Notice to users: As a core component of our sustainability practices, CP has been a contributing participant to the CDP (formerly Carbon Disclosure Project) for over a decade. The information contained within this document originates from CP’s response to the CDP Climate Change 2020 Questionnaire.

As part of our transformational sustainability journey, CP is actively working with CDP to increase our transparency through continuous refinement of our sustainability disclosure and reporting practices. This document has been formatted to enhance user accessibility to important program details surrounding CP’s ongoing practices to improve management of greenhouse gas emissions and energy efficiency.

For more information or questions regarding this report or sustainability at CP, please contact sustainability@cpr.ca

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Calgary, AB, Canada T2C 4X9

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TABLE OF CONTENTS

03 C0. Introduction
06 C1. Governance
11 C2. Risks and opportunities
28 C3. Business strategy
35 C4. Targets and performance
43 C5. Emissions methodology
45 C6. Emissions data
55 C7. Emissions breakdowns
61 C8. Energy
67 C9. Additional metrics
69 C10. Verification
73 C11. Carbon pricing
77 C12. Engagement
86 C15. Signoff
88 Appendix 1: Verification Report
C0. Introduction
**C0.1**

Give a general description and introduction to your organization.

Canadian Pacific Railway Limited (CP) is a holding company and is the direct parent company of Canadian Pacific Railway Company (CPRC). Directly and through its subsidiaries, CPRC owns and operates a transcontinental freight railway in Canada and the U.S. CP’s diverse business mix includes bulk commodities, merchandise freight and intermodal traffic across a network of approximately 13,000 miles, serving the principal business centres of Canada from Montréal, Québec, to Vancouver, and the U.S. Northeast and Midwest regions. Through connections with other railways supported by a vast network of terminals, classifying yards, intermodal facilities and more than 100 transload operations, CP is able to extend its reach to customers across Canada and the U.S., including links with ports on both the West Coast and East Coast. On average, CP transports more than 53,000 carloads of customer goods and materials every week.

CP’s 2019 revenue was $7.8B CAD, derived primarily from freight transportation services and divided between the following sectors:

- 40% bulk (grain, coal, potash, fertilizers and sulphur)
- 39% merchandise (energy, chemicals and plastics, metals, minerals and consumer products, automotive and forest products)
- 21% intermodal

During the next decade, we believe climate change represents a fundamental threat to the planet and provides potential opportunities for our business. For nearly 140 years, CP has embodied strategic, long-term thinking, and as we look ahead to turning 150 in 2031, we remain committed to planning for the long term and confronting the challenges created by climate change. We are committed to serving North America and the world through efficient and sustainable rail transportation for the next 150 years and beyond.

The transportation sector is a major source of greenhouse gas (GHG) emissions in North America, accounting for 28 percent of Canadian and U.S. emissions in 2018. While rail transport represents only 2.2 percent of GHG emissions from the U.S. and Canada transportation sectors, the rail industry plays a major role in helping to reduce overall transportation-related GHG emissions. Railways represent the most energy-efficient method of moving freight over land. A single-unit train keeps more than 300 trucks off of public roads and is four times more fuel-efficient than highway transport, helping our customers further reduce GHG emissions. At CP, we have improved our fuel efficiency by more than 40 percent since 1990 (currently 13.8 percent better than the North American Class 1 freight railway average). As CP continues to strategically grow its business, we must continue to curtail our emissions, while supporting further emissions reductions across the broader transportation sector.

We acknowledge that fuel efficiency improvements alone are not enough and are looking to emerging technologies, renewable fuels, partnerships and innovative ways of running our business. Not only must we take steps to mitigate the risks of climate change, but it is also critical that we adapt our business and operations to changing conditions to avoid the worst of escalating major disruptions. We believe transportation of freight by rail will continue to play an integral role in the low-carbon future for North America, and CP is transitioning to be a leader in this transformation.

**Sources:**


2019 HIGHLIGHTS:

- CP maintained a high locomotive fuel efficiency of 0.955 U.S. gallons of locomotive fuel consumed/1,000 gross ton-miles (GTMs). Outperforming the North American Class 1 freight rail locomotive fuel efficiency average by 13.8%.
- Total revenues increased to $7.8B in 2019 from $7.3B in 2018.
- CP established new practices to improve future performance on climate change. For example, CP’s Board added a Risk and Sustainability Committee responsible for monitoring, measuring and overseeing CP’s key risks, strategic plans and opportunities, including broad climate-related oversight. More information can be found on CP’s new climate statement web page (https://sustainability.cpr.ca/about/climate-change/).

C0.2
State the start and end date of the year for which you are reporting data.

<table>
<thead>
<tr>
<th>Reporting year</th>
<th>Start date</th>
<th>End date</th>
<th>Indicate if you are providing emissions data for past reporting years</th>
<th>Select the number of past reporting years you will be providing emissions data for</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 2019</td>
<td>December 31, 2019</td>
<td>No</td>
<td>&lt;Not Applicable&gt;</td>
<td></td>
</tr>
</tbody>
</table>

C0.3
Select the countries/areas for which you will be supplying data.

Canada, United States of America

C0.4
Select the currency used for all financial information disclosed throughout your response.

$ Canadian

C0.5
Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C-TS0.7
For which transport modes will you be providing data?

Rail
C1. Governance
C1.1
Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1A
Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

<table>
<thead>
<tr>
<th>Position of individual(s)</th>
<th>Please explain</th>
</tr>
</thead>
</table>
| Board-level committee     | i) Committee responsible for climate-related issues: CP’s Board of Directors oversees risk management and our business strategy, providing guidance to management on our long-term strategic direction and ensuring CP serves the interests of shareholders. A component of this oversight includes setting the direction and reviewing progress on environmental issues, including climate change. In 2019, acknowledging the importance of sustainability to the business and internal and external stakeholders, CP’s Board established the Risk and Sustainability Committee, charged with the responsibility to work with the board to monitor and measure principal risks of the business. The new Committee establishes a clear governance structure within the Board for oversight of sustainability, including climate-related matters. The Committee oversees strategic and integrated risk practices, safety and environmental processes and systems, and CP’s long-term sustainability model. Through this framework, CP can effectively communicate and respond to emerging environmental topics, while proactively integrating sustainability principles into the business and strengthening climate-related goals and commitments.  

ii) Climate-related decisions: Despite recently being formed in 2019, the Committee has already made several key decisions on climate topics, including consideration and approval of CP’s new climate statement. CP also recently signed the SBTi Commitment Letter and the Committee will continue to provide oversight on CP’s overall approach to climate change, including the development of a climate strategy and the setting of targets that follow the Commitment Letter. The climate statement is now posted on the website and informing CP’s approach to climate change |
C1.1B
Provide further details on the board’s oversight of climate-related issues.

<table>
<thead>
<tr>
<th>Frequency with which climate-related issues are a scheduled agenda item</th>
<th>Governance mechanisms into which climate-related issues are integrated</th>
<th>Scope of board-level oversight</th>
<th>Please explain</th>
</tr>
</thead>
</table>
| Scheduled – some meeting | • Reviewing and guiding strategy  
• Reviewing and guiding major plans of action  
• Reviewing and guiding risk management policies  
• Reviewing and guiding business plans  
• Setting performance objectives  
• Monitoring implementation and performance of objectives | <Not Applicable> | The Board is responsible for overseeing CP’s business, providing overall guidance to management on its long-term strategic direction, overseeing risk management and ensuring that CP serves the long-term interests of shareholders. In 2019, CP’s Board established the Risk and Sustainability Committee to oversee sustainability and climate topics. The Committee came into functioning as of the summer of 2019 and is scheduled to meet at least three times a year. Key objectives of these meetings are to: (1) Review CP’s short- and long-term sustainability objectives and results of any internal and external stakeholder engagement. (2) Review CP’s performance against our short- and long-term sustainability objectives, and review plans to improve performance concerning sustainability practices and reporting. (3) Review strategic plans and opportunities for the business to ensure alignment with our sustainability objectives and long-term sustainability considerations, including climate change, workforce risks and supply chain risks. (4) Monitor and report to the Board on emerging trends, risks or issues related to sustainability topics relevant to CP. During the last year, the Committee was involved in the development of a public-facing climate statement, which can be found on CP’s new climate statement web page (https://sustainability.cpr.ca/about/climate-change/). More information on this Committee is available through its Terms of Reference, which describe the Committee’s structure and vision. [https://s21.q4cdn.com/736796105/files/doc_downloads/terms/2019/Terms-of-Reference-Risk-and-Sustainability-Committee.pdf](https://s21.q4cdn.com/736796105/files/doc_downloads/terms/2019/Terms-of-Reference-Risk-and-Sustainability-Committee.pdf) |

C1.2
Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

<table>
<thead>
<tr>
<th>Name of the position(s) and/or committee(s)</th>
<th>Reporting line</th>
<th>Responsibility</th>
<th>Coverage of responsibility</th>
<th>Frequency of reporting to the board on climate-related issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Executive Officer (CEO)</td>
<td>&lt;Not Applicable&gt;</td>
<td>Both assessing and managing climate-related risks and opportunities</td>
<td>&lt;Not Applicable&gt;</td>
<td>Quarterly</td>
</tr>
</tbody>
</table>

CDP CLIMATE CHANGE 2020 QUESTIONNAIRE | RETURN TO TABLE OF CONTENTS
C1.2A

Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

i) A description of the responsibilities of the position with regard to the assessment and monitoring of climate-related issues: CP’s President & CEO holds the highest level of responsibility for organizational management and performance related to climate change. CP’s President & CEO is a Director of the Board and communicates critical insights about the business through regularly scheduled Board meetings. Climate-related issues, including GHG emissions and fuel efficiency, are measures of operating performance and are therefore the responsibility of the President & CEO. Driving sustainable, profitable growth was one of the President & CEO’s three key focus areas for the entire business in 2019, and results are regularly tracked, reviewed and discussed at the Board level, with involvement from the President & CEO.

ii) A rationale for why responsibilities for climate-related issues have been assigned to this position: The President & CEO sets CP’s broader vision in alignment with the Board and works with key leaders across the business to disseminate messages, drive performance and deliver results, including sustainability and climate change. These processes influence CP’s operating strategy, such as its precision scheduled railroading (PSR) model and capital improvement projects. Recently, the President & CEO was directly involved with the approval of CP’s annual fuel economy target and several capital projects with substantial GHG emissions reductions, including multi-year investments in high-efficiency grain hopper cars and the locomotive modernization program.

iii) Organizational structure: CP’s Senior Vice-President and Chief Risk Officer (CRO) reports to the President & CEO and is responsible for all corporate risk-related functions, including enterprise risk management (ERM), environmental affairs, community and organizational safety and sustainability policy and performance (including climate-related concerns). The CRO directly oversees each of these disciplines through a variety of program managers and staff to set program direction, monitor performance and communicate expectations on climate-related matters. The CRO supports the President & CEO to ensure the corporate vision is translated into operating plans and practices.

To drive action and ensure internal engagement on sustainability across the company, CP has implemented an internal Sustainability Steering Committee. This group, which is overseen by several senior leaders and executives, including the CRO, meets quarterly to discuss sustainability planning and CP’s most material environmental, social and governance topics. Climate change, GHG emissions, mitigation measures and climate strategy are regularly discussed by the Committee. CP’s Sustainability Steering Committee monitors and reports on annual performance on material climate topics, including operational efficiency metrics, fuel efficiency and GHG emissions results to drive performance. This information is communicated internally throughout the organization and externally through CP’s sustainability reporting process, including annual CDP participation.
C1.3
Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Yes

C1.3A
Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive
Corporate executive team

Type of incentive
Monetary reward

Activity incentivized
Efficiency target

Comment
CP has a variety of compensation programs designed to incentivize high-level performance and to align management’s interests with the business strategy and long-term interests of CP shareholders. Short- and long-term incentive programs provide an annual monetary award for management-level employees based on achieving strong financial, safety and operational results. These programs incentivize CP employees, including the Executive team, to achieve operational results such as fuel efficiency, driving both economic and environmental performance. As an energy-intensive industry, locomotive fuel consumption represents the second-largest operating cost at CP and accounts for 96.3 percent of Scope 1 GHG emissions. As a result, the incentive programs for operations employees are directly related to reductions in locomotive fuel conservation as a critical component of CP’s response to climate change. A key component of our performance relates to the implementation of the industry-leading operations PSR model. Precision scheduled railroading involves constant monitoring and optimization of all railway assets and processes to maximize operational efficiency, improve outcomes for CP’s stakeholders and increase safety for employees and communities. In 2019, CP maintained an average fuel efficiency of 0.955 U.S. gallons of locomotive fuel consumed per 1,000 GTMs, which is 13.8 percent better than the North American Class 1 railroad average. This achievement was possible through ongoing implementation of fuel savings projects, including a multi-year $500M investment in 5,900 high-capacity grain hopper cars. By replacing aging cars with higher-capacity rolling stock, CP can transport more than 40 percent more grain per unit train, resulting in significant fuel savings. These capacity improvements have supported CP in moving more Canadian grain products during the 2018–2019 crop year than any year in our history. CP continues to prioritize operational efficiency as a means to maintain a competitive fuel efficiency into the future. This involves a continual review of operational plans, locomotive fleet sizing and renewal, setting fuel efficiency targets and exploring the potential for alternative fuels and emerging technologies such as liquefied natural gas, biodiesel, battery-hybrids and hydrogen fuel cells in CP’s locomotive fleet.
C2. Risks and opportunities
C2.1

Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1A

How does your organization define short-, medium- and long-term time horizons?

<table>
<thead>
<tr>
<th>From (years)</th>
<th>To (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term</td>
<td>0</td>
</tr>
<tr>
<td>Medium-term</td>
<td>1</td>
</tr>
<tr>
<td>Long-term</td>
<td>5</td>
</tr>
</tbody>
</table>

C2.1B

How does your organization define substantive financial or strategic impact on your business?

i) Definition of substantive financial or strategic impacts on CP: CP’s ERM process classifies identified organizational risks according to the level of impact severity. Through this process, moderate risks are identified as those with a substantive financial impact of at least $100M in operating costs or an event that requires up to a year of monitoring and recovery. Major risks, likely to result in a significant disruption to business operations such as infrastructure damage related to flooding, fire or other climate-related impacts, are identified as having a financial impact of at least $250M and an extended negative environmental, health and safety or reputational impact on the business. Catastrophic risks are those that cause more than $400M of financial impact and create long-term and severe consequences. In addition to rating corporate risks by severity, CP assesses their frequency and probability of occurrence. For example, a slight risk is considered to have less than 10 percent probability of occurring or one may occur every 10 years or greater, while an expected risk has a 90 percent or greater probability, or one that has happened at least annually. Together with the quantifiable financial and environmental thresholds, the frequency and probability of occurrence contribute to our definitions of substantive financial or strategic impact when assessing climate-related risks.
C2.2

Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered
Direct operations
Upstream
Downstream

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
Annually

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
i) Description of the process used to determine which risks and opportunities could have a substantive financial or strategic impact: CP’s ERM program is a hybrid of the ISO 31000 and COSO risk management framework, a global standard that provides principles, guidelines and processes for managing risks. Organizational risks or opportunities are assessed and prioritized every year based on potential impact and likelihood, taking account of financial, safety, environmental, strategic and reputational impacts, as well as existing management measures. This results in the classification of risks from minimal to catastrophic. Moderate risks are identified as those with a substantive financial impact of at least $100M in operating costs or an event that requires up to a year of monitoring and recovery. Major risks, likely to result in a significant disruption to business operations such as infrastructure damage related to flooding, fire or other climate-related impacts, are identified as having a financial impact of at least $250M or extended negative environmental, health and safety or reputational impact on the business. Catastrophic risks are those that cause more than $400M of financial impact or create long-term and severe consequences. Through this process, CP prioritizes, manages and monitors the top significant risks (typically around 10) on a quarterly basis. To further understand climate-related risks, CP recently completed scenario analysis to identify and assess the full range of transition and physical climate-related risks and opportunities to CP’s direct operations and value chain. The scenario analysis process involved extensive input from internal experts experienced in operations, communications, regulatory compliance, marketing and environmental matters. Based on their understanding of the business, risks and opportunities were evaluated using a variety of international, national and regional databases, including the International Energy Agency (IEA), Environment and Climate Change Canada (ECCC), the National Oceanic and Atmospheric Administration and Statistics Canada. This scenario analysis process was used to effectively track emerging climate risks and determine which are the most financially material for CP’s business in alignment with the thresholds set by CP’s ERM program.

ii) A case study of how the described process is applied to physical risks and/or opportunities: CP’s diverse rail network includes bridges, track, structures and advanced communications equipment, which are vulnerable to damage from climate-related events. Regular and timely investment in strategic network and infrastructure hardening improvements is critical to maintaining robust and resilient rail operations. By using scenario analysis, CP evaluated how climate change could amplify network resiliency risks moving forward. For example, given the increased likelihood and ongoing impacts of flooding across portions of our network, CP has been making improvements to rail corridors, raising track and adding rip-rap stone to mitigate water erosion and flood damage in higher-risk areas. Through these and other infrastructure-hardening efforts, CP has made more than half the network more resilient to climate-related impacts. Typically, CP spends more than $700M annually in capital upgrades to the network with the majority going to resiliency projects. In 2019, we invested $918M in the renewal of depleted track and roadway assets (namely rail, ties, ballast, signals and bridges) to upgrade track and assure system reliability. These continual, impact-focused investments ensure that CP can offer efficient services to our customers and avoid costly delays, disruptions or damage to our equipment. For example, CP’s main corridor in Davenport, Iowa experienced major flooding from...
the Mississippi River in 2019. In response, we raised about three miles of track by three feet at an estimated cost of $11M to keep trains operational and on schedule during that time and for future flooding events.

iii) A case study of how the described process is applied to transitional risks and/or opportunities:

For example, (Situation) as a fuel-intensive business, CP is at risk of exposure to higher fuel prices driven by market interruptions or regulations such as carbon pricing. Using climate-related scenario analysis, CP evaluated how higher carbon prices under the IEA Sustainable Development Scenario (SDS) might amplify fuel costs moving forward.

