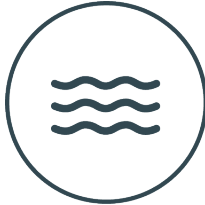
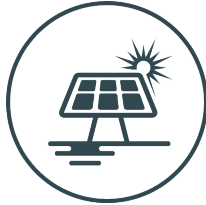


Transport Canada's

# 2021-2022 Departmental Sustainable Development Strategy Progress Report



October 6, 2022

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# Transport Canada's 2021 to 2022 Departmental Sustainable Development Strategy Report

This report on progress supports the commitment in the *Federal Sustainable Development Act* (FSDA) to make sustainable development decision-making more transparent and accountable to Parliament. It also contributes to an integrated, whole-of-government view of activities supporting environmental sustainability.

This report details the progress made in 2021 to 2022 against our actions outlined in Transport Canada's 2020 to 2023 Departmental Sustainable Development Strategy. Recognizing that there are still ongoing challenges as a result of the COVID-19 pandemic, the department was able to advance many of our initiatives that support the broader sustainable development agenda.

## 1. Introduction to the Departmental Sustainable Development Strategy

The [2019 to 2022 Federal Sustainable Development Strategy \(FSDS\)](#) presents the Government of Canada's sustainable development goals and targets, as required by the [Federal Sustainable Development Act](#).

In keeping with the purpose of the Act, to provide the legal framework for developing and implementing a Federal Sustainable Development Strategy that will make sustainable development decision-making more transparent and accountable to Parliament, Transport Canada has developed this report to demonstrate progress in implementing its Departmental Sustainable Development Strategy.

## 2. Sustainable development in Transport Canada

Transport Canada's 2020 to 2023 Departmental Sustainable Development Strategy describes the department's actions in support of achieving: Greening Government, Effective Action on Climate Change, Clean Growth, Healthy Coasts and Oceans, Pristine Lakes and Rivers and Safe and Healthy Communities. This report presents available results for the departmental actions pertinent to these goals. Previous years' reports are posted on the Transport Canada's website, [Sustainable Development at Transport Canada](#).

### 3. Departmental performance by FSDS goal

The following tables provide performance information on departmental actions in support of the FSDS goals listed in section 2.



## Greening Government: The Government of Canada will transition to low- carbon, climate-resilient and green operations

### Departmental Context:

The Government of Canada has a significant opportunity to lead by example by making its operations low-carbon and strengthening the resilience of its assets, operations and services. Transport Canada owns and operates several facilities across the country, including some airports and ports, and is responsible for a fleet of vehicles ranging from aircraft and marine vessels to on-road vehicles.

Transport Canada's actions below directly support the Government of Canada's target to reduce greenhouse gas (GHG) emissions from federal operations by 40% by 2025. Our measures include: conducting energy audits, developing a Carbon Neutral Study and Roadmap to prioritize our investment strategies, renovating facilities to be more energy efficient, developing a plan to reduce emissions from our fleet, incorporating environmental considerations into our procurement processes, and engaging with employees to promote more sustainable employee behaviour.



## FSDS Target: To implement net-zero in real property and fleet operations, the Government of Canada will reduce Scope 1 and Scope 2 GHG emissions by 40% by 2025 and by at least 90% below 2005 levels by 2050<sup>1</sup>

FSDS Contributing Action: All new buildings and major building retrofits will prioritize low-carbon investments based on integrated design principles, and life-cycle and total-cost-of-ownership assessments which incorporate shadow carbon pricing			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>All new buildings will be constructed to be net-zero carbon unless a lifecycle cost-benefit analysis indicates net-zero carbon ready construction</p> <p>Opportunities to implement energy efficiency retrofits in Transport Canada buildings will be considered, such as:</p> <ul style="list-style-type: none"> <li>lighting upgrades (LED lighting)</li> <li>upgrades to buildings envelope (insulation, windows, etc.)</li> <li>reduce plug-load demand</li> </ul>	<p><b>Starting point:</b></p> <p>6.332 ktCO<sub>2</sub>e for facilities as of 2005 to 2006 baseline year<sup>2</sup> (updated from 5.68 ktCO<sub>2</sub>e from 2020 to 2023 DSDS)</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Percentage (%) change in GHG emissions from facilities as calculated by: <ul style="list-style-type: none"> <li>GHG emissions from facilities in fiscal year 2005 to 2006 (base year): = 6.332 ktCO<sub>2</sub>e</li> <li>GHG emissions from facilities in current</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>Investments at Airports, including Penticton Airport (Air Terminal Building reconfiguration, replacing the Air Terminal Building roof), Port Hardy Airport (new Air Terminal Building), Wabush Airport (Air Terminal Building modifications),</li> <li>Investments at Ferry Terminals, including Wood Island Ferry Terminal (electrical and mechanical upgrades), Caribou Ferry Terminal (Heat pump in Operations Building)</li> <li>Provincial electrical grid decarbonization efforts, most notably in Ontario and in Atlantic Canada,</li> <li>Port divestitures in Québec</li> </ul>

<sup>1</sup> 2021 to 2022 DSDS Update: Adjusted to reflect the updated Greening Government Strategy release in November 2020

<sup>2</sup> Baseline as of 2020-2021 has been amended. Baseline data may change every year as new data from facilities becomes available.

<ul style="list-style-type: none"> <li>initiate energy performance contracts implement recommissioning measures (buildings and systems optimization to improve comfort and save energy)</li> </ul>	<p>reporting fiscal year = [Y] ktCO<sub>2</sub>e</p> <ul style="list-style-type: none"> <li>percentage (%) change in GHG emissions from facilities from fiscal year 2005 to 2006 to current reporting fiscal year = [Y/X] %</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>GHG emissions from buildings reduced by 40% by 2025 (2.533 ktCO<sub>2</sub>e) and 90% by 2050 (5.699 ktCO<sub>2</sub>e)<sup>3</sup></li> </ul>	<p><b>Target:</b></p> <ul style="list-style-type: none"> <li>Percentage (%) change in GHG emissions from facilities as calculated by: <ul style="list-style-type: none"> <li>GHG emissions from facilities in fiscal year 2005 to 2006 (base year): = 6.924 ktCO<sub>2</sub>e</li> <li>GHG emissions from facilities in current reporting fiscal year = 4.843 ktCO<sub>2</sub>e</li> <li>percentage (%) change in GHG emissions from facilities from fiscal year 2005 to 2006 to current reporting fiscal year = 30 % decrease</li> </ul> </li> </ul>	SDG 7 SDG 9 SDG 11 SDG 12 SDG 13
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**FSDS Contributing Action: Fleet management will be optimized including by applying telematics to collect and analyze vehicle usage data on vehicles scheduled to be replaced**

Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Telematics will be used to inform the replacement of on-road vehicles and	<b>Starting point:</b>		By continuing to purchase ZEVs where operationally feasible, Transport Canada's fleet has

<sup>3</sup> Treasury Board of Canada Secretariat has amended the target as of November 2020.

<p>optimize fleet management 100% of new light-duty unmodified administrative fleet vehicle purchases will be zero-emission vehicles (ZEVs) where operations permit</p> <p>All new Transport Canada executive fleet vehicle purchases will be ZEVs or hybrids</p> <p>Promote uptake of online Ecodriving course to encourage positive driving habits</p>	<p>1.717 ktCO<sub>2</sub>e, GHG emissions from Transport Canada light-duty, unmodified on-road vehicle fleet in 2005 to 2006<sup>4</sup> (updated from 56 ktCO<sub>2</sub>e from 2020 to 2023 DSDS)</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>• Percentage change in GHG emissions from on-road vehicle fleet as calculated by: <ul style="list-style-type: none"> <li>○ GHG emissions from on-road vehicle fleet in fiscal year 2005 to 2006 (base year): = 1.717 ktCO<sub>2</sub>e</li> <li>○ GHG emissions from on-road vehicle fleet in current reporting fiscal year = [Y] ktCO<sub>2</sub>e</li> <li>○ percentage (%) change in GHG emissions from on-road vehicle fleet from fiscal year 2005 to 2006 to current reporting fiscal year = [Y/X] %</li> </ul> </li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• GHG emissions from on-road vehicle fleet reduced by 40% by 2025 (0.684 ktCO<sub>2</sub>e) and 90% by 2050 (1.545 ktCO<sub>2</sub>e)<sup>5</sup></li> </ul>	<p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• Percentage change in GHG emissions from on-road vehicle fleet as calculated by: <ul style="list-style-type: none"> <li>○ GHG emissions from on-road vehicle fleet in fiscal year 2005 to 2006 (base year): = 1.717 ktCO<sub>2</sub>e</li> </ul> </li> </ul>	<p>produced less GHG emissions in 2021/22, therefore contributing to the 40% by 2025 goal</p> <p>SDG 7</p> <p>SDG 11</p> <p>SDG 12</p> <p>SDG 13</p>
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<sup>4</sup> Baseline as of 2020-2021 has been amended. Baseline data may change every year as new data from facilities becomes available

<sup>5</sup> Treasury Board of Canada Secretariat has amended the target as of November 2020.

		<ul style="list-style-type: none"> <li>o GHG emissions from on-road vehicle fleet in current reporting fiscal year = 1.633 ktCO<sub>2</sub>e</li> <li>o percentage (%) change in GHG emissions from on-road vehicle fleet from fiscal year 2005 to 2006 to current reporting fiscal year = 4.9 % decrease</li> </ul>	
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## FSDS Target: Divert at least 75% (by weight) of non-hazardous operational waste from landfills by 2030

FSDS Contributing Action: Other (other actions that support the Greening Government Goal and Target but not a FSDS Contributing Action)			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Develop and conduct surveys to understand current waste streams generated at large Transport Canada facilities (10,000m<sup>2</sup> or more)</p> <p>Track and disclose waste diversion rates by 2022</p>	<p><b>Starting Points 1 and 2:</b></p> <p>No waste data is available at this time</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>• Survey conducted at targeted facilities and data analyzed to determine next steps to increase diversion rates</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>• (a) Surveys have been conducted at targeted</li> </ul>	<p><b>Target 1:</b></p> <p>(a) Waste production and diversion data was collected during a 2017</p>	<ul style="list-style-type: none"> <li>• A baseline for waste diversion has been established using data collected during a 2017 waste audit</li> <li>• A waste diversion plan will be developed using this data to meet the 2030 waste diversion target of 75%</li> </ul> <p>SDG 7 SDG 11</p>



	<p>Transport Canada facilities by March 31, 2021</p> <ul style="list-style-type: none"> <li>(b) A waste management plan is implemented by March 31, 2022</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>From fiscal year 2021 to 2022:</li> </ul> <p>Non-hazardous operational waste diversion rate as calculated by:</p> <ul style="list-style-type: none"> <li>mass of non-hazardous operational waste generated in the year: [X] tonnes</li> <li>mass of non-hazardous operational waste diverted from landfill in the year: [Y] tonnes</li> <li>non-hazardous operational waste diverted: [Y/X] %</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>75% diversion rate (by weight) by 2030</li> </ul>	<p>waste audit of the Ottawa Hangar (which is the only TC facility that meets the requirements for waste reporting under the GGS).</p> <p>(b) Using the data from the waste audit at the Ottawa Hangar, a waste management plan is being developed to increase waste diversion rates and will be in place by March 31st, 2023</p> <p><b>Target 2:</b></p> <p>Non-hazardous operational waste diversion rate as calculated by:</p> <ul style="list-style-type: none"> <li>mass of non-hazardous operational waste generated in the year: 32.096 tonnes</li> <li>mass of non-hazardous operational waste diverted</li> </ul>	<p>SDG 12</p> <p>SDG 13</p>
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		from landfill in the year: 11.418 tonnes ○ non-hazardous operational waste diverted: 36 %	
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## FSDS Target: Divert at least 75% (by weight) of plastic waste from landfills by 2030

<b>FSDS Contributing Action: Other</b> (other actions that support the Greening Government Goal and Target but not a FSDS Contributing Action)			
<b>Corresponding departmental actions</b> (Do not edit)	<b>Starting points</b> <b>Performance indicators</b> <b>Targets</b> (Do not edit)	<b>Results achieved and responsible OPIs</b>	<b>Contribution by each departmental result to the FSDS goal and target</b>
Promote the use of alternatives to single use plastics in Transport Canada procurement decisions  Promote the reuse or recycling of plastics in Transport Canada waste management decisions  Develop and conduct surveys to understand use of plastic products in Transport Canada operations  Track and disclose plastic waste diversion rates by 2022	<p><b>Starting point 1 and 2:</b> No waste data available at this time</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Survey conducted at targeted facilities and data analyzed to determine next steps to increase diversion rates</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>(a) Survey has been conducted at targeted Transport Canada facilities by March 31, 2021</li> <li>(b) A waste management plan is implemented by March 31, 2022</li> </ul> <p><b>Performance indicator 2:</b></p>	<p><b>Target 1:</b></p> <p>(a) Waste production and diversion data was collected during a 2017 waste audit of the Ottawa Hangar (which is the only TC facility that meets the requirements for waste reporting under the GGS).</p>	<ul style="list-style-type: none"> <li>A baseline for waste diversion has been established using data collected during a 2017 waste audit</li> <li>A waste diversion plan will be developed using this data to meet the 2030 waste diversion target of 75%</li> </ul> <p>SDG 7 SDG 11 SDG 12 SDG 13</p>

	<ul style="list-style-type: none"> <li>From fiscal year 2021 to 2022:</li> </ul> <p>Plastic waste diversion rate as calculated by:</p> <ul style="list-style-type: none"> <li>mass of plastic waste generated in the year: [X] tonnes</li> <li>mass of plastic waste divested from landfill in the year: [Y] tonnes</li> <li>plastic waste diverted: [Y/X] %</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>75% diversion rate (by weight) by 2030</li> </ul>	<p>(b) Using the data from the waste audit at the Ottawa Hangar, a waste management plan is being developed to increase waste diversion rates and will be in place by March 31st, 2023</p> <p><b>Target 2:</b></p> <p>Plastic waste diversion rate as calculated by:</p> <ul style="list-style-type: none"> <li>mass of plastic waste generated in the year: 3.194 tonnes</li> <li>mass of plastic waste divested from landfill in the year: 0.490 tonnes</li> <li>plastic waste diverted: 15 %</li> </ul>	
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## FSDS Target: Divert at least 90% (by weight) of all construction and demolition waste from landfills (striving to achieve 100% by 2030)

FSDS Contributing Action: Other (other actions that support the Greening Government Goal and Target but not a FSDS Contributing Action)			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Track and disclose construction and demolition waste diversion rates by 2022	<p><b>Starting point:</b></p> <p>No waste data available at this time</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>From fiscal year 2021 to 2022:</li> </ul> <p>Percentage (%) of construction and demolition waste diverted from landfill as calculated by:</p> <ul style="list-style-type: none"> <li>mass of construction and demolition waste generated in the year = [X] tonnes</li> <li>mass of construction and demolition waste diverted in the year = [Y] tonnes</li> <li>percentage (%) of construction and demolition waste diverted = <math>[Y/X]</math> %</li> </ul>		<p>N/A</p> <p>SDG 7</p> <p>SDG 11</p> <p>SDG 12</p> <p>SDG 13</p>

	<p><b>Target:</b></p> <ul style="list-style-type: none"> <li>90% diversion rate (by weight) by 2030</li> </ul>	<p><b>Target:</b></p> <p>Tracking and disclosing construction and demolition waste diversion rates has not yet commenced.</p>	
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## FSDS Target: Our administrative fleet will be comprised of at least 80% zero-emission vehicles by 2030

FSDS Contributing Action: Fleet management will be optimized including by applying telematics to collect and analyze vehicle usage data on vehicles scheduled to be replaced			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>100% of new light-duty unmodified on-road fleet vehicle purchases will be zero-emission vehicles (ZEVs) where operations permit</p> <p>All new Transport Canada executive fleet vehicle purchases will be ZEVs or hybrids</p>	<p><b>Starting points 1 and 2:</b></p> <p>As of 2019 to 2020, Transport Canada's on-road fleet is composed of 11% of ZEVs</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Percentage (%) of ZEVs in Transport Canada's on-road fleet as calculated by: <ul style="list-style-type: none"> <li>number of Transport Canada's on-road vehicles in the current year = [X]</li> <li>number of ZEVs in on-road fleet in the current year = [Y]</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>Transport Canada's commitment to acquiring Zero Emission Vehicles (ZEVs) supports the Greening Government Strategy (GGS) and Federal Sustainable Development Strategy (FSDS) by enabling departmental fleet users to operate the vehicles in electric-mode, thereby reducing both the consumption of fossil fuels as well as the production of their associated</li> </ul>

<p>Install charging stations at Transport Canada facilities</p>	<ul style="list-style-type: none"> <li>○ percentage (%) ZEVs in Transport Canada's on-road fleet = <math>[Y/X]</math> %</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>● By 2030, 80% of Transport Canada's new light-duty unmodified on-road fleet will be ZEVs</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>● Percentage (%) of on-road vehicles purchased that are ZEVs as calculated by: <ul style="list-style-type: none"> <li>○ number of on-road vehicles purchased in the year = <math>[X]</math></li> <li>○ number of ZEVs purchased in the year = <math>[Y]</math></li> <li>○ percentage (%) new on-road vehicles purchased that are ZEVs = <math>[Y/X]</math> %</li> </ul> </li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>● 100% of Transport Canada's new purchases of light-duty unmodified on-road fleet will be ZEVs where operations permit</li> </ul> <p><b>Starting point 3:</b></p> <p>17% of Transport Canada facilities equipped with at least 1 charging station as of 2019 to 2020</p> <p><b>Performance indicator 3:</b></p>	<p><b>Target 1:</b></p> <p>Percentage (%) of ZEVs in Transport Canada's on-road fleet as calculated by:</p> <ul style="list-style-type: none"> <li>○ number of Transport Canada's on-road vehicles in the current year = 297</li> <li>○ number of ZEVs in on-road fleet in the current year = 87</li> <li>○ percentage (%) ZEVs in Transport Canada's on-road fleet = 30 %</li> </ul> <p><b>Target 2:</b></p> <p>Percentage (%) of on-road vehicles purchased that are ZEVs as calculated by:</p> <ul style="list-style-type: none"> <li>○ number of on-road vehicles purchased in the current year = 19</li> <li>○ number of ZEVs purchased in the current year = 18</li> <li>○ percentage (%) new on-road vehicles purchased that are ZEVs = 95 %<sup>6</sup></li> </ul>	<p>greenhouse gas emissions (GHGs). In conjunction with the Department's strategy for acquiring and installing charging stations, the acquisition of ZEVs for TC's on-road fleet is an important step towards greening departmental activities.</p> <ul style="list-style-type: none"> <li>● Ensuring charging infrastructure is available to TC employees is essential to optimizing the ZEV vehicles being purchased by the department and reducing GHG emissions</li> </ul> <p>SDG 7 SDG 9 SDG 11 SDG 13</p>
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<sup>6</sup> The non-ZEV vehicle was acquired to meet specific operational needs for the conduct of investigations under the *Motor Vehicle Safety Act*. The selected vehicle was the only available model which possessed the necessary configuration and capabilities to support program mandates.

