

2018-2022

MEMORANDUM OF UNDERSTANDING BETWEEN TRANSPORT CANADA AND THE RAILWAY ASSOCIATION OF CANADA FOR REDUCING LOCOMOTIVE EMISSIONS

1.0 Context

The Government of Canada is taking strong action on climate change. Canada is a signatory to the Paris Agreement which sets out ambitious efforts to combat climate change globally. The Pan Canadian Framework on Clean Growth and Climate Change (PCF), lays out the government's agenda on climate change and has a goal to reduce Canada's total greenhouse gas (GHG) emissions to 30 percent below 2005 levels by 2030.

The transportation sector plays a key role in achieving these reductions. In 2016 transportation accounted for approximately 25 percent of Canada's GHG emissions¹. The PCF sets out complementary actions to reduce emissions for the transportation sector; these actions are focused on emissions standards, cleaner fuels, and a shift from higher- to lower-emitting transportation modes². The PCF is also focused on investing in infrastructure, including transportation infrastructure that supports climate-resilience and adaptation. In addition, Canada is implementing a Clean Fuel Standard and carbon pricing to support GHG emissions reductions.

Rail accounts for about 4 percent of Canada's transportation GHG emissions¹. By context, the rail sector moves nearly 70 percent of intercity ground freight and more than 80 million people each year³ and is one of the least GHG intensive modes of transportation. Canada's rail sector is committed to doing its part to improve its fuel efficiency and reduce transportation-related emissions in Canada. Since 1990, the freight-rail industry has improved its fuel efficiency by more than 40 percent since reporting began. Rail is an efficient mode of transportation and supports Canada's focus on shifting to lower-emitting modes of transportation.

¹ National Inventory Report, Emission trends by Canadian Economic Sector, p. 58
<http://www.publications.gc.ca/site/eng/9.506002/publication.html>

² Pan Canadian Framework on Clean Growth and Climate Change: Complementary actions to reduce emissions. <https://www.canada.ca/en/services/environment/weather/climatechange/pan-canadian-framework/complementary-actions-reduce-emissions.html>

³ Railway Association of Canada <https://www.railcan.ca/101/canadas-freight-railways-moving-the-economy/>

The Government of Canada and the Railway Association of Canada (RAC) are committed to building on the success of three previous MOUs, dating back to 1995, to reducing emissions intensity in the rail sector and to strengthening the relationship between the signatory parties.

2.0 Objectives

This Memorandum of Understanding (“Memorandum”) establishes a framework through which the RAC, its member companies (Appendix A), and Transport Canada will address GHG emissions and Criteria Air Contaminants (CAC) from railway locomotives operated by Canadian railway companies.

This Memorandum:

- supports the Government of Canada’s commitments and initiatives under the PCF and vision for green and innovative transportation in Canada as outlined in *Transportation 2030: A Strategic Plan for the Future of Transportation in Canada*;
- complements the implementation of pricing carbon pollution, the Clean Fuel Standard, the *Locomotive Emissions Regulations*, and the *Renewable Fuel Regulations*;
- supports the RAC’s policies and programs to manage fuel use, address locomotive emissions, and position the railway sector as part of Canada’s climate change solution;
- recognizes and builds on the success of the three previous memoranda between the RAC and the Government of Canada (1995-2005; 2006-2010; 2011- 2017);
- includes measures, targets, and actions to improve GHG emissions intensity in the rail sector, and report on CAC emissions intensity; and,
- commits the government and the RAC to working together to address emerging issues and identify priorities related to climate change and reducing emissions in the rail sector.

3.0 Duration

This Memorandum will come into force upon signing by the duly authorized representatives of the RAC and Transport Canada and will endure until December 31, 2022, unless it is terminated at an earlier date. The party that is terminating the Memorandum will give six months prior formal written notice to the other party.

4.0 Greenhouse Gas Emissions

The rail sector is committed to continuing to improve its emissions intensity. For the duration of the Memorandum, the RAC will encourage its members to improve their GHG emissions intensity from railway operations.