(Task) To mitigate transition risks around fuel costs, our financial planning focuses on driving improvements in operational efficiency and annual fuel efficiency.

(Action) Through investments in locomotive renewal programs and new locomotive equipment, these financial planning initiatives can support a reduction in annual operating costs through gains in resource and fuel efficiency

(Result) As part of our continuing risk management process and to support fuel efficiency objectives, CP has made significant investments in a multi-year locomotive and grain car fleet renewal program. In 2019, we invested $174M in locomotives, and $252M in railcars and containers for renewal of depleted assets, including the acquisition of covered hoppers for grain transportation and the addition of leased units. These investments to our rolling stock, which encompasses locomotives, railcars and containers, include technology upgrades, advanced diesel engines, enhanced cooling systems and improved traction systems. The locomotive units are equipped with General Electric (GE) Trip Optimizer (TO) and Distributed Power systems, which are both Environmental Protection Agency (EPA)-certified fuel/emissions reduction technologies. These investments have helped us continue to deliver highly efficient services as well as achieve our objectives for overall operating ratio (calculated as operating expenses divided by revenues), thus making CP more resilient to risks related to fuel costs.

C2.2A

Which risk types are considered in your organization’s climate-related risk assessments?

CURRENT REGULATION

Relevance & inclusion

Relevant, always included

Please explain

i) Justification of the decision on the relevance and inclusion of this risk type in our risk assessment: The railway sector is subject to climate-related regulations that directly influence our operations and customers. Climate-related regulations specific to rail include locomotive emissions standards, fuel standards, carbon levies, taxes and cap and trade programs. Therefore, within CP’s ERM processes, regulatory systems are regularly evaluated to ensure that we implement appropriate actions to either mitigate regulatory risks or take advantage of potential business opportunities.

ii) Example of a specific risk considered in our assessment, and how it is included in climate-related risk assessments: Government bodies at the provincial and federal level are imposing carbon taxation systems and cap and trade market mechanisms in the Canadian jurisdictions in which CP operates. Through our ERM process, CP assesses changing carbon pricing systems within the provinces of Alberta, Ontario, British Columbia, Saskatchewan, Manitoba, New Brunswick and Québec as well as federal programs to ensure CP understands the actions needed to either mitigate regulatory risks or take advantage of potential business opportunities. As a fuel-intensive business, increases to regulated carbon prices directly impact operating costs, which raise the price of our services. If the costs of service become too high, it could lead to losses in revenue that might impact our competitive advantage over alternative modes of transport. Risks and opportunities related to carbon pricing regulations are managed by the most appropriate discipline at CP. For instance, CP’s Locomotive Mechanical and Environmental Risk teams manage regulatory compliance (planning, tracking, reporting, auditing, etc.) related to locomotive emissions.
EMERGING REGULATION

Relevance & inclusion
Relevant, always included

Please explain
i) Justification of the decision on the relevance and inclusion of this risk type in our risk assessment: The railway sector, rail customers, transportation competitors and suppliers are all subject to emerging regulations that impact the industry. As a North American Class 1 freight rail operator, new regulations on locomotive technologies, renewable fuel requirements, energy mix requirements such as renewable fuel standards and carbon pricing systems could have significant impacts on CP’s operating costs. Complying with emerging regulations on CP’s operations, as well as those of our suppliers, can result in additional surcharges or other added costs to our customers.

ii) Example of a specific risk considered in our assessment, and how it is included in climate-related risk assessments: In June 2019, Environment and Climate Change Canada proposed a regulatory framework to support the implementation of a nationwide clean fuel standard to reduce Canada’s GHG emissions through the increased use of lower-carbon fuels, energy sources and technologies. Proposed regulations are expected by the fall of 2020 with rules impacting liquid fuels to come into force in 2022. As a diesel fuel-intensive business, changes to fuel blending requirements are expected to raise operating costs, which in turn impacts the price of freight services to customers. If costs of service become prohibitive to our customers, it could lead to losses in revenue, which might impact our competitive advantage over alternative modes of transport. To respond effectively to emerging regulations, CP’s Regulatory Affairs team closely monitors regulatory changes that impact the business and engages with various departments at CP to evaluate and mitigate associated risks.

TECHNOLOGY

Relevance & inclusion
Relevant, always included

Please explain
i) Justification of the decision on the relevance and inclusion of this risk type in our risk assessment: While rail is the most efficient method of transporting freight long distance over land, advancements in fuel efficiency solutions represent both a significant opportunity and risk for the rail sector. Loss of competitive advantage to other modes of transport as a result of significant technological improvements such as electrified long-haul road freight trucks, or a lack of similar technological improvements in the rail sector could ultimately impact revenue. Without the ability to access and support emerging technology, CP may suffer a competitive disadvantage, which could adversely affect results of operations, financial condition and liquidity.

ii) How technology is assessed and monitored: As it relates to CP’s climate risks, emerging technology and sector implementation is always included in risk evaluations conducted by the Market Strategy and Mechanical teams. We include technology considerations in our climate-related risk and opportunity analysis, ranging from the applicability of emerging technologies (such as alternative fuels, data analytics, electrification and automation of the transport sector) to the barriers to implementation as they pertain to the trucking and rail sectors. These ongoing processes include monitoring technological advancements (both within rail and broader transport sector) and investing in proven technologies as they emerge.

iii) Example of a specific risk considered in our assessment, and how it is included in climate-related risk assessments: By incorporating technological advancements in our risk and opportunity assessments CP has identified opportunities to leverage technology to increase shipping capacity while simultaneously improving fuel efficiency and reducing GHG emissions. For example, CP is implementing an innovative 8,500-foot-long train model and high-capacity covered hopper cars to provide our grain customers with an efficient and superior service offering. To support this transition, CP is upgrading our grain car fleet by purchasing 5,900 new high-capacity grain hopper cars by 2022 as part of a $500M multi-year investment. The 8,500-foot-long train model supported by high-capacity grain cars will allow CP to transport 40 percent more grain per unit train, requiring fewer train starts and using less fuel to move customers’ grain products to market.
## LEGAL

### Relevance & inclusion
Relevant, always included

#### Please explain

**i) Justification of the decision on the relevance and inclusion of this risk type in our risk assessment:** By the nature of our operations, CP is exposed to a potential variety of litigation and other claims, including environmental liability, freight claims and property damage claims. Any material changes to litigation trends, a substantial rail incident or series of incidents involving freight loss, property damage, personal injury, environmental liability or other significant matters could have a material adverse effect on CP’s operations, financial position and liquidity.

**ii) How legal risk is assessed and monitored:** CP’s Legal team and Corporate Risk department regularly review legal decisions and emerging regulations on a variety of climate-related topics, including carbon pricing, GHG emissions reporting, renewable fuel standards and environmental compliance to identify potential impacts to the organization. CP incorporates significant legal considerations as part of the ERM process to assess the potential and degree of impact to our organization or operations.

**iii) Example of a specific risk considered in our assessment, and how it is included in climate-related risk assessments:** CP is subject to a wide variety of regularly changing GHG emissions reporting, renewable fuel standards and carbon pricing regulations across our network. All of these programs are based on unique regulatory frameworks that present potential concerns for non-compliance related to appropriate emissions reporting, management of emissions allowances and acquisition/availability of required carbon allowances or renewable fuel credits. In this evolving regulatory landscape, we always include legal and regulatory aspects in our risk assessments to ensure that we are aware of compliance requirements, pass on costs to customers correctly and are not subject to litigation or fines.

## MARKET

### Relevance & inclusion
Relevant, always included

#### Please explain

**i) Justification of the decision on the relevance and inclusion of this risk type in our risk assessment:** As a transportation service provider, CP is particularly vulnerable to downstream market changes over which the organization does not necessarily have control. Our customers are affected by climate-related issues such as increased periods of flooding that impact agricultural production or regulations of fossil fuels that could shift consumer demand for petroleum products in certain jurisdictions. A decline or disruption in domestic, cross-border or global economic conditions that affect the supply or demand for the commodities CP transports may decrease freight volumes and result in a material adverse effect on financial or operating performance and liquidity. Therefore, CP always includes market conditions and shifting consumer demands into our risk and opportunity assessments and our scenario analysis processes.

**ii) How market risks are assessed and monitored:** CP’s Market Strategy team conducts market risk assessments and forecasting using databases such as ECCC and Statistics Canada. They monitor regional trends such as demographic shifts, industry changes, reindustrialization and deindustrialization, policies, consumer trends and various databases to ascertain how climate change may impact the market and demand for goods CP transports. CP’s Market Strategy team also evaluates and identifies global economic conditions that could negatively affect demand for commodities and other freight transported by the company.

**iii) Example of a specific risk considered in our assessment, and how it is included in climate-related risk assessments:** Carbon pricing structures or other government restrictions on certain market sectors can also impact current and potential customer demand for commodities, including thermal coal, renewable fuels and crude oil and other petroleum products. For example, coal and energy, chemicals and plastics together made up 29 percent of CP’s freight revenues in 2019; therefore, shifting patterns in demand and consumption, based on more stringent emissions requirements targeted at CP’s customers or on changing consumer preferences, could pose substantial risks to our business. These factors can also create new opportunities for CP, such as increased transportation of biofuels, as well as disrupt existing supply chains.
REPUTATION

Relevance & inclusion
Relevant, always included

Please explain
i) Justification of the decision on the relevance and inclusion of this risk type in our risk assessment: Given the evolving public sentiment around GHG emissions, CP is well-positioned to provide the lowest carbon-intensive form of shipping goods long distance over land. The transportation sector is a major source of GHG emissions in North America, accounting for 28 percent of Canadian and U.S. emissions in 2018. Railways move approximately 70 percent of all freight on a ton-mile basis in Canada but only account for 3.5 percent of the GHG emissions from the transportation sector. We consistently work to capitalize on existing reputational advantages by investing in technology and practices that further reduce the carbon intensity of rail operations and maintain this significant efficiency advantage.

ii) How reputational risks are assessed and monitored: To identify and manage any potential reputational risks, our Market Strategy team monitors regional trends, including demographic shifts, industry changes, reindustrialization and deindustrialization, policies, consumer trends and various databases to ascertain how climate change may alter the demand for goods that CP transports. Additionally, risk assessments include monitoring public resistance to and pressure on industries we serve, infrastructure projects in Canada and the U.S. and competitive modes of transport. Both risks and opportunities related to reputation are relevant to CP and are always included in risk assessments.

iii) Example of a specific risk considered in our assessment, and how it is included in climate-related risk assessments: CP provides service to a variety of carbon-intensive industries, including the transport of fossil fuel products such as coal and crude oil, and this association has the potential to increasingly pose reputational risks to CP. For example, shifting public perceptions of participants in fossil fuel markets may create a significant negative reputational risk for CP. The fossil fuel industry has been subject to increasing public resistance and pressure, creating challenges for our customers during the permitting process for construction or expansion of energy product transportation infrastructure.

ACUTE PHYSICAL

Relevance & inclusion
Relevant, always included

Please explain
i) Justification of the decision on the relevance and inclusion of this risk type in our risk assessment: Due to the vast and remote nature of CP’s rail network and the physical infrastructure required to operate its freight transport business, we are exposed to severe weather conditions and natural disasters such as floods, fires, avalanches, extreme temperatures and precipitation, which may cause business interruptions and adversely affect CP’s rail network. Acute physical risks can increase costs and liabilities, and decrease revenues, which may materially affect operational results, financial condition and liquidity. CP’s insurance protecting against loss of business and related consequences from natural occurrences is subject to coverage limitations, depending on the nature of the risk insured. Insurance coverage may be insufficient for all damages, and may not continue to be available at commercially reasonable rates.

ii) How acute physical risk is assessed and monitored: In CP’s scenario analysis process, weather- and climate-related changes within our network are assessed under a range of climate scenarios and time horizons. Key network locations were analyzed for specific physical risks and opportunities under different emissions scenarios in the context of medium- and long-term time horizons to better position CP to mitigate and adapt to possible climate-related changes.

iii) Example of a specific risk considered in our assessment, and how it is included in climate-related risk assessments: Examples of significant physical risks that we assess to understand the financial impact under different time horizons include increased flooding, which can impact our infrastructure near the Mississippi River, and the risk of changes in precipitation patterns along remote stretches of track in British Columbia, which can lead to increased landslide or avalanche impacts. For example, CP’s main corridor in Davenport, Iowa experienced major flooding from the Mississippi River in 2019. In response, we raised approximately three miles of track by three feet at an estimated cost of $11M to keep trains operational and on schedule during that time and for future flooding events. Additionally, avalanche events resulted in significant challenges, including network outages and service disruptions in CP’s Western Corridor.
**CHRONIC PHYSICAL**

**Relevance & inclusion**
Relevant, always included

**Please explain**

i) Justification of the decision on the relevance and inclusion of this risk type in our risk assessment: Chronic and gradual changes in global weather patterns have the potential to significantly impact CP in a multitude of ways, including impacting infrastructure as well as the markets we serve and the commodities we transport. Due to the vast and remote nature of CP’s rail network and the physical infrastructure required to operate our freight transport business, CP is exposed to weather and natural disaster conditions that can be increased and exacerbated by rising or fluctuating temperatures and precipitation. This may cause costly business interruptions or damage our rail network, infrastructure or equipment. Chronic climate changes that lead to increased frequency or variability of these impacts could also lead to reputational and market risks if freight rail in North America is seen as less reliable or more incident-prone due to climate-driven disruption. Additionally, chronic physical climate impacts have the potential to significantly alter the supply and demand for our customers’ goods and could thereby create major changes and risks in our business.

ii) How chronic physical risk is assessed and monitored: In CP’s scenario analysis process, weather- and climate-related changes within our network are assessed under a range of climate scenarios and time horizons. Key network locations were analyzed for specific physical risks and opportunities under different emissions scenarios in the context of medium- and long-term time horizons to better position CP to mitigate and adapt to possible climate-related changes.

iii) Example of a specific risk considered in our assessment, and how it is included in climate-related risk assessments: Variable climate conditions, changing crop varieties and shifting consumer demand have impacted the predictability of annual crop yields within the growing regions serviced by CP. We transport a large volume of crops across North America and to export markets. Increasing variability in crop yield can result in an unexpected change in revenue or a shift in market capabilities. As grain, potash and fertilizers and sulphur together made up 31 percent of CP’s freight revenues in 2019, chronic climate changes impacting customers in these markets may have the potential to significantly impact our business and are therefore monitored as part of our risk assessment and scenario analysis process.

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**C2.3**

Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

**C2.3A**

Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

**IDENTIFIER**

Risk 1

**Where in the value chain does the risk driver occur?**
Direct operations

**Risk type**
Acute physical

**Primary climate-related risk driver**
Increased severity and frequency of extreme weather events such as cyclones and floods

**Primary potential financial impact**
Decreased revenues due to reduced production capacity

**Company-specific description**
CP’s rail network is exposed to a variety of climate-related impacts that include extreme temperatures, precipitation and flood events and wildfires in adjacent grasslands and forested areas. In particular, changes in precipitation patterns and the frequency of large stormwater runoff events often affect railway operations. These events can happen throughout the network but are focused primarily on floodplains or in areas vulnerable to snow avalanches and landslides. Two areas of CP’s rail network at particular risk of precipitation-related events are stretches of track through the Rocky Mountain regions of Alberta and British
Columbia and along the Mississippi River in the U.S. Midwest. CP has focused on areas with historical risks as climate change is expected to amplify risk in these locations. In January and February 2019, CP faced significant challenges related to avalanches and network outages resulting in several service disruptions in the Western Corridor. In 2019, Davenport, Iowa experienced major flooding from the Mississippi River, and in response, CP raised approximately three miles of track by three feet to keep the trains operational during flooding, which cost around $11M.

**Time horizon**
Short-term

**Likelihood**
Very likely

**Magnitude of impact**
Medium-high

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

**Potential financial impact figure (currency)**
$25,000,000

Explanation of financial impact figure
Using past floods as a predictor of future potential cost (without adaptive measures to manage this risk), major flooding-related disruptions impacting CP’s main line can significantly affect revenues. In 2013, large flooding events in Western Canada resulted in a decline in revenues in the affected quarter ($1.25B) of 2 percent. Two percent of $1.25B equals $25M, which has served as an estimate for monetary impacts of similar magnitude flood events. Impacts from these types of events are highly variable based on the severity and length of the event and network impact. The financial impact figure of $25M represents the potential costs from flooding events in just one region. This figure is not representative of total annual costs from the physical impacts of climate change on our business but rather, allows for the use of historical costs to estimate the potential impact from future similar events. Initiatives to mitigate the impact of these costs are overseen by CP’s Crisis Preparedness and Business Continuity team.

Cost of response to risk
$918,000,000

Description of response and explanation of cost calculation
Improvements to infrastructure design and emergency preparedness planning are used to mitigate the potential risks posed by weather events. Mitigation measures include seasonal flood plans, winter operating plans, an avalanche risk management program and a slope stability monitoring system in higher risk areas. Several slope and bridge assessments and improvement projects take place annually to harden the infrastructure against flood events and to lower the chance of slope failures or bridge scour. CP’s Crisis Preparedness team and Business Continuity team reviews the probability and location of affected areas as flooding season approaches. As part of the operational flood preparedness process, notifications are sent to mobilize response resources, increase track and structure inspection frequencies and to move sensitive equipment out of flood-prone areas ahead of cresting water bodies.

For example, **Situation** due to the vast and remote nature of CP’s rail network and the physical infrastructure required to operate its freight transport business, we are exposed to severe weather conditions.

**Task** In CP’s scenario analysis process, weather- and climate-related changes within our network are assessed under a range of climate scenarios and time horizons.