	<ul style="list-style-type: none"> <li>Percentage of facilities that are equipped with at least 1 charging station</li> </ul> <p><b>Target 3:</b></p> <ul style="list-style-type: none"> <li>By 2023, all Transport Canada facilities will be equipped with at least 1 charging station</li> </ul> <p><i>TC is in the process of reviewing this target.</i></p>	<p><b>Target 3:</b></p> <ul style="list-style-type: none"> <li>All of TC: 10% of facilities have at least one charging station (135 facilities and 14 have charging stations)</li> <li>Leased facilities: 11% of leased facilities at TC have at least one charging station (88 leased facilities and 10 have charging stations)</li> <li>TC owned facilities: 9% of TC owned facilities have at least one charging station (47 owned facilities and 4 have charging stations)</li> </ul>	
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## FSDS Target: By 2022, and following each subsequent climate risk assessment process, take action to reduce climate change risks to assets, services and operations<sup>7</sup>

FSDS Contributing Action: Increase training and support on assessing climate change impacts, undertaking climate change risk assessments and developing adaptation actions to public service employees, and facilitate sharing of best practices and lessons learned			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
By 2021, and at regular intervals thereafter, take action to improve understanding of the risks posed by the impacts of climate change to federal assets, services and	<p><b>1. Assessing and addressing climate change risks:</b></p> <p><b>1 a) Starting point:</b></p> <p>Transport Canada's first climate change adaptation plan sunset in March 2016. In early 2020, Transport Canada</p>		Transport Canada's Adaptation Plan was approved in 2021 and establishes a range of actions that respond to risks identified through a departmental climate risk

<sup>7</sup> 2021 to 2022 DSDS Update: Adjusted to reflect the updated Greening Government Strategy released in November 2020

<p>operations across the country<sup>8</sup></p> <p>Building on the completion of a departmental climate risk assessment in 2019 to 2020, Transport Canada will also undertake the following series of actions which are organized by three results chains:</p> <p><b>1. Assessing and addressing climate change risks</b></p> <p>a) Establish measures to reduce climate risks to Transport Canada and increase departmental resilience, through the development of the second departmental climate change adaptation plan</p> <p>b) Implement the <b>Transportation Assets Risk Assessment initiative</b> to:</p> <ul style="list-style-type: none"> <li>Support risk assessments of federally-owned and/or managed transportation</li> </ul>	<p>completed a climate risk assessment, by identifying and evaluating climate risks and opportunities in areas such as Transport Canada's: assets and operations, regulatory role, policies and programs. This work will help inform the development of the department's second climate change adaptation plan (between 2020 to 2021 and 2024 to 2025)</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Finalize the development of Transport Canada's second climate change adaptation plan</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>Transport Canada senior management approval of the second departmental climate change adaptation plan by March 31, 2021</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Status of the climate change adaptation plan's implementation presented to senior management annually</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>First year progress report to senior management no later than September 30, 2021</li> </ul>	<p><b>1. a) Target 1:</b></p> <p>Transport Canada's second Climate Change Adaptation Plan (2021 to 2022 and 2025 to 2026) was approved in June 2021, including existing actions underway, and new actions that will be implemented over a five-year period.</p> <p><b>1. a) Target 2:</b></p> <p>As a first progress report is planned for Fall 2022 instead to better align with DSDS reporting timelines, this will be reported in the next DSDS progress report.</p>	<p>assessment. The adaptation plan actions are focused on strengthening Transport Canada's internal knowledge and capacity; embedding climate change considerations into our corporate culture, management and decision processes; understanding and considering climate change impacts to the broader transportation system and implications for Transport Canada's mandate and priorities; and, demonstrating continued leadership in transportation adaptation</p> <p>For example, Adaptation Plan action 2.9, which seeks to continue to apply a climate lens to proposals under the National Trade Corridors Fund, helps to ensure that infrastructure proposals seeking federal funding support take into consideration current impacts and future climate risks. Action item 1.7, which looks to monitor permafrost under the runway at Kuujuaq Airport in Quebec, will generate information that can inform maintenance and operations,</p>
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<sup>8</sup> 2021 to 2022 DSDS Update: Adjusted to reflect the updated Greening Government Strategy released in November 2020



<p>infrastructure</p> <ul style="list-style-type: none"> <li>Support research and analysis on risk assessments and climate change adaptation solutions that are of benefit to federal infrastructure</li> <li>Share information and analysis with the broader transportation sector to aid in spurring action and increasing the understanding of risks and potential solutions that can be employed</li> </ul>	<p><b>1 b) Starting point:</b></p> <p>Budget 2017 announced investments of up to \$16.35 million over five years, beginning in 2017 to 2018, to better understand climate risks to federal transportation assets</p> <p>The Transportation Assets Risk Assessment initiative also undertakes dissemination of lessons learned from the support of climate risk assessment projects</p> <p>Climate risk assessments of transportation assets are intended to lead to the incorporation of climate considerations into asset management plans and other decision documents</p> <p>As at October 202, 42 projects have been approved for funding under the TARA initiative. These projects have supported full or partial climate risk assessments of 44 federal transportation assets across Canada</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Percentage of asset management plans and other decision documents that integrate climate considerations (as a result of Transportation Assets Risk</li> </ul>		<p>and that can also be taken into consideration in any future airport rehabilitation or improvement projects. Other Adaptation Plan commitments are aimed at internal awareness and mainstreaming</p> <p>Together, these actions will help Transport Canada address climate change risks to its assets, services and operations</p> <p><a href="#">SDG 9.1</a>  <a href="#">SDG 13.1</a>  <a href="#">SDG 13.2</a>  <a href="#">SDG 13.3</a></p>
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<p><b>2. Building knowledge and capacity</b>  a) Facilitate departmental adaptive capacity building activities that help strengthen</p>	<p>Assessment initiative climate risk assessment projects supported with operating funding)</p> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>By the end of the 2020 to 2021 fiscal year, establish a baseline percentage of the documents integrating climate considerations in order to establish a target</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Number of dissemination activities (for example, conferences, presentations, webinars) undertaken to share lessons learned and best practices in assessing climate risk gained from the delivery of the Transportation Assets Risk Assessment initiative</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>At least ten dissemination activities undertaken per year over two years, until March 31, 2022</li> </ul> <p><b>2. Building knowledge and capacity:</b></p> <p><b>2 a) Starting point:</b></p> <p>Between 2015 and 2019, Transport Canada has hosted 13 transportation adaptation webinars, which have attracted over 1000 participants from all levels of government (including</p>	<p><b>1. b) Target 1:</b></p> <p>As of March 31, 2022, 50 projects have been approved for funding under the five-year TARA initiative. These projects have supported full or partial climate risk assessments of 64 federal transportation assets across Canada.</p> <p>The baseline has been established as 0% of the documents identified by the project proponent that incorporate climate change resilience. Accordingly, the target is that 100% of those decision-making documents identified by project proponents would be modified to integrate climate considerations, within two years of project completion.</p> <p><b>1. b) Target 2:</b></p> <p>Seven dissemination activities were held in 2021 to 2022, a smaller number than anticipated due to limited capacity and adjusted priorities.</p>	
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<p>Transport Canada's climate change adaptation knowledge and capacity</p>	<p>Transport Canada), industry, academia and non-governmental organizations. Many of Transport Canada's climate change knowledge and capacity activities, such as the webinar series, extend to external transportation stakeholders, thus fostering both internal and external capacity</p> <p>In early 2020, Transport Canada conducted an assessment of its departmental adaptive capacity with the use of the <a href="#">Climate Capacity Diagnosis Development</a> tool. This is the first time this tool has been used by a federal department to assess their current and desired level of adaptive capacity</p> <p>The assessment identified actions for the Department to pursue to increase its adaptive capacity, by transitioning to a higher response level</p> <p>The assessment showed that Transport Canada's current adaptive capacity is between Climate Capacity Diagnosis and Development Response Levels 2: Stakeholder Responsive and 3: Efficient Management and the department should strive towards Response Level 5: Strategic Resilience over the long-term</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"><li>• Number of Transport Canada employees who attended transportation adaptation webinars</li></ul>		
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	<p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>• Increase in the number of Transport Canada attendees, per year</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>• Percentage of Transport Canada employees whose knowledge increased as a result of the information they acquired by attending a transportation adaptation webinar</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>• 75% of webinar survey respondents, per webinar, indicated a moderate or significant increase in their adaptation knowledge</li> </ul> <p><b>Performance Indicator 3:</b></p> <ul style="list-style-type: none"> <li>• Complete transition from Climate Capacity Diagnosis and Development Response Level 2: Stakeholder Responsive to Response Level 3: Efficient Management</li> </ul> <p><b>Target 3:</b></p> <ul style="list-style-type: none"> <li>• By March 31, 2023, complete the implementation of all activities that will allow for the transition to Response Level 3</li> </ul>	<p><b>2. a) Target 1 and 2:</b> A planned adaptation webinar for 2021-2022 was delayed to the 2022-2023 fiscal year. As such, no results are available for this report. A series of webinars are being planned for 2022 to 2023 to continue building both internal and external knowledge and capacity on climate change adaptation in the transportation sector.</p> <p><b>2. a) Target 3:</b> Transport Canada continued to review the findings of their Climate Capacity Diagnosis and Development assessment to identify, prioritize, and implement Response Level 3 activities.</p>	
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<p><b>3. Mainstreaming climate change considerations</b></p> <p>a) Account for current and future potential climate risks within departmental business continuity and risk planning in order to adjust Transport Canada's risk response and processes, thus strengthening departmental resilience</p> <p>b) Inform Transport Canada's investment planning process through the incorporation of climate change impacts and adaptation within capital and operating approval documents</p> <p>c) Integrate climate change impacts and adaptation into departmental program design and delivery criteria</p>	<p><b>3. Mainstreaming climate change considerations:</b></p> <p><b>3 a) Starting point:</b></p> <p>Since 2012, climate risk and transportation adaptation input has been incorporated into Transport Canada's corporate risk profile, Departmental Plans and Departmental Results Reports. Transport Canada has recently moved to an integrated risk approach which includes consideration of public, corporate and climate risks. Additionally, Transport Canada's Business Continuity Plan accounts for natural disasters and extreme weather</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Climate change considerations continue to inform Transport Canada's integrated risk planning process</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>Climate change considerations continue to inform Transport Canada's integrated risk planning process, on an annual basis</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Percentage of recommended adjustments made to Transport Canada's Business Continuity Plan from a tabletop exercise focused on extreme weather events</li> </ul>	<p><b>3. a) Target 1:</b></p> <p>As part of Transport Canada's integrated risk planning approach, risk profiles are updated annually and include consideration of climate risks as well as mitigation measures to strengthen the department's climate resilience.</p>	
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	<p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>100% of recommended strategic planning or operational adjustments are incorporated within the Business Continuity Plan, or approval of existing measures, that will strengthen Transport Canada's response to an extreme weather event, by March 31, 2023</li> </ul> <p><b>3 b) Starting point:</b></p> <p>Capital projects at Transport Canada assets (airports and ports) are prioritized on an annual basis according to available funding (urgent health and safety projects are considered to be the highest priorities)</p> <p>The Business Case and Project Charter provide key parameters for projects submitted for approval and must ascertain the need and justify the course of action chosen for the project. Currently, these documents do not include explicit climate change requirements</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Extent to which Transport Canada's five-year investment plan references climate change adaptation</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>100% of recommended climate change adaptation input into the</li> </ul>	<p><b>3. a) Target 2:</b></p> <p>No progress to report on at this time. Work is scheduled to begin in 2022 to 2023.</p> <p><b>3. b) Target 1:</b></p> <p>100% of recommended climate change adaptation input was included in the investment plan</p>	
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	<p>investment plan included by March 31, 2021</p> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Requirements to consider climate change risks and options for adaptation, including risk acceptance, be developed within Transport Canada's Business Case/Project Charter documents</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>Application of the revised Business Case/Project Charter template by March 31, 2023</li> </ul> <p><b>3 c) Starting point:</b></p> <p>At Transport Canada, the integration of sustainable development into policies, plans and programs is supported by the use of a Sustainable Transportation Assessment Tool, which, since 2013, has been the basis of the department's Strategic Environmental Assessment Process. This tool requires all potential policies, plans or programs to consider possible effects on the economy, on society and on the environment. It also includes specific questions to assess possible impacts on Federal Sustainable Development Strategy goals and targets</p> <p>Additionally, Transport Canada has applied a climate change resilience lens to project proposals submitted under its <a href="#">National Trade Corridors Fund</a> which</p>	<p><b>3. b) Target 2:</b></p> <p>No progress to report on at this time. Application of the Business Case/Project Charter template is scheduled to begin in 2022 to 2023.</p>	
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	<p>examines how projects will address and account for vulnerabilities to climate risk</p> <p><b>Performance indicator 1:</b></p> <p>Updated climate change adaptation component of Transport Canada's Sustainable Transportation Assessment Tool (STAT)</p> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>• STAT adaptation component updated by March 31, 2023<sup>9</sup></li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>• Established list of existing Transport Canada programs to review to identify opportunities to incorporate change climate risks and adaptation in their design and/or delivery</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>• By March 31, 2022, establish a list of existing programs for review</li> </ul> <p><b>Performance indicator 3:</b></p> <ul style="list-style-type: none"> <li>• Percentage of existing programs reviewed</li> </ul>	<p><b>3. c) Target 1:</b></p> <p>The climate change adaptation component of Transport Canada's Sustainable Transportation Assessment Tool (STAT) will be done as part of the STAT update, to be completed by 2023</p> <p><b>3. c) Target 2:</b></p> <p>As of March 31, 2022, a list of 20 Transport Canada programs most appropriate for consideration of climate risk and adaptation measures has been established for review.</p> <p><b>3. c) Target 3:</b></p>	
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<sup>9</sup> 2021 to 2022 DSDS Update: Revised to amend error in the 2020 to 2023 DSDS regarding the timeline for Transport Canada's update of the STAT tool



	<p><b>Target 3:</b></p> <ul style="list-style-type: none"> <li>100% of existing programs reviewed by March 31, 2023</li> </ul>	No progress to report on at this time. Work is scheduled to begin in 2022 to 2023.	
<p><b>FSDS Contributing Action: By 2021, adopt climate-resilient building codes being developed by National Research Council Canada <sup>10</sup></b></p>			
<p><b>Corresponding departmental actions</b></p>	<p><b>Starting points Performance indicators Targets</b></p>	<p><b>Results achieved and responsible OPIs</b></p>	<p><b>Contribution by each departmental result to the FSDS goal and target</b></p>
<p>All major real property projects will integrate climate change adaptation into the design, construction and operation aspects</p> <p>In order to achieve the above objective, over the course of this Departmental Suitable Development Strategy period, Transport Canada will undertake the following progressive actions:</p> <p>Establish mechanisms that facilitate the consideration of climate risks within the design, construction and operations / maintenance aspects of Transport Canada's assets and real property projects</p>	<p><b>Starting Point:</b></p> <p>Project experiences to-date under the Transportation Assets Risk Assessment initiative (since 2017) have highlighted key challenges for asset owners and operators in translating information gained through a climate risk assessment into adaptation action. Additionally, while the Transportation Assets Risk Assessment initiative has funded risk assessments of 20 Transport Canada transportation assets to date since the launch of the strategy the department would benefit from a more strategic and rigorous approach to risk assessment across its broader asset portfolio</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Development of a tool that allows Transport Canada to prioritize the most vulnerable assets within its</li> </ul>		<p>The application of a tool to prioritize assets and the development of a guidance document to help integrate climate considerations into asset management will help Transport Canada maintain climate resilient infrastructure, strengthen adaptive capacity, and mainstream climate change measures into policies and planning.</p> <p><a href="#">SDG 9.1</a></p> <p><a href="#">SDG 13.1</a></p> <p><a href="#">SDG 13.2</a></p>

<sup>10</sup> 2021 to 2022 DSDS Update: Adjusted to reflect the updated Greening Government Strategy released in November 2020

	<p>portfolio for a more comprehensive assessment of climate risks</p> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>Application of the tool beginning in 2022 to 2023</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Creation of guidance on how to consider climate risks in the design, construction and operations / maintenance aspects of Transport Canada's assets and real property projects</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>Guidance document developed by March 31, 2023</li> </ul>	<p><b>Target 1:</b></p> <p>A prioritization framework has been developed to help Transport Canada consider how it may prioritize assets for climate assessments. To be reported in a next progress report.</p> <p><b>Target 2:</b></p> <p>To be reported in a next progress report.</p>	
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## FSDS Target: Use 100% clean electricity by 2025

<b>FSDS Contributing Action: Other</b> <b>(Other actions that support the Greening Government Goal and Target but not a FSDS Contributing Action)</b>			
<b>Corresponding departmental actions</b> <b>(Do not edit)</b>	<b>Starting points</b> <b>Performance indicators</b> <b>Targets</b> <b>(Do not edit)</b>	<b>Results achieved and responsible OPIs</b>	<b>Contribution by each departmental result to the FSDS goal and target</b>
Use 100% of clean electricity at Transport Canada's facilities by 2025 and, when not feasible,	<b>Starting point:</b>		As the provincial grids become cleaner, so do Transport Canada's facilities

