operations (38%) useful.

While there are few regional differences when it comes to useful information, businesses in the Atlantic (93%) and Quebec (100%) consider information on fuel consumption ratings for HDV more useful than those in other regions (54-62% for Ontario, Prairies or BC).

Interestingly, businesses with only private fleets, are more likely to find all the information on fuel efficiency useful compared to those with only for hire fleets. Complete details can be found in the table below.

Exhibit 2.3.4. Importance of Fuel Efficiency Information

	TOTAL	REGION					TYPE OF FLEET		
		ATLANTIC	QUEBEC	ONTARIO	PRAIRIES	BC	PRIVATE	FOR HIRE	BOTH
Base = actual	(236) %	(14) %	(83) %	(63) %	(52) %	(23) %	(104) %	(77) %	(55) %
On-road performance of energy efficient technologies	71	83	75	65	63	86	78	70	61
Fuel consumption ratings for HDV	73	100	93	60	54	62	83	63	68
Stories on fleets transition to decarbonizing operations	38	54	38	35	32	53	44	37	28
Business case for adopting energy efficient technologies and practices	57	74	68	45	51	51	65	46	55
Data on the energy efficiency of Canadas HDV fleet	46	62	58	40	37	33	56	37	41
Other	4	-	1	-	10	12	3	5	3
Don't know	1	-	-	3	2	-	1	2	2

Q13. What kind of information on fuel efficiency do you find most useful?
Note: - no data

2.4. Respondent Profile

Three-hundred representatives from the Canadian freight transportation industry were interviewed. Most representatives that were surveyed were from small businesses (1 to 99 employees) (89%) and were fairly well distributed regionally: Atlantic Canada (6%), Quebec (36%), Ontario, and the Prairies (24% each) and BC (11%).

Businesses surveyed had a variety of fleets; some had exclusively private fleets (41%) while others had exclusively for-hire fleets (35%) and the remaining (26%) had a combination of both. Furthermore, most (44%) businesses had a combination of short and long-haul trucks while nearly one-third (32%) had only short haul trucks (32%) and only one-quarter (24%) had only long-haul trucks. Nearly half of the businesses (47%) had relatively new fleets (less than 5 years old).

Exhibit 2.4.a. Respondent Profile: Region

REGION	TOTAL
Base = actual	(300) %
Newfoundland and Labrador	1
Nova Scotia	2
Prince Edward Island	*
New Brunswick	3
Quebec	35
Ontario	24
Manitoba	5
Saskatchewan	3
Alberta	16
British Columbia	11
Northwest Territories	-
Nunavut	-
Yukon	-
DK/Refused	1

Q16. In which province is your office located?
*Note: * less than 0.5%*
- no data

Exhibit 2.4.b. Respondent Profile: Type of Fleet

TYPE OF FLEET	TOTAL
Base = actual	(300) %
Private	41
For hire	35
Both	23
DK/Refused	1

Q17. Is your fleet:

Exhibit 2.4.c. Respondent Profile: Number of Trucks

NUMBER OF TRUCKS	TOTAL
Base = actual	(300) %
Less than 5	27
5 – 9	18
10 - 19	17
20 or more	34
Don't know	4

Q18. How many trucks are in your company's fleet?

Exhibit 2.4.d. Respondent Profile: Type of Truck

TYPE OF TRUCKS	TOTAL
Base = actual	(300) %
Long	23
Short	32
Both	44
DK/Refused	1

Q19. Are the trucks in your fleet long haul or short haul trucks?

Exhibit 2.4.e. Respondent Profile: Age of Fleet

PERCENTAGE OF TRUCKS IN THE FLEET LESS THAN FIVE YEARS OLD	TOTAL
Base = actual	(300) %
Less than 25	36
25-49	14
50-74	20
75 or more	27
Don't know	4

Q20. What percentage of trucks in your fleet are less than five years old

Exhibit 2.4.f. Respondent Profile: Number of Employees

NUMBER OF EMPLOYEES	TOTAL
Base = actual	(300) %
No employees (0)	3
1 - 99	89
100 - 499	5
500+	1
DK/Refused	3

Q21. How many employees does your company have in your current location? Is it…

3. Methodology

3.1. Methodological Overview

A telephone survey was conducted from November 1, 2018 to November 23, 2018 among representatives of the Canadian freight transportation industry who are involved in or knowledgeable about the management or implementation of trucking fuel efficiency programs and policies within their company's fleet of vehicles.