**Action** Based on the results of this study, we know that risks are likely to increase and have been evaluating available methods to mitigate this risk through active monitoring, infrastructure hardening and insurance. For example, in 2019, Davenport, Iowa experienced major flooding from the Mississippi River, and in response, CP raised approximately three miles of track by three feet to keep the trains operational during flooding, which cost approximately $11M.

**Result** These active strategies ensure that we will be consistently able to operate our network in the face of these risks.

Upgrading rail infrastructure is the largest cost associated with mitigating physical risks. Additional costs include regular inspections and upgrades to more than 3,000 bridges. Typically, CP spends more than $700M annually in capital upgrades to the network with the majority going to infrastructure hardening. In 2019, CP invested $918M in the renewal of depleted track and roadway assets, namely rail, ties, ballast, signals and bridges, mitigating physical risks to the company and improving network resiliency.
**IDENTIFIER**
Risk 2

**Where in the value chain does the risk driver occur?**
Direct operations

**Risk type**
Market

**Primary climate-related risk driver**
Uncertainty in market signals

**Primary potential financial impact**
Decreased revenues due to reduced demand for products and services

**Company-specific description**
CP’s business is based on transporting a wide variety of commodities from suppliers to the marketplace. A number of the sectors we serve have the potential to be significantly impacted by climate-related transitional risks, such as increased regulation, technology changes or shifts in consumer preferences. Petroleum products transported by CP consist of commodities such as liquefied petroleum gas, fuel oil, asphalt, gasoline, condensate (diluent) and lubricant oils. CP’s rail network transports energy commodities serving refinery and processing locations, as well as end-user markets both in North America and for export from a network of ports. Shifting consumer demand to lower-carbon products and increased climate-focused regulations, such as carbon pricing and fuel regulations, could instigate a broad transition in the energy sector. A comprehensive transition in the energy sector could significantly impact the markets of CP’s energy customers or lead to market differentiation, based on geographic variation in policies and demand trends. A subset of CP’s business lines are materially affected by this potential transition, including the demand for coal (both thermal and metallurgical), crude oil and petroleum products (within CP’s energy, chemicals, and plastics line of business). Coal, crude oil and petroleum products made up 21.4 percent or $1.63B of CP’s freight revenues in 2019. Potential future changes and instability in these markets represent a significant transition risk to these business lines within CP.

**Time horizon**
Long-term

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<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Likely</th>
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</thead>
<tbody>
<tr>
<td><strong>Magnitude of impact</strong></td>
<td>High</td>
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<tr>
<td><strong>Are you able to provide a potential financial impact figure?</strong></td>
<td>Yes, a single figure estimate</td>
</tr>
<tr>
<td><strong>Potential financial impact figure (currency)</strong></td>
<td>$370,000,000</td>
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</tbody>
</table>

**Explanation of financial impact figure**
Coal (both thermal and metallurgical) falls within CP’s coal business line. Crude oil and petroleum products fall within our energy, chemicals and plastics line of business. CP tracks the performance of these business lines, which are subject to potential risks associated with shifting consumer preferences towards the decarbonization of energy products. Coal, crude oil and petroleum products together made up 21.4 percent of CP’s $7.613B freight revenues in 2019, or $1.63B. Under the 2DS scenario, in which warming is limited well below 2 degrees Celsius, based on the IEA’s SDS, demand for all three business lines could decrease significantly in the medium and long term.

**Coal:** In 2019, coal freight revenue was $682M. Under the SDS projections, by 2040, annual freight revenue from coal may decrease by about 10% compared to 2019 levels or by $68M on an annual basis.

**Crude oil:** In 2019, freight revenue from crude oil was $475M. Under the SDS, demand may decrease by about 32% or about $151M by 2040 compared to 2019 levels.

**Petroleum products:** In 2019, freight revenue from petroleum products was $475M. Under SDS, demand may decline by 32% or about $151M by 2040 compared to 2019 levels. Together, freight revenue from transporting the above fossil fuel products could decrease by $370M ($68M + $151M + $151M = $370M) on an annual basis by 2040 compared to 2019. This is a conservative estimate that does not take into account potential revenue losses due to competitive modes of transport or freight rail’s exposure to increased fuel-related costs in this scenario.
**Cost of response to risk**

$528,000,000

**Description of response and explanation of cost calculation**

CP’s business strategy includes forecasting and managing against fluctuating market conditions. We recognize that some future market fluctuations related to transitional risks might be material to our business. Where relevant, these risks are incorporated into our existing Enterprise Risk Management program. Market risks are considered core to our business, and while not distinct to climate-related impacts, associated risks are integrated into current planning functions.

For example, (Situation) markets, particularly those for fossil fuels, are highly volatile and dependant on several factors. For CP, shipments of crude oil by rail fluctuate significantly based on global oil demand, oil prices, production rates and pipeline capacity.

(Task) While some market changes are unavoidable, a crucial part of CP’s business strategy is making key investments to realize opportunities and mitigate risks.

( bouction) CP is developing rail capacity and logistics services to support innovative petroleum product transloading facilities such as the diluent removal units (DRU) under development in Rosyth, Alta., Canada. The DRU process allows energy producers to remove highly flammable diluent materials from crude oil before transport by rail tank car. Removal of flammable diluent materials significantly reduces flammability hazards associated with transporting crude oil by rail, improving public safety. Removal of this material allows for a larger volume of product to ship in each tank car, reducing transportation costs and GHG emissions compared to traditional loads of diluted crude oil products. Increasing rail capacity and logistics services to support similar facilities promotes the future sustainability of CP’s crude oil business, mitigates transportation safety risks and improves competitiveness with alternative forms of transport, including pipelines. Additionally, CP is working to sustainably grow our capabilities beyond our currently established footprint, allowing us to target new markets and provide customers with new supply services and options.

(Result) In 2019, CP committed to providing ~$528M in value through its favourable pricing over a 10 year period in order to support the development and financing of the DRU. These investments help position CP to best avoid further losses in crude oil market share due to increasing pipeline capacity and broader macroeconomic factors that may impact demand in more ambitious climate scenarios.

**IDENTIFIER**

Risk 3

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type**

Emerging regulation

**Primary climate-related risk driver**

Carbon pricing mechanisms

**Primary potential financial impact**

Increased direct costs

**Company-specific description**

As a fuel-intensive industry, the freight rail sector is exposed to the risk of increased carbon pricing regulations, which can significantly increase both direct costs related to fuel purchases and indirect expenses related to purchased electricity. Currently, CP is regulated under multiple carbon taxation systems and cap and trade market mechanisms in the Canadian provinces in which we operate. We assess the changing carbon pricing systems in Alberta, Ontario, British Columbia, Saskatchewan, Manitoba, New Brunswick and Quebec, as well as federal programs to monitor our exposure to this transition risk. Under this evolving regulatory regime, CP’s carbon costs are paid to each province and the federal government as part of tax returns, based on reported locomotive fuel consumption in each region, or through fuel surcharges collected by our fuel vendors as regulated primary fuel suppliers. CP is further exposed to carbon pricing through purchases of electricity, as electricity suppliers pass on those costs to customers. In 2019, about 75 percent of CP’s Scope 1 and Scope 2 GHG emissions were from Canada and impacted by carbon pricing mechanisms. According to the regulatory framework of Canada’s Greenhouse Gas Pollution Pricing Act, the carbon price is set to increase until 2022 and maintain a $50/TCO₂e rate. As a majority of our business is in Canada, we have been monitoring our carbon pricing exposure under this planned carbon pricing system.
However, if impacts from climate change increase and there are shifts in political will and consumer preferences, North America could undergo a more transformative energy transition under which carbon pricing increases significantly and the U.S. adopts similar regulations to Canada’s.

**Time horizon**
Long-term

**Likelihood**
Unlikely

**Magnitude of impact**
Medium-high

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
$331,000,000

**Explanation of financial impact figure**
In conducting our scenario analysis, CP used the SDS from the IEA to forecast potential increases in costs from carbon pricing. The IEA’s SDS, which is aligned with limiting global warming to under 2 degrees Celsius, projects carbon prices of up to USD$140 per ton of CO$_2$e by 2040 in both Canada and the U.S. Under this scenario, assuming an annual decrease in CP’s GHG emissions of 2.1% based on a science-based target escalation trajectory, CP could be exposed by 2040 to a USD$140 per ton CO$_2$e carbon price on our potential Scope 1 emissions of 2M MTCO$_2$e and Scope 2 emissions of 31,000 MTCO$_2$e. Therefore, CP’s costs from carbon pricing, both directly from fuel consumption and indirectly from purchased electricity, could total $378M, which would be $331M higher annually than under current prices (i.e., total 2019 levels estimated at $47M). These carbon costs are estimated using the 2019 USD$ to CAD$ exchange rate from the Bank of Canada of USD$1.3270 per CAD$. This estimation makes several high-level assumptions and is not meant to indicate a forecast of true costs to CP but rather represents the range of potential financial impacts CP considers to be resilient under future alternatives.

**Cost of response to risk**
$866,000,000

**Description of response and explanation of cost calculation**
Through our ERM process, CP assesses the changing carbon pricing systems in Alberta, Ontario, British Columbia, Saskatchewan, Manitoba, New Brunswick and Québec, as well as federal programs to ensure CP can either mitigate regulatory risks or take advantage of business opportunities. Currently, CP passes on increases in operating costs incurred from carbon pricing to customers through a tariff structured to recover these expenses. However, increasing fuel efficiency is an integral part of CP’s business strategy, which helps us deliver efficient services to our customers as well as minimize exposure to carbon pricing and other regulatory costs. Increased carbon pricing systems, both in geographical coverage and in price per ton of GHGs emitted, pose a risk to CP as a fuel-intensive business. Therefore, we continually monitor and assess new technologies or operational efficiency investments that could reduce fuel usage and emissions. For example, in 2019, CP engaged in five emissions reduction initiatives, including locomotive modernization and retrofitting (roughly $345M in total), the implementation of GE TO technology (~$12M), efficiency improvements in intermodal processes (~ $9M) and purchasing more efficient grain hopper cars ($500M). Together, these investments will require $866M ($345M + $12M + $9M + $500M = $866M) and will return both monetary and emissions savings during their lifetimes, helping CP decrease our exposure to carbon pricing.

For example, (Situation) railroading is a fuel-intensive business and CP continually evaluates opportunities to reduce fuel consumption which lowers CP’s exposure to carbon tax programs.

(Task) Lowering fuel consumption improves both operational capacity and resource efficiency to deliver timely, reliable, lower-carbon and less fuel-intensive services to our customers.

(Action) CP is purchasing 5,900 high capacity grain cars to support implementation of a High Efficiency Product (HEP) train model to improve service to grain customers. Supported by customer investments at CP serviced ports and grain terminals, the HEP train model transports 40 percent more grain per train. Deployment of CP’s HEP train model will result in more timely, efficient service, save fuel resources and reduce GHG emissions.

(Result) While not yet fully operational, 2,700 high-capacity grain cars are now in service across CP’s network. In May 2020, CP set a company record for most grain shipped in a single month (2.8 million metric tonnes).
C2.4

Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4A

Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

IDENTIFIER
Opportunity 1

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Products and services

Primary climate-related opportunity driver
Shift in consumer preferences

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
There is increasing demand in North America to ship goods and materials by rail, particularly for intermodal container shipments. From 2000 through 2017, the number of domestic containers transported in the U.S. tripled compared to international container traffic. As demand for shipping grows, CP’s current and prospective customers are increasingly looking for opportunities to reduce the carbon footprint associated with their supply chains, including the transportation of materials and products. Canada’s freight rail sector accounts for just 1 percent of national GHG emissions while transporting 70 percent of all intercity freight.

According to an independent study by the Federal Railroad Administration (FRA), moving freight by rail is on average four times more efficient than transport by highway truck, with approximately 75 percent fewer GHG emissions. As customer demand continues to increase for low-carbon services, the inherent carbon intensity advantage of freight by rail over other modes of transportation represents a significant opportunity for CP to generate additional revenue. This opportunity is anticipated to be most pronounced for CP’s intermodal services where products are readily transitioned from highway truck transport to freight rail service. Through scenario analysis, CP considered multiple energy transition pathways developed by the IEA to understand potential impacts on the transport sector. The Base Scenario, grounded on existing and planned policies, forecasts a significant increase in North American freight rail activities. A High Rail Scenario assumes increased GHG policy effort and substantial investment in rail infrastructure. In this scenario, freight rail services replace significant demand from alternative modes such as road freight transport. As a result of this shift, there is an anticipated 16 percent reduction in global well-to-wheel GHG emissions by 2050, compared to emissions under the Base Scenario largely driven by the expansion of rail services. As freight rail is the most efficient form of overland freight transport, we see a range of opportunities for CP from increased consumer preference for rail as compared to the alternative, more carbon-intensive transport modes.

Time horizon
Long-term

Likelihood
Likely

Magnitude of impact
Medium-high

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure – minimum (currency)
$3,100,000,000

Potential financial impact figure – maximum (currency)
$4,000,000,000
Explanation of financial impact figure
In 2019, CP’s freight revenues were $7.6B. Through scenario analysis, we projected the increases in freight rail under the Base Scenario, in which North American freight rail growth could increase at a 1.8 percent compounding annual growth rate until 2030 and then at a 1.36 percent rate until 2040, at which point freight revenues could potentially be $10.7B ($7.6B*(1+0.018)^11 = $9.26B; $9.26B*(1+0.0136)^10 = $10.7), which represents an increase in annual freight revenues of $3.1B above current levels by 2040 ($10.7B is $3.1B greater than $7.6B). Under the more ambitious High Rail Scenario, North American freight rail could grow 2.33 percent annually until 2030 and then by 1.69 percent until 2040, reaching annual freight revenues of $11.6B ($7.6B*(1+0.0233)^11 = $9.88B; $9.88B*(1+0.0169)^10 = $11.6B) by 2040, which is an increase of $4B above current levels ($11.6B is $4B greater than $7.6B). These calculations are intended to demonstrate the potential in business opportunities under a scenario with much more ambitious climate action, not to provide precise revenue projections for CP.

Cost to realize opportunity
$426,000,000

Strategy to realize opportunity and explanation of cost calculation
The IEA’s High Rail Scenario assumes a global annual average investment in rail sector infrastructure of US$640 billion between 2018 and 2050; 90 percent higher than under the Base Scenario. As it is not yet apparent how anticipated costs would impact government or rail company spending, additional rail infrastructure expense has not been included in our cost to realize this opportunity. CP assumed that future levels of investment would be similar to current capital investments. CP’s continued investment in increased efficiency is the cost to realize this opportunity. In 2019, we invested $174M in existing locomotives and $252M in railcars and containers for renewal of depleted assets, including the acquisition of covered hoppers for grain transportation and the acquisition of leased units. Together, these investments made up $426M spent in 2019 on rolling stock investments, which encompass locomotives, railcars and containers, to continue to establish CP as a leader in delivering lower-carbon, more efficient services. This reflects a conservative estimate of the cost to maximize CP’s operational efficiency as a pillar of our business strategy and financial planning. The following example highlights how CP is making significant investments in assets and technology to improve customer access and product offerings.

For example, (Situation) CP is continually evaluating opportunities to improve customer service while supporting objectives to reduce supply chain emissions.

(Task) To drive performance, CP uses PSR to focus the organization on finding opportunities for emissions reductions. For example, improvements that shift freight materials from highway trucks to rail transport, optimize the efficiency of transporting goods to market. By encouraging freight customers to select the most efficient form of freight transportation, CP can have a material impact on GHG emissions for our clients and the North American transport sector.

(Action) To align with customer objectives, in 2019, we utilized Fast Pass technology at all 10 intermodal locations, expediting truck traffic through facilities, improving customer efficiency and reducing truck wait times and associated idling.

(Result) Cumulatively, these improvements have reduced customer GHG emissions by 78,754 metric tonnes CO₂e annually and contributed to our ongoing performance, evidenced by increasing demand for freight traffic through these facilities and a 5 percent increase of intermodal traffic in 2019.

IDENTIFIER
Opportunity 2

Where in the value chain does the opportunity occur?
Downstream

Opportunity type
Markets

Primary climate-related opportunity driver
Access to new markets

Primary potential financial impact
Increased revenues through access to new and emerging markets

Company-specific description
CP transports a variety of energy-related commodities that are critical to support the transition to renewable energy, such as biofuels and components for the wind power industry. In 2019, CP’s freight revenue from biofuels was $228M and from wind $6.85M, both of which saw increases from 2018 and 2017, signifying a growth trend in these markets. Increased regulatory pressure is expected to drive
these customer markets and represents an opportunity for CP business growth in these areas. For example, Canada and Ontario have proposed regulatory fuel standards expected to drive increased demand for ethanol, biodiesel, HDRD hydrogenation-derived renewable diesel and other renewable products for fuel blending operations to meet regulatory limits. Specific to ethanol, the Ontario mandate is anticipated to increase from a minimum of 5 percent ethanol in gasoline blends to 10 percent by 2020. CP is a significant carrier for the renewable fuel products industry, and in particular, ethanol production areas of the U.S. Midwest. The changes to renewable fuel blending standards are expected to effectively double transportation demand for ethanol products in Ontario. An additional example of new market opportunities relates to the development of renewable energy production in Alberta. CP has been a critical partner in supporting this transition and is currently engaged in seven multi-year projects to transport 1,300 megawatts of wind turbine materials into the Alberta marketplace. As demand for wind energy increases in North America, CP’s ability to carry and handle the large equipment necessary for wind energy indicates that CP can expect to see increased revenue from wind-related transport in the short-, medium- and long-term time horizons. In preparing to meet increased consumer demand as a result of these emergent standards and initiatives, CP has conducted scenario analysis to evaluate the scope of climate-related opportunities in these expanding markets that align with a climate-driven transformation.