<p>purchase renewable electricity certificates equivalent to that produced by the high-carbon portion of the electricity grid in provinces where the department owns facilities</p>	<p>In 2005 to 2006, 92% of electricity purchased was clean electricity</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>• Percentage of clean electricity used at Transport Canada facilities as calculated by: <ul style="list-style-type: none"> <li>○ electricity consumption in the year = [X] kWh</li> <li>○ electricity consumption from non-emitting sources (including renewable energy certificates) in the year = [Y] kWh</li> <li>○ percentage (%) of clean electricity = [Y/X] %</li> </ul> </li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• Use 100% clean electricity, including Renewable Energy Certificates, by 2025</li> </ul>	<p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• Electricity used by Transport Canada facilities is dependent on provincial grids and are not impacted by the actions or investments Transport Canada makes. As we are no longer buying renewable electricity certificates (PSPC is doing this on behalf of the government) there is nothing to report this year</li> </ul>	<p>SDG 9.1 SDG 13.1</p>
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## FSDS Target: Actions supporting the Goal: Greening Government (Other actions that support the Goal and a FSDS Contributing Action but do not directly support a FSDS target)

FSDS Contributing Action: Minimize embodied carbon and the use of harmful materials in construction and renovation			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Specify low embodied carbon structural materials in new constructions, major renovations and construction contracts	<p><b>Starting point:</b> As of 2019 to 2020, Transport Canada does not specify that low embodied carbon materials must be used in its construction projects</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Percentage of major construction projects in which embodied carbon in building materials was minimized</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>By 2025, all Transport Canada construction contracts will include specifications for low embodied carbon materials in construction</li> </ul>	<p><b>Target:</b></p> <ul style="list-style-type: none"> <li>TC staff is engaging with TBS and PSPC to provide guidance and standards to all departments</li> <li>TBS guidance and standard for pre-mix concrete is expected by end of FY 2022-23 and TC will implement once guidance is available. TC will implement other low carbon structural materials, such as steel and wood, as standards and guidance become available.</li> </ul>	<p>N/A</p> <p>SDG 7 SDG 9 SDG 13</p>

**FSDS Contributing Action: Departments will use environmental criteria to reduce the environmental impact and ensure best value in government procurement decisions**

Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Include criteria that address broader environmental benefits when procuring or disposing of goods and services that have a high environmental impact, by following these best practices:</p> <ol style="list-style-type: none"> <li>1. Implementing a new procurement vehicle for printing services with Shared Services Canada (DISO)<sup>[1]</sup> will enable procurement of environmentally friendly managed printing services</li> <li>2. Providing functioning equipment that has reached end-of-life to select organizations</li> </ol>	<p><b>Starting Point 1:</b> The new standing offer for management of printing services procurement vehicle is not implemented</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>• Implementation of the new procurement vehicle for electronic devices is completed</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>• New procurement vehicle implemented nationally by March 31, 2023</li> </ul> <p><b>Starting Point 2:</b> 100% of end-of-life electronic hardware is disposed of in a safe and environmentally-sound manner:  85% is sent to Computers for Schools +</p>	<p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>• Previously requested the change of implementation date to March 31, 2025</li> <li>• SSC awarded the DISO contract to Konica in July 2021</li> </ul> <p>TC is on track for Target #1 (implementation of procurement vehicle and deployment of devices) by March 31, 2025</p>	<p>Target 1</p> <ul style="list-style-type: none"> <li>• Procurement vehicle has been implemented allowing procurement and deployment of environmentally friendly printing services</li> </ul> <p>Target 2</p> <ul style="list-style-type: none"> <li>• With 100% of TC electronic hardware disposed of in a safe and environmentally sound manner, this helps extend the life of electronic equipment and reduce the environmental impact of electronic waste.</li> <li>• It also ensures that materials not suitable for donation are appropriately recycled in a responsible, secure,</li> </ul>

<sup>[1]</sup> DISO: Departmental Individual Standing Offer

<p>3. Deploying an optimized printer service throughout the department</p> <p>4. Migrating applications from low efficiency legacy data centres to the Cloud</p> <p>Seek opportunities to adopt new practices, including a current proposal to ensure that IT-based capital projects are assessed for positive environmental impact</p>	<p>10% is sent to the Ontario Electronic Stewardship +</p> <p>5% is sent to TC's Cyber Security group for secure destruction</p> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Percentage of end-of-life hardware disposed of in an environmentally-sound manner</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>Maintain the 100% environmentally-sound disposal rate</li> </ul>	<p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>As of March 31st, 2022, over 1200 end-of-life IT assets were disposed of including desktops, laptops, tablets, monitors, scanners and printers.</li> <li>100% of these items were disposed of in a safe and environmentally sound manner either through donation to Computers for Schools, Electronic Recycling Association, or secure destruction through TC's Cyber Security group: <ul style="list-style-type: none"> <li>41.4% was disposed of through Computers for Schools program in which the hardware will be re-purposed and provided to schools, libraries, not-for-profit organizations, Indigenous communities and eligible low-income Canadians.</li> </ul> </li> </ul>	<p>and environmentally friendly manner.</p> <p>Target 3</p> <ul style="list-style-type: none"> <li>Target 3 has already been achieved in Tower C, optimizing printer services in NCR.</li> <li>Target 3 is on track for completion nationally by March 31, 2025.</li> </ul> <p>Target 4</p> <ul style="list-style-type: none"> <li>By moving applications from a 30-year old, legacy, energy inefficient data centre to modern platforms (such as cloud or an SSC Enterprise Data Centre) TC is contributing to reducing the GC's carbon footprint for hosting applications.</li> <li>In FY 21-22, with the migration of 17 apps to the Cloud, we have contributed to reducing the carbon footprint for hosting these 17 apps.</li> </ul> <p>Target 5</p>
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	<p><b>Starting Point 3:</b>  Number of Multi-Function Devices (MFDs):  Tower C: 132  Other Sites: 388 printers/MFDs</p> <p>User/Device ratio:  Tower C: 20:1  Regional sites: 9:1</p> <p>Printing Volume:  Tower C: 10 million sheets  Regional sites: 12.6 million sheets</p> <p><b>Performance indicator 3:</b></p> <ul style="list-style-type: none"> <li>• a) Reduced number of MFDs</li> <li>• b) Increased User/Device ratio</li> <li>• c) Reduced print volume</li> </ul> <p><b>Target 3:</b></p>	<ul style="list-style-type: none"> <li>○ 40.2% was disposed of through Electronic Recycling Association in which the hardware will be recycled in an environmentally sound manner.</li> <li>○ 18.4% was disposed of through TC's Cyber Security group in which the hardware will be destroyed in a safe, secure, and environmentally sound manner.</li> </ul> <p><b>Target 3:</b></p>	<ul style="list-style-type: none"> <li>• Enterprise Architecture has included environmental impact in its ARB EA checklist: "Sustainable Development" as of August 2020.</li> <li>• The department has not yet put in place the process and measurement tools needed to ensure that all IT-enabled capital projects are assessed for environmental impacts.</li> </ul> <p>SDG 11 SDG 12</p>
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	<p>During 2020 to 2021:</p> <ul style="list-style-type: none"> <li>• 1a) reduce Tower C MFDs by 30%</li> <li>• 1b) increase the User/Device ratio by 50% to 30:1</li> <li>• 1c) with a return to worksite of 30% Tower C occupancy: reduce print volume by 70-80%</li> </ul> <p>By March 31, 2023:</p> <ul style="list-style-type: none"> <li>• 2a) 40% reduction in MFDs</li> <li>• 2b) reaching a User/Device ratio of 15:1</li> </ul> <p><b>Starting Point 4:</b> Less than 1% of applications in the Cloud</p> <p><b>Performance indicator 4:</b></p> <ul style="list-style-type: none"> <li>• Percentage of applications migrated to the Cloud</li> </ul> <p><b>Target 4:</b> Migration of applications to the Cloud (total % by end of year)</p> <ul style="list-style-type: none"> <li>• 2020 to 2021 – 20%</li> </ul>	<ul style="list-style-type: none"> <li>• Previously requested the change of implementation date to March 31, 2025</li> <li>• SSC awarded the DISO contract to Konica in July 2021</li> <li>• New multifunction devices were initially unavailable from the vendor, however, by March 31, 2022, 43 new MFDs were installed in Tower C for a total of approx. 84 newer and older MFDs.</li> <li>• As of March 31, 2022, <ul style="list-style-type: none"> <li>○ 1a) the number of MFDs has been reduced by 36%</li> <li>○ 1b) User/Device ratio was increased to 32:1</li> <li>○ 1c) Print volumes were reduced by 90%, however, this was mainly driven by the work from home practice during the pandemic</li> </ul> </li> <li>• Other sites are also on track for Target #3 by March 31, 2025</li> </ul> <p><b>Target 4:</b> With the unresolved Cloud funding question (currently being studied by a GC CFO/CIO committee) and the delay of the planned closure</p>	
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	<ul style="list-style-type: none"> <li>• 2021 to 2022 – 60%</li> <li>• 2022 to 2023 – 100%</li> </ul> <p><b>Starting Point 5:</b> IT-enabled capital projects are currently not assessed for environmental impact</p>	<p>of MacDonald Cartier Data Centre from December 2023 to December 2025, TC is shifting its cloud strategy for the application legacy portfolio from Everything Cloud (Lift and Shift) to a Cloud Smart approach. The initial KPIs and targets are no longer relevant. Following the reassessment of TC’s application portfolio with a funding lens and new data centre closure timelines, 30 applications (in addition to the 17 already migrated) have been identified as candidates for Cloud. The remaining 300+ applications will be moved to a modern SSC Enterprise Data Centre. The new targets are as follows:</p> <p>As of 2022, 36% of Cloud-destined apps have been migrated to the Cloud</p> <p>Migration of 47 applications to the Cloud (total % by end of year)</p> <ul style="list-style-type: none"> <li>• 2022 to 2023 – 46%</li> <li>• 2023 to 2024 – 68%</li> <li>• 2024 to 2025 – 100%</li> </ul> <p>Migration of applications to the EDC (total % by end of year)</p> <ul style="list-style-type: none"> <li>• 2022 to 2023 – 0% *migration to EDC starts in 2024</li> <li>• 2023 to 2024 – 10%</li> <li>• 2024 to 2025 – 100%</li> </ul>	
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	<p><b>Performance indicator 5:</b></p> <ul style="list-style-type: none"> <li>Percentage of IT projects assessed for environmental impact</li> </ul> <p><b>Target 5:</b></p> <ul style="list-style-type: none"> <li>By March 31, 2021, the process and measurement tools will be in place to ensure that all capital projects reviewed by Transport Canada's Architecture Review Board will be assessed for environmental impact</li> </ul>	<p><b>Target 5:</b></p> <p>0% of IT projects assessed for environmental impact in 2021/22</p>	
<p><b>FSDS Contributing Action: Support for green procurement will be strengthened, including guidance, tools and training for public service employees</b></p>			
<p><b>Corresponding departmental actions (Do not edit)</b></p>	<p><b>Starting points Performance indicators Targets (Do not edit)</b></p>	<p><b>Results achieved and responsible OPIs</b></p>	<p><b>Contribution by each departmental result to the FSDS goal and target</b></p>
<p>Train procurement specialists and acquisition cardholders on green procurement using the Canada School of Public Services Green Procurement course</p> <p>Develop guidance material to support green procurement at Transport Canada</p>	<p><b>Starting Point 1:</b></p> <p>As of 2019 to 2020, 100% of Transport Canada procurement specialists and cardholders have completed training on green procurement</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Percentage of new procurement specialists and cardholders who have completed training on green procurement</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>100% of procurement specialists and cardholders have taken the course</li> </ul> <p><b>Starting Point 2:</b></p>	<p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>Procurement Officers: For 2021-22, 100% of newly hired Transport Canada Procurement Officers have taken the CSPS</li> </ul>	<ul style="list-style-type: none"> <li>Bilingual Awareness Session from TBS were attended by TC's Procurement Community</li> <li>Bulletin for Procurement Community and a Plain Language Bulletin for All Staff shared</li> <li>Tools and Resources will continue to be shared with the Procurement Community and available on myTC</li> </ul> <p>SDG 11</p>

	<ul style="list-style-type: none"> <li>No guidance available as of 2019 to 2020</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Guidance material supporting green procurement is developed</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>Guidance developed by March 31, 2022</li> </ul>	<p>Green Procurement Course (C235).</p> <ul style="list-style-type: none"> <li>Cardholders: For 2021-22, 100% of new Transport Canada acquisition cardholders have taken the CSPS Green Procurement Course (C235).</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>Guidance material supporting Green Procurement is currently being developed</li> <li>Awaiting TBS to update the available tools for procurement officers</li> </ul>	<p><a href="#">SDG 12</a></p> <p><a href="#">SDG 13</a></p>
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**FSDS Target: Actions supporting the Goal: Greening Government.  
(Other actions that support the Greening Government Goal but do not directly support a FSDS Contributing Action and do not directly support a FSDS target)**

FSDS Contributing Action: Other			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Encourage employees to adopt sustainable workplace practices and engage in greener initiatives through	<p><b>Starting Point:</b></p> <p>No green team in place</p>		Engaging employees through the Green Team encourages employees to

<p>green teams, education and awareness</p>	<p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Existence of a green team at Transport Canada and conduct of activities and events within Transport Canada promoting sustainable workplace practices</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>By March 31, 2021, a green team is in place and calendar of activities and events has been developed</li> </ul>	<p><b>Target:</b></p> <p>Green Team meetings were held in January, March, April, May July and September. Various TC employees were invited to join meetings and share their experience doing environment-related work.</p> <p>The following events during the 21/22 fiscal year:</p> <ul style="list-style-type: none"> <li>Earth Day – April 22 – article and photo showcase</li> <li>Environment Week – May 30 to June 5 – article and employee experience/stories</li> <li>Green Transportation Month – September – article and photo submissions</li> <li>Waste Reduction Week in Canada – October 18-24 – daily email</li> <li>Earth Hour – March 26 - article</li> </ul>	<p>adopt sustainable workplace practices</p> <p>SDG 11 SDG 12 SDG 13</p>
<p>Implement a digital-first culture at Transport Canada where applications facilitating telework are enhanced, mobile phones replace desktop phones, and</p>	<p><b>Starting Point:</b></p> <p>Transport Canada has already deployed a number of technologies enabling employees to work remotely nationally. We will start reporting on this metric by Quarter 4 of fiscal year 2020 to</p>		<p>Target 1a</p> <ul style="list-style-type: none"> <li>All employees have a mobile phone (where appropriate)</li> <li>Landlines in use</li> </ul>

<p>electronic signatures are enabled</p>	<p>2021 and as part of our Transformation Plan, the department continues to look for opportunities to enhance the Remote working experience for employees</p> <p>More than 90% of Transport Canada employees are equipped with digital tools to work remotely, however, the nature of the work means that not all employees can work remotely</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>• Elements of the digital-first culture are adopted</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• 1a) by March 31, 2021, Transport Canada will have replaced all landlines with mobile phones where feasible</li> <li>• 1b) by March 31, 2021, Transport Canada will have deployed technology and implemented processes enabling electronic signatures</li> </ul>	<p><b>Target 1a:</b></p> <ul style="list-style-type: none"> <li>• FTE 6,697 - TC HR April 21, 2022</li> <li>• Mobile Phones 6,583 March 2022</li> <li>• 98% Distribution</li> <li>• Landlines 3,299</li> </ul> <p><b>Target 1b:</b></p> <ul style="list-style-type: none"> <li>• An RFP for external digital signatures will be completed by October 2022</li> <li>• An interim contract with DocuSign has been extended until June 2023</li> </ul>	<p>(Operational)</p> <p>Target 1b</p> <ul style="list-style-type: none"> <li>• All employees can share, receive and digitally sign documents from external clients and stakeholders</li> </ul> <p>SDG 12</p>
<p>Transition to digital service delivery (e.g. digitizing Transport Canada Centre in-person services, mobile fingerprinting, and remote inspections)</p>	<p><b>Starting Point:</b></p> <p>Transport Canada is undertaking transformative action to build the tools and processes that enable digital services delivery</p>		<p>Target 1</p> <ul style="list-style-type: none"> <li>• Supports the reduction of paper waste (e.g., fax, mail, etc.) by using digital forms to collect mandatory information to</li> </ul>

	<p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Percent services transitioned to digital delivery</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>By March 31, 2021, Transport Canada will confirm number of in-person services slated for digitization</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Percent new services delivered digitally</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>By March 31, 2023, 100% of new services delivered by Transport Canada will be digital</li> </ul>	<p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>An additional eight services (in 2020/2021) are now partially online compared to 2019/20.</li> </ul> <p>The Cost Recovery Service Management (CRSM) initiative is funded until 2025/26 with a plan to support approximately 40% of the current services (2020/21) to leverage the online channel. This initiative has already supported Marine Insurance Unit and Marine Cargo with this effort.</p> <p><b>Target 2:</b></p> <p>The latest data, from FY 2020 to 2021, indicates that sixteen services were added to the TC service inventory. Of those sixteen services, eight were not applicable for digitization up to the application (i.e. service request). Six of these new services were digitized up to the application interaction point, and the remaining two were unable to be digitized.</p> <p>Digitized Services:</p>	<p>initiate service requests.</p> <ul style="list-style-type: none"> <li>Supports the reduction on greenhouse gas by encouraging clients to complete applications from their home rather than visiting a TC site.</li> </ul> <p>Target 2</p> <ul style="list-style-type: none"> <li>Supports the reduction of paper waste (e.g., fax, mail, etc.) by using digital forms to collect mandatory information to initiate service requests.</li> <li>Supports the reduction on greenhouse gas by encouraging clients to complete applications from their home rather than visiting a TC office.</li> </ul> <p>SDG 12</p>
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		<ul style="list-style-type: none"> <li>• Certification of Medical Fitness for Aviation</li> <li>• Registration of an RPAS</li> <li>• De-registration of an RPAS</li> <li>• Administration of an RPAS pilot certificate exam</li> <li>• Issuance of an RPAS pilot certificate</li> <li>• Administration of the Marine War Risk Act and the agreement with the Canadian Shipowners Mutual Assurance Association.</li> </ul> <p>Unable to Digitize:</p> <ul style="list-style-type: none"> <li>• Contribution Program to Support Essential Air Services for Remote Communities</li> </ul> <p>Issuance of an RPAS SFOC</p>	
<p>Undertake innovative vessel design to meet Energy Efficiency Design Index set by the International Maritime Organization (IMO) in the replacement of 2 of the 4 Transport Canada owned ferries in Atlantic and Eastern Quebec</p>	<p><b>Starting Point:</b> 35.450 ktCO<sub>2</sub>e, GHG emissions from Transport Canada's ferries in 2005 to 2006<sup>11</sup> (updated from 56 ktCO<sub>2</sub>e from 2020 to 2023 DSDS)</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>• Percentage (%) change in GHG emissions from fleets as calculated by: <ul style="list-style-type: none"> <li>○ GHG emissions from ferries in fiscal year 2005 to 2006 (base year): = 35.450 ktCO<sub>2</sub>e</li> </ul> </li> </ul>		<p>Progress continued with respect to the designs of the new ferry vessels to replace the MV Holiday Island and MV Madeleine. The new vessels are expected to use hybrid propulsion technologies and energy storage systems to significantly reduce Greenhouse Gas (GHG) emissions compared to the existing fleet.</p>

<sup>11</sup> Baseline as of 2020-2021 has been amended. Baseline data may change every year as new data from facilities becomes available.