For this Memorandum, Canadian-owned Class I freight, short lines, and intercity passenger railways have committed to improve their GHG emissions intensities. Commuter railways will not have an intensity target, but will report on their performance and efforts to reduce GHG emissions intensity. American-owned Class I railways with operations in Canada are not subject to the terms and conditions of this MOU.

The GHG emissions intensity targets, expressed as carbon dioxide equivalent (CO₂ eq.) per productivity unit, for the rail industry are outlined in the table below.

Carrier Class	Percent Reduction Target (by 2022)	Base year	Productivity Unit
Class I Freight	6% reduction from 2017	2017 reported GHG intensity	CO ₂ eq. per 1,000 revenue tonne kilometres
Intercity Passenger	6% reduction from 2017	2017 reported GHG intensity	CO ₂ eq. per passenger-kilometre
Short Lines	3% reduction from 2017	2017 reported GHG intensity	CO ₂ eq. per 1,000 revenue tonne kilometres

Emission targets will be measured against 2017 carrier class emissions intensity levels as reported in the 2017 Locomotive Emissions Monitoring Report. Annual reporting will track progress toward the target, but achievement of the targets will be determined at the end of the Memorandum.

5.0 Criteria Air Contaminant Emissions

The RAC encourages its members, including those not covered by the *Locomotive Emissions Regulations* (LER), to improve their CAC emission performance, specifically nitrogen oxides (NO_x), particulate matter (PM), carbon monoxide (CO), hydrocarbons, and sulphur oxides (SO_x). Through this Memorandum, the RAC will continue to report on annual CAC emissions, in a manner and format that is agreeable to all parties, with a view to leverage the data railways provide under the regulations. CAC reporting under the MOU does not fulfill reporting requirements under the LER.

6.0 General Areas of Collaboration

Transport Canada and the RAC agree to work together to identify opportunities and address short and medium-term barriers to reducing transportation-related GHG emissions. Transport Canada is committed to consulting with the RAC and its members on policy initiatives that may impact railway operations and/or incentive transportation of goods and people through lower modes of transportation such as rail.

Specific topics of collaboration include, but are not limited to, the following areas:

- capitalizing on opportunities that rail presents to reduce the overall carbon footprint of the transportation sector;
- developing a comprehensive pathway document for aligning government and industry efforts to reduce emissions produced by the railway sector;
- identifying opportunities to advance clean technology, clean fuels, and innovation in the railway sector through research, policy or programs;
- communicating the environmental benefits of railways and emission performance in the context of transportation-related emissions in Canada;
- sharing information on emerging climate change issues such as carbon pricing, renewable and alternative fuels, and climate change adaptation; and,
- accounting for the use of renewable fuels in railway emissions calculations.

Transport Canada commits to keeping other federal departments informed with respect to relevant activities and initiatives that result from the Memorandum. This includes extended membership of the Management Committee and Technical Review Committee to include representatives from Environment and Climate Change Canada and Natural Resources Canada, as well as including other federal departments in the areas of work noted above as necessary.

At their discretion, Transport Canada and/or the RAC may organize workshops on emissions reduction opportunities and environmental best practices in the railway industry. Transport Canada and the RAC will coordinate and engage with the United States Environmental Protection Agency, the Association of American Railroads, and other relevant government and non-government organizations as appropriate.

7.0 Research & Development

Research and development (R&D) is essential for reducing emissions produced by locomotives. Transport Canada and the RAC commit to working together to advance research priorities to support this MOU in concert with the pathway document described in Section 6. In order to further foster alignment between this MOU and Transport Canada efforts to support clean rail R&D, Transport Canada commits to providing a summary of the clean rail R&D program to the MOU management committee on an

annual basis. The RAC and its member companies are also encouraged to participate in the Railway Research Advisory Board (RRAB), which is Transport Canada's primary mechanism for enhancing rail-related research collaboration between research bodies, industry and federal departments.

Transport Canada and the RAC also commit to working with other federal government departments and agencies to ensure that research is aligned with the pathway document described in Section 6.