### Time horizon
- **Long-term**

### Likelihood
More likely than not

### Magnitude of impact
Medium

### Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

### Potential financial impact figure (currency)
$238,000,000

### Explanation of financial impact figure
The increased demand for renewable fuel materials due to emerging regulatory requirements is expected to result in an increased demand for freight rail services to transport biofuel products. In 2019, CP generated $228M from biofuel, a significant increase from $195M in 2018. The IEA projects growth in North American biofuel demand under all three scenarios, Current Policies, Stated Policies and Sustainable Development, with the most dramatic growth happening in the 2-degree-aligned SDS. Under this scenario, CP’s annual freight revenue from biofuels could increase by $426M in 2040, $198M above current levels. This figure was calculated by applying the IEAs projected growth rate in North American demand for bioenergy, assuming a linear growth rate from 126 million tons of oil equivalent (Mtoe) in 2018 to 249 Mtoe in 2040, 249 Mtoe is a 187% increase from 2019 levels of 133 Mtoe demand to CP’s 2019 biofuels freight revenue ($228M * 1.87 = $426M). Similarly, North American demand for wind is projected to increase in the medium and long term by the IEA, but most significantly under the SDS. Under this scenario, North American renewables demand is projected to increase from 52 Mtoe in 2018 to 345 Mtoe in 2040. Assuming linear growth between 2018 and 2040, this would mean 345 Mtoe would be 5.82 times 2019 levels of 59 Mtoe. By overlaying this growth in demand with CP’s business, under the SDS, CP’s annual freight revenue from wind could increase from $6.85M in 2019 to $39.87M in 2040, which is $30.02M higher than 2019 levels. Combined, CP’s annual freight revenues from fossil fuel alternatives could increase by about $238M ($198M + $39.87M = $237.87M) compared to current levels in the medium term. These estimations are intended to demonstrate the potential in business opportunities under a 2-degree-aligned SDS, not provide precise revenue projections for CP.

### Cost to realize opportunity
$0

### Strategy to realize opportunity and explanation of cost calculation
CP Marketing and Sales proactively works with potential biofuel and other renewable energy customers on a regular basis and CP has strategically located personnel in key regions and lines of business to continue providing value to customers. For example, (Situation) as the demand for alternative forms of energy continues to increase in North America and globally, CP may be well-positioned to support the transportation of new energy products and equipment.
(Task) CP has been able to leverage our transportation and property assets to provide a critical service to advance Alberta’s goals of expanding renewable wind energy generation in the province.

(Action) While there are no significant costs associated with realizing these opportunities, effort is required to prepare for transporting wind turbines. Due to the size of the wind turbine materials (one blade requires three railcars to be transported), shipping and handling of these materials requires a large land footprint and specialized crane equipment to support windfarm development. CP provided wind producers access to land for staging cranes and other equipment to be able to load and unload the materials from trains.

(Result) Leveraging CP’s available network property resources and operational agility, CP has been able to accommodate Alberta’s needs and realize a partnership opportunity that will continue for another four years, which may contribute to increased freight revenue from wind energy moving forward. There was no cost, given existing land owned by the railway.

IDENTIFIER
Opportunity 3

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Use of more efficient production and distribution processes

Primary potential financial impact
Reduced indirect (operating) costs

Company-specific description
CP considers its inherent carbon intensity advantage over road freight transportation to be a significant competitive opportunity in the face of increasing carbon pricing regulations, as CP’s fuel- and emissions-related costs, which are passed onto customers, are far less than those for trucking for the same distance travelled. According to an independent study by the FRA, moving freight by rail is currently on average four times more efficient than transport by highway traffic, with approximately 75 percent fewer GHG emissions. International Energy Agency projections indicate the fuel efficiency advantage of freight rail over freight trucks will continue under both business-as-usual (BAU) and 2-degree-aligned SDS. As a result, CP’s advantage over highway truck transport will likely be magnified by increased carbon pricing. If both CP and highway transport operators pass carbon costs on to customers, increasingly stringent carbon pricing systems represent a climate-related opportunity for CP due to our projected ability to offer more emissions-efficient (and therefore less costly) services to customers than heavy road freight competitors will be able to offer.

Time horizon
Long-term

Likelihood
More likely than not

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
$1,427,000,000

Explanation of financial impact figure
CP used projections of U.S. road and rail freight transport energy consumption, weight and distance transported from the IEA’s Energy Technology Perspective (ETP) and carbon prices from the IEA’s World Energy Outlook (WEO), in conducting our scenario analysis of carbon cost comparisons between rail and trucks based on fuel efficiency. Under the ETP’s 2DS technology pathway, rail freight fuel efficiency (measured in U.S. gallons of diesel fuel consumed per 1,000 ton-miles) and therefore GHG emissions efficiency (as measured in metric tons CO₂e per 1,000 ton-miles) is projected to be 4.01 times better than that of heavy road freight by 2040. By applying the IEA’s WEO SDS carbon price projections, the carbon price in developed economies could be USD$140 per tonne of CO₂e by 2040. Under this scenario, a freight truck operator would pay carbon price of $6.76 per 1,000 ton-miles while a rail freight provider would only pay $1.69 per 1,000 ton-miles or $5.07 less per 1,000 ton-miles than a trucking transport
provider in 2040 ($6.76 – $1.69 = $5.07). In 2019, CP’s operations covered 280.724 billion GTMs. Under a climate trajectory that limits warming to under 2 degrees Celsius (IEA ETP 2DS technology pathway and IEA WEO SDS carbon pricing pathway), by 2040, CP could be paying $473M for that level of activity. This estimation is not based on CP’s emissions reduction trajectory pathway but rather, on a 2019 baseline level of activity of 280.724 billion GTMs and IEA projections of freight rail fuel efficiency in 2040. A freight trucking provider could be paying $1.42B ($1.9B – $473M = $1.427B) less in carbon costs each year than a trucking competitor for the same level of freight activity (calculated using 2019 baseline levels of 280.724 billion GTMs), signifying a continued significant advantage over trucking due to rail’s superior fuel efficiency. This is not meant to be a precise forecast of costs but rather an illustration of the potential advantages of rail’s fuel efficiency over trucks in a technology and policy 2DS.

**Cost to realize opportunity**

$426,000,000

**Strategy to realize opportunity and explanation of cost calculation**

The Market Strategy team manages the commercial capital budget, ensuring CP does not take on inefficient business opportunities. Where additional assets (track/siding extensions, additional cars/locomotives/train crews) are deemed essential to business development, the Industrial Development team and operational staff execute system upgrades and changes in a strategic manner. CP’s revenue growth is tied to the efficiency of freight movement, directly influencing efficient fuel consumption.

For example, (Situation) the incremental scenarios from the IEA are based on today’s existing commitments to limit emissions and improve energy efficiency through incremental technological improvements and GHG emissions pricing regulations.

(Task) As existing Canadian carbon pricing plans are built into CP’s financial and business continuity planning through an additional tariff paid for by customers, and continued efficiency gains are a core element of CP’s business strategy, CP’s continued investment in increased efficiency represents the cost to realize this opportunity.

(Action) CP has made significant investments in multi-year locomotive modernization and grain car fleet renewal programs. In 2019, CP invested $174M in locomotives, and $252M in railcars and containers for the renewal of depleted assets, which included the acquisition of covered hoppers for grain transportation and the acquisition of previously leased units.

(Result) Together, these investments made up $426M spent in 2019 in rolling stock investments, which encompass locomotives, railcars and containers, to continue to establish CP as a leader in delivering lower carbon-efficient transportation services to our customers. This is a conservative estimate of the cost to maximize CP’s opportunities related to efficiency, as achieving efficiency gains is a pillar of our business strategy and financial planning. In particular, these continued investments in efficiency may lead to significant carbon cost savings for our business and our customers, compared to the same services offered by a road freight competitor, particularly under carbon pricing systems projected by IEA’s SDS.
C3. Business strategy
C3.1
Have climate-related risks and opportunities influenced your organization’s strategy and/or financial planning?

Yes

C3.1A
Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative and quantitative

C3.1B
Provide details of your organization’s use of climate-related scenario analysis.

CLIMATE-RELATED SCENARIOS AND MODELS APPLIED
IEA
Sustainable development scenario
IEA NPS

Details
Transition scenarios: CP used the IEA’s SDS, which assumes global warming is limited to 2 degrees Celsius based on several regulatory, technological and societal lifestyle changes, to understand potential impacts on CP’s business. The SDSs were evaluated against CP’s business. Existing CP business data was used to understand future financial impacts on the company. Where internal market change projections were available, they were combined with IEA scenario projections; otherwise, CP’s 2019 levels of market share were assumed as the baseline from which to project scenarios.

Time horizon: Where possible, data addressed trends for 2030 and 2050 to understand what might occur as society reacts to concerns about climate change. This approach gave CP insights into different directions the U.S. and Canadian economy might take going forward, and was useful as a planning tool. Results: The results of the scenario analysis were used to understand how CP’s business might be impacted as a result of climate change and to highlight key financial risks of climate-related issues at varying global warming scenarios while identifying plausible solutions to reduce CP’s climate-related risks. A summary of the main risks from the scenario analysis is provided below.

Transition: CP’s business is exposed to several transition risks, including 1) regulatory risks such as increased carbon pricing, 2) market risks such as declining revenue from certain business lines due to shifting demand or other transition or physical risks that impact our customers and 3) technological risks such as competition from alternative modes of transport.

Key risks:
- Decreased revenue from fossil fuel business lines
- Increased carbon pricing leading to higher direct and indirect operating costs

Key opportunities:
- Significant rail growth due to increased demand for lower-carbon freight transportation
- Increased revenue from expanding non-fossil fuel markets.
- Under stringent emissions-related regulations, CP may experience a competitive advantage over more fuel-intensive freight transportation alternatives These risks and opportunities have been highlighted throughout this CDP response.

Alignment with business objectives and strategy: Through scenario analysis, CP has conducted a holistic review of climate-related risks impacting the organization, ultimately focusing on those most material to the business. Material risks that align with criteria outlined in our ERM process will be included in CP’s ongoing risk monitoring and oversight procedures. This exercise was CP’s first climate-related scenario analysis. The results of this process will help CP build resiliency into our business strategy and financial planning, assuring CP remains well-positioned to face a variety of potential climate-related outcomes.
Case study: CP is currently in the process of integrating the results of scenario analysis into our business strategy and sustainability objectives. Process results have provided valuable insight into how various climate pathways may impact demands for future CP transportation services. Using this information along with other market research, CP is now equipped to identify measures to mitigate climate-related risk and adapt to market changes. For example, we used scenario analysis to assess the impacts of changing demand for the energy-related commodities we transport: petroleum products, crude oil, coal, biofuel and wind generation equipment. Using three scenarios from the IEA, including a BAU pathway (Current Policies Scenario), an incremental pathway (Stated Policies) and a transformative pathway (SDS), we projected changing demand for these commodities, both in North America and globally, onto our freight revenues. This helped us understand the full range of potential financial impacts CP could experience. This may include collaborating within our value chain to maximize the benefits of growth in certain market areas, such as wind and alternative fuels.

**CLIMATE-RELATED SCENARIOS AND MODELS APPLIED**

RCP 8.5

**Details**

CP drew upon several publicly available scenarios, including the IEA for transition risks and opportunities, and the Intergovernmental Panel on Climate Change (IPCC) for physical risks.

**Physical scenarios:** CP used the IPCC scenario 8.5, which assumes a global temperature increase of 4 degrees Celsius, to identify significant disruptions to the physical climate related to temperature, water volatility and sea-level rise. This information was evaluated for several of CP’s rail network locations using geographic information system modelling to understand how physical impacts might interact with CP’s operations.

**Time horizon:** Where possible, data addressed trends for 2030 and 2050 to understand what might occur as society reacts to concerns about climate change. This approach gave CP insights into different directions the U.S. and Canadian economy might take going forward, and was useful as a planning tool.

**Results:** The results of the scenario analysis were used to understand how CP’s business might be impacted as a result of climate change and to highlight key financial risks of climate-related issues at varying global warming scenarios while identifying plausible solutions to reduce CP’s climate-related risks. A summary of the main risks from the scenario analysis is provided below.

**Physical:** Operating a rail network of 13,000 miles through North America exposes CP to both acute and chronic physical risks. Acute physical impacts including increases in extreme weather and precipitation events could cause damage to CP’s rail network, possibly disrupting rail operations. Chronic changes, such as sea-level rise in key coastal locations and changing temperatures, could lead to significant disruptive impacts across CP’s network and infrastructure.

**Key risks:** Increasingly frequent and severe precipitation events causing costly damage and delays. These risks have been highlighted throughout this CDP response.

**Alignment with business objectives and strategy:** Through scenario analysis, CP has conducted a holistic review of climate-related risks impacting the organization, ultimately focusing on those most material to the business. Material risks that align with criteria outlined in our ERM process will be included in CP’s ongoing risk monitoring and oversight procedures. This exercise was CP’s first climate-related scenario analysis. The results of this process will help CP build resiliency into our business strategy and financial planning, assuring CP remains well-positioned to face a variety of potential climate-related outcomes.

**Case study:** For example, (Situation) due to the vast and remote nature of CP’s rail network and the physical infrastructure required to operate its freight transport business, we are exposed to severe weather conditions. (Task) In CP’s scenario analysis process, weather- and climate-related changes within our network are assessed under a range of climate scenarios and time horizons. (Action) Based on the results of this study, we know that risks are likely to increase and have been evaluating available methods to mitigate this risk through active monitoring, infrastructure hardening and insurance. For example, in 2019, Davenport, Iowa experienced major flooding from the Mississippi River, and in response, CP raised approximately three miles of track by three feet to keep the trains operational during flooding, which cost approximately $11M.
These active strategies ensure that we will be consistently able to operate our network in the face of these risks.

C3.1D
Describe where and how climate-related risks and opportunities have influenced your strategy.

PRODUCTS AND SERVICES

Have climate-related risks and opportunities influenced your strategy in this area?
Yes

Description of influence

i) How and why strategy around products and services has been influenced by climate-related risks and opportunities: According to the FRA, railways are the most efficient and low-carbon form of transporting goods and freight long distance on land. (https://www.fra.dot.gov/eLib/Details/L04317) In 2019, a CP freight train could transport one ton of freight 572 miles on a single gallon of fuel. Therefore, as policies and regulations surrounding carbon pricing increase in intensity, CP is well-positioned to receive additional revenues from increased demand for lower carbon services. Being able to offer more efficient services to our customers rather than more fuel-intensive and higher-emitting competitive modes of transport is one way we take advantage of climate-related opportunities. Efficiency plays a central role in CP’s strategy regarding products and services.

ii) Time horizons of strategy around products and services: CP’s strategy for continuing to offer the most efficient and low-carbon forms of freight transportation extends for the short- and long-term time horizons.

iii) A case study of a strategic decision influenced by climate-related risks and opportunities: CP’s strategy involves improving both operational and resource efficiency to deliver lower carbon, less fuel-intensive services to our customers. CP’s most substantial strategic decision made to improve supply chain capacity and efficiency has been the implementation of the 8,500-foot HEP grain train model. To support the HEP train model, CP is purchasing 5,900 new high-capacity grain hopper cars as part of a $500M multi-year investment. As a result, the HEP train model (in combination with an upgraded grain car fleet) will allow CP to carry 40 percent more grain per train, significantly reducing the total number of train starts, fuel consumption and GHG emissions associated with transporting grain to market. The HEP train model is an example of the central role that efficiency plays in CP’s products and services strategy where significant upfront investment in the short term (i.e., 2018–2020) supports risk mitigation in the medium and long term.

SUPPLY CHAIN AND/OR VALUE CHAIN

Have climate-related risks and opportunities influenced your strategy in this area?
Evaluation in progress

Description of influence

CP’s business strategy surrounding our supply chain and value chain has not yet been materially influenced by climate-related risks and opportunities. However, recent scenario analysis conducted by CP was in part aimed at evaluating how our supply and value chain strategy may be impacted moving forward.

i) Evaluation process used and why: CP recently conducted scenario analysis to assess climate-related risks and opportunities for CP’s upstream and downstream value chain as well as for our direct operations. Our upstream supply chain could be affected by increased fuel prices due to carbon pricing systems impacting CP’s overall operating costs. Fuel expense constitutes a significant portion of our annual operating costs, and fuel prices can be subject to dramatic fluctuations, which can lead to material adverse financial impacts. Factors affecting fuel prices include worldwide oil demand, international politics, weather, refinery capacity, supplier and upstream outages and unplanned infrastructure failures. Downstream in our value chain, CP customers are impacted by climate change in ways that may affect CP’s business. Climate change makes certain markets more volatile, such as the energy sector. CP’s scenario analysis examined several energy-related business lines, such as coal, petroleum products, crude oil, biofuels and wind, using multiple climate-related projections of demand for these products from the IEA. Under a 2-degree-aligned SDS, CP may experience decreases in revenue from petroleum products, crude oil and coal, and simultaneously, increases in revenue from the transportation of biofuels.
and wind power generation equipment. The results from this analysis are still being evaluated and may be used to inform future business strategies around customers downstream in our value chain, such as wind energy developers in Alberta or ethanol producers in the U.S. Midwest.

ii) Expected timeline: As this was CP’s first engagement in scenario analysis and identifying the risks and opportunities in CP’s supply chain and value chain, the results have not yet influenced our business strategy. We expect the results to be incorporated into CP’s business strategy surrounding our upstream and downstream value chain in the next year or two.

INVESTMENT IN R&D

Have climate-related risks and opportunities influenced your strategy in this area?

Yes

Description of influence

i) How and why strategy around operations has been influenced by climate-related risks and opportunities: Monitoring and implementing emerging technology is a key element of CP’s business strategy enabling the delivery of low carbon services to our customers. Given the complexity of combatting climate change, fuel alternatives and new technologies are needed in the short to medium-timeframe. Research into low-carbon initiatives is conducted at the industry level where CP is committed to taking a leading role in working with regulators, suppliers, trade associations and other partners. CP has and continues to participate in a variety of sector-level research projects into low-carbon solutions, including the evaluation of renewable and alternative fuels for our locomotive fleet, waste-to-energy projects and the testing and deployment of cutting-edge locomotive fuel savings technology, including Distributed Power and TO technologies. Our business strategies around the products we purchase and deploy have been significantly influenced by this research and development approach.

ii) A case study of a strategic decision influenced by climate-related risks and opportunities:

For example, (Situation) the majority of the emissions from railways come from the combustion of locomotive fuel. In the U.S. and Canada, the rail sector has established equipment and network standards to allow for the interchangeable use of all locomotives and rolling stock across all rail company networks.