	<ul style="list-style-type: none"> <li>○ GHG emissions from fleets in current reporting fiscal year = [Y] ktCO<sub>2</sub>e</li> <li>○ percentage (%) change in GHG emissions from ferries from fiscal year 2005 to 2006 to current reporting fiscal year = [Y/X] %</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>● GHG emissions from ferries reduced by 40% by 2025 (14.18 ktCO<sub>2</sub>e) and 90% by 2050 (31.905 ktCO<sub>2</sub>e)<sup>12</sup></li> </ul>	<p><b>Target:</b></p> <ul style="list-style-type: none"> <li>● Percentage (%) change in GHG emissions from fleets as calculated by: <ul style="list-style-type: none"> <li>○ GHG emissions from ferries in fiscal year 2005 to 2006 (base year): = 35.450 ktCO<sub>2</sub>e</li> <li>○ GHG emissions from fleets in current reporting fiscal year = 41.471 ktCO<sub>2</sub>e</li> <li>○ percentage (%) change in GHG emissions from ferries from fiscal year 2005 to 2006 to current reporting fiscal year = 117 % (or an increase by 17%)</li> </ul> </li> </ul>	<p>SDG 7 SDG 11 SDG 12 SDG 13</p>
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<sup>12</sup> Treasury Board of Canada Secretariat has amended the target as of November 2020.





## Effective Action on Climate Change: A low-carbon economy contributes to limiting global average temperature rise to well below two degrees Celsius and supports efforts to limit the increase to 1.5 degrees Celsius

### Departmental Context:

As part of broader efforts to limit global average temperature rise, Transport Canada's Departmental Sustainable Development Strategy actions contribute to the 2030 FSDS target of reducing emissions by 30% by 2005 and supports a transportation system in Canada that is increasingly resilient to the impacts of a changing climate.

For example, Transport Canada leads a suite of regulatory and voluntary measures to reduce greenhouse gas emissions from the aviation, marine, and rail sectors, and also supports emission reductions from the on-road sector. Transport Canada also represents the Government of Canada at the International Civil Aviation Organization and the International Maritime Organization to develop emission mitigation approaches for the international aviation and marine sectors. Additionally, we also test clean transportation technologies such as advanced catalytic converters for rail, and new graphene coatings to potentially reduce GHG and underwater noise emissions, among others; so that they may be introduced in a safe, effective and timely manner. Transport Canada's National Trade Corridors Fund supports trade and transportation infrastructure investments that strengthen the efficiency and reliability of Canada's supply chains, and one of the program's overall objectives is to increase the resilience of the transportation system to withstand the effects of climate change.



## FSDS Target: By 2030, reduce Canada's total GHG emissions by 30%, relative to 2005 emission levels

FSDS Contributing Action: Use legislation and regulations to limit greenhouse gas emissions			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Address, under the <b>Aviation Sector Regulatory Initiative</b>, greenhouse gas (GHG) emissions from aviation by supporting the International Civil Aviation Organization's (ICAO) development of new international standards and recommended practices and through the development and implementation of new domestic standards</p> <p>Canada will be implementing the CO<sub>2</sub> Emissions Standard for airplanes, which targets domestic and international emissions, and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which targets</p>	<p><b>Starting point:</b></p> <p>Transport Canada actively leads the Government of Canada's participation at ICAO on the development of environmental standards and on topics related to reducing the impact of aviation on the environment, including contributing to the creation of a Carbon Offsetting and Reduction Scheme for International Aviation, agreed to at ICAO in fall 2016 and its subsequent implementation</p> <p>Domestic regulatory instruments to reduce GHG emissions (CO<sub>2</sub> Emissions Standard for airplanes and CORSIA) are drafted and targeted for publication, and will align with the ICAO international standards</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>The CO<sub>2</sub> Emissions Standard for airplanes has been implemented domestically</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>CORSIA has been implemented domestically</li> </ul>		<ul style="list-style-type: none"> <li>The CO<sub>2</sub> Emissions Standard for airplanes targets domestic and international emissions, and the Carbon Offsetting and Reduction Scheme for International Aviation targets international emissions only.</li> <li>Compliance with ICAO standards for GHG emissions will lead to reduced CO<sub>2</sub> emissions attributed to Canadian operators.</li> </ul> <p>SDG 13.2</p>

international emissions only	<p><b>Targets 1 and 2:</b></p> <ul style="list-style-type: none"> <li>Both the CO<sub>2</sub> Emissions Standard for airplanes and CORSIA have been implemented domestically by March 2021</li> </ul> <p><b>Performance indicator 3:</b></p> <ul style="list-style-type: none"> <li>Percent of regulatees (manufacturers) who comply with the CO<sub>2</sub> Emissions Standard for airplanes</li> </ul> <p><b>Target 3:</b></p> <ul style="list-style-type: none"> <li>Once in force, 100% compliance by airplane manufacturers to the CO<sub>2</sub> Emissions Standard</li> </ul> <p><b>Performance indicator 4:</b></p> <ul style="list-style-type: none"> <li>Percent of regulatees (airline operators) who comply with CORSIA</li> </ul> <p><b>Target 4:</b></p> <ul style="list-style-type: none"> <li>Once in force, 100% compliance to CORSIA by Canadian airline operators</li> </ul>	<p><b>Target 1 and 2:</b></p> <p>The CO<sub>2</sub> standard and CORSIA are both fully implemented in the Canadian Aviation Regulations</p> <p><b>Target 3:</b></p> <p>Compliance not applicable until 2023</p> <p><b>Target 4:</b></p> <p>100% of Canadian airline operators are in compliance with CORSIA</p>	
<b>FSDS Contributing Action: Work with partners on climate change</b>			
<b>Corresponding departmental actions (Do not edit)</b>	<b>Starting points Performance indicators Targets (Do not edit)</b>	<b>Results achieved and responsible OPIs</b>	<b>Contribution by each departmental result to the FSDS goal and target</b>
Address GHG emissions from aviation through <b>Canada's Action Plan.</b>	<b>Starting Point:</b>		Canada's Action Plan is a voluntary agreement between Canada and the

<p>This voluntary plan identifies key on-going and planned initiatives to reduce GHGs and includes a fuel efficiency target. The Action Plan is expected to be extended by 2021, followed by more comprehensive renewal the following year<sup>13</sup></p>	<p>The Action Plan was signed in 2012 and expires in 2020, and includes annual reporting of progress against a fuel efficiency target</p> <p>The latest annual report (2018) under the Action Plan shows that Canadian air carriers improved their annual average fuel efficiency by 2% between 2008 and 2018</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Annual average fuel efficiency improvements between 2008 and 2020</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>The Action Plan set a target to improve annual average fuel efficiency by 1.5% between 2008 to 2020</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Extension/renewal of the Action Plan<sup>14</sup></li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>Extension of the Action Plan for 2021 and comprehensive renewal the following year</li> </ul>	<p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>The latest annual report (2019) under the Action Plan shows that Canadian air carriers were on pace to exceed the target with a 1.77% of fuel efficiency improvement.</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>Parties to the Action Plan have agreed to extend the plan until 2022 to provide time for a comprehensive renewal.</li> <li>TC is currently in advanced discussions with other government departments and industry representatives to approve a new Action Plan to support the decarbonization of the aviation sector beyond 2022.</li> </ul>	<p>aviation industry to work on a series of measures to reduce emissions, such as fleet renewal and upgrades; improving aircraft and airport ground operations; enhancing air traffic management; and supporting new, more efficient and less emitting technologies.</p> <p>SDG 7.2 SDG 8.4 SDG 9.4 SDG 13.2</p>
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<sup>13</sup> 2021 to 2022 DSDS Update: Adjusted to reflect extension of Action Plan ahead of renewal the following year

<sup>14</sup> 2021 to 2022 DSDS Update: Performance indicator and target revised to reflect extension of Action Plan ahead of renewal the following year

**FSDS Contributing Action: Use legislation and regulations to limit greenhouse gas emissions**

Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Address, under the <b>Marine Sector Regulatory Initiative</b>, greenhouse gas (GHG) and other air emissions from maritime shipping by working with the International Maritime Organization (IMO) in the development of new international standards and recommended practices for marine vessels, as well as through the implementation of new Canadian regulations</p> <p>*this departmental action also contributes to the reduction of air pollutant emissions, which supports the Federal Sustainable Development Strategy's (FSDS) 'Safe and Healthy Communities' goal</p>	<p><b>Starting Point:</b></p> <p>During 2019 to 2020:</p> <p>Progress was made on negotiations related to the Initial IMO GHG Strategy. A resolution inviting Member States to encourage voluntary cooperation between the port and shipping sectors to contribute to reducing GHG emissions from ships, that Canada played an instrumental role in developing</p> <p>85% of the regulatory instruments were aligned with domestic legislation or international standards</p> <p>All vessels were 94% in compliance with vessel emissions regulations (based on minor deficiencies observed)</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Percentage of instruments that are aligned with domestic legislation or international standards</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>100% of instruments are aligned with domestic legislation or international standards</li> </ul>	<p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>No change from last year: Domestic alignment related to all other air emissions regulatory instruments remains at 85%.</li> <li>The process to update domestic regulations has begun and consultation including the Canada Gazette process is set to start in 2023.</li> </ul>	<p>Under the IMO GHG strategy, the IMO develops measures to reduce the carbon intensity of the sector, directly contributing to improving climate change and air emissions.</p> <p><a href="#">SDG 3.9</a></p> <p><a href="#">SDG 7.2</a></p> <p><a href="#">SDG 7.3</a></p> <p><a href="#">SDG 7a</a></p> <p><a href="#">SDG 9.5</a></p> <p><a href="#">SDG 17.16</a></p>

	<p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Percentage of regulatees who comply with the regulations</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>100% compliance with regulations</li> </ul>	<p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>Compliance rate for 2020-2021 and 2021-2022 are not available since fuel testing of vessels was not carried out due to Covid 19 restrictions.</li> <li>Vessel compliance for 2019 to 2020 was 94%. Fuel testing results are used since they cover a broad spectrum of both the domestic and international fleet</li> </ul>	
<b>FSDS Contributing Action: Use legislation and regulations to limit greenhouse gas emissions</b>			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Support, under the <b>Support for Vehicle GHG Emissions Regulations</b>, Environment and Climate Change Canada's development and implementation of greenhouse gas (GHG) emission regulations for light-duty vehicles and heavy-duty vehicles under the <a href="#">Canadian Environmental Protection Act, 1999</a></p>	<p><b>Starting Point:</b></p> <p>From 2005 to 2017 (latest year for which data is available):</p> <ul style="list-style-type: none"> <li>GHG emission intensity decreased by 10% for passenger transportation, not including off-road equipment</li> <li>GHG emission intensity decreased by 19% for freight transportation, comprised mainly of road, rail and marine transport</li> </ul> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Change in transportation emissions intensity as measured in grams per unit of activity (e.g.: tonnes-km, passenger-km)</li> </ul> <p><b>Target:</b></p>	<p><b>Target:</b></p> <p>The overall emissions performance of the</p>	<p>GHG emissions performance improvements of on-road vehicles helps to offset the increase in emissions from a growing population of on-road vehicles</p> <p><a href="#">SDG 13.2</a></p>

	<ul style="list-style-type: none"> <li>Continuous improvement in emissions intensity by March 31, 2023</li> </ul> <p>Note: it will only be possible to set an absolute value if the transportation sector's share of the Government of Canada's reduction targets are established and published</p>	<p>passenger on-road fleet has continued to improve, albeit slightly, while for road freight transport, GHG emissions intensity increased from 2017 to 2019, which may be due to increasing use of relatively less efficient last mile delivery vehicles.</p> <p>From 2005-2019 (latest year for which data is available):</p> <ul style="list-style-type: none"> <li>GHG emission intensity decreased by 11% for on-road passenger transportation, not including off-road equipment</li> <li>GHG emission intensity decreased by 4% for on-road freight transportation</li> </ul>	
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**FSDS Contributing Action: Use legislation and regulations to limit greenhouse gas emissions**

Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Conduct research to generate technical evidence required to support legislative and regulatory approaches to reducing greenhouse gas (GHG) and air pollutant emissions, and to promote the adoption of clean technologies across several modes of transportation, including:</p> <ul style="list-style-type: none"> <li>eTV: Supporting projects under the</li> </ul>	<p><b>Starting Point:</b></p> <p>In 2019 to 2020, Transport Canada's Innovation Centre supported over 100 projects across all modes to advance research, development and testing of clean technology solutions for Canada's transportation system</p> <p>Multiple road research projects were conducted in 2019 to 2020, including: testing the aerodynamic benefits and dynamic performance of cooperative truck platooning systems; occupant protection performance testing in electric and conventional vehicles, the studying the safety and environmental benefits of low rolling resistance tires, on-board sensor testing for measuring heavy duty vehicle</p>		<p>Results from the testing and evaluation of advanced technologies through the eTV Program have informed the development of environmental and safety regulations, codes, and standards. The program also continues to test the performance of emerging vehicle technologies such as electric vehicles, connected and automated vehicles, and automated driving systems. This helps</p>

<p><b>ecoTECHNOLOGY for Vehicles Program</b> to address GHG emissions from the road sector through its testing of advanced technologies and innovative practices to inform the development of regulations, as well as industry codes and standards to ensure that new technologies are introduced in Canada in a safe, secure and timely manner</p> <p>*these departmental actions also contribute to the reduction of air pollutants, which supports the FSDS “Effective Action on Climate Change” and “Safe and Healthy Communities” goals</p>	<p>NOx emissions and evaluating the long term performance of electric vehicle batteries</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Percentage of the total research budget for testing and evaluation projects committed or spent</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>90% of total research budget committed or spent</li> </ul>	<p><b>Target:</b></p> <ul style="list-style-type: none"> <li>eTV Program – 100% of total research budget under the ecotechnology for Vehicles (eTV) Program was committed or spent</li> </ul> <p>In fiscal year 2021 to 2022, 19 road research projects were conducted on subjects such as advanced driver assistance systems, cooperative truck platooning systems, the safety and durability of electric vehicle batteries, electrification of transit systems, tire safety and environmental testing, and connected and automated vehicle emissions simulation and modeling.</p>	<p>to ensure innovative technologies can be introduced in Canada in a safe, secure and timely manner.</p> <p><a href="#">SDG 13.2</a> <a href="#">SDG 14.2</a></p>
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**FSDS Contributing Action: Work with partners on climate change**

Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Address greenhouse gas (GHG) emissions under the <b>Heavy-Duty Vehicle Retrofit Requirements Program</b> by working with other federal departments, provinces, territories and industry to explore the challenges and barriers to adopting fuel-saving retrofits on heavy-duty trucks, informing the development of future strategies to reduce GHGs from this sector</p> <p>*this departmental action also contributes to the reduction of air pollutant emissions, which supports the FSDS ‘Safe and Healthy Communities’ goal</p>	<p><b>Starting Point:</b></p> <p>A commitment was made in the <a href="#">Pan-Canadian Framework on Clean Growth and Climate Change</a> to develop requirements to retrofit in-use heavy-duty vehicles with fuel saving devices</p> <p>A federal-provincial-territorial (FPT) working group was created explore opportunities to support the adoption of fuel saving devices in the sector</p> <p>The first phase of work will explore the opportunities and challenges around adoption of fuel saving technology. It is expected to be completed in 2020 and will inform future work by the Task Force<sup>15</sup></p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>FPTs collaborate to document the challenges and opportunities around adoption of after-market fuel saving technology<sup>16</sup></li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>Phase 1 Report will be complete in fall 2020</li> </ul>	<p><b>Target:</b></p> <ul style="list-style-type: none"> <li>The Phase 1 Report was completed in June 2021.</li> <li>The FPT Task Force is developing the Phase II Report, which is set to conclude in Fall 2022. This report will provide an overview of programs and policy options</li> </ul>	<p>HDVs are the second largest contributor of GHG emissions in the transportation sector and these emissions are projected to continue to increase. Improving efficiencies in this sector is critical in achieving GHG reductions goals to mitigate climate change.</p> <p><a href="#">SDG 13.2</a></p>

<sup>15</sup> 2021 to 2022 DSDS Update: Additional information included on Phase 1 of the Task Force work