A list of Canadian freight transportation industry businesses belonging to general freight: local (NAICS code 484110), general freight: long distance (NAICS codes 484121 &484122), and specialized freight trucking; excluding used goods (NAICS codes 484220 & 484230) was purchased.

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 draw and used to achieve the completions outlined below:

- 484110: General freight trucking, local: N= 115
- 484121 and 484122: General freight trucking, long distance: N=127
- 484220 and 484230: Specialized Freight Trucking - excluding used goods: N=58

In total, 300 telephone interviews were conducted (see the table below for completions by quotas). Findings from these 300 completions are extrapolated to Canadian freight transportation businesses (NAICS 4841) and specialized freight trucking businesses (NAICS code 4842 excluding used goods) with a margin of error of +/-5.6 per cent 19 times out of 20.

Table 3.1.a. Quota and Completes

NAICS CODE	QUOTA	COMPLETES
4841: General freight trucking, local (484110)	115	115
4841: General freight trucking, long distance (484121 and 484122)	125	127
4842: Specialized freight trucking local and long distance (excluding used goods)	60	58
Total	300	300

Questionnaire

Based on the objectives of the research and discussion with the Project Authority, Kantar TNS developed the questionnaire in English and then translated it into French using an in-house translator. The resulting survey included 22 questions that were primarily closed-ended. The survey took an average of 11.3 minutes to complete.

Survey Pretest

A survey pretest was conducted on October 23, 2018 by completing 20 questionnaires; 10 in English and 10 in French, under live field conditions. Results of the pre-test indicated that some revisions to the language were required to ensure clarity among respondents and that some questions needed to be removed in order be closer to the desired 10-minute survey length. Therefore, the survey was re-drafted.

Sample Design and Selection

The sample was drawn from a purchased list of Canadian freight transportation industry businesses belonging to general freight: local (NAICS code 484110), general freight: long distance (NAICS codes 484121 & 484122), and specialized freight trucking; excluding used goods (NAICS codes 484220 & 484230). The following table presents the number of records available by corresponding NAICS code. Respondents were screened to ensure that they were involved in or knowledgeable about the management or implementation of trucking fuel efficiency programs and policies within the company's fleet or vehicles.

Table 3.1.b. Sample Records by NAICS Code

SUM OF RECORDS		
NAICS Code	NAICS Description	Number of Records
484110	General freight trucking, local	6823
484121	General freight trucking, long distance, truck-load	5773
484122	General freight trucking, long distance, less than truck-load	5
484220	Specialized freight (except used goods) trucking, local	1044
484230	Specialized freight (except used goods) trucking, long-distance	234
Total		**13879**

Survey Administration

The telephone survey, on average 11.30 minutes long, was conducted using computer assisted telephone interviewing (CATI) technology by Market Pulse in the official languages of choice of the respondent. Fieldwork took place during the day on weekdays and ran for three weeks (November 1, 2018 to November 23, 2018). Interviews were done in accordance with the Privacy Act and the Access to Information Act. The field staff directly involved in data collection, including interviewers, were located in Canada, and survey data were stored on servers and back-up servers located solely in Canada.

Non-response Bias

The response rate for this survey was 4.7%. In order to maximize response Kantar TNS undertook the following:

- A minimum of 8 call backs were made before retiring a number
- Call backs were rescheduled at different times and days in order to maximize the possibility of an answer
- Appointments and call backs were offered at flexible times so respondents could take the survey at the most convenient time

As with all samples, there is a possibility of non-response bias. In particular, this survey does not include members of the population who only work on weekends or who may have been ill or on leave during the field period. In addition, some groups within the population are systemically less likely to answer surveys. To address the issue of non-response bias, data were weighted to be representative of the NAICS codes population in the freight transportation businesses in Canada. Complete weighting details can be found in the following section. It is noted here that due to the use of quotas, non-response analysis by NAICS code cannot be undertaken and due to not having sufficient population data, non-response bias cannot be measured.

Weighting

Weighting adjustments were applied to the final edited, clean data to ensure that the data were representative of freight transportation businesses in Canada. The weighting matrix for this project is based on the population numbers (unique businesses in Canada) as provided by the list provider in the three NAICS groups. The three groups are: general freight: local (484110), general freight: long distance (484121 & 484122), and specialized freight trucking excluding used goods (484220 & 484230) (see the tables below).