(Task) Rail sector practices require innovative solutions to be applicable industry-wide.

(Change) To facilitate sectoral knowledge sharing, there are several collaborative research organizations which research, test and develop standards. CP participates in these organizations and along with other railroads, tests new technology solutions. The Transportation Technology Center is one such organization, owned by the AAR and having a large test facility near Pueblo, Colorado. Recently General Electric (GE) conducted testing of a heavily loaded unit train at TTC’s off-network facility to ensure updated Trip Optimizer (TO) technology was safe, reliable and performed as intended.

(Result) As a result of this ongoing research and development, CP has deployed TO on 432 locomotives, resulting in up to a 5 percent improvement in fuel efficiency.

OPERATIONS

Have climate-related risks and opportunities influenced your strategy in this area?

Yes

Description of influence

i) How and why strategy around operations has been influenced by climate-related risks and opportunities: CP plays a critical role in the North American sustainable supply chain. Continued investment in optimizing the rail network, coupled with locomotive fleet improvements, has enabled CP to operate one of the most fuel-efficient freight railways in North America. Climate-related opportunities, including customer expectations to provide reliable, efficient, low-carbon services have influenced our operations. Capitalizing on our ability to continually improve our operational efficiency is one way we take advantage of this climate-related opportunity. Emerging carbon pricing systems impact fuel costs, which can increase CP’s cost of operation. Beyond carbon pricing, other factors can impact fuel prices, including worldwide oil supply and demand, international politics, weather, supplier and upstream outages and unplanned infrastructure failures. CP’s business strategy related to operational efficiency and
cost minimization is influenced by climate-related issues into the medium- and long-term time horizons; however, due to the uncertainties listed above, strategic operational decisions are heavily influenced by short-term business-related risks.

ii) A case study of a strategic decision influenced by climate-related opportunities: CP continually invests in upgrades to our network and locomotives, both to account for greater demand for freight services and to drive continual efficiency improvements. CP has successfully improved locomotive fuel efficiency by 43 percent since 1990. In 2019, the most substantial strategic decision made to improve operational efficiency was an investment of $174M (building on $218M invested in 2018) to modernize locomotives with upgrades such as advanced diesel engines, enhanced cooling systems, improved traction and technological enhancements to fuel, GE TO and Distributed Power systems. Supported by these investments, we reached a record level of fuel efficiency in 2018 and maintained that high level of fuel efficiency in 2019, using 0.955 U.S. gallons of fuel per 1,000 GTMs. With these changes, each enhanced locomotive is expected to reduce fuel consumption by > 2.7 percent. CP continues to mitigate climate-related risks by reducing locomotive fuel consumption to improve operational efficiency.

C3.1E

Describe where and how climate-related risks and opportunities have influenced your financial planning.

Direct costs

i) Financial planning influenced by climate change (and time horizons covered): CP’s financial planning processes include an assessment of how operating costs are impacted by various external influences, including climate change. A key performance indicator for CP is our operating ratio, derived by dividing total operating expenses by annual revenue. CP’s second-largest operating cost is fuel; therefore, increased fuel prices due to carbon pricing systems and regulations could increase operating costs significantly. Fuel prices can be subject to significant price fluctuations influenced by a variety of factors, including carbon prices, worldwide oil supply and demand, international politics, weather, refinery capacity, supplier and upstream outages and unplanned infrastructure failures.

Substantial increases in the price of fuel pose a material adverse effect to CP’s operations. CP’s business strategy related to cost minimization and operational efficiency, including energy and fuel savings, is influenced by climate-related issues into the medium- and long-term time horizons; however, due to the uncertainties highlighted above, strategic operational decisions are heavily influenced by short-term business-related risks.

ii) A case study of how climate-related risks and opportunities have influenced financial planning related to direct costs: Increased fuel prices related to emerging carbon pricing systems can increase CP’s operating costs, of which fuel expense constitutes a significant portion. Factors affecting fuel prices include worldwide oil supply and demand, international politics, weather, refinery capacity, supplier and upstream outages and unplanned infrastructure failures. Significant price increases could have a material adverse effect on CP. For example, in 2018, the impact of higher fuel prices increased total revenues by $212M and total operating expenses by $197M. Incorporating fluctuations in fuel prices by foreseeing and managing the factors listed above is a key part of CP’s financial planning. To proactively manage business costs including potential fuel prices increases, CP has implemented PSR as an operating model. Effective use of PSR involves careful evaluation of operational efficiency metrics and annual fuel efficiency targets to drive continual performance. In 2019, the favourable impact of fuel prices on operating income was $38M. Lower fuel prices resulted in a decrease in total operating expenses of $77M. Continuing to plan and manage business costs like fuel prices drives CP’s resiliency in both the short- and long-term time horizons.

Capital expenditures

i) Financial planning influenced by climate change (and time horizons covered): Capital expenditures and allocation is a cornerstone of CP’s financial planning process and has been influenced by climate-related risks and opportunities, such as meeting customer demand for more fuel-efficient services. To achieve the company’s objectives for overall operating ratio (measured by dividing total operating expenses by total revenues), CP’s capital allocation process prioritizes investments in projects with significant resource and fuel efficiency benefits. An aspect of this includes CP’s responsible growth model, which prioritizes new business to maximize the utility of the company’s existing assets. CP’s Market Strategy team allocates commercial capital budgets based on this model.
Investments such as locomotive renewal programs and equipment support a reduction in annual operating costs in alignment with CP’s operating ratio objectives. Although achieving the desired operating ratio and continuing to deliver highly efficient services is a key part of CP’s planning in the short term, due to the long life cycle of locomotives and other capital expenditures, financial planning in this area is also influenced in the medium- to long-term time horizons.

ii) A case study of how climate-related risks and opportunities have influenced financial planning related to capital expenditures: A key objective of CP’s responsible growth model is investing in projects that directly benefit operational efficiency, including fuel and energy savings opportunities. Our financial planning process is designed to support capital expenditures to meet this objective. In 2019, CP invested $174M in locomotives and $252M in railcars and containers for the renewal of depleted assets, including the acquisition of covered hoppers for grain transportation and the acquisition of leased locomotives. These locomotive investments include technology upgrades, advanced diesel engines, enhanced cooling systems and improved traction systems. All upgraded locomotives will be equipped with GE TO and Distributed Power, which are both EPA-certified fuel/emissions reduction technologies. By replacing aging railcars with higher-capacity grain cars to support CP’s implementation of the HEP train model, CP can transport more than 40 percent more grain per unit train, resulting in significant fuel savings. These capacity improvements have allowed us to move more Canadian grain products during the 2019–2020 crop year than any year in our history. These expenditures have a direct impact on CP’s financial performance while supporting customer expectations for low-carbon, fuel-efficient transportation services.

C3.1F
Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

CP underwent the scenario analysis process in 2020. We continue to integrate the insights and findings from this process into our strategy, and it will continue to drive our business strategy and financial planning moving forward.
C4. Targets and performance
C4.1

Did you have an emissions target that was active in the reporting year?

Intensity target

C4.1B

Provide details of your emissions intensity target(s) and progress made against those target(s).

<table>
<thead>
<tr>
<th>Target reference number</th>
<th>Target year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int 1</td>
<td>2022</td>
</tr>
</tbody>
</table>

Year target was set

2018

Target coverage

Business division

Scope(s) (or Scope 3 category)

Scope 1

CP’s GHG intensity targets are focused entirely on the management of locomotive fuel consumption, which represents more than 94.8% percent of our Scope 1 reported emissions.

Intensity metric

Kilograms CO$_2$e/1,000 Revenue ton kilometre

Base year

2017

Intensity figure in base year (metric tons CO$_2$e per unit of activity)

13.3

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

96.2

Targeted reduction from base year

6

Intensity figure in target year (metric tons CO$_2$e per unit of activity) [auto-calculated]

12.5

% change anticipated in absolute Scope 1+2 emissions

6

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year (metric tons CO$_2$e per unit of activity)

13.4

% of target achieved [auto-calculated]

-12.5

Target status in reporting year

Underway

Is this a science-based target?

No, but we anticipate setting one in the next 2 years
Please explain (including target coverage)
Between 2011 and 2017, CP participated in a Canadian rail sector locomotive GHG emissions intensity reduction target program. During these six years, CP successfully reduced the GHG emissions intensity of the operational locomotive fleet, exceeding the 7.2 percent reduction target. The target described here builds upon this achievement and represents a renewed Canadian rail sector locomotive GHG emissions intensity reduction initiative covering the years 2018 through 2022. This program is related specifically to CP’s locomotive emissions, which account for 94.8 percent of all CP’s Scope 1 and Scope 2 emissions. As such, this target is limited to CP’s Scope 1 emissions only. In 2019, CP and other members of the RAC entered into an MOU with Transport Canada and Environment Canada to proactively manage the largest source of rail sector and locomotive emissions. Under this agreement, the rail industry committed to setting intensity-based GHG emissions reduction targets for locomotive operations. First executed in 2005, this represents the fourth MOU of addressing locomotive emissions in Canada. The latest agreement recognizes and builds upon the success of the previous memorandum. The GHG emissions target outlined in the new MOU requires Class 1 railways to reduce locomotive GHG emissions intensity by 6 percent from 2017 levels by the end of 2022. CP is committed to the objectives of the MOU and continues to demonstrate leadership in operating one of the most fuel-efficient freight railways in North America. CP’s locomotive fuel efficiency in 2019 was 0.955 U.S. gallons of locomotive fuel consumed/1,000 GTMs, outperforming the North American Class 1 freight railway average fuel efficiency by 13.8 percent. CP continues to work diligently to make progress against the locomotive emissions target.

C4.2
Did you have any other climate-related targets that were active in the reporting year?

No other climate-related targets

C4.3
Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes
C4.3A
Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO₂e savings.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Number of initiatives</th>
<th>Total estimated annual CO₂e savings in metric tonnes CO₂e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under investigation</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To be implemented</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Implementation commenced</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Implemented</td>
<td>5</td>
<td>177,874</td>
</tr>
<tr>
<td>Not to be implemented</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

C4.3B
Provide details on the initiatives implemented in the reporting year in the table below.

**INITIATIVE TYPE**
- Non-energy industrial process emissions reductions

**Description of initiative**
- Locomotive Retrofit / Modernization

**Estimated annual CO₂e savings (metric tonnes CO₂e)**
- 16,714

**Scope(s)**
- Scope 1

**Voluntary/Mandatory**
- Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
- $3,726,000

**Investment required (unit currency – as specified in C0.4)**
- $345,000,000

**Payback period**
- >25 years

**Estimated lifetime of the initiative**
- 6-10 years

**Comment**
The locomotive modernization project is part of a multi-year locomotive fleet renewal program at CP. In 2019, CP upgraded 61 locomotives, increasing the total to 171 locomotives retrofitted through this initiative. Locomotive enhancements include technology upgrades, advanced diesel engines and improved cooling and traction control systems. All units were equipped with EPA-certified fuel/emissions reduction technologies and GE TO and Distributed Power systems. Emissions reductions associated with this project were conservatively estimated based on a 2.7 percent improved fuel efficiency guarantee provided by the equipment vendor. CP anticipates that the combined effect of locomotive upgrades coupled with installed fuel-saving technology will result in realized fuel savings beyond 2.7 percent. The estimated annual savings and corresponding payback period reflect the financial impact of projected fuel savings only.
**INITIATIVE TYPE**
Energy efficiency in production processes

**Description of initiative**
Trip Optimizer Technology

**Estimated annual CO₂e savings (metric tonnes CO₂e)**
78,194

**Scope(s)**
Scope 1

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
$17,435,000

**Investment required (unit currency – as specified in C0.4)**
$12,500,000

**Payback period**
<1 year

**Estimated lifetime of the initiative**
16-20 years

**Comment**
Since 2009, CP has actively installed TO technology on high-horsepower road-haul locomotives. Effectively a sophisticated locomotive cruise control optimized for fuel economy, TO-equipped locomotives enable trip planning to significantly reduce fuel and energy consumption. This technology takes into account factors such as train length, weight and track grade to determine the optimal speed profile for a given section of track. Trip Optimizer systems have been demonstrated to effectively reduce locomotive fuel consumption and corresponding GHG emissions by an average of 5 percent. To date, CP has installed TO technology on 432 of our active line-haul locomotives, intending to continue implementation across 85 percent of our high-horsepower locomotive fleet in the coming years. Annual monetary savings are associated with reduced fuel purchases due to successful TO utilization.

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**Initiative category**
Low-carbon energy consumption

**Initiative type**
Liquid biofuels

**Estimated annual CO₂e savings (metric tonnes CO₂e)**
3,074

**Scope(s)**
Scope 1

**Voluntary/Mandatory**
Mandatory

**Annual monetary savings (unit currency – as specified in C0.4)**
$0

**Investment required (unit currency – as specified in C0.4)**
$0

**Payback period**
No payback

**Estimated lifetime of the initiative**
>30 years

**Comment**
All locomotive diesel fuels purchased in Canada are subject to a federal renewable fuel standard. The current fuel standard requires diesel fuel to contain 2 percent renewable content on an annual basis. In 2019, CP consumed 14.7 million litres of biodiesel in our Canadian locomotive operations, resulting in a moderate reduction of GHG emissions compared to the use of conventional diesel fuels. CP continues to work collaboratively with industry experts, railway associations, government agencies and equipment manufacturers in the evaluation of renewable fuel products and opportunities.
### INITIATIVE TYPE
Low-carbon energy consumption

**Description of initiative**
Liquid biofuels

**Estimated annual CO₂e savings (metric tonnes CO₂e)**
3,074

**Scope(s)**
Scope 1

**Voluntary/Mandatory**
Mandatory

**Annual monetary savings (unit currency – as specified in C0.4)**
$0

**Investment required (unit currency – as specified in C0.4)**
$0

**Payback period**
No payback

**Estimated lifetime of the initiative**
>30 years

**Comment**
All locomotive diesel fuels purchased in Canada are subject to a federal renewable fuel standard. The current fuel standard requires diesel fuel to contain 2 percent renewable content on an annual basis. In 2019, CP consumed 14.7 million litres of biodiesel in our Canadian locomotive operations, resulting in a moderate reduction of GHG emissions compared to the use of conventional diesel fuels. CP continues to work collaboratively with industry experts, railway associations, government agencies and equipment manufacturers in the evaluation of renewable fuel products and opportunities.

### INITIATIVE TYPE
Energy efficiency in production processes

**Description of initiative**
Product or service design

**Estimated annual CO₂e savings (metric tonnes CO₂e)**
78,754

**Scope(s)**
Scope 3

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
$7,000,000

**Investment required (unit currency – as specified in C0.4)**
$9,000,000

**Payback period**
1-3 years

**Estimated lifetime of the initiative**
3-5 years

**Comment**
A significant portion of CP’s business involves the long haul transport of consumer goods and materials that have typically been shipped using heavy highway truck transport. By shifting an increasing portion of these materials from highway transport to freight rail services, CP can have a material impact on GHG emissions for customers and the North American transportation sector. To better align with customer objectives for low-carbon transportation solutions, CP continues to optimize intermodal operations to provide opportunities for the efficient transfer of goods and materials from truck to train. In 2019, CP operated Fast Pass technology at all 10 intermodal locations, expediting truck traffic through facilities, improving efficiency and dramatically reducing truck wait times and associated idling. Collectively, CP’s improvements in intermodal operations have resulted in heightened demand for freight traffic through these facilities. In 2019, intermodal traffic increased by nearly 5 percent with an additional 1.3 billion revenue ton-miles transported for customers. The estimated annual...
emissions savings associated with this initiative reflect the GHG emissions our customers avoided by shipping these additional materials by train versus highway truck transport.

**INITIATIVE TYPE**  
Energy efficiency in production processes

**Description of initiative**  
Upgraded high-capacity hopper cars

**Estimated annual CO$_2$e savings (metric tonnes CO$_2$e)**  
1,138

**Scope(s)**  
Scope 1

**Voluntary/Mandatory**  
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**  
$253,683

**Investment required (unit currency – as specified in C0.4)**  
$500,000,000

**Payback period**  
>25 years

**Estimated lifetime of the initiative**  
>30 years

**Comment**  
In late 2018, CP introduced the next generation of grain transportation. The 8,500-foot HEP train features new high-capacity grain hopper cars that can move approximately 44 percent more grain per train than previous models, improving train capacity at key inland grain terminals and ports across CP’s network. The new grain cars feature 10 percent greater capacity by weight and 15 percent more volume than the older-model cars, allowing them to transport extra product with a much smaller footprint.

Furthermore, the frames are 5 percent shorter, allowing more cars per train. As of 2019, CP has approximately 1,400 high-capacity hopper cars in service, with a plan to bring a total of 5,900 online by 2023. The estimated annual savings and corresponding payback period reflect the financial impact of projected fuel savings only due to successful HEP grain train utilization.

**C4.3C**  
What methods do you use to drive investment in emissions reduction activities?

**Method**  
Financial optimization calculations

**Comment**  
CP continues to focus on strategic operational changes, infrastructure improvements and equipment upgrades to drive operational efficiencies and improvements in locomotive fuel economy, resulting in significant reductions in GHG emissions.

**C4.5**  
Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes
C4.5A

Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation
Company-wide

Description of product/Group of products
The shipping of freight by rail remains the most fuel-efficient mode of long distance overland freight transport. Transport of goods and materials by rail allows CP’s customers to avoid GHG emissions associated with utilizing truck transport for the same distance.

Are these low-carbon product(s) or do they enable avoided emissions?
Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Comparison of long-term fuel consumption.