<sup>16</sup> 2021 to 2022 DSDS Update: Indicator revised to reflect Phase 1 work

		that encourage the adoption of heavy-duty vehicle retrofits for jurisdictions to consider.	
<b>FSDS Contributing Action: Work with partners on climate change</b>			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Address <b>greenhouse gas (GHG) emissions from the rail sector</b> by enhancing collaboration with the <a href="#">Railway Association of Canada (RAC)</a>	<p><b>Starting Point:</b> A Memorandum of Understanding with the rail industry was renewed to cover 2018 to 2022</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Annual average fuel efficiency improvements between 2018 and 2022</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>By 2022, reduce emissions intensity for Class 1 freight by 6%, intercity passenger by 6% and regional and short line railways by 3% - from a 2017 baseline</li> </ul>	<p><b>Target:</b></p> <p>The latest annual report (2019) shows that GHG emissions intensity decreased by 0.52% for Class 1 freight and decreased by 9.18% for intercity passenger from the 2017 baseline. Regional and short lines emissions intensity increased by 4.86% from 2017.</p>	<p>The MOU encourages the RAC members, including freight, intercity passenger, short line and commuter railways, to continue to voluntarily reduce locomotive emissions intensity in Canada through measures, targets, and actions that reduce the intensity of GHG emissions from rail operations.</p> <p><a href="#">SDG 7a</a> <a href="#">SDG 9.4</a> <a href="#">SDG 13.2</a> <a href="#">SDG 17.17</a></p>



## FSDS Target: Zero-emission vehicles (ZEVs) will represent 10% of new light-duty vehicle sales by 2025, 30% by 2030 and 100% by 2040

FSDS Contributing Action: Work with partners on climate change			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPs	Contribution by each departmental result to the FSDS goal and target
<p>Collaborate with provincial and territorial governments through the Federal-Provincial-Territorial Zero-Emission Vehicle Working Group (FPT ZEV Working Group) to advance the uptake of zero-emission vehicles in Canada</p> <p>Environment and Climate Change Canada, Innovation, Science and Economic Development Canada and Natural Resources Canada are also members of this working group</p>	<p><b>Starting Point:</b></p> <p>The FPT ZEV Working Group was established Under the Pan-Canadian Framework on Clean Growth and Climate Change, As of September 2019, the group's objectives are to exchange information related to the development and implementation of ZEV measures which increase their uptake, with a view towards ensuring alignment and complementarity of policies and programs across the jurisdictions, where appropriate</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Percentage of new light-duty vehicle sales that are ZEVs</li> </ul> <p><b>Target:</b></p> <p>The Government does not have specific ZEV sales targets for the in-between years, however, notional benchmarks have been developed to ensure Canada is on a path towards meeting its 2025 target. For 2020-23 the annual benchmarks are as follows:</p>	<p><b>Target:</b></p> <p>The Federal-Provincial-Territorial (FPT) ZEV Working Group met on a quarterly basis to provide updates on jurisdictional ZEV activities and share best practices to increase ZEV uptake in Canada. The Working Group also set a renewed Terms of Reference to realign its</p>	<p>Ongoing engagement with the FPT ZEV Working Group and IZEVA supports the development of federal policy advice on increasing ZEV uptake in Canada.</p> <p><a href="#">SDG 11.2</a></p> <p><a href="#">SDG 11.6</a></p> <p><a href="#">SDG 13.2</a></p>

	<ul style="list-style-type: none"> <li>• 3.9% of new LDV sales to be ZEVs by December 31, 2020;</li> <li>• 4.5% of new LDV sales to be ZEVs by December 31, 2021; and</li> <li>• 5.4% of new LDV sales to be ZEVs by December 31, 2022</li> </ul>	<p>processes and objectives. Lastly, members worked towards the creation of a Bi-Annual report, which will compile regional and departmental data to create a snapshot of ZEV uptake efforts in Canada (ongoing).</p> <p>Canada continued to be a member of the International Zero-Emission Vehicle Alliance (IZEVA), participating in monthly meetings which have covered discussions on the just transition to ZEVs, ZEV charging, and battery recycling.</p>	
<b>FSDS Contributing Action: Support businesses and Canadians in taking action to reduce greenhouse gas emissions</b>			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Support increased adoption of zero-emission vehicles (ZEVs) by Canadians and Canadian businesses through Transport Canada's <a href="#">Incentive for Zero-Emission Vehicles</a> program (iZEV)	<p><b>Starting Point:</b></p> <p>In January 2019, the government announced ZEV sales targets as follows: 10% of new light-duty vehicle (LDV) sales are to be ZEVs by 2025, 30% by 2030 and 100% by 2040<sup>17</sup></p> <p>To help advance towards these targets, Budget 2019 allocated \$300 million over three years<sup>18</sup>, starting 2019 to 2020, for the iZEV program.</p>		<ul style="list-style-type: none"> <li>• Canada's 2021 ZEV market share (5.6%) puts Canada on track to meet its 2025 ZEV sales targets set out in the 2019-2022 FSDS.</li> <li>• Making progress towards Canada's ZEV</li> </ul>

<sup>17</sup> In June 2021, Cabinet Canada announced an accelerated 100% ZEV sales target from 2040 to 2035. Through the 2030 Emissions Reduction Plan announced in March 2022, Canada has committed to implementing a regulated ZEV sales mandate in the LDV sector that at least 20% of new vehicle sales must be ZEVs by 2026 and at least 60% by 2030 with the requirement that all new LDV sales be ZEVs by 2035.

<sup>18</sup> Of this amount, \$292.7 million is available for incentive rebates, with the remainder allocated to program operating costs.

	<p>For iZEV: 63.5% of the incentive rebate fund used as of March 31, 2020</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Percentage of new LDV sales that are ZEVs</li> </ul> <p><b>Target 1:</b></p> <p>The Government does not have specific ZEV sales targets for the in-between years, however, notional benchmarks have been developed to ensure Canada is on a path towards meeting its 2025 target. For 2020 to 2022 the annual benchmarks are as follows<sup>19</sup>:</p> <ul style="list-style-type: none"> <li>3.9% of new LDV sales to be ZEVs by December 31, 2020</li> <li>4.5% of new LDV sales to be ZEVs by December 31, 2021; and</li> <li>5.4% of new LDV sales to be ZEVs by December 31, 2022</li> </ul> <p><b>Performance Indicator 2:</b></p> <ul style="list-style-type: none"> <li>Percentage of iZEV program's available incentive funds provided to Canadians (i.e., used)</li> </ul>	<p><b>Target 1:</b></p> <p>According to Transport Canada's analysis of IHS Markit data, Canada's percentage of LDV sales that are ZEVs was 8.3% in the first quarter of 2022. ZEV market share reached 5.6% in 2021, up from 3.8% in 2020, and 3.1% in 2019.</p> <p>In 2021 to 2022, over 57,000 additional vehicles were incentivized through the iZEV Program (over 140,000 in total since May 1, 2019).</p> <p>The 2021 Economic and Fiscal Update provided an additional \$72.6 million, for Transport Canada to continue delivering the iZEV program until March 2022.</p>	<p>sales target is helping to achieve Canada's goal of transitioning to a low carbon economy</p> <p>SDG 11.6</p> <p>SDG 13.2</p>
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<sup>19</sup> These benchmarks will be amended in the next review of the Federal Sustainable Development Strategy to better correspond with Canada's updated ZEV sales targets.

	<p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>100% of incentive funding provided to Canadians by March 31, 2022</li> </ul>	<p><b>Target 2:</b></p> <p>As of March 31, 2022, over \$605 million in incentives have been processed for consumers. This exceeds the \$587 million available to the iZEV Program at the beginning of 2021 to 2022 and represents roughly 92% of available incentive funding as of March 31, 2022 (\$660 million).</p>	
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## FSDS Target: Actions supporting the Goal: Effective Action on Climate Change. (Other actions that support the Goal and a FSDS Contributing Action but do not directly support a FSDS target)

FSDS Contributing Action: Provide support and funding for climate resilience			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Through the <a href="#">Northern Transportation Adaptation Initiative</a> , Transport Canada supports the research, development and testing of innovative adaptation technologies, and capacity-building efforts (for example, through adaptation outreach and engagement activities), with the goal of increasing capacity to adapt existing and future northern	<p><b>Starting Point:</b></p> <p>Transport Canada has been implementing the Northern Transportation Adaptation Initiative since 2011. This program is scheduled to sunset (end) on March 31, 2021</p> <p>One of Transport Canada's key outcomes under this initiative has been the engagement of other governments</p>		<p>Our Department's support for northern transportation adaptation research and related activities helped to:</p> <ul style="list-style-type: none"> <li>foster interdisciplinary collaboration;</li> <li>advance knowledge sharing; and</li> </ul>

<p>transportation infrastructure and operations to climate change</p>	<p>(provincial, territorial), academia and private industry</p> <p>As of March 31, 2020 a total of 95 NTAI research studies have been funded since the program's launch in 2011</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>• Number of working group or network meetings, workshops and/or conferences funded, hosted, facilitated or presented at related to transportation adaptation</li> </ul> <p><b>Target 1:</b></p> <p>During 2020 to 2021:</p> <ul style="list-style-type: none"> <li>• Five working group or network meetings, workshops and/or conferences funded, hosted, facilitated or presented at</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>• Number of research studies funded</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>• Four research studies funded</li> </ul>	<p><b>Target 2:</b></p> <p>While this target was met by 2020-2021 as planned and the initiative ended in March 2021, two new research activities were funded with available operating funding in 2021 to 2022 that contributed to NTAI objectives.</p>	<ul style="list-style-type: none"> <li>• strengthen institutional capacity to adapt northern transportation to the acute impacts of climate change</li> </ul> <p>SDG 9.1</p> <p>SDG 9.4</p> <p>SDG 11.2</p>
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**FSDS Contributing Action: Provide support and funding for climate resilience**

Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Continue on-going implementation of the <a href="#">National Trade Corridors Fund (NTCF)</a>, which is investing \$2.3B between 2017 to 2018 and 2027 to 2028, to strengthen the resiliency and efficiency of the transportation system<sup>20</sup></p>	<p><b>Starting Point:</b></p> <p>To date, Transport Canada has launched and concluded two NTCF calls for proposals: an open national call (July 2017), and a call for investments in the three territories (November 2018)</p> <p>A third call for proposals for projects supporting trade diversification call was launched (January 2019) and remains open as long as there are funds available</p> <p>The additional funding of \$400M provided in Budget 2019 allowed for the launch of a fourth call for proposals for transportation infrastructure projects in Canada's Arctic and Northern regions in October 2020 which closes in March 2021. The Arctic and Northern call for proposals targets projects that address priorities such as safety, climate change, and fostering social and economic development. Funding decisions by the Minister of Transport are expected in the Spring/Summer 2021, followed by the signing of contribution agreements and</p>		<ul style="list-style-type: none"> <li>• Transport Canada requires project proponents to consider how their project will increase the resilience of the transportation system to a changing climate in their proposals.</li> <li>• By incorporating resilience criteria in NTCF project evaluation and selection processes, the program can encourage proponents to include climate resilience components in their project design at the outset.</li> </ul> <p><a href="#">SDG 9.1</a> <a href="#">SDG 9.4</a> <a href="#">SDG 11.2</a></p>

<sup>20</sup> 2021 to 2022 DSDS Update : Adjusted to delineate the investment period for NTCF



	<p>project starts beginning later in the year<sup>21</sup></p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>• Number of calls for proposals</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• One new Arctic and northern-focused NTCF call for proposals launched and implemented by 2023</li> </ul>	<p><b>Target:</b></p> <p>The program was recapitalized in Budget 2021, which provided an additional \$1.9B, increasing the total funding envelope for the NTCF to \$4.2B. Since 2017 the department has issued six distinct calls for proposals.</p> <p>The National Call for proposals and the Northern Call for proposals were completed prior to fiscal year 2021 to 2022 and <a href="#">approved</a> 50 projects in total, resulting in over \$1B in federal funding, leveraging total investments of more than \$2.2B when considering contributions from all project proponents.</p> <p>The Continuous Call for proposals for trade diversification closed on December 9, 2021, for which project approvals continued into fiscal year 2022 to 2023. \$1.4B has been committed to 61 projects, leveraging \$3.1B in total investments. This includes a commitment of \$33.3M in funding to the Saguenay Port Authority's project to install an electric conveyer system for the transport of bulk materials within the port, which will reduce GHG emissions by using an all-electric system instead of trucks to transport materials.</p> <p>The Arctic and Northern Call <a href="#">launched in October 2020</a> and closed on March 15, 2021, with project approvals following in fiscal year</p>	
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<sup>21</sup> 2021 to 2022 DSDS Update: Adjusted to reflect new fourth call for proposals

		<p>2021 to 2022. The Minister of Transport approved 16 projects committing \$284.7M in NTCF funding and leveraging \$410.4M in total investments from all project partners. This includes a commitment of \$3.5M in funding to BGC Engineering's project to develop a risk management system that would allow owners and operators to evaluate the climate resilience of and risks for existing transportation infrastructure, including by monitoring geo-hazards and intervene before irreparable damage occurs.</p> <p>The Relieving Supply Chain Congestion at Canadian Ports Call for proposals was launched in January 2022 and subsequently closed on February 25, 2022. Project announcements for the Ports call are expected throughout Summer and Fall 2022.</p> <p>Finally, in December 2021, Transport Canada launched the Increasing the Fluidity of Canada's Supply Chains call for proposals, which closed on March 31, 2022. Assessments of these proposals are anticipated to occur in Summer and Fall 2022.</p>	
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## Clean Growth: A growing clean technology industry in Canada contributes to clean growth and the transition to a low-carbon economy

### Departmental Context:

Investments in clean technology and innovation contribute to clean growth and the transition to a low-carbon economy, resulting in both economic and environmental benefits. Recognizing this, Transport Canada’s “Core Clean Transportation Research, Development and Demonstration – Aviation, Marine and Rail Transportation Program” will address GHG and air pollutant emissions from the aviation, marine and rail transportation sectors through targeted research on emerging technologies and innovative practices.



## FSDS Target: Actions supporting the Goal: Clean Growth (Other actions that support the Goal but do not directly support a FSDS Contributing Action and do not directly support a FSDS target)

FSDS Contributing Action: Other			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Address, under the <b>Core Clean Transportation Research, Development and Demonstration – Aviation, Marine and Rail Transportation Program</b> , greenhouse gas (GHG) and air pollutant emissions from	<p><b>Starting Point 1:</b></p> <p>In 2019 to 2020,</p> <ul style="list-style-type: none"> <li>rail research projects included: a Hyperloop Feasibility Study and a Rail Innovation in Canada Scan that identified the top ten most promising rail technologies</li> </ul>		<p>Aviation:</p> <p>Aviation research projects were funded in the areas of emissions contributing to climate change, air pollutant emissions, and aviation fuels.</p>