Table 3.1.c. Weighting Matrix

NAICS CODE	ACTUAL	WEIGHTED
General freight: local (484110)	115	141
General freight: long distance (484121 &484122)	127	120
Specialized freight trucking excluding used goods (484220 & 484230)	58	39
Total	**300**	**300**

Margin of Error

With a population of 14,497 freight transportation businesses, a sample size of 300 provides a margin of error of +/-5.6 per cent at 19 times out of 20 (95% confidence level).

Response Rate

A total of 14,378 numbers were dialled, of which n=300 completed the survey. The overall response rate achieved for the telephone study was 4.7%. The following table outlines the sample disposition and response rate as per the MRIA guidelines.

Table 3.1.d. Response Rate Calculation

TOTAL NUMBERS ATTEMPTED	14,378
Invalid	**2807**
NIS	2807
Fax/Modem	0
Business/Non-residential	0
Unresolved (U)	**6738**
Busy	1256
No answer	1882
Answering machine	3600
In-scope - non-responding (IS)	**4289**
Illness, incapable	59
Selected respondent not available	2823
Household refusal	0
Respondent refusal	1347
Qualified respondent break-off	60
In-scope - Responding units (R)	**544**
Language disqualify	0
No one 18+	0
Quota full	0
Other disqualify	244
Completed interviews	300
Response Rate = R/(U+IS+R)	**4.7%**

Tabulated Data

Detailed tables are included under separate cover.

4. Appendix B: Survey Instrument:

4.1. English Survey

SmartWay Freight Industry Survey

INTRO_G. Gatekeeper Introduction

Hello, can I speak to someone at your company who is involved in or knowledgeable about fuel efficiency tracking and management within your organization?

IF NECESSARY-

Hello/Bonjour my name is [INSERT NAME], from Kantar TNS. We are currently conducting a survey on behalf of the Government of Canada and are speaking to 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.

Can I speak to the person who is involved in or knowledgeable about the tracking, management or implementation of fuel efficiency programs and policies within your company's fleet of vehicles?

INTRO_R. Respondent Introduction

Hello/Bonjour my name is [INSERT NAME], from Kantar TNS. We are currently conducting a survey on behalf of the Government of Canada and are speaking to 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.

[If NECESSARY: Should you wish to verify the legitimacy of this survey you may contact Patrick Kasparian at patrick.kasparian@kantar.com.]

Your participation is voluntary and your responses will be kept entirely confidential and anonymous. This survey will take about 10 minutes to complete.

Would you prefer that I continue in English or French? Préférez-vous continuer en français ou en anglais?

-English
-French

SCREENING

Q1. Knowledge of fuel efficiency within the company

Are you involved in or knowledgeable about the tracking, management or implementation of fuel efficiency programs and policies within your company's fleet of vehicles?

Yes- **Go to Q3**
No - **Go to Q2**

Q2. Who has knowledge

Can you direct me to someone at your company that does?

Yes- loop back to Respondent Introduction with this new person

No- "Can I please speak to your receptionist again" Loop back to Gatekeeper introduction

Q3. Operate Heavy duty freight trucks

Does your company operate freight transportation trucks?

ANSWER LIST [SINGLE PUNCH]

Yes
No- Terminate

INTERVIEWER INSTRUCTION: IF ASKED WHAT FRIEGHT TRANSPORTATION TRUCKS ARE: THESE TYPICALLY INCLUDE HEAVY AND LIGHT DUTY TRUCKS USED FOR MOVING GOODS – VANS DO NOT COUNT

Main Survey

Q4. Importance of Tracking Fuel Consumption

Using a scale of 1 to 5 where 1 is not at all important and 5 is very important, how important would you say it is to track fuel consumption within your fleet?

1- Not at all important
2-
3-
4-
5- Very important
99- Don't know

Q5. Type of info tracked

Now, thinking about freight trucks that your company uses, which of the following do you track? Please indicate yes or no for each answer.