% revenue from low carbon product(s) in the reporting year
100

Comment
The transportation sector accounts for the second-highest GHG emissions by economic sector in both Canada and the U.S. (28 percent). Railways move approximately 70 percent of all freight on a tonne-kilometre basis in Canada but only account for 3.5 percent of the GHG emissions from the transportation sector. CP’s focus on improvements in locomotive fuel efficiency has allowed us to provide a low-carbon transportation option to our customers. According to the Association of American Railroads (AAR), the movement of freight by rail is on average, four times more fuel efficient than truck transport. Despite this inherent efficiency, CP recognizes the importance of continuing to strive for operational improvements to further reduce GHG emissions.

https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions
C5. Emissions methodology
C5.1
Provide your base year and base year emissions (Scopes 1 and 2).

**SCOPE 1**

**Base year start**
January 1, 2017

**Base year end**
December 31, 2017

**Base year emissions (metric tons CO₂e)**
2,882,534

**SCOPE 2 (LOCATION-BASED)**

**Base year start**
January 1, 2017

**Base year end**
December 31, 2017

**Base year emissions (metric tons CO₂e)**
48,842.5

**SCOPE 2 (MARKET-BASED)**

CP follows a location-based calculation to determine scope 2 emissions.

C5.2
Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

C6. Emissions data
C6.1
What were your organization’s gross global Scope 1 emissions in metric tons CO₂e?

Gross global Scope 1 emissions (metric tons CO₂e)
3,130,392

C6.2
Describe your organization’s approach to reporting Scope 2 emissions.

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We have operations where we are able to access electricity supplier emission factors or residual emissions factors, but are unable to report a Scope 2, market-based figure

C6.3
What were your organization’s gross global Scope 2 emissions in metric tons CO₂e?

Scope 2, location-based
48,843

C6.4
Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4A
Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

SOURCE
Purchased electricity in leased space

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source
Emissions are not relevant

Explain why this source is excluded
Data is not available; emissions are anticipated to account for less than 1 percent of total Scope 2 emissions.
SOURCE
Halocarbon emissions from US operations

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are not relevant

Explain why this source is excluded
Data is not currently collected for the U.S. operations; emissions are anticipated to account for less than 0.001 percent of total Scope 2 emissions.

SOURCE
Propane consumption from US operations

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are not relevant

Explain why this source is excluded
Data is unreliable and therefore excluded; emissions are anticipated to reflect less than 0.1 percent of total Scope 1 emissions.

C6.5
Account for your organization’s gross global Scope 3 emissions, disclosing and explaining any exclusions.

PURCHASED GOODS AND SERVICES
Evaluation status
Relevant, calculated

Metric tonnes CO₂e
631,004

Emissions calculation methodology
An Economic Input Output (EIO) calculator was used to estimate emissions from purchased services and capital goods. We sorted the data into spend type based on EIO model categories and removed spend data that was already included in other Scope 3 categories. Economic Input Output categories by spend were totalled and converted into GHG emissions using factors from Carnegie Mellon University’s Economic Input-Output Life Cycle Assessment (EIO-LCA).

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Emissions from purchased goods and services are considered relevant, as they are the second-largest source of emissions in the Scope 3 inventory.

CAPITAL GOODS
Evaluation status
Relevant, calculated

Metric tonnes CO₂e
0
Emissions calculation methodology
See explanation from Category 1: Purchased goods and services, since it was not possible to separate the procurement data for purchased goods and services and capital goods.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Emissions from purchased capital goods are included in Category 1.

FUEL-AND-ENERGY-RELATED ACTIVITIES (NOT INCLUDED IN SCOPE 1 OR 2)

Evaluation status
Relevant, calculated

Metric tonnes CO₂e
916,786

Emissions calculation methodology
Fuel- and energy-related activities evaluated include upstream emissions from fuel used during operations, upstream emissions from fuel combusted for the generation of the electricity purchased by CP for use, and transmission and distribution (T&D) losses from electricity consumed in 2019. The specific methodology for these activities is as follows: 1. Upstream emissions from fuels used for stationary and mobile sources: To evaluate the well-to-tank (WTT) GHG emissions for fuels that CP consumes for locomotive, fleet and stationary sources during its operations, CP tracks the amount of fuel by type across our locations. We estimated emissions using GHGenius 5.0 for upstream emissions factors. Only GHG emissions required by the GHG Protocol (GHGP) were included in the GHGenius 5.0 emissions factors. 2. Upstream emissions from fuel combusted for the generation of the electricity purchased by CP: These emissions were estimated based on electricity consumed by geographic location. We used emissions factors for WTT emissions per kWh electricity consumed from fuel used to generate electricity from the U.K.’s Department for Environment, Food & Rural Affairs (DEFRA) 2019 by country. We then applied these emissions factors to the total electricity consumed for each location in CP’s business. 3. Emissions from T&D losses: To evaluate the emissions from T&D losses of the electricity CP consumes during operations, we sourced T&D loss factors by percentage loss for all locations from EPA eGRID (U.S.) and The World Bank Open Data Portal (Canada). We used electricity emissions factors from eGRID and IEA to determine the specific location-based emissions from T&D losses for 2019 and then applied these to the total electricity consumed for each location.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
CP’s fuel and energy-related activities, not captured as part of Scope 1 and Scope 2 GHG emissions, include upstream emissions associated with the T&D of acquired electricity, WTT fuel combusted for the generation of acquired electricity and WTT for mobile and stationary sources. Emissions from fuel- and energy-related activities are considered relevant, as they are the largest source of emissions in the Scope 3 inventory.

UPSTREAM TRANSPORTATION AND DISTRIBUTION

Evaluation status
Relevant, calculated

Metric tonnes CO₂e
141,540

Emissions calculation methodology
Upstream T&D emissions include those related to the transport of purchased material, truck transport of intermodal containers, and postage and couriers. Emissions from the transport of purchased material were calculated using each order’s weight and transport distance multiplied by ton-mileage emissions factors for trucks. For all other upstream transportation and distribution, we used an EIO calculator to estimate emissions from purchased transportation services. Purchasing data was sorted into classes of expenditures spend consistent with EIO model categories, totalled and converted into GHG emissions using factors from Carnegie Mellon University’s EIO-LCA. The majority of emissions were from truck transport of intermodal containers when CP could not directly deliver materials to the client by rail.
Percentage of emissions calculated using data obtained from suppliers or value chain partners
6

Please explain
Emissions from upstream transportation account for 8.1 percent of CP’s Scope 3 emissions and are therefore relevant.

WASTE GENERATED IN OPERATIONS

Evaluation status
Not relevant, calculated

Metric tonnes CO₂e
5,272

Emissions calculation methodology
CP tracks data on the volume and/or weight of waste generated in our facilities annually. This data is recorded by waste type (hazardous and non-hazardous) and by end-of-life treatment (landfilled, diverted, etc.). This information was used to convert waste to GHG emissions using waste treatment-specific emissions factors from the U.S. EPA Center for Corporate Climate Leadership (last updated March 2020). Only emissions factors from waste transportation, combustion and/or fugitive methane were included in emissions estimations. Avoided emissions such as stored carbon or other negative emissions were not included in alignment with the Scope 3 Guidance. Since the availability of emissions factors for recycling fluctuates, recycled materials without an emissions factor were conservatively assumed to have an emissions factor of 0.02 MT CO₂e/short-ton material, representing the transportation of the recycled material to the recycling facility. 99.6 percent of CP’s waste railroad ties are sent to cogeneration facilities as a supplemental fuel feedstock. Combustion emissions from processed railroad ties are not accounted for in this category per the GHGP’s Scope 3 Guidance: “Companies should account for emissions from preparing and transporting waste that will be combusted in a waste-to-energy facility, but should not account for emissions from the waste-to-energy combustion process itself. These emissions should be included in Scope 2 GHG emissions by the consumers of energy generated from waste.” Waste ties are transported to tie processing facilities using CP’s gondola cars and locomotives. Emissions related to the transport of CP waste railroad ties are included in reported Scope 1 emissions. This estimation includes emissions from waste that is landfilled, incinerated or composted, as well as the emissions from the transportation of waste that is recycled, stored or energy-recovered. All other disposed municipal solid waste was categorized into final disposal categories based on the EPA’s Advancing Sustainable Materials Management: 2015 Fact Sheet.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
GHG emissions from waste generated in CP’s operations are not material and represent less than 1 percent of total Scope 3 emissions. These emissions are not considered relevant.

BUSINESS TRAVEL

Evaluation status
Relevant, calculated

Metric tonnes CO₂e
21,039

Emissions calculation methodology
CP followed a distance-based method to calculate approximate emissions related to employee flights. Data related to employee business travel by air was provided by CP’s travel provider. The travel provider tracks the distance travelled for each employee flight. Flights were categorized by distance, including short haul (under 300 miles), medium haul (between 300 to 2,300 miles) and long haul (greater than 2,300 miles). CP used passenger emissions factors by flight distance from the U.S. EPA Center for Corporate Climate Leadership to calculate GHG emissions. CP collects data on employee car rentals from Avis and Enterprise, which track the miles travelled and gallons used by rental vehicles. CP used fuel emissions factors from the U.S. EPA Center for Corporate Climate Leadership to calculate GHG emissions. CP collects data on hotel stays through our travel provider. The system tracks the number of overnight hotel stays for each employee by country. Emissions factors for overnight hotel stays were sourced from U.K. DEFRA to calculate GHG emissions. Where employees’ vehicles are used for business travel, CP tracks the amount spent on mileage reimbursement and then calculates the number of miles reimbursed using the mileage reimbursement rate set by the
Government of Canada. We calculated fuel usage based on the average fuel economy of a Canadian passenger vehicle and used fuel emissions factors from the U.S. EPA Center for Corporate Climate Leadership to calculate GHG emissions.

**Emissions data**

**EMPLOYEE COMMUTING**

**Evaluation status**
Relevant, calculated

**Metric tonnes CO₂e**
18,132

**Emissions calculation methodology**
CP tracks the number of employees reporting to each CP facility. To estimate employee commuting emissions, CP used average commuting time and distance statistics for each region (by county) and by type of transportation (passenger car, public transit, carpooling) in the U.S. and Canada based on available government census data. Using emissions factors from the U.S. EPA Center for Corporate Climate Leadership to convert this information into GHG emissions.

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**
0

**Please explain**
GHG emissions associated with employee commuting represent more than 1.0 percent of total Scope 3 emissions and are considered relevant.

**UPSTREAM LEASED ASSETS**

**Evaluation status**
Not relevant, explanation provided

**Metric tonnes CO₂e**
<Not Applicable>

**Process of sold products**

**Evaluation status**
Not relevant, explanation provided

**Metric tonnes CO₂e**
<Not Applicable>

**Please explain**
CP directly manages its assets and these emissions are included in our Scope 1 and Scope 2 GHG emissions. CP does not have any upstream leased assets and therefore Scope 3 GHG emissions from this source are zero (0).

**DOWNSTREAM TRANSPORTATION AND DISTRIBUTION**

**Evaluation status**
Not relevant, explanation provided

**Metric tonnes CO₂e**
<Not Applicable>

**Please explain**
Downstream transportation and distribution only includes emissions from transportation of sold products in vehicles and facilities not owned or controlled by CP. As a railway freight service provider, CP does not sell products. Therefore, downstream transportation and distribution are not relevant and GHG emissions from this source are zero (0). Any additional services purchased by CP to transport goods are included in Category 4: Upstream transportation and distribution.
Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
As a railway freight service provider, CP does not process or sell any products. Therefore, the processing of sold products is not relevant and GHG emissions from this source are zero (0).

USE OF SOLD PRODUCTS

Evaluation status
Not relevant, explanation provided

Metric tonnes CO₂e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
As a railway freight service provider, CP does not sell any products. Therefore, the use of sold products is not relevant and GHG emissions from this source are zero (0).

END OF LIFE TREATMENT OF SOLD PRODUCTS

Evaluation status
Not relevant, explanation provided

Metric tonnes CO₂e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
As a railway freight service provider, CP does not sell any products. Therefore, the end-of-life treatment of sold products is not relevant and GHG emissions from this source are zero (0).

DOWNSTREAM LEASED ASSETS

Evaluation status
Not relevant, explanation provided

Metric tonnes CO₂e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
CP directly manages its assets and these emissions are included in our Scope 1 and Scope 2 GHG emissions. CP does not have any downstream leased assets; therefore, Scope 3 GHG emissions from this source are zero (0).

FRANCHISES

Evaluation status
Not relevant, explanation provided

Metric tonnes CO₂e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
CP does not own or operate any franchises; therefore, GHG emissions from this source are zero (0).
INVESTMENTS

Evaluation status
Not relevant, calculated

Metric tonnes CO$_2$e
0

Emissions calculation methodology
In 2019, CP had equity shares in several companies, primarily shortline and terminal railroads and none of which owned locomotives. The majority of emissions related to these companies are anticipated to be from electricity usage in office spaces. Using publicly available information, we were unable to find records of energy consumption or GHG emissions information for any of the companies. Therefore, we assumed that the emissions from these companies are small and not material.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Emissions from investments account for less than 1 percent of our total Scope 3 emissions and therefore are not considered relevant.

OTHER (UPSTREAM)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO$_2$e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
CP does not have other (upstream) emissions that have not been accounted for in this inventory.

OTHER (DOWNSTREAM)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO$_2$e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
CP does not have other (downstream) emissions that have not been accounted for in this inventory.
C6.7
Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10
Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO$_2$e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure
0.000408

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO$_2$e)
3,179,234

Metric denominator
unit total revenue

Metric denominator: Unit total
7,792,000,000

Scope 2 figure used
Location-based

% change from previous year
4

Direction of change
Decreased

Reason for change
This decrease was directly related to continued improvements in operational, asset and network efficiencies. We were able to increase revenue by 7 percent while only increasing gross global combined Scope 1 and Scope 2 emissions by 2 percent. CP made substantial investments to support current and future freight volumes to handle longer and heavier trains more efficiently. Below are some examples of our 2019 investments.

**Trip Optimizer Technology:** CP has actively installed this technology on the majority of high-horsepower road-haul locomotives. Effectively a sophisticated locomotive cruise control optimized for fuel economy, TO-equipped locomotives enable trip planning to significantly reduce fuel and energy consumption. This technology takes into account factors such as train length, weight and track grade to determine the optimal speed profile for a given portion of track. Trip Optimizer systems have been demonstrated to effectively reduce locomotive fuel consumption and corresponding GHG emissions by an average of 5 percent to date.

**Locomotive Modernization Program:** As part of a multi-year locomotive fleet renewal program at CP, investments are directed at technology upgrades, advanced diesel engines and enhanced cooling and improved traction systems. All units will be equipped with EPA-certified fuel/emissions reduction technologies and General Electric TO and Distributed Power systems.

**Grain Hoppers:** CP is currently purchasing new grain hopper cars as part of a $500M investment to upgrade our grain car fleet. New grain cars are replacing an aging fleet, allowing us to provide better and more efficient service to producers and the North American economy. The new design increases car volume capacity by 15 percent while decreasing car length by 5 percent. When expanded to the CP’s 8,500-foot HEP grain train, this will increase grain capacity by up to 40 percent per unit train, leading to significant fuel savings.
C-TS6.15

What are your primary intensity (activity-based) metrics that are appropriate to your emissions from transport activities in Scope 1, 2, and 3?

**RAIL**

**Scopes used for calculation of intensities**
Report just Scope 1

**Intensity figure**
10.73

**Metric numerator: emissions in metric tons CO$_2$e**
3,013,125

**Metric denominator: unit**
t.mile

**Metric denominator: unit total**
280,724

**% change from previous year**
0.7

**Please explain any exclusions in your coverage of transport emissions in selected category, and reasons for change in emissions intensity.**
This metric only includes locomotive fuel consumption and excludes all facility-related Scope 1 and Scope 2 emissions. This is the most appropriate indicator of emissions related to transport activities as locomotive fuel emissions accounted for 94.8 percent of CP's total Scope 1 and Scope 2 GHG emissions in 2019.

**ALL**

**Scopes used for calculation of intensities**
Report just Scope 1

**Intensity figure**
10.73

**Metric numerator: emissions in metric tons CO$_2$e**
3,013,125

**Metric denominator: unit**
t.mile

**Metric denominator: unit total**
280,724

**% change from previous year**
0.7

**Please explain any exclusions in your coverage of transport emissions in selected category, and reasons for change in emissions intensity.**
CP only offers rail-based transportation services; therefore, the presented intensity figure and response to this question are consistent with the prior response related specifically to rail transportation services. This metric only includes locomotive fuel consumption and excludes all facility-related Scope 1 and Scope 2 emissions. This is the most appropriate indicator of emissions related to transport activities as locomotive fuel emissions accounted for 94.8 percent of CP's total Scope 1 and Scope 2 GHG emissions in 2019.
C7. *Emissions breakdown*
C7.1
Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1A
Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

<table>
<thead>
<tr>
<th>Greenhouse gas</th>
<th>Scope 1 emissions (metric tons of CO$_2$e)</th>
<th>GWP Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO$_2$</td>
<td>2,851,944</td>
<td>IPCC Fifth Assessment Report (AR5 – 100 year)</td>
</tr>
<tr>
<td>N$_2$O</td>
<td>273,868</td>
<td>IPCC Fifth Assessment Report (AR5 – 100 year)</td>
</tr>
<tr>
<td>CH$_4$</td>
<td>4,496</td>
<td>IPCC Fifth Assessment Report (AR5 – 100 year)</td>
</tr>
<tr>
<td>HFCs</td>
<td>84.3</td>
<td>IPCC Fifth Assessment Report (AR5 – 100 year)</td>
</tr>
</tbody>
</table>

C7.2
Break down your total gross global Scope 1 emissions by country/region.