8.0 Annual Reports

The following sections outline the reporting and verification requirements for this Memorandum. The first report will be for calendar year 2018 and the last report will be for the year 2022.

8.1 Contents of Annual Reports

The RAC will be responsible for submitting a report for each year of the agreement. Each report will describe the performance under this Memorandum and will include:

- a general description of the rail sector, its environmental and economic benefits, and its contribution to transportation-related emissions in Canada;
- a summary of the actions taken by the RAC and its members to reduce GHG and CAC emissions intensities from locomotives and across other operations, and the external factors affecting the sectors' emissions (both positive and negative);
- a summary of the annual progress made towards meeting GHG emissions intensity targets as set out in Section 4; and,
- a summary of activities undertaken by the rail sector and the federal government to reduce emissions produced by locomotives and adapt to climate change. For example, this could include research, development and demonstration; policy studies; and incentives to reduce of the emission intensity of railways as well as increase movement of freight and passenger rail in Canada. Transport Canada will work with other federal departments to provide information in this regard.

The annual reports will also include detailed reporting on data, such as:

- the names of the Canadian railway companies that report under the Memorandum, and their province(s) of operation;
- the composition of the locomotive fleet by model, year of manufacture, horsepower, engine model, and duty type;
- the gross tonne-kilometres, revenue tonne-kilometres, passenger-kilometres, and total fuel consumption data for railway operations during the reported calendar year; and,

- estimates of the annual emissions of nitrogen oxides, hydrocarbons, sulphur oxides, particulate matter, carbon monoxide, nitrous oxide, methane, carbon dioxide, and carbon dioxide equivalent, emitted during all rail operations in Canada.

To avoid duplication of work, the reporting requirements for CAC data will align with the requirements of the LER.

The final report under the Memorandum (i.e. 2022 reporting year) will include a summary of the parties' accomplishments over the total reporting period. This includes all achievements under the Memorandum and a review of the sector's performance with respect to GHG and CAC emissions intensity improvements and the voluntary GHG emissions intensity targets.

8.2 *Review and Approval of Annual Reports*

The Technical Review Committee (Section 9.2) will develop a production schedule and perform a detailed review for each annual report.

Each annual report will be approved by the Management Committee (Section 9.1).

8.3 *Dissemination of Annual Reports*

Each annual report shall be published jointly by the parties to the Memorandum and released to the public as soon as possible, once approved. The parties will jointly develop a communications strategy to maximize outreach and disseminate annual reports. As part of this strategy, Transport Canada will share the annual reports with Environment and Climate Change Canada and other relevant federal departments.

The RAC will be the copyright holder of all rights in, and to, the annual report. Transport Canada will be the licensee of any copyright held by the RAC in the annual report.

9.0 *Management of the Memorandum*

The following sections outline the governance structure for this Memorandum.

9.1 *Management Committee*

The Memorandum will be governed by a Management Committee comprised of senior officials from the parties to the Memorandum, other federal government departments (including Environment and Climate Change Canada and Natural Resources Canada), representatives from railway companies, and a representative of an environmental non-governmental organization.

The RAC and Transport Canada will select the environmental non-governmental organization representative. Other representatives may be invited to attend meetings from time to time, as agreed to by the Management Committee. The Management Committee will meet at least once a year.

The functions of the Management Committee will be defined in a Terms of Reference that includes, but is not limited to, the following:

- act as a forum for discussing policy issues, sharing priorities on research and development, and examining other initiatives that support the objectives of the Memorandum;
- review and approve the annual report (Section 8), and any other outputs generated as a result of the Memorandum;
- conduct, as necessary, a review of the Memorandum to assess any significant changes to the Canadian rail industry, or the Canadian economy in general, that could have an impact on the ability of the RAC and its member companies to respect the terms of the Memorandum;
- make recommendations that it deems necessary to improve the Memorandum; and,
- oversee the work of a Technical Review Committee (Section 9.2).