[INTERVIEWER: READ LIST AND PAUSE FOR A YES/NO AFTER EACH]

STATEMENTS [RANDOMIZE]

1. Annual average payload
2. Fuel consumption
3. Total Kilometers travelled annually (PROGRAMMING INSTRUCTION – ALWAYS PUT THIS BESIDE EMPTY KM TRAVELLED – randomize the two)
4. Empty kilometers travelled annually
5. Driving habits, for example, keeping steady speeds, coasting to decelerate, etc.
6. Average speed
7. Idle time
8. Anything else, please specify?_____ (specify) – KEEP LAST

ANSWER LIST
Yes
No
DON'T KNOW (DO NOT READ)

PROGRAMMING NOTE: KEEP ANSWERS 3 AND 4 (km) TOGETHER

Q6. Investment in technology

Which of the following fuel reduction technologies or activities has your company implemented? Please indicate yes or no for each one.
[INTERVIEWER: READ LIST AND PAUSE FOR A YES/NO AFTER EACH]

STATEMENTS [RANDOMIZE LIST]

- Electronic on-board devices such as electronic logs, GPS, etc.
- Anti-idling equipment
- Aerodynamic equipment
- Tire technology
- Low carbon vehicles (electric and/or hybrid, natural gas)
- Auxiliary power units and/ or cab heaters
- Improved trailer capacity utilization programs or policies
- Driver-trainer or incentive programs
- Anything else, please specify?_____ (specify) – KEEP LAST

ANSWER LIST
Yes
No
DON'T KNOW (DO NOT READ)

Q8. Barriers to fuel reduction

Which of the following challenges or barriers, if any, has your company encountered when trying to adopt or implement fuel reduction activities or technologies? Please answer yes or no for each one.

[INTERVIEWER: READ LIST AND PAUSE FOR A YES/NO AFTER EACH]

STATEMENTS [RANDOMIZE LIST]
Lack of funds
Uncertainty about the performance
Lack of knowledge
Lack of human resources or time
Competing operational priorities
Lack of senior management buy-in
Uncertainty about the return on investment
Access to refueling infrastructures
Anything else, please specify? _____ (specify) – KEEP LAST

Q11. Familiarity with Programs

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 Canadian green transportation programs?

PROGRAMS (RANDOMIZE LIST)
FleetSmart – Smart Driver Training
SmartWay Transport Partnership
Green Freight Assessment Program

1- Not at all familiar
2-
3-
4-
5- Very familiar
99 -Don't know

Q12. SmartWay Program Awareness

Which of the following green freight programs, if any, does your company participate in?

STATEMENTS [RANDOMIZE]

SmartWay Transport Partnership
FleetSmart Smart Driver Training
Green Freight Assessment Program
Other, please specify:

Q13.
What kind of information on fuel efficiency do you find most useful?

READ LIST

ANSWER LIST (RANDOMIZE)
On-road performance of energy efficient technologies
Fuel consumption ratings for HDV
Stories on fleets transition to decarbonizing operations
Business case for adopting energy efficient technologies and practices
Data on the energy efficiency of Canada's HDV fleet
Other please specify [FIXED]

DEMOGRAPHICS

We are almost done, just a few more questions for classification purposes.

Q16. Province
In which province is your office located?

ANSWER LIST [SINGLE PUNCH]
Newfoundland and Labrador
Nova Scotia
Prince Edward Island
New Brunswick
Quebec
Ontario
Manitoba
Saskatchewan
Alberta
British Columbia
Northwest Territories
Nunavut
Yukon
DK/Refused

Q17. Type of Fleet

Is your fleet:

Private
For hire
Both
DK/Refused

Q18. Number of trucks
How many trucks are in your company's fleet?
Numeric box to enter number in
ANSWER LIST
[NUMERIC OPEN- RANGE 1-9999]
DON'T KNOW [DO NOT READ]

Q19. Long or Short haul
Are the trucks in your fleet long haul or short haul trucks?

ANSWER LIST
Long
Short
Both
DK/Refused

Q20. Less than 5 years
What percentage of trucks in your fleet are less than five years old

ANSWER LIST
[NUMERIC OPEN- RANGE 0-100]
DON'T KNOW [DO NOT READ]

Q21. Number of employees
How many employees does your company have in your current location? Is it…
[READ LIST]

ANSWER LIST [SINGLE PUNCH]:
No Employees (0)
1 to 99
100 to 499
500+
DK/Refused

End display

Thank you for your time on this important study! The results, once compiled, can be found on the Library and Archives website. [IF ASKED: at https://www.bac-lac.gc.ca/].