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Scope 1 emissions (metric tons CO$_2$e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>2,344,068</td>
</tr>
<tr>
<td>United States of America</td>
<td>786,324</td>
</tr>
</tbody>
</table>
C7.3
Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By activity

C7.3C
Break down your total gross global Scope 1 emissions by business activity.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Scope 1 emissions (metric tons CO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freight Rail Service - Locomotive Fuel</td>
<td>2,968,208</td>
</tr>
<tr>
<td>Freight Rail Service - Renewable Locomotive Fuel</td>
<td>44,917</td>
</tr>
<tr>
<td>On-Road Vehicle Fleet and Work Equipment</td>
<td>65,097</td>
</tr>
<tr>
<td>Off-Road Equipment</td>
<td>29,815</td>
</tr>
<tr>
<td>Heating</td>
<td>798.6</td>
</tr>
<tr>
<td>Propane</td>
<td>4,907</td>
</tr>
<tr>
<td>Natural Gas (Building Heat)</td>
<td>16,565</td>
</tr>
<tr>
<td>Halocarbon Releases</td>
<td>84</td>
</tr>
</tbody>
</table>

C-TS7.4
Break down your organization’s total gross global Scope 1 emissions by sector production activity in metric tons CO₂e.

<table>
<thead>
<tr>
<th></th>
<th>Gross Scope 1 emissions, metric tons CO₂e</th>
<th>Net Scope 1 emissions, metric tons CO₂e</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport services activities</td>
<td>3,130,392</td>
<td>&lt;Not Applicable&gt;</td>
<td>Includes emissions for all activities, including emissions related to locomotive fuel, which accounted for 96.3% of 2019 Scope 1 emissions.</td>
</tr>
</tbody>
</table>
**C7.5**

Break down your total gross global Scope 2 emissions by country/region.

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Scope 2, location-based (metric tons CO₂e)</th>
<th>Scope 2, market-based (metric tons CO₂e)</th>
<th>Purchased and consumed electricity, heat, steam or cooling (MWh)</th>
<th>Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>30,603</td>
<td>0</td>
<td>155,513</td>
<td>0</td>
</tr>
<tr>
<td>United States of America</td>
<td>18,240</td>
<td>0</td>
<td>38,336</td>
<td>0</td>
</tr>
</tbody>
</table>

**C7.6**

Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By activity

**C7.6C**

Break down your total gross global Scope 2 emissions by business activity.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Scope 2, location-based (metric tons CO₂e)</th>
<th>Scope 2, market-based (metric tons CO₂e)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freight rail services</td>
<td>48,843</td>
<td>0</td>
</tr>
</tbody>
</table>

**C-TS7.7**

Break down your organization’s total gross global Scope 2 emissions by sector production activity in metric tons CO₂e.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Scope 2, location-based (metric tons CO₂e)</th>
<th>Scope 2, market-based (metric tons CO₂e)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport services activities</td>
<td>48,843</td>
<td>0</td>
<td>The emissions associated with purchased electricity are attributable to facility use in rail yards, maintenance operations and office-related functions.</td>
</tr>
</tbody>
</table>
**C7.9**

How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

**C7.9A**

Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

<table>
<thead>
<tr>
<th>Change in emissions (metric tons CO(_2)e)</th>
<th>Direction of change</th>
<th>Emissions value (percentage)</th>
<th>Please explain calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in renewable energy consumption</td>
<td>0</td>
<td>No change</td>
<td>0</td>
</tr>
<tr>
<td>Other emissions reduction activities</td>
<td>177,874</td>
<td>Decreased</td>
<td>5.73</td>
</tr>
<tr>
<td>Divestment</td>
<td>0</td>
<td>No change</td>
<td>0</td>
</tr>
<tr>
<td>Acquisitions</td>
<td>0</td>
<td>No change</td>
<td>0</td>
</tr>
<tr>
<td>Mergers</td>
<td>0</td>
<td>No change</td>
<td>0</td>
</tr>
<tr>
<td>Change in output</td>
<td>66,127</td>
<td>Increased</td>
<td>2.13</td>
</tr>
<tr>
<td></td>
<td>Change in emissions (metric tons CO₂e)</td>
<td>Direction of change</td>
<td>Emissions value (percentage)</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>----------------------------------------</td>
<td>---------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Change in methodology</td>
<td>0</td>
<td>No change</td>
<td>0</td>
</tr>
<tr>
<td>Change in boundary</td>
<td>0</td>
<td>No change</td>
<td>0</td>
</tr>
<tr>
<td>Change in physical operating conditions</td>
<td>0</td>
<td>No change</td>
<td>0</td>
</tr>
<tr>
<td>Unidentified</td>
<td>189,045</td>
<td>Increased</td>
<td>6.1</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>No change</td>
<td>0</td>
</tr>
</tbody>
</table>

**C7.9B**

Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based
C8. Energy
C8.1
What percentage of your total operational spend in the reporting year was on energy?

More than 15% but less than or equal to 20%

C8.2
Select which energy-related activities your organization has undertaken.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Indicate whether your organization undertook this energy-related activity in the reporting year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption of fuel (excluding feedstocks)</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of purchased or acquired electricity</td>
<td>Yes</td>
</tr>
<tr>
<td>Consumption of purchased or acquired heat</td>
<td>No</td>
</tr>
<tr>
<td>Consumption of purchased or acquired steam</td>
<td>No</td>
</tr>
<tr>
<td>Consumption of purchased or acquired cooling</td>
<td>No</td>
</tr>
<tr>
<td>Generation of electricity, heat, steam, or cooling</td>
<td>No</td>
</tr>
</tbody>
</table>

C8.2A
Report your organization’s energy consumption totals (excluding feedstocks) in MWh.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Heating value</th>
<th>MWh from renewable sources</th>
<th>MWh from non-renewable sources</th>
<th>Total (renewable and non-renewable) MWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption of fuel (excluding feedstock)</td>
<td>HHV (higher heating value)</td>
<td>173.8</td>
<td>11,257.1</td>
<td>11,430.9</td>
</tr>
<tr>
<td>Consumption of purchased or acquired electricity</td>
<td>&lt;Not Applicable&gt;</td>
<td>0</td>
<td>193.8</td>
<td>193.8</td>
</tr>
<tr>
<td>Total energy consumption</td>
<td>&lt;Not Applicable&gt;</td>
<td>173.8</td>
<td>11,451</td>
<td>11,624.8</td>
</tr>
</tbody>
</table>
C8.2B
Select the applications of your organization’s consumption of fuel.

<table>
<thead>
<tr>
<th>Consumption of fuel application</th>
<th>Indicate whether your organization undertakes this fuel application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption of fuel for the generation of electricity</td>
<td>No</td>
</tr>
<tr>
<td>Consumption of fuel for the generation of heat</td>
<td>No</td>
</tr>
<tr>
<td>Consumption of fuel for the generation of steam</td>
<td>No</td>
</tr>
<tr>
<td>Consumption of fuel for the generation of cooling</td>
<td>No</td>
</tr>
<tr>
<td>Consumption of fuel for co-generation or tri-generation</td>
<td>No</td>
</tr>
</tbody>
</table>

C8.2C
State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

**DIESEL**

**Heating value**  
HHV (higher heating value)

**Total fuel MWh consumed by the organization**  
10,745

**Emission factor**  
2.95

**Unit**  
kg CO₂ per liter

**Emissions factor source**  

**FUEL GAS**

**Heating value**  
HHV (higher heating value)

**Total fuel MWh consumed by the organization**  
132.9

**Emission factor**  
2.317

**Unit**  
kg CO₂e per liter

**Emissions factor source**  
<table>
<thead>
<tr>
<th><strong>Biodiesel</strong></th>
<th><strong>Natural Gas</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heating value</strong></td>
<td><strong>Heating value</strong></td>
</tr>
<tr>
<td>HHV (higher heating value)</td>
<td>HHV (higher heating value)</td>
</tr>
<tr>
<td><strong>Total fuel MWh consumed by the organization</strong></td>
<td><strong>Total fuel MWh consumed by the organization</strong></td>
</tr>
<tr>
<td>172.2</td>
<td>127.9</td>
</tr>
<tr>
<td><strong>Emission factor</strong></td>
<td><strong>Emission factor</strong></td>
</tr>
<tr>
<td>2.534</td>
<td>0.5626</td>
</tr>
<tr>
<td><strong>Unit</strong></td>
<td><strong>Unit</strong></td>
</tr>
<tr>
<td>kg CO₂e per liter</td>
<td>kg CO₂e per GJ</td>
</tr>
<tr>
<td><strong>Emissions factor source</strong></td>
<td><strong>Emissions factor source</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Biogasoline</strong></th>
<th><strong>Propane Gas</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heating value</strong></td>
<td><strong>Heating value</strong></td>
</tr>
<tr>
<td>HHV (higher heating value)</td>
<td>HHV (higher heating value)</td>
</tr>
<tr>
<td><strong>Total fuel MWh consumed by the organization</strong></td>
<td><strong>Total fuel MWh consumed by the organization</strong></td>
</tr>
<tr>
<td>1.6</td>
<td>22.4</td>
</tr>
<tr>
<td><strong>Emission factor</strong></td>
<td><strong>Emission factor</strong></td>
</tr>
<tr>
<td>1.518</td>
<td>1.544</td>
</tr>
<tr>
<td><strong>Unit</strong></td>
<td><strong>Unit</strong></td>
</tr>
<tr>
<td>kg CO₂e per liter</td>
<td>kg CO₂e per liter</td>
</tr>
<tr>
<td><strong>Emissions factor source</strong></td>
<td><strong>Emissions factor source</strong></td>
</tr>
</tbody>
</table>
**COMPRESSED NATURAL GAS (CNG)**

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization 0.01

Emission factor 0.00217

Unit kg CO₂e per liter

Emissions factor source

Comment
Total fuel MWh consumed by the organization = 0.0009.

---

**FUEL OIL NUMBER 2**

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization 3

Emission factor 2.761

Unit kg CO₂e per liter

Emissions factor source

Comment
Heating fuel oil

---

**C-TS8.2F**

Provide details on the average emission factor used for all transport movements per mode that directly source energy from the grid.

<table>
<thead>
<tr>
<th>Category</th>
<th>Emission factor unit</th>
<th>Average emission factor: unit value</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail</td>
<td>gCO₂/kWh</td>
<td>0</td>
<td>Given the long distances and challenging terrain across our network, CP does not transport materials using electrical energy sourced from the grid.</td>
</tr>
</tbody>
</table>
C-TS8.5

Provide any efficiency metrics that are appropriate for your organization’s transport products and/or services.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric figure</td>
<td>0.003638</td>
</tr>
<tr>
<td>Metric numerator</td>
<td>Liters of fuel</td>
</tr>
<tr>
<td>Metric denominator</td>
<td>t.mile</td>
</tr>
<tr>
<td>Metric numerator: Unit total</td>
<td>1,021,329,140</td>
</tr>
<tr>
<td>Metric denominator: Unit total</td>
<td>280,724,000,000</td>
</tr>
<tr>
<td>% change from last year</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Please explain
This is the fuel efficiency value used by CP. The numerator only represents diesel fuel and the denominator is in gross ton-miles (GTM). The overall efficiency figure changed minimally, as both the litres of fuel consumed and the GTMs increased proportionally.
C9. Additional Metrics
C9.1
Provide any additional climate-related metrics relevant to your business.

No further comments added.

C-TS9.3
Provide tracking metrics for the implementation of low-carbon transport technology over the reporting year.

Activity
Rail

Metric
Other, please specify (Equipment upgrades)

Technology
Other, please specify (Refurbished/upgraded locomotives)

Metric figure
61

Metric unit
Other, please specify (Number of locomotives refurbished/upgraded)

Explanation
The locomotive modernization project is part of a multi-year locomotive fleet renewal program at CP. In 2019, CP upgraded 61 locomotives increasing the total to 171 locomotives retrofitted through this initiative. Locomotive enhancements include technology upgrades, advanced diesel engines, improved cooling and traction control systems. All units were equipped with EPA-certified fuel/emissions reduction technologies GE Trip Optimizer and Distributed Power systems. Emissions reductions associated with this project were conservatively estimated based on a 2.7 percent improved fuel-efficiency guarantee provided by the equipment vendor. CP anticipates the combined effect of locomotive upgrades coupled with installed fuel-saving technology will result in realized fuel savings beyond 2.7 percent. The estimated annual savings and corresponding payback period reflect the financial impact of projected fuel savings only.

C-TS9.6
Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

CP does not currently have an internal dedicated low-carbon R&D program.
C10. Verification
### C10.1

Indicate the verification/assurance status that applies to your reported emissions.

<table>
<thead>
<tr>
<th>Scope</th>
<th>Verification/assurance status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope 1</td>
<td>Third-party verification or assurance process in place</td>
</tr>
<tr>
<td>Scope 2 (location-based or market-based)</td>
<td>Third-party verification or assurance process in place</td>
</tr>
<tr>
<td>Scope 3</td>
<td>Third-party verification or assurance process in place</td>
</tr>
</tbody>
</table>

### C10.1A

Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

**SCOPE**
Scope 1

**Verification or assurance cycle in place**
Annual process

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Reasonable assurance

**Attach the statement**
CP 2019 GHG Verification Report

**Relevant standard**
ISO14064-3

**Proportion of reported emissions verified (%)**
100

Auditor Assurance Opinion (pg. 34 of 37 in the document): The verification is an independent third party assessment of CP’s 2019 GHG Report and is conducted in compliance with the requirements of ISO Standard 14064 on greenhouse gases. Based on our verification, the GHG inventory is reported in accordance with the verification criteria and free of material misstatements.
C10.1B

Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

**SCOPE**
Scope 2 location-based

**Verification or assurance cycle in place**
Annual process

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Reasonable assurance

**Attach the statement**
CP 2019 GHG Verification Report

**Page/section reference**
Auditor Assurance Opinion (pg. 34 of 37 in the document): The verification is an independent third party assessment of CP’s 2019 GHG Report and is conducted in compliance with the requirements of ISO Standard 14064 on greenhouse gases. Based on our verification, the GHG inventory is reported in accordance with the verification criteria and free of material misstatements.

**Relevant standard**
ISO14064-3

**Proportion of reported emissions verified (%)**
100

C10.1C

Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

**SCOPE**
Scope 3 (upstream & downstream)

**Verification or assurance cycle in place**
Annual process

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Reasonable assurance

**Attach the statement**
CP 2019 GHG Verification Report

**Page/section reference**
Auditor Assurance Opinion (pg. 34 of 37 in the document): The verification is an independent third party assessment of CP’s 2019 GHG Report and is conducted in compliance with the requirements of ISO Standard 14064 on greenhouse gases. Based on our verification, the GHG inventory is reported in accordance with the verification criteria and free of material misstatements.

**Relevant standard**
ISO14064-3

**Proportion of reported emissions verified (%)**
100
C10.2

Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2A

Which data points within your CDP disclosure have been verified, and which verification standards were used?

<table>
<thead>
<tr>
<th>Disclosure module verification relates to</th>
<th>Data verified</th>
<th>Verification standard</th>
<th>Please explain</th>
</tr>
</thead>
<tbody>
<tr>
<td>C6. Emissions data</td>
<td>Year on year change in emissions (Scope 1 and 2)</td>
<td>ISO14064-3</td>
<td>Auditor Assurance Opinion (pg. 34 of 37 in the document): The verification is an independent third party assessment of CP’s 2019 GHG Report and is conducted in compliance with the requirements of ISO Standard 14064 on greenhouse gases. Based on our verification, the GHG inventory is reported in accordance with the verification criteria and free of material misstatements. <a href="https://cp2019ghgverification.com">CP 2019 GHG Verification Report</a></td>
</tr>
<tr>
<td>C4. Targets and performance</td>
<td>Progress against emissions reduction target</td>
<td>ISO14064-3</td>
<td>Auditor Assurance Opinion (pg. 34 of 37 in the document): The verification is an independent third party assessment of CP’s 2019 GHG Report and is conducted in compliance with the requirements of ISO Standard 14064 on greenhouse gases. Based on our verification, the GHG inventory is reported in accordance with the verification criteria and free of material misstatements. <a href="https://cp2019ghgverification.com">CP 2019 GHG Verification Report</a></td>
</tr>
<tr>
<td>C6. Emissions data</td>
<td>Year on year emissions intensity figure</td>
<td>ISO14064-3</td>
<td>Auditor Assurance Opinion (pg. 34 of 37 in the document): The verification is an independent third party assessment of CP’s 2019 GHG Report and is conducted in compliance with the requirements of ISO Standard 14064 on greenhouse gases. Based on our verification, the GHG inventory is reported in accordance with the verification criteria and free of material misstatements. <a href="https://cp2019ghgverification.com">CP 2019 GHG Verification Report</a></td>
</tr>
<tr>
<td>C8. Energy</td>
<td>Energy consumption</td>
<td>ISO14064-3</td>
<td>Auditor Assurance Opinion (pg. 34 of 37 in the document): The verification is an independent third party assessment of CP’s 2019 GHG Report and is conducted in compliance with the requirements of ISO Standard 14064 on greenhouse gases. Based on our verification, the GHG inventory is reported in accordance with the verification criteria and free of material misstatements. <a href="https://cp2019ghgverification.com">CP 2019 GHG Verification Report</a></td>
</tr>
</tbody>
</table>
C11. Carbon pricing
**C11.1**
Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

**C11.1A**
Select the carbon pricing regulation(s) which impacts your operations.

BC carbon tax, Canada federal fuel charge, Alberta Climate Leadership Plan

**C11.1C**
Complete the following table for each of the tax systems you are regulated by.

**BC CARBON TAX**

<table>
<thead>
<tr>
<th>Period start date</th>
<th>January 1, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period end date</td>
<td>December 31, 2019</td>
</tr>
<tr>
<td>% of total Scope 1 emissions covered by tax</td>
<td>31.9</td>
</tr>
</tbody>
</table>

**Comment**

Various Canadian provinces and the federal government have implemented carbon pricing programs to incentivize consumers to reduce fossil fuel use and related GHG emissions. Under the British Columbia carbon tax, CP is required to remit carbon taxes to British Columbia based on fuel consumption within the province during 2019. Costs to comply with the carbon tax program increase the price of locomotive fuel and associated operating costs to CP. Any increase in operating costs related to operations within this region are allocated to CP’s customers based on CP’s Tariff 9800. The purpose of this tariff is to transparently translate carbon emissions costs from the method by which they are charged to the railway ($ per ton of CO₂-equivalent emissions per litre of fuel consumed) into a format applicable to customer shipments ($ per loaded car mile, $ per unit shipped). Tariff 9800 applies to all shipments moving through British Columbia to recover the incremental expense associated with carbon taxes or levies. The surcharge amount is calculated to recover this projected expense. Tax amounts paid by CP are confidential and not available for disclosure.