<p>aviation, marine and rail transportation through targeted research on emerging technologies and innovative practices</p> <p><b>Aviation:</b> High quality research projects are selected for funding by Transport Canada in the current priority areas of: emissions contributing to climate change, air pollutant emissions and aviation fuels. These research areas are selected in accordance with current identified priorities of the Department and within the industry in general</p> <p><b>Rail:</b> Supporting projects to address GHG emissions from the rail sector by testing advanced technologies and innovative practices to inform the development of regulations, as well as industry codes and standards, in order to ensure that new technologies can be introduced in Canada in a safe, secure and timely manner</p> <p><b>Marine:</b> Supporting projects to address GHG emissions from the marine sector by testing advanced technologies and innovative practices to inform the development of regulations, as well as industry codes and</p>	<ul style="list-style-type: none"> <li>marine research projects included: a small vessel electrification pilot project; assessing the effectiveness of hull coatings on vessel emissions; assessing the effectiveness of hull and propeller cleaning on vessel energy efficiency and emissions. A new \$4.7M call for proposals was also launched to advance the development and testing of clean technology solutions for the marine sector</li> <li>aviation research projects included a project to develop a novel calibration method for instruments measuring emissions from aircraft engines, and an inflight study of contrail characteristics when various fuels are used</li> </ul> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>(a) Number of priority areas in which Transport Canada has funded high quality research projects.</li> <li>(b) Funded research projects provide evidence used to support policy making, regulatory development, and the development of negotiating positions</li> </ul> <p><b>Target 1:</b></p> <p>For research projects:</p> <ul style="list-style-type: none"> <li>(a) at least 1 project in each identified priority area is funded each year</li> <li>(b) 80% of funded projects provide</li> </ul>	<p><b>Aviation Target 1a:</b></p> <p>At least 1 project was funded in each of the 3 priority areas for aviation research. Aviation research projects funded in 2021 to 2022 included a project conducting at altitude measurement of particulate emissions and contrails characteristics comparing conventional jet fuel and a sustainable</p>	<p>Results from Aviation RD&amp;D projects contribute to improved air quality in Canadian communities and reduced GHG emissions, by supporting research that improves the measurement, impact assessment and mitigation of aviation emissions. For example, knowledge gained through these projects can optimize the design of sustainable aviation fuels to minimize the formation of contrails.</p> <p><b>Rail:</b></p> <p>Both rail projects supporting broader efforts to address GHG emissions from the rail sector by testing advanced technologies and innovative practices to inform the development of regulations, as well as industry codes and standards, in order to ensure that new technologies can be introduced in Canada in a safe, secure and timely manner.</p> <p>Two (2) rail projects were</p>
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<p>standards, in order to ensure that new technologies can be introduced in Canada in a safe, secure and timely manner</p> <p>* Given this work contributes to the reduction of GHGs and air pollutants, this departmental action also supports both the Federal Sustainable Development Strategy's (FSDS) "Effective Action on Climate Change" and "Safe and Healthy Communities" goals</p>	<p>evidence/data which is used to support policy making, regulatory development, and the development of negotiating positions</p>	<p>aviation fuel; and demonstration of a rapid, on-site calibration method for a non-volatile particulate matter (nvPM) mass measurement instrument, using a gas turbine engine as the source.</p> <p><b>Aviation Target 1b:</b></p> <p>97% of funded aviation projects provided evidence/data used to support policy making, regulatory development, and the development of negotiating positions.</p> <p><b>Rail Target 1a:</b></p> <p>3 funded rail research projects included: testing and analysis of higher concentration lignin-derived diesel fuel; testing and analysis of a 2-in-1 catalytic converter for simultaneous removal of NOx and PM and improved fuel efficiency; and a feasibility study related to the conversion of a switcher locomotive to hydrogen fuel cell power.</p> <p><b>Rail Target 1b:</b></p> <p>100% of the funded rail projects provided results to support policy-making, regulatory development, and/or the development of negotiating positions</p> <p><b>Marine Target 1a:</b></p> <p>6 projects in marine stream were funded which would support the demonstration and pilot deployment of low-carbon and zero-emission technologies in marine sector.</p>	<p>funded in FY 21-22.</p> <p>Both projects provide technical evidence that could be used to inform policy development relating to state of emerging decarbonization technologies available to industry.</p> <p>Marine:</p> <ul style="list-style-type: none"> <li>Results from the Marine RD&amp;D projects supported the adoption of low-noise and low-emission vessel innovations – domestically and internationally. This helps to ensure innovative technologies can be introduced in a safe and timely manner.</li> </ul> <p>SDG 3.9 SDG 9.4 SDG 13.2</p>
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		<p>These projects include demonstration of Low-Carbon Hydrogen-Derived Renewable Diesel (HDRD) fuel for commercial tugboat fleets, a zero-emission hydrogen fuel cell marine safety assessment, trials to measure particulate matter from the use of Biodiesel, development of functional solar composite structures for maritime applications and demonstration of battery electric propulsion system for a tugboat.</p> <p><b>Marine Target 1b:</b></p> <p>100% of research projects funded in fiscal year 2021 to 2022 generated technical evidence required to support legislative and regulatory approaches to reducing greenhouse gas (GHG) and air pollutant emissions, and to promote the adoption of clean technologies. The results from RD&amp;D projects contributes to the Government of Canada's efforts to advance sustainable marine shipping – domestically, and internationally – by supporting RD&amp;D to reduce; greenhouse gas (GHG) emissions, criteria air contaminants and black carbon. Some of the research work included but not limited to:</p> <ul style="list-style-type: none"><li>• demonstration of pilot deployment of hybrid electric propulsion system in real-world testing for small fishing vessels;</li><li>• supporting the development of best practices/maintenance strategies to accomplish fuel savings, environmental benefits, and optimize maintenance costs associated with hull coating and propeller polishing on Laker vessels; and</li><li>• 2 new contracts were awarded in March 2022 for pilot deployments of zero</li></ul>	
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	<p><b>Starting Point 2:</b> As of March 31, 2020, 29% of the grant funding envelope has been invested into 13 projects</p> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"><li>(a) Percentage of federal grant funding envelope (an overall \$3 million funding envelope) invested to address GHG and air pollutant emissions from aviation, marine and rail transportation, through calls for proposals for research on emerging technologies and innovative practices</li></ul>	<p>emission propulsion systems for small fishing vessels - work will commence in fiscal year 2022 to 2023</p> <ul style="list-style-type: none"><li>• supporting the prototype design of an on-the-go robotic ship cleaning technology as a hull cleaning device to be used in transit;</li><li>• supporting the development of a web-based tool that uses dynamic weather and ship trajectory to identify a fuel efficient route for vessels;</li><li>• supporting the development of best practices/maintenance strategies to accomplish fuel savings, environmental benefits, and optimize maintenance costs associated with hull coating and propeller polishing on Laker vessels; and,</li><li>• identifying potential underwater vessel noise performance results and GHG reductions from the application of graphene coatings to fishing vessels.</li></ul>	
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	<ul style="list-style-type: none"> <li>(b) Number of projects funded by federal grants to study and advance emerging technologies and innovative practices related to addressing GHG and air pollutant emissions from aviation, marine and rail transportation</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>(a) 80% of the grant funding envelope invested</li> <li>(b) at least 30 projects funded by March 31, 2023</li> </ul>	<p><b>Target 2:</b></p> <p>(a) 93% of the funding envelope has been invested.</p> <p>(b) 31 Projects have been funded by federal grants to study and advance emerging technologies and innovative practices related to addressing GHG and air pollutant emissions from aviation, marine and rail transportation</p>	
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## Healthy Coasts and Oceans: Coasts and oceans support healthy, resilient and productive ecosystems

### Departmental Context:

Transport Canada is committed to protecting Canada's coasts and oceans and keeping them healthy for future generations. The department develops and administers policies, regulations and programs, such as the implementation of several international standards such as the International Convention for the Prevention of Pollution from Ships (MARPOL) covering prevention of pollution of the marine environment by ships from operational or accidental causes and the International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (BWM Convention) that entered into force globally on 8 September 2017.

Transport Canada also plays a significant role in implementing the Oceans Protection Plan (OPP), which includes a number of innovative and transformative initiatives being implemented by five federal organizations under four main priority areas: prevention and response measures related to marine safety; preservation and restoration of marine ecosystems and habitats; building and strengthening partnerships with Indigenous and coastal communities; and, ensuring Canada's marine safety system is built on a stronger evidence base that is supported by science and local knowledge.

To support the protection and the recovery of endangered whale populations Transport Canada continues to implement the \$167.4 million Whales Initiative to address key threats to the Southern Resident Killer Whale (SRKW), the North Atlantic Right Whale (NARW) and the St. Lawrence Estuary Beluga. To reduce the risk of vessels colliding with NARW Transport Canada continues to refine and implement seasonal measures in the Gulf of St. Lawrence. Transport Canada is also implementing additional measures and taking actions to reduce underwater noise from vessel traffic in the waters off of Southern BC in response to the imminent threat facing SRKW. Internationally, Transport Canada is leading coordinated efforts to reduce underwater noise from shipping through the review and updating of the International Maritime Organizations guidelines on underwater noise from ships.



## FSDS Target: Actions supporting the Goal: Healthy Coasts and Oceans (Other actions that support the Goal and a FSDS Contributing Action but do not directly support a FSDS target)

FSDS Contributing Action: Work with partners to protect and restore coastal ecosystems Use legislation and regulations to protect coasts and oceans Protect and manage marine and coastal areas			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p><b>Implement the Oceans Protection Plan – Pillar 1: A State-of-the-Art Marine Safety System</b></p> <p><b>Pillar 1-</b> Initiatives involved in enhancing the prevention of marine incidents include:</p> <ul style="list-style-type: none"> <li>new information-sharing systems – the Government of Canada will work with Indigenous and coastal communities to design new information-sharing systems and platforms so they have access to real-time information on marine shipping activities to support safer navigation in local waters</li> <li>pilot project to enhance marine weather services to support marine traffic operations and improve safety in higher-risk areas</li> </ul>	<p><b>Starting point:</b></p> <p>Since 2016, the Government of Canada has been working with Canadians and Indigenous peoples through the Oceans Protection Plan to protect our coasts and waterways for future generations, while growing the economy. Three years later, the Plan has made our marine safety system stronger, and our coastal ecosystems more protected, than ever before. Work will continue to ensure that the Oceans Protection Plan delivers on its commitments</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>The number of marine safety incidents and spills from vessels in Canada's waters</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>By 2022, a reduction in the number of small oil spills and marine incidents relative to the number of vessel trips, compared with the average of the</li> </ul>	<p><b><u>Rate of Marine Incidents and Oil Spills:</u></b></p> <p>Top 3 vessels involved in marine accidents (including spills) across Canada (2016 vs. 2020) per 10M nautical miles (NM) sailed:</p> <p>2016: Pre-OPP</p> <ul style="list-style-type: none"> <li>Fishing vessels – 27.5 accidents</li> <li>Tugs – 20.7 accidents</li> <li>Gov't/research – 20.5 accidents</li> </ul> <p>2020</p> <ul style="list-style-type: none"> <li>Fishing vessels – 18.7 accidents per</li> <li>Tugs - 14.6 accidents</li> <li>Gov't/research – 8.3 accidents</li> </ul> <p>For comprehensive information on OPP Pillar 1 initiatives and results, please see the most recent Report to Canadians at the following URL:</p> <p><a href="https://tc.canada.ca/en/initiatives/oceans-protection-plan/report-">https://tc.canada.ca/en/initiatives/oceans-protection-plan/report-</a></p>	<p>The Oceans Protection Plan aims to further protect Canada's coasts and coastal communities from the potential impacts of shipping. This means improving how we prevent and respond to marine pollution incidents. Through the Oceans Protection Plan, the Government of Canada is developing emergency response plans tailored to local needs, increasing on-water presence and response capacity, enabling rapid, science-based response actions in the event of a spill, and expanding the role of the Canadian Coast Guard Auxiliary</p>

<ul style="list-style-type: none"> <li>• Proactive Vessel Management - allow those involved in the marine safety system – governments, communities, Indigenous groups – to inform local traffic management</li>   <li>• safer resupply in Arctic communities – funding new tools and equipment to unload essential goods in northern communities</li>   <li>• stronger polluter-pay principle – remove the per-incident limit of liability on Canada’s Ship-Source Oil Pollution Fund to provide unlimited compensation to responders and victims of a ship-source oil spill</li>   <li>• Places of refuge: Pre-identifying potential coastal locations where a ship in need of assistance can take action to stabilize the condition of the vessel in order to protect human life and the environment. The department is revising its National Places of Refuge Contingency Plan based on the results of engagement activities, research and the addition of new regional annexes</li>   <li>• Anchorages Initiative - Research and analyze the environmental, economic, social, safety and security impacts of anchorages</li> </ul>	<p>previous five years</p>	<p><a href="#">canadians-investing-our-coasts-through-oceans-protection-plan</a></p>	<p><a href="#">SDG Target 14.2</a></p>
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<ul style="list-style-type: none"> <li>• Seamless Regime Response – develop a broad and integrated framework for preparedness and response to all spills beyond ship-source oil</li> </ul> <p>Initiatives involved in strengthening of responses to marine incidents include:</p> <ul style="list-style-type: none"> <li>• a stronger Canadian Coast Guard - The Canadian Coast Guard's command systems will be strengthened where gaps have been identified. The Coast Guard will be given greater power to intervene directly to prevent marine incidents, such as where ship operators have been reluctant to act</li> <li>• increased emergency response: 24/7 response capacity will be established to effectively manage marine incidents; and baseline environmental data on B.C.'s North Coast will be collected</li> <li>• enhance Environment and Climate Change's capacity to enforce wildlife and environmental laws for the east and west coasts, and expand set of 3D ocean products and enhance service by making it available 24/7</li> <li>• increased towing capacity - towing kits will be added to major Canadian Coast Guard vessels on the East and West to improve the capability to take swift action. Two new vessels</li> </ul>			
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<p>will be leased with the ability to tow large commercial ships in distress</p> <ul style="list-style-type: none"> <li>alternative response measures (ARMs) – research and policy on ARMs – such as dispersants and in-situ burning – that could be used only when there is an environmental benefit to do so</li> </ul>			
<b>FSDS Contributing Action: Build our knowledge of coastal ecosystems, marine protected areas and fisheries</b>			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p><b>Implement the Oceans Protection Plan – Pillar II: Preservation and Restoration of Marine Ecosystems</b></p> <p><b>Pillar 2</b> - Preservation and Restoration of Marine Ecosystems initiatives include:</p> <ul style="list-style-type: none"> <li>collection of baseline data and cumulative effects assessment - working closely with Indigenous and coastal communities, the Government of Canada will create a pilot baseline program to better understand the cumulative effects of shipping on coastal ecosystems</li> <li>protect aquatic ecosystems - new measures will be funded that implement a real-time whale detection system to alert mariners to</li> </ul>	<p><b>Starting point:</b></p> <p>Since 2016, the Government of Canada has been working with Canadians and Indigenous peoples through the Oceans Protection Plan to protect our coasts and waterways for future generations, while growing the economy. Three years later, the Plan has made our marine safety system stronger, and our coastal ecosystems more protected, than ever before. Work will continue to ensure that the Oceans Protection Plan delivers on its commitments</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>The number of abandoned and wrecked vessels addressed</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>By 2022, at least 275 vessels of concern addressed</li> </ul>	<p><b><u>National Strategy on Abandoned and Wrecked Vessels:</u></b></p> <p>Under the Oceans Protection Plan, in partnership with the Department of Fisheries and Oceans and the Canadian Coast Guard, we have met our federal objective of addressing at least 275 abandoned and wrecked vessels by March 31, 2022, - two years ahead of schedule. As of March 31, 2022 OPP has addressed 545 vessels under WAHVA authorities (Transport Canada and Canadian Coast Guard),</p> <p>For comprehensive information on OPP Pillar 2 initiatives and results, please see the most recent Report to Canadians at the following URL:</p> <ul style="list-style-type: none"> <li><a href="https://tc.canada.ca/en/initiatives/oceans-protection-plan/report-">https://tc.canada.ca/en/initiatives/oceans-protection-plan/report-</a></li> </ul>	<p>Activities to address vessels of concern contribute to the FSDS goal of healthy coasts and oceans, and pristine lakes and rivers as they will reduce or eliminate the risks posed by vessel of concern on the marine environment, as well as health and safety of citizens.</p> <p><a href="#">SDG 3.9</a>  <a href="#">SDG 9.4</a>  <a href="#">SDG 13.2</a>  <a href="#">SDG 14.2</a></p>

<p>the presence of whales, which will help them avoid interactions and vessel strikes</p> <ul style="list-style-type: none"> <li>addressing abandoned and wrecked vessels - the Government is implementing a national strategy that focuses on the prevention and removal of these problem vessels</li> </ul>		<p><a href="#">canadians-investing-our-coasts-through-oceans-protection-plan</a></p>	
<p><b>FSDS Contributing Action: Work with partners to protect and restore coastal ecosystems</b></p>			
<p><b>Corresponding departmental actions (Do not edit)</b></p>	<p><b>Starting points Performance indicators Targets (Do not edit)</b></p>	<p><b>Results achieved and responsible OPIs</b></p>	<p><b>Contribution by each departmental result to the FSDS goal and target</b></p>
<p><b>Implement the Oceans Protection Plan – Pillar III: Indigenous Partnerships</b></p> <p>The Government will create opportunities for Indigenous communities to participate and play an active role in responsible shipping and the marine safety regime</p>	<p><b>Starting point:</b></p> <p>Since 2016, the Government of Canada has been working with Canadians and Indigenous peoples through the Oceans Protection Plan to protect our coasts and waterways for future generations, while growing the economy. Three years later, the Plan has made our marine safety system stronger, and our coastal ecosystems more protected, than ever before. Work will continue to ensure that the Oceans Protection Plan delivers on its commitments</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>The number of Indigenous groups that participate in Canada’s marine safety system</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>By 2027, an increased number of</li> </ul>	<p><b>Indigenous groups participation in Canada’s marine sector</b></p> <p>Specific targets to measure the increased involvement of Indigenous Peoples throughout the marine safety system are continuing to be co-determined through collaboration between OPP and Indigenous partners under the next phase of the OPP</p> <p>As of March 2022, we have held over 2,300 engagement sessions, including over 1,800 engagement sessions with Indigenous groups, to modernize marine safety and environmental protection in Canada.</p>	<p>Indigenous coastal communities share ties to Canada's oceans that span generations. As part of the Oceans Protection Plan, we are actively working together and partnering with Indigenous peoples across the country to improve our marine safety system. As of March 2022, we have held over 2,300 engagement sessions, including over 1,800 engagement sessions with Indigenous groups</p> <p><a href="#">SDG Target 14.2</a></p>

	<p>interested Indigenous groups are active partners in Canada's marine safety system [specific target to be determined by April 2022 following engagement with Indigenous partners]</p>	<p>For comprehensive information on OPP Pillar 3 initiatives and results, please see the most recent Report to Canadians at the following URL: <a href="https://tc.canada.ca/en/initiatives/oceans-protection-plan/report-canadians-investing-our-coasts-through-oceans-protection-plan">https://tc.canada.ca/en/initiatives/oceans-protection-plan/report-canadians-investing-our-coasts-through-oceans-protection-plan</a> as well as the</p>	
<b>FSDS Contributing Action: Build our knowledge of coastal ecosystems, marine protected areas and fisheries</b>			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p><b>Implement the Oceans Protection Plan – Pillar IV: A Stronger Evidence Base and Increased Community Participation and Public Awareness</b></p>	<p><b>Starting point:</b> Since 2016, the Government of Canada has been working with Canadians and Indigenous peoples through the Oceans Protection Plan to protect our coasts and waterways for future generations, while growing the economy. Three years later, the Plan has made our marine safety system stronger, and our coastal ecosystems more protected, than ever before. Work will continue to ensure that the Oceans Protection Plan delivers on its commitments</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>The percentage of policies and operational response plans developed through the OPP that are supported by scientific, local/traditional, and other relevant information and knowledge</li> </ul> <p><b>Target 1:</b></p>	<p>Science is the cornerstone of evidence-based decision-making. As part of the Oceans Protection Plan, the Government of Canada has invested in scientific research and technology to help us better prevent and respond to ship-source oil spills, while also increasing our understanding of how to protect coastal ecosystems.</p> <ul style="list-style-type: none"> <li>The OPP's initiatives were, to varying degrees, informed by a combination of scientific and/or local/traditional, and/or other relevant information/knowledge.</li> <li>The Angus Reid Public Opinion Research, commissioned by the independent Clear Seas Centre for Responsible Marine Shipping in February 2021, showed a 6% increase in public confidence in Canada's marine safety system</li> </ul>	<p>As part of the Oceans Protection Plan, the Government of Canada is invested in scientific research and technology to better prevent and respond to ship-source oil spills, while increasing our understanding of how to protect coastal ecosystems</p> <p><a href="#">SDG Target 14.2</a></p>

	<ul style="list-style-type: none"> <li>By 2022, 100% of policies and operational response plans are supported by scientific, local/traditional, and other relevant information/knowledge</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>The percentage of Canadians who are confident in Canada's marine safety system</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>By 2022, at least 70% of Canadians and at least 75% of coastal communities have moderate or full confidence in Canada's marine safety system</li> </ul>	<p>since the start of the Oceans Protection Plan (71% very/fairly confident versus 65% in 2016).</p> <p>For comprehensive information on OPP Pillar 4 initiatives and results, please see the most recent Report to Canadians at the following URL:</p> <p><a href="https://tc.canada.ca/en/initiatives/oceans-protection-plan/report-canadians-investing-our-coasts-through-oceans-protection-plan">https://tc.canada.ca/en/initiatives/oceans-protection-plan/report-canadians-investing-our-coasts-through-oceans-protection-plan</a></p>	
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**FSDS Contributing Action: Build our knowledge of coastal ecosystems, marine protected areas and fisheries**

Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Support the protection and recovery of Canada's endangered whale populations through research and monitoring	<p><b>Starting point:</b></p> <p>World-leading underwater listening station (ULS) in Boundary Pass is capturing underwater noise data in real-time from vessels in both inbound and outbound shipping lanes, as well as ambient noise and marine mammal calls</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Number of management measures to support the protection and recovery of Southern Resident Killer Whales (SRKW) that are informed by the data</li> </ul>		<ul style="list-style-type: none"> <li>The collection of underwater vessel noise data continues to increase our understanding of how vessels contribute to underwater noise and assists in advancing research and development of quiet vessel technologies.</li> </ul>



	<p>collected on underwater vessel noise from the ULS</p> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>Underwater vessel noise database will be used to help develop at least 1 management measure by March 31, 2024 to support the protection and recovery of the SRKW from the impacts of vessel noise</li> </ul>	<p><b>Target 1:</b></p> <p>The ULS continues to be a critical piece of scientific infrastructure that directly supports the department's efforts to mitigate underwater noise on the marine environment, and vulnerable marine mammals – including the Southern Resident killer whale (SRKW) population.</p> <ul style="list-style-type: none"> <li>The data collected by the ULS is compiled into a database that enables TC and other key stakeholders to assess the effectiveness of various measures to reduce underwater noise and to improve our understanding of noise emissions from vessels.</li> <li>The ULS measures and records underwater noise emissions from approximately 4000-5000 commercial vessel transits per year, contributing to the world's largest ship noise database.</li> <li>The underwater vessel noise database supported the development of the 2021-2022 vessel slowdown measures in Haro Strait and Boundary Pass; in addition, it continues to provide integral data to be used in the review and adaptation of future noise mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>These efforts continue to support the recovery and protection of Canada's endangered whale populations and contribute to the overall conservation and sustainable use of Canada's oceans for sustainable development.</li> <li>Monitoring for NARW presence in the shipping lanes of the Northern Gulf of St-Lawrence allows for implementation of management measures that reduce the risk of lethal collisions with whales.</li> <li>These efforts will help support the recovery and protection of Canada's endangered whale populations which contributes to the overall conservation and sustainable use of Canada's oceans for sustainable development.</li> </ul>
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	<p><b>Starting point:</b></p> <p>Remotely Piloted Aircraft System (RPAS) – or drone – supports aerial surveillance in the Dynamic Shipping Zone in the Gulf of St. Lawrence to detect the presence of North Atlantic right whales (NARW)</p> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>• Integration of the RPAS to support management of dynamic measures for the protection of NARW</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>• RPAS contributes to support management of dynamic measures, for the protection of NARW starting in 2022</li> </ul>	<p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>• RPAS surveillance method and Artificial Intelligence (AI) technology continues to evolve with refinement and improvement of data management and overall processing. These advancements directly contribute to the active NARW surveillance plan</li> <li>• The RPAS provided aerial surveillance of vessel speed restriction zones in the Gulf of St. Lawrence once a week, weather permitting, from July 13 to July 27, 2021, monitoring for the presence of NARWs.</li> </ul>	<p>SDG Target 14.2</p>
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**FSDS Contributing Action: Protect and manage marine and coastal areas**

Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Support the protection and recovery of Canada's endangered whale populations through management measures</p>	<p><b>Starting Point:</b></p> <p>On February 27, 2020, the Government of Canada announced its 2020 measures to protect the endangered North Atlantic right whale (NARW) including vessel speed restriction measures to reduce the risk of lethal collisions with NARW</p> <p>For 2020, the Government of Canada partnered again with the Vancouver Port Authority's Enhancing Cetacean Habitat and Observation (ECHO) Program to implement a vessel slowdown during the summer of 2020 in Haro Strait and Boundary Pass in the Salish Sea</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Percentage of ships that are compliant with slowdown measures that mitigate the impacts of vessel traffic on marine species</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>By March 2021, at least 85% of ships 20 metres and greater to comply with</li> </ul>	<p><b>Target:</b></p> <ul style="list-style-type: none"> <li>Over 99% of ships over 13 metres in length were in compliance with the Transport Canada mandatory speed limit in the Gulf of St. Lawrence.</li> </ul>	<p>The various mandatory and voluntary vessel management measures implemented in 2021 helped reduce vessel traffic impacts on Canada's endangered NARW and SRKW, contributing to the overall conservation and sustainable use of Canada's oceans for sustainable development.</p> <p><a href="#">SDG 14.2</a></p>

	vessel slowdown measures <sup>22</sup>	<ul style="list-style-type: none"> <li>90% of large commercial vessels transiting in Haro Strait and Boundary Pass participated in the ECHO program's voluntary vessel slowdown measures.</li> </ul>	
<b>FSDS Contributing Action: Use legislation and regulations to protect coasts and oceans</b>			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Set the legal and regulatory frameworks through domestic legislation and international conventions that govern the protection of the marine environment from pollution, and advance Canadian positions on reducing and managing global marine pollution from ships	<p><b>Starting Point:</b></p> <p>Since 2006, and as amended in 2012, the Vessel Pollution and Dangerous Chemicals Regulations implement standards set out under the International Convention for the Prevention of Pollution from Ships (MARPOL) to prevent pollution from vessels</p> <p>This includes pollution from oil, chemicals, sewage, garbage, air emissions and greenhouse gas emissions</p> <p>The Regulations also set controls for paints used to prevent marine growth on hulls that have been found to be harmful and greywater discharges from large passenger vessels</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Canada's Vessel Pollution and Dangerous Chemical Regulations are aligned with the new international standards</li> </ul>		<p>The amendment of the Vessel Pollution and Dangerous Chemicals Regulations directly supports the FSDS Goal 14: Conserve and sustainably use the oceans, seas and marine resources. Through these amendments, Transport Canada will be on track to prevent and significantly reduce marine pollution by 2025 (SDG 4.1).</p> <p>The specific provisions will strengthen the vessel-based discharge of pollutants to align with international standards and best practices. This includes provisions to implement an Arctic Ban on Heavy Fuel Oil (coming</p>

<sup>22</sup> As of 2019-2020 season, the length of a ship was expanded from 20 metres to 13 metres.

	<p><b>Target:</b></p> <p>By March 2023 :</p> <p>Publication of proposed regulations in Canada Gazette, Part I and implement the updated Vessel Pollution and Dangerous Chemicals Regulations which reflect new international standards</p>	<p><b>Target:</b></p> <p>The Vessel Pollution and Dangerous Chemicals Regulations will be amended in three distinct stages, to align with new international standards.</p> <p>A departmental working group has been established, and work is underway to amend the regulations as part of Phase I, which would focus on Divisions specific to oil, sewage, garbage, air, and antifouling measures (i.e., chemicals in the paints used on hulls).</p> <p>Given the scope of the work in Phase I, and ongoing engagement with industry and key partners, Canada Gazette, Part I targets may be moved to fall 2023.</p>	<p>into force internationally in July 2024); to strengthen enforcement of sewage discharge requirements; to align domestic prevention of pollution by garbage requirements; with international standards; to align domestic air emission requirements with international standards; and to implement a ban on the use of anti-fouling paint coatings with certain harmful chemicals (i.e., cybutryne).</p> <p><a href="#">SDG 14.1</a></p>
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**FSDS Contributing Action: Use legislation and regulations to protect coasts and oceans**

Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Contribute to reducing pollution from vessels by monitoring compliance of marine transportation firms with Canadian legislation, such as the <i>Canada Shipping Act, 2001</i>, through the National Aerial Surveillance Program (NASP), inspections, audits, monitoring and enforcement</p>	<p><b>Starting Point:</b></p> <p>In order to measure Transport Canada's success in protecting Canada's oceans and marine environment from ship source oil pollution</p> <p>Transport Canada's <a href="#">NASP</a> monitors the number of vessels using the Automatic Identification System (AIS), vessel</p>		<ul style="list-style-type: none"> <li>Performing a high number of pollution patrols contributes to deterring pollution from vessels as they are aware surveillance is being conducted.</li> <li>AIS is used to provide</li> </ul>

	<p>overflights and the number of ship-source oil spills detected over 10 litres. Smaller spills are typically non-recoverable and have a negligible impact on the environment</p> <p>The rate of ship-source oil spills is calculated per hours flown, per year</p> <p>In 2019 to 2020, the National Aerial Surveillance Program monitored 338,575 vessels using AIS, 31,335 overflights and detected six ship source spills over 10 litres</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Percentage of actual vs forecasted pollution patrol hours conducted</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>90% of actual pollution patrols are conducted as planned</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Number of vessels monitored using AIS per hour flown</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>Vessels monitored at a rate of 80 per hour using the AIS</li> </ul> <p><b>Performance indicator 3:</b></p> <ul style="list-style-type: none"> <li>Number of vessels overflown per hour</li> </ul>	<p><b>Target 1:</b></p> <p>100% of pollution patrols were conducted as planned.</p> <p><b>Target 2:</b></p> <p>Vessels were monitored at a rate of 144 per hour using the Automatic Identification System (AIS).</p>	<p>situational awareness on vessels by tracking identification and voyage info to help with compliance and enforcement.</p> <ul style="list-style-type: none"> <li>During overflights, vessels are inspected visually and/or with sensors to detect possible pollution.</li> </ul> <p>SDG 14</p> <p>SDG 17</p>
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	<p><b>Target 3:</b></p> <ul style="list-style-type: none"> <li>Vessels overflown at a rate of 5.5 per hour</li> </ul> <p><b>Performance indicator 4:</b></p> <ul style="list-style-type: none"> <li>Number of ship-source oil spills observed over 10 litres</li> </ul> <p><b>Target 4:</b></p> <ul style="list-style-type: none"> <li>Ship-source oil spills into Canada's oceans and marine environment decline over time in relation to the level of activity</li> </ul>	<p><b>Target 3:</b></p> <p>Vessels were overflown at a rate of 11.8 per hour.</p> <p><b>Target 4:</b></p> <p>The NASP flew a total of 3,847 hours of surveillance. During these patrols, 5 ship source spills were reported to be over 10 litres for a rate of 0.0013 spills per hour.</p>	
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**FSDS Contributing Action: Use legislation and regulations to protect coasts and oceans**

Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Update the regulatory framework for protecting the marine environment from the introduction and spread of aquatic invasive species by ships' ballast water, giving effect to the international <a href="#">Ballast Water Convention</a>, to which Canada is party</p> <p>*this departmental action also contributes to the 'Pristine Lakes and Rivers' Goal</p>	<p><b>Starting Point:</b></p> <p>On June 8, 2019 Transport Canada published new proposed Ballast Water Regulations in the Canada Gazette Part I</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Canada's Ballast Water Control Management Regulations are updated in accordance with the requirements of the <a href="#">Ballast Water Convention</a> that came into force worldwide in September of 2017</li> </ul>		<p>The new Ballast Water Regulations better protects Canadian waters from aquatic invasive species, thereby contributing to the goals of healthy coasts and oceans, and pristine lakes and rivers</p> <p><a href="#">SDG 14.2</a></p>

	<p><b>Target:</b></p> <ul style="list-style-type: none"> <li>By March 2023, Canada intends to have finalised and implemented new Ballast Water Regulations</li> </ul>	<p><b>Target:</b></p> <p>The finalised Ballast Water Regulations came into force on June 3, 2021 and were published in the Canada Gazette Part II on June 23, 2021 to address Canada's international obligations.</p> <p>Transport Canada continues to engage with the United States and other countries on regulatory compatibility.</p>	SDG 15.8
<b>FSDS Contributing Action: Use legislation and regulations to protect coasts and oceans</b>			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Monitor marine transportation firms and vessels for compliance with the <a href="#">Ballast Water Control and Management Regulations</a>, and as amended.</p> <p>*this departmental action also contributes to the 'Pristine Lakes and Rivers' Goal</p>	<p><b>Starting Point:</b></p> <p>Transport Canada receives completed ballast water reporting forms on methods used by ships to comply with ballast water management regulations (Ballast exchange or via a Ballast Water Management System)</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Compliance with the <a href="#">Ballast Water Control and Management Regulations</a> and ballast water management standards</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>100% of vessels will be compliant or they will be requested to manage their ballast water in a manner that is not a threat to the Canadian Ecosystem</li> </ul>	<p><b>Target:</b></p> <p>In total, 1634 inspections were carried out and 1508 (92%) vessels were found to be compliant. The remaining 8% of vessels were requested to manage their</p>	<p>Ballast water inspections help to ensure compliance with the new Ballast Water Regulations, thereby protecting Canadian waters from invasive aquatic species</p> <p>SDG 14.2 SDG 15.8</p>



		ballast water in accordance with the ballast water requirements.	
<b>FSDS Contributing Action: Use legislation and regulations to protect lake and river ecosystems</b>			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p>Monitor the compliance of vessels arriving from overseas and bound for the Great Lakes with current ballast water requirements, as well as cooperative enforcement with the U.S. in accordance with Annex 5 of the <a href="#">Great Lakes Water Quality Agreement</a></p> <p>*this departmental action also contributes to the 'Pristine Lakes and Rivers' Goal</p>	<p><b>Starting Point:</b></p> <p>Transport Canada receives completed ballast water reporting forms on methods used by ships to comply with ballast water management regulations (via ballast water exchange or a ballast water management system)</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Percentage of vessels inspected for compliance with the <a href="#">Ballast Water Control and Management Regulations</a> and ballast water management standards</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>100% of vessels entering the Great Lakes from outside of Canadian waters will continue to be inspected for their compliance with ballast water management requirements, including for mid-ocean exchange to protect the Great Lakes ecosystems</li> </ul>	<p><b>Target:</b></p> <ul style="list-style-type: none"> <li>The Great Lakes Seaway Ballast Water Working Group inspected 100% of the vessels entering the Great Lakes.</li> <li>Depending on the port of call, the inspections were conducted by the joint U.S-Canada Great Lakes Seaway Ballast Water Working Group or under the Port State Control regime.</li> </ul> <p>• The Working Group performed 490</p>	<p>Ballast water inspections help to ensure compliance with the new Ballast Water Regulations, thereby protecting Canadian waters from invasive aquatic species</p> <p><a href="#">SDG 14.2</a> <a href="#">SDG 15.8</a></p>

		inspections, of which 305 inspections were conducted by Transport Canada, Marine Safety and Security. During these inspections, a total of 61 vessels (12.5 %) were found with ballast water related deficiencies.	
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## Pristine Lakes and Rivers: Clean and healthy lakes and rivers support economic prosperity and the well-being of Canadians

### Departmental Context:

Canada has one of the longest navigable coastlines in the world, from the St. Lawrence River and Great Lakes to the Atlantic, Arctic and Pacific Oceans. A significant increase in worldwide shipping traffic and the corresponding amount of ballast water discharged by these vessels has resulted in an increase in alien invasive species introductions.

The introduction and spread of alien invasive species is a serious problem that has ecological, economic, health and environmental impacts, including loss of native biological diversity. Transport Canada's key actions to support cleaner and healthier lakes and rivers include updating the current Ballast Water Control and Management Regulations to reflect the recent worldwide coming into force of the Ballast Water Convention; as well as ongoing inspections of all vessels entering the Great Lakes for compliance with ballast water management regulations.



### FSDS Target: Actions supporting the Goal: Pristine Lakes and Rivers (Other actions that support the Goal but do not directly support a FSDS target)

FSDS Contributing Action: Other			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Transport Canada's ballast water actions have been included under the FSDS Goal: Healthy Coasts and Oceans. Preventing the introduction of aquatic invasive species in Canada contributes to protecting the health of Canada's lakes and rivers			
For detailed information on these actions, please see the Healthy Coasts and Oceans Goal			



## **Safe and Healthy Communities: All Canadians live in clean, sustainable communities that contribute to their health and well-being**

### **Departmental Context:**

Transport Canada is committed to doing its part to ensure that Canadians live in clean, safe environments that contribute to their health and well-being. Key departmental initiatives under this goal include: regulatory, voluntary and complementary efforts to improve air quality through the reduction of air pollutant emissions from transportation sources; the prevention of environmental emergencies or mitigating their impacts if they do occur; and taking action to remediate our contaminated sites.