9.2 *Technical Review Committee*

A Technical Review Committee supports the Management Committee and is responsible for the oversight of reporting and verification activities. The Technical Review Committee includes representatives from the RAC and its members, Transport Canada, Environment and Climate Change Canada, and a technical representative from the selected environmental non-governmental organization.

Other representatives may be invited to attend meetings as necessary, as agreed to by the Technical Review Committee. The Technical Review Committee will meet at least once a year.

The functions of the Technical Review Committee include, but are not necessarily limited to, the following:

- assessing and recommending opportunities for expediting the reporting process;
- oversee reporting and verification activities for the annual report (Section 8), and any other outputs generated as a result of the Memorandum;
- review the methodology used for estimating emissions and recommend changes, when appropriate;
- review actions undertaken to achieve the goals of the Memorandum;

- make recommendations on R&D or other activities that support the Memorandum; and,
- undertake other activities as requested by the Management Committee.

9.3 Third Party Verification

A qualified auditor will be given access at least once over the duration of the Memorandum to audit the processes and supporting documentation pertaining to the Memorandum. Parties to the Memorandum will select the appropriate auditor and will share audit costs. The mandate of the auditor will be decided by the Management Committee.

10.0 General Provisions and Signatures

This Memorandum is a voluntary initiative that expresses in good faith the intentions of the parties. It is not intended to create nor does it give rise to legal obligations of any kind whatsoever. As such, it is not enforceable by law. The government reserves the right to develop and implement regulatory or other measures it deems appropriate to achieve clean air and climate change goals. Conversely signatory parties reserve the right to review and reassess performance targets in correspondence with evolving government policies, operating procedures or market conditions. Nothing in this Memorandum will constrain the parties from taking further actions relating to GHG and CAC emissions or fuel use that are authorized or required by law.

The parties recognize that the information provided pursuant to the Memorandum will be governed by the applicable legislation concerning protection and access to information.

Dated at Ottawa this 21 day of March 2019.



Minister of Transport



President and CEO, Railway Association of Canada

Appendix A

RAC MEMBER COMPANIES (As of March 6, 2019)

Alberta Prairie Railway	Last Mountain Railway
ArcelorMittal Infrastructure Canada s.e.n.c.	Metrolinx
Barrie-Collingwood Railway	New Brunswick Southern Railway Company Limited
Battle River Railway, NGC Inc.	Nipissing Central Railway Company
BCR Properties Ltd.	Ontario Northland Transportation Commission
Big Sky Rail Corp	Ontario Southland Railway Inc.
Boundary Trail Railway Co.	Orangeville Brampton Railway
Cape Breton & Central Nova Scotia Railway	Ottawa Valley Railway
Capital Railway	Prairie Dog Central Railway - Vintage Locomotive Society Inc.
Carlton Trail Railway	Québec Gatineau Railway Inc.
Central Maine & Québec Railway Canada Inc.	Québec Iron Ore Inc.
Central Manitoba Railway Inc.	Québec North Shore and Labrador Railway Company Inc.
Chemin de fer Arnaud Québec	Roberval and Saguenay Railway Company, The
CN	Romaine River Railway Company
Compagnie du Chemin de Fer Lanaudière inc.	Société du chemin de fer de la Gaspésie
CP	South Simcoe Railway
Essex Terminal Railway Company	Southern Ontario Railway
exo	Southern Railway of British Columbia Ltd.
Goderich-Exeter Railway Company Limited	St. Lawrence & Atlantic Railroad (Québec) Inc.
Great Canadian Railtour Company Ltd.	Toronto Terminals Railway Company Limited, The
Great Western Railway Ltd.	Train Touristique de Charlevoix Inc.
Hudson Bay Railway	Trillium Railway Co. Ltd.
Huron Central Railway Inc.	Tshiuetin Rail Transportation Inc.
Keewatin Railway Company	VIA Rail Canada Inc.
Kettle Falls International Railway, LLC	West Coast Express Ltd.
Knob Lake and Timmins Railway	White Pass and Yukon Route Railroad