Note: Transport Canada's actions that reduce both greenhouse gas emissions and air pollutants, such as the Marine Sector Regulatory Initiative, ecoTECHNOLOGY for Vehicles Program, and the Heavy-Duty Vehicle Retrofit Requirements Program, have been included under the FSDS Goal: Effective Action on Climate Change. Reducing air pollutants contributes to creating healthier communities for Canadians. For detailed information on these actions, please see the Effective Action on Climate Change Goal



## FSDS Target: Actions supporting the Goal: Safe and Healthy Communities (Other actions that support the Goal and may support a FSDS Contributing Action but do not directly support a FSDS target)

FSDS Contributing Action: Demonstrate leadership on assessing and remediating contaminated sites			
Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Demonstrate leadership on assessing and remediating contaminated sites	<p><b>Starting Point:</b></p> <p>From 2016-17 to 2019-20 (FCSAP Phase III), 11% of Transport Canada FCSAP-funded sites completed remediation/risk management work</p> <p>Transport Canada reduced environmental liability in 2019 to 2020 at its highest priority federal contaminated sites by 99.5% of its remediation expenditures</p> <p>FCSAP annual reports can be found at:  <a href="https://www.canada.ca/en/environment-climate-change/services/federal-contaminated-sites/publications.html">https://www.canada.ca/en/environment-climate-change/services/federal-contaminated-sites/publications.html</a></p> <p><b>Performance indicator 1:</b></p>		<p>Transport Canada contributes to an environmentally responsible and resilient national transportation system by ensuring that we:</p> <ul style="list-style-type: none"> <li>• reduce risks to human health and the environment as more contaminated sites are remediated; and</li> <li>• reduce environmental liability at the department's highest priority federal contaminated sites by reducing the risk to human health or the environment</li> </ul>

	<ul style="list-style-type: none"> <li>Percentage of Transport Canada FCSAP-funded sites during Phase IV that have completed remediation/risk management work</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>By March 31, 2025, 25% of Transport Canada FCSAP-funded sites during Phase IV have completed remediation/risk management work</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Percentage of Transport Canada remediation expenditures at FCSAP funded remediation sites that reduce liability each fiscal year</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>Annually, 95% of Transport Canada remediation expenditures at FCSAP funded sites reduce the environmental liability</li> </ul>	<p><b>Target 1:</b></p> <p>By March 31, 2022, 10% of Transport Canada FCSAP-funded sites during Phase IV had completed remediation/risk management work</p> <p><b>Target 2:</b></p> <p>From 2021 to 2022, 99% of Transport Canada remediation expenditures at FCSAP funded sites reduced the environmental liability</p>	<p><b>SDG Target 3.9-</b> By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination</p> <p><b>SDG Target 15.3-</b> By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world</p>
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**FSDS Contributing Action: Other**

Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
Address, under the <b>Aviation Sector Regulatory Initiative</b> , air pollutant emissions from aviation by supporting the International Civil Aviation Organization's (ICAO) development of new	<p><b>Starting Point:</b></p> <p>A new standard for non-volatile particulate matter (nvPM) mass and number will be incorporated into Canadian regulations in order to align with ICAO Standards</p>		The existing air pollutant emissions standards and the new nvPM mass and number standards work to limit air pollutant emissions from aircraft, reducing the potential for

<p>international standards and recommended practices and through the development and implementation of new domestic standards</p> <p>Canada has domestic regulatory instruments in place for nitrogen oxides (NOx), non-volatile particulate matter (nvPM), carbon monoxide (CO), &amp; unburned hydrocarbons (HC) emissions from aircraft engines. Work is ongoing to incorporate a new nvPM mass and number standard into the Canadian Aviation Regulations. These instruments align Canada with ICAO's international standards</p> <p>Piston powered aircraft use aviation gasoline fuel, which contains a low level of lead. There is currently no unleaded fuel option that is approved and safe for use for all piston-powered aircraft operating in Canada. Lead is one of the top ten toxic substances listed in the Canadian Environmental Protection Act (CEPA). The Gasoline Regulations, under CEPA, prohibit the use of lead in fuels, however Canada has an exemption in place to allow for the use of low lead aviation gasoline fuel due to safety issues. Canada is collaborating</p>	<p>Transport Canada is working in collaboration with others to advance the transition to unleaded aviation gasoline for piston engine aircraft</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>A new ICAO nvPM mass and number standard is implemented into the Canadian Aviation Regulations (CARs)</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>New nvPM standard is incorporated into the CARs by December 2022</li> </ul> <p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Percentage of regulatees who comply with existing emissions standards for NOx, nvPM, CO, and unburned hydrocarbons, and with the new nvPM mass and number standard, once implemented</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>100% compliance to emissions standards</li> </ul> <p><b>Performance indicator 3:</b></p> <ul style="list-style-type: none"> <li>Research and testing on unleaded aviation gasoline candidate fuels</li> </ul> <p><b>Target 3:</b></p> <ul style="list-style-type: none"> <li>On an annual basis, research and testing has been conducted. Additional evidence is generated</li> </ul>	<p><b>Target 1:</b></p> <p>The new nvPM mass and number standards have been incorporated in the Canadian Aviation Regulations in March 2021</p> <p><b>Target 2:</b></p> <p>There is 100% compliance to all existing emissions standards</p> <p><b>Target 3:</b></p> <p>Transport Canada continues to collaborate with key partners, including Natural Resources Canada, Health Canada, Environment and Climate Change Canada, and the United States Federal Aviation Administration on the transition to unleaded aviation gasoline. Due to impacts of the COVID-19 pandemic, no new research or</p>	<p>negative human health impacts.</p> <p>Collaboration with national and international partners on research to advance scientific understanding of aviation gasoline performance and emissions will contribute to finding an unleaded replacement fuel so that the exemption to the Gasoline Regulations can be removed in the future.</p> <p><a href="#">SDG 3.9</a></p>
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with others to find a suitable unleaded fuel, such that the exemption can be removed		testing was completed during the 2021 to 2022 fiscal year.	
<b>FSDS Contributing Action: Other</b>			
<b>Corresponding departmental actions (Do not edit)</b>	<b>Starting points Performance indicators Targets (Do not edit)</b>	<b>Results achieved and responsible OPIs</b>	<b>Contribution by each departmental result to the FSDS goal and target</b>
Under the <b>Rail Sector Regulatory Initiative</b> , limit criteria air contaminant (or air pollutant) emissions from the rail sector through the Locomotive Emissions Regulations	<p><b>Starting Point:</b> The Locomotive Emissions Regulations entered into force in June 2017</p> <p><b>Performance indicator 1:</b></p> <ul style="list-style-type: none"> <li>Percentage of railway companies (regulatees) who comply with the reporting requirements under the Locomotive Emissions Regulations by filing Annual Reports and In-use Test Reports with Transport Canada</li> </ul> <p><b>Target 1:</b></p> <ul style="list-style-type: none"> <li>100% of railway companies (regulatees) per year that comply with the reporting requirements under the Locomotive Emissions Regulations</li> </ul>	<p><b>Target 1:</b> By March 31, 2022, 100% of regulatees complied with reporting requirements under the Locomotive Emissions Regulations. 15/15 railway companies required to report under the Regulations submitted an Annual Report to Transport Canada that included information on the locomotive's Tier of standards (or emission standards level) and annual fleet changes to address air pollutant emissions. 2/2 railway companies required to provide emission testing results under the Regulations did so through the In-use Test Reports provided to Transport Canada</p>	<p>Contribute to reducing air pollutant emissions from locomotives by promoting, monitoring and enforcing compliance with the Locomotive Emissions Regulation, which is good for the health and quality of life of all Canadians. To comply with the Locomotive Emissions Regulations, railway companies must meet regulatory requirements, including emission standards for new locomotives, carry out emission testing and file reports with Transport Canada</p> <p>SDG 3.9 SDG 11.6</p>



	<p><b>Performance indicator 2:</b></p> <ul style="list-style-type: none"> <li>Percentage of locomotives operated by railway companies (regulatees) that meet an emission standard, based on the information reported to Transport Canada in the Annual Reports</li> </ul> <p><b>Target 2:</b></p> <ul style="list-style-type: none"> <li>Positive change (increase) per year in the percentage of locomotives that meet an emission standard</li> </ul>	<p><b>Target 2:</b></p> <p>86.5% of locomotives operated by railway companies (regulatees) met an emission standard, based on the information reported to Transport Canada in the 2021 Annual Reports. This represents an increase of 1.8% over last year.</p>	
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**FSDS Contributing Action: Prevent environmental emergencies or mitigate their impacts**

Corresponding departmental actions (Do not edit)	Starting points Performance indicators Targets (Do not edit)	Results achieved and responsible OPIs	Contribution by each departmental result to the FSDS goal and target
<p><b><u>Prevention</u></b></p> <p>Transportation of Dangerous Goods policy and regulatory plan seeks to ensure compliance within industry by anticipating/responding to issues related to the transportation of dangerous goods. This includes:</p> <ul style="list-style-type: none"> <li>conducting education, outreach and awareness activities to ensure that the</li> </ul>	<p><b>Starting Point:</b></p> <p>The rate of reportable releases for 2019 to 2020 was 202.64</p> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>Rate of reportable releases of dangerous goods per year (the number of reportable releases divided by the nominal Canadian Gross Domestic Product for the year)</li> </ul> <p><b>Target:</b></p>	<p><b>Target:</b></p> <ul style="list-style-type: none"> <li>The rate of reportable releases of dangerous goods per year (the number of reportable releases divided by the nominal Canadian</li> </ul>	<ul style="list-style-type: none"> <li>The primary mandate of the TDG Program is to promote public safety. This includes the prevention and mitigation of dangerous goods releases and incidents. The departmental actions have directly contributed to the achievement of the Sustainable Development Goal</li> </ul>

<p>industry knows its legal and regulatory responsibilities</p> <ul style="list-style-type: none"> <li>bringing Canada’s regulations in line with international codes; and</li> <li>maintaining an effective oversight regime that seeks to guarantee regulatory compliance and carry out enforcement when warranted</li> </ul> <p><b>Mitigation</b></p> <p>Transportation of Dangerous Goods employs several strategies to mitigate emergencies involving dangerous goods, such as:</p> <ul style="list-style-type: none"> <li>requiring the development of Emergency Response Assistance Plans (ERAPs), to ensure that industry knows what to do in the event of a release or anticipated release of certain higher-risk dangerous goods while in transport</li> <li>dispatching Remedial Measures Specialists (RMSs) to the location of dangerous goods emergencies to promote public safety by monitoring remedial measures taken to mitigate the incident</li> </ul>	<ul style="list-style-type: none"> <li>1% reduction in the rate for current year as compared to the rate of reportable releases in the previous year</li> </ul> <p><u>Note:</u></p> <p>A reportable release means either:</p> <ul style="list-style-type: none"> <li>an actual release has occurred where the amount of dangerous goods released meets the minimum threshold specified by regulation considered to endanger public safety, where “public safety” is defined as the safety of human life and health and of property and the environment; or</li> <li>a release of dangerous goods is expected to occur.</li> </ul> <p>Canadian regulations have been updated to include “anticipated releases” as reportable as of December 1, 2016 (SOR/2016-95 May 13, 2016). Some possible examples of an anticipated release include:</p> <ol style="list-style-type: none"> <li>an incident has occurred and dangerous goods will likely have to be transferred to another container;</li> <li>a container is damaged to the extent that its integrity is compromised and dangerous goods could be released; or</li> <li>a container is lost in navigable waters</li> </ol> <p>Continued efforts by the department are made to reduce number of reportable dangerous goods incidents per year. Since December 2016, companies have to report both a release and anticipated release to the Minister within 30 days of the initial report made to CANUTEC, and the reporting levels</p>	<p>Gross Domestic Product for the year) is 186.7 which is a 20% increase compared to last year (that was historically low due to the COVID slowdown).</p> <ul style="list-style-type: none"> <li>TC has developed and maintained safety standards for means of containment such as tank cars, highway tanks, intermediate bulk containers, and cylinders, which are incorporated by reference in the <i>Transportation of Dangerous Goods Regulations (TDGR)</i>.</li> <li>In response to fires of Class 3 flammable liquids during a derailment, the ERAP program has developed, established, and released new fire response requirements within an ERAP.</li> <li>In response to the COVID-19 restrictions in place, TC issued guidance on alternative oversight activities, such as remote inspections to improve oversight measures, and issued sixteen temporary certificates and two equivalency certificates to facilitate the safe transportation of dangerous goods and support pandemic relief efforts.</li> <li>Over the past year, TC has modernized the Transportation of Dangerous Goods Oversight regime by improving and updating the tools and databases to provide more complete and accurate information on regulated companies and their compliance status to better inform risk-based planning, as well as strengthening the data collection processes with partners to better identify the national regulatory compliance rate. The implementation of a Client Identification Database (CID) will provide TC with a reliable and comprehensive inventory of TDG</li> </ul>	<p>(SDG) target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination. These actions include:</p> <ol style="list-style-type: none"> <li>Conducting education, outreach and awareness activities to ensure that the industry is aware of its legal and regulatory responsibilities</li> <li>Bringing Canada’s regulations in line with international codes</li> <li>Maintaining an effective oversight regime to ensure regulatory compliance and to carry out enforcement when warranted</li> <li>Updating the ERAP web page with 4 detailed guidance documents that provide expectations on how to develop and submit an Emergency</li> </ol>
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<p>The Canadian Transport Emergency Centre (CANUTEC) is a national advisory service that assists emergency response personnel in handling dangerous goods emergencies on a 24/7 basis</p>	<p>are expected to remain steady with improved industry reporting requirement awareness</p>	<p>sites and dangerous goods activities.</p> <ul style="list-style-type: none"> <li>• New digital tools, such as the Regulatory Oversight Management (ROM) application were also launched. The ROM application provides: <ol style="list-style-type: none"> <li>1. The ability to capture inspection results directly while in the field, using a mobile device</li> <li>2. Better integration with Outlook</li> <li>3. Offline capacities for inspections in remote locations</li> <li>4. Simple and quick ways to input data, such as voice-to-text</li> </ol> </li> <li>• TC has developed annual policy and regulatory plans that anticipates and responds to the evolving issues faced in the transportation of dangerous goods. This strategy allows for early regulatory consultations and meaningful engagement with stakeholders, supports harmonization with international codes, and allows the Program to adapt to the industry, enhance capacity, and strengthen regulatory frameworks.</li> <li>• TC completed work on various research initiatives and projects to support these safety standards and safety requirements in the TDGR, including: <ol style="list-style-type: none"> <li>1. Evaluating methods to assess the toxicity of crude oil to inform best practices regarding classification of crude oil</li> <li>2. Publishing a series of research papers on a completed research program to model how tank cars carrying crude oil</li> </ol> </li> </ul>	<p>Response Assistance Plans (ERAPs), when required, so that industry knows what to do in the event of a release or anticipated release of certain higher-risk dangerous goods while in transport</p> <p>5. Maintaining the deployment of Remedial Measures Specialists (RMSs) to the scene of dangerous goods emergencies to promote public safety by assessing and monitoring the corrective actions taken to mitigate the incident.</p> <ul style="list-style-type: none"> <li>• The actions of the TDG Program have allowed TC to ensure that Canadians remain safe and healthy.</li> <li>• The TDG Program continues to provide training, tools, and resources to support the inspectorate.</li> <li>• The Canadian Transport Emergency Centre (CANUTEC) continued to assist</li> </ul>
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		<p>perform when exposed to fire</p> <p>3. Completing a test program with the National Research Council Canada to inform the ongoing development of an International SAE Aerospace standard (AS6413) on packaging performance for lithium battery transportation on passenger aircrafts.</p> <ul style="list-style-type: none"> <li>• A regulatory amendment has been proposed to harmonize the TDGR with the United Nations recommendations by aligning safety marks, classification information, shipping names, and special provisions. This amendment will increase the consistency, quality, efficiency, and effectiveness of our transportation of dangerous goods compliance activities.</li> <li>• These activities include reviewing and updating the risk ranking methodology used to prioritize TDG inspection sites, ensuring that means of containment facilities with expired certificates do not conduct the activities for which the certificates were issued, and maintaining and strengthening the TDG Safety Awareness outreach program and supporting awareness material for industry, communities/municipalities, first responders and the general public.</li> <li>• TC is amending the <i>Transportation of Dangerous Goods Act</i> to improve TC's knowledge of stakeholder activities, modernize and strengthen its oversight tools, and update authorities that will allow the department to better respond to industry urgencies and prevent accidents.</li> <li>• A regulatory amendment has been proposed to incorporate a new training standard into</li> </ul>	<p>emergency response personnel in handling dangerous goods emergencies on a 24/7 basis by providing pertinent and timely advice.</p> <ul style="list-style-type: none"> <li>• CANUTEC coordinated the dissemination of incident information with key internal and external partners, emergency response personnel, and the TC Situation Centre (SITCEN), which serves as the department's point of contact for other types of transportation safety and security emergencies.</li> <li>• An action plan was developed to better identify the level of national compliance of the transportation of dangerous goods using provincial and territorial compliance data for road shipments. This provincial and territorial data will be supplemented by a proposed TC registry of regulated entities</li> </ul>
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		<p>the TDGR. This amendment will establish clearer and more specific competency-based training requirements; improve the overall safety of the transportation of dangerous goods by reducing the number of incidents caused by inadequate or inconsistent training; and provide for more transparent enforcement by establishing objectively verifiable criteria.</p>	<p>(companies) that handle, offer for transport, transport, or import dangerous goods in Canada.</p> <ul style="list-style-type: none"><li>• In addition, TC continued to undertake research projects to inform decision-making on various TDG initiatives, including the development and improvement of regulatory requirements, policies, and oversight activities. Such TDG research includes: a multi-year plan comprising twenty-three new projects based on external consultation resulting from the 2019 TDG Research Symposium, and sixteen of these research projects have been initiated to date and were ongoing in 2021-22.</li><li>• TDG research in 2021-22 included projects addressing emergency response, means of containment, crude oil, lithium batteries</li></ul>
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			<p>and other electric energy storage systems, analytics, risk assessments and analyses, and geographic-information-system (GIS) based supply chain, regional, and modal analyses.</p> <p><a href="#">SDG Target 3.9</a></p>
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#### 4: Integrating sustainable development

Transport Canada will continue to ensure that its decision-making process includes consideration of FSDS goals and targets through its strategic environmental assessment (SEA) process. A SEA of a policy, plan or program proposal includes an analysis of the impacts of the given proposal on the economy, society and the environment, including on relevant FSDS goals and targets.

During the 2021 to 2022 reporting cycle, Transport Canada considered the environmental effects of departmental proposals subject to the *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals*, as part of its decision-making processes. Through the SEA process, departmental proposals were found to have a range of effects on progress toward achieving the 2019 to 2022 FSDS goals and targets.

Public statements on the results of Transport Canada's assessments, which are made public when an initiative has undergone a detailed SEA, can be found here: <https://tc.canada.ca/en/corporate-services/transparency/corporate-management-reporting/strategic-environmental-assessment-public-statements>. The purpose of the public statement is to demonstrate that the environmental effects, including the impacts on achieving the FSDS goals and targets, of the approved policy, plan or program have been considered during proposal development and decision-making.

Transport Canada continues to work on updating its internal Sustainable Transportation Assessment Tool (STAT), which is the cornerstone of the department's SEA process. The goal is to strengthen the assessment of departmental proposals and better determine their potential for important environmental effects.

Additional information on Transport Canada's SEAs for 2021 to 2022 can be found in the table below.

Initiative Type	Total number of proposals	Departmental SEA Compliance Rate
Memoranda to Cabinet	16	100%  (Equivalent to 66/66)
Treasury Board Submissions	19	
Regulations	31	