**CANADA FEDERAL FUEL CHARGE**

<table>
<thead>
<tr>
<th>Period start date</th>
<th>January 1, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period end date</td>
<td>December 31, 2019</td>
</tr>
<tr>
<td>% of total Scope 1 emissions covered by tax</td>
<td>25</td>
</tr>
</tbody>
</table>

**Comment**

Various Canadian provinces and the federal government have implemented carbon pricing programs to incentivize consumers to reduce fossil fuel use and related GHG emissions. The federal carbon tax came into effect on April 1, 2019, under which CP was required to remit carbon taxes to the federal government based on fuel consumption within the provinces of Manitoba, Ontario and Saskatchewan. The comments below and metrics above reflect the impacts of this program from April through December 2019. Costs to comply with carbon tax programs effectively increase the price of locomotive fuel and associated operating costs to CP. Any increase in operating costs related to operations within this region are allocated to CP’s customers based on CP’s Tariff 9800. The purpose of this tariff is to transparently translate carbon emissions costs from the method by which they are charged to the railway ($ per ton of CO₂-equivalent emissions per litre of fuel consumed) into a format applicable to customer shipments ($ per loaded car mile, $ per unit shipped). Tariff 9800 applies to all shipments moving through provinces subject to carbon pricing programs, including Manitoba, Ontario and Saskatchewan, to recover the incremental expense associated with
carbon taxes or levies. Greenhouse gas emissions surcharges are applied to every shipment moving through applicable provinces and appear as a separate line item on invoices for freight charges. Tax amounts paid by CP are confidential and not available for disclosure.

**ALBERTA CLIMATE LEADERSHIP PLAN**

**Period start date**
January 1, 2019

**Period end date**
May 30, 2019

**% of total Scope 1 emissions covered by tax**
5.8

**Comment**
Various Canadian provinces and the federal government have implemented carbon pricing programs to incentivize consumers to reduce fossil fuel use and related GHG emissions. Under the Alberta carbon tax, CP was required to remit carbon taxes to Alberta based on fuel consumption within the province during 2019. The program was cancelled when the government of Alberta repealed the Climate Leadership Act on May 30, 2019. The comments below and metrics above reflect the impacts of this program from January through May 2019. Costs to comply with carbon tax programs effectively increased the price of locomotive fuel and associated operating costs. Any increases in operating costs related to operations within this region were allocated to CP’s customers based on CP’s Tariff 9800. The purpose of this tariff is to transparently translate carbon emissions costs from the method by which they are charged to the railway ($ per ton of CO2-equivalent emissions per litre of fuel consumed) into a format applicable to customer shipments ($ per loaded car mile, $ per unit shipped). Tariff 9800 was used to recover the incremental expense associated with carbon taxes or levies. Greenhouse gas emissions surcharges are applied to every shipment moving through the province and appear as a separate line item on invoices for freight charges. The surcharge amount was calculated to recover this projected expense. Tax amounts paid by CP are confidential and not available for disclosure.

**C11.1D**

**What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?**

For example, (Situation) CP actively engages in all carbon pricing programs that impact our operations.

(Agency) To assure compliance with these programs, CP established a cross-functional team with participants from Treasury, Fuel Group, Commodity Taxation, Environmental Risk, Strategy and Legal groups. Subject matter experts regularly review program developments and implement appropriate compliance mechanisms.

(Task) During 2019, this team periodically reviewed progress and program developments in Ontario, Québec, Alberta, Manitoba, Saskatchewan and British Columbia.

(Result) This team is responsible for all aspects of maintaining compliance with each province’s programs, including fuel procurement, tracking, reporting, verification, sourcing carbon allowances (as needed), internal/external communications and meeting regulatory deadlines. For example, one output of this strategy is updating and communicating our annual Tariff 9800 to impacted customers. Tariff 9800 is a formal document that establishes province-level emissions surcharge rates for our customer’s shipments to recoup carbon price costs related to fuels used in transporting our customers’ goods. Maintaining financial operational efficiency by distributing these costs to our customers, while ensuring that we offer competitive rates, is a key part of our strategy for complying with carbon pricing regulatory systems. As governments implement or adjust environmental taxes or levies, CP updates surcharge rates reflected in Tariff 9800.
C11.2
Has your organization originated or purchased any project-based carbon credits within the reporting period?
No

C11.3
Does your organization use an internal price on carbon?
No, but we anticipate doing so in the next two years
C12. Engagement
C12.1
Do you engage with your value chain on climate-related issues?

Yes, our customers. Yes, other partners in the value chain.

C12.1B
Give details of your climate-related engagement strategy with your customers.

Type of engagement
Education/information sharing

Details of engagement
Run an engagement campaign to education customers about your climate change performance and strategy

% of customers by number
100

% of customer-related Scope 3 emissions as reported in C6.5
100

Please explain the rationale for selecting this group of customers and scope of engagement
We engage with all of our freight services customers to help them understand how the use of CP’s services impacts the GHG emissions associated with their supply chain. CP’s rationale for sharing this information with its customers is to provide awareness of CP’s strong performance in reducing GHG emissions and how they can further benefit from the use of rail in reducing the overall impact of their supply chains. Engagement activities include regular customer one-on-one meetings, customer surveys, customer forums, company website resources and online shipment management tools such as CP’s Customer Station. By sharing this information with customers, we support customer awareness of how they can further benefit from the use of our services to reduce the overall impact of their supply chains. Upon request, CP will engage directly with customers to provide carbon emissions information related to customer-specific services performed by CP. CP will also direct customers to additional resources, including an online carbon calculator, to enable customers to evaluate the potential emissions impact of shipping materials from one destination to another using rail versus highway truck services. Interested customers will often approach customer account managers who in turn work with CP’s Sustainability team to provide information on CP’s climate change program and initiatives. CP also responds directly to customer supply chain surveys and the CDP questionnaire.

Impact of engagement, including measures of success
The success of our engagement is evidenced by increased customer interest in freight rail services as an opportunity to reduce customer GHG emissions related to the transportation of goods and materials. Several of CP’s customers currently engage CP annually in determining emissions associated with the use of our freight services. In 2019, CP was approached by eight customers, representing 4.12 percent of our business, to help them calculate their emissions. As climate change action and disclosure become increasingly important to investors and other shareholders, we expect this interest from customers to increase and represent a greater share of our business. To help our customers track and manage emissions in their value chain, we will continue to track this interest and engagement. An increasing number of requests from customers for information about CP’s sustainability performance also indicates that our efforts to share information about our strategy and performance are successful. CP also engages directly with customers (such as General Motors and Kellogg’s) through the CDP supply chain program and provides timely response to survey inquiries.
C12.1D

Give details of your climate-related engagement strategy with other partners in the value chain.

In addition to our engagement with customers, CP engages with other partners in our value chain on climate-related issues, namely our vendors. Based on our assessment of Scope 3 emissions, which was undertaken for the first time in 2019, we know that our suppliers are CP’s second-largest source of emissions.

For example, (Situation) CP generates approximately one million waste rail cross ties as part of our annual network maintenance and track renewal program. Wherever possible, CP avoids disposal of waste ties at landfill facilities, preferring to direct these materials for beneficial reuse purposes. Out of a shared interest in sustainability and climate-related impacts, we work with several vendors across our network to process waste rail ties into a variety of fuel materials, including renewable solid fuel feedstocks for cogeneration facilities and innovative biomass-based liquid fuel products.

(Task) CP regularly engages with our network of eight waste tie processors and 14 downstream cogeneration facilities and industrial plants to review practices and identify the sustainable end-of-life solutions for waste ties, including emerging interest and innovation in the production of renewable fuels from waste tie materials.

(Action) Starting in 2018, CP engaged Cielo Waste Solutions Corp. (Cielo) to evaluate the potential for processing waste rail ties into renewable liquid fuel products, including renewable naptha, kerosene (aviation jet fuel) and high-grade diesel. Following several months of testing at Cielo’s demonstration plant in Aldersyde, Alta, Canada, the process demonstrated consistent performance on preliminary test results.

(Result) In November 2019, CP and Cielo entered into a multi-year feedstock supply agreement for new green refinery under planning in the community of Dunmore, Alta., Canada. Through this arrangement, CP has agreed to supply Cielo Waste Solution’s new green refinery with a minimum of 2.5 million ties over five years.

C12.3

Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

Direct engagement with policy makers, Trade associations
C12.3A
On what issues have you been engaging directly with policy makers?

Focus of legislation
Carbon tax

Corporate position
Support

Details of engagement
CP has a history of working with policymakers to ensure that regulations are aligned with the intended policy goals. Given CP’s business as both a fuel transporter and a major fuel purchaser, the Government Affairs and Sustainability teams continually monitor emerging legislation to ensure there are no unintended consequences.

Proposed legislative solution
Within Canada, a variety of carbon pricing programs have been created to incentivize consumers and businesses to reduce GHG emissions. These programs have primarily taken the form of carbon taxes, which price GHG emissions. In April 2019, a federal carbon pricing program applied a carbon price to the provinces without pre-existing programs. As a result, our operations are regulated through a patchwork of provincial and federal programs, highlighting the challenge to our business associated with the current approach to setting a price on carbon. In addition to the administrative challenges of navigating multiple pricing jurisdictions, carbon pricing results in higher rail service costs. To simplify this, we have been working with the RAC to promote Canadian regulatory changes that support the Canadian economy while also taking action against climate change. The rail sector’s preferences, as communicated to the Government of Canada, are that the tax burdens be offset by allowing the deduction of capital expenditures, and that revenues collected from climate change initiatives be reinvested into rail as a low-emissions transportation solution, thereby helping Canada reduce its overall GHG emissions. These recommendations require the government to fulfill the objectives of the Pan-Canadian Framework on Clean Growth and Climate Change plan, and the Transportation 2030 strategic plan by creating a capital funding program support infrastructure investment and a modal shift investment program to support shortline railways in particular.

Details on the Canadian rail sector’s recommendations to the Government of Canada can be found at: https://www.railcan.ca/wp-content/uploads/2019/08/August_2_-_2020_Prebudget_Submission_-_RAC_FINAL.pdf

C12.3B
Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3C
Enter the details of those trade associations that are likely to take a position on climate change legislation.

TRADE ASSOCIATION
Railway Association of Canada

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association’s position
The RAC advocates on behalf of its members, representing more than 60 freight and passenger railway companies, and supports the Government of Canada’s commitments under the Pan-Canadian Framework on Clean Growth and Climate Change plan, and its vision for green and innovative transportation as outlined in the Transportation 2030 strategic plan. The RAC has a signed MOU with Transport Canada since 1995 to establish voluntary reduction targets for emissions produced by locomotives in Canada. The MOU establishes a framework through which the RAC, its members and Transport Canada will reduce GHGs and report on criteria air contaminants emitted by locomotives operated by Canadian-owned railways.
How have you influenced, or are you attempting to influence their position?
CP’s Assistant Vice-President, North American Advocacy and Chief Legal Officer and Corporate Secretary are currently directors on the RAC Board. Alongside other rail industry leaders serving on the RAC Board, they are responsible for the strategic leadership of the association, and in that capacity engage in discussions with industry representatives, policymakers and other stakeholders on public policy positions. https://www.railcan.ca/who-we-are/rac-board-of-directors

TRADE ASSOCIATION
Association of American Railroads

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association’s position
The AAR advocates on behalf of the U.S. freight rail industry, leading policy development, research, standard-setting and technology organization that focuses on rail sector safety and productivity. The AAR promotes the use of technology solutions, including fuel management systems that help to maximize fuel efficiency, sensor-based performance monitoring, anti-idling technologies, zero-emission cranes, improving aerodynamics and reducing overall weight in all aspects of freight rail operations to limit GHG emissions and impact on the environment.

How have you influenced, or are you attempting to influence their position?
CP’s Director of Federal and State Government Affairs is the chair of the State Relations Policy Committee within the AAR and is responsible for running regular calls to collect information on emerging policies and trends. CP is represented at AAR by the Director of Federal and State Government Affairs and is a state representative for Illinois, Iowa, Maine, Michigan, Minnesota, Missouri, New York, North Dakota, South Dakota, Vermont, and Wisconsin. In this capacity, we engage in discussions with industry representatives, policymakers and other stakeholders on public policy positions.

TRADE ASSOCIATION
Regional Railroad Associations

We are a member of several regional railroad associations in the U.S., such as the Michigan Railroads Association, Minnesota Regional Railroads Association, Illinois Railroad Association, Railroads of New York and Wisconsin Railroad Association. The trade associations review all introduced legislation in the House and Senate, share proposed legislation affecting the rail industry with its members and coordinate the formulation and communications of final industry positions regarding legislation to the legislature. These associations are actively involved with several state departments, including the departments of Transportation, Environmental Quality, and Economic Development Corporation, regarding environmental, regulatory and economic development issues.

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association’s position
Regional railroad associations advocate for policy priorities that favour the development of the freight rail industry in the U.S. and preserve its unique ability to reduce highway gridlock, fuel consumption, GHG emissions and pollution.

How have you influenced, or are you attempting to influence their position?
CP’s Director of Federal and State Government Affairs is on the Executive Committee of the Illinois Railroad Association, Michigan Railroads Association, Minnesota Regional Railroads Association and Railroads of New York. In that capacity, we engage in discussions with industry representatives, policymakers and other stakeholders on public policy positions.
http://michiganrailroadsassociation.com/who-we-serve
http://illinoisrailroadassociation.com/executive-committee
http://www.railroadsofny.com
http://www.mnrailroads.com
TRADE ASSOCIATION
Go Rail

Is your position on climate change consistent with theirs?
Consistent

Please explain the trade association's position
GoRail is a non-profit advocacy organization that works with community leaders across the U.S. to share knowledge about the public benefits of freight rail investments and mobilize them in support of a better and more sustainable rail system. GoRail advocates for communications with federal lawmakers directly by participating in open public dialogues, (such as the Railroad Day on Capitol Hill), and outlines the policy priorities for freight railway, targeted at preserving rail's private investments. According to The Future of Rail: Opportunities for Energy and the Environment report by the IEA and the International Union of Railways, higher investments in railways could significantly reduce carbon dioxide emissions from transport and its contribution to air pollution, while providing access to efficient and sustainable transport for all.

How have you influenced, or are you attempting to influence their position?
CP’s Director of Federal and State Government Affairs is on the GoRail Board of Directors, and in that capacity, we engage in discussions on public policy positions.

TRADE ASSOCIATION
Business Council of Canada

Is your position on climate change consistent with theirs?
Mixed

Please explain the trade association’s position
The Business Council of Canada (BCC) is a non-profit, non-partisan corporate advocacy organization representing more than 150 major businesses that have played an influential role in public policy going back to the 1970s. The BCC’s position is to support government policies that encourage privatization and competitiveness as well as promote Canada as a resource-based economy. A major pillar of the BCC’s position is to significantly expand the current rate of fossil fuel exploitation to protect the oil and gas industry, particularly through building more pipelines in Canada. In October 2019, the BCC released a report outlining its current position, recommending that the Government of Canada streamline and modernize the regulatory environment, prioritize and fund nationally significant infrastructure projects (specifically pipelines) and modernize and simplify the tax system. Also recommended was a national resource and climate strategy that uses Canada’s resource industries to supply the inputs needed for the world’s energy transition, as well as provide lower-emission energy sources such as LNG to replace coal-fired electricity. The BCC holds that economic growth, high living standards and prosperity, and sustainable environmental protection can coexist through supporting innovation in new technologies, promoting the responsible transfer and development of natural resources and building efficient policies to combat climate change. The report, A Better Future for Canadians, can be found here: https://thebusinesscouncil.ca/report/a-better-future-for-canadians/

How have you influenced, or are you attempting to influence their position?
CP’s President and Chief Executive Officer is a member of the BCC and in that capacity, we engage in discussions on public policy positions.
C12.3F

What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

To ensure broad alignment across the business, CP released the company’s first public statement on climate change, which acknowledges the effects of rising global temperatures and lays out the company’s commitment to ongoing efforts to mitigate the impacts.

The statement outlines the following key principles:

- CP commits to support the goals of the Paris Agreement, which seek to limit global temperature rise to well below 2 degrees Celsius above pre-industrial levels. In support of this initiative, CP will establish a science-based emissions reduction target to guide company climate action.

- CP aligns with recognized initiatives that bring governments, sectors and companies together, such as the Pan-Canadian Framework on Clean Growth and Climate Change plan and the resulting Greenhouse Gas Pollution Pricing Act (Canada), to the extent that they apply to CP’s operations, as well as the Task Force on Climate-related Financial Disclosures.

- CP supports “public policy aimed at reporting and reducing emissions, and lowering the impact of the freight rail sector on the environment”. Through this work, CP intends to integrate climate-related risks into our ERM mechanisms and continue to develop strategies for mitigation and adaptation.

- CP’s cross-functional Sustainability Steering Committee oversees the implementation of CP’s climate and sustainability commitments. This team, consisting of several senior leaders, meets quarterly to discuss sustainability planning and CP’s most material environmental, social and economic topics. Our commitments were also reviewed by the Executive team and approved by the Board for full alignment.

The climate statement is intended to ensure the alignment of CP’s direct and indirect activities to the key principles outlined above. There are multiple levels of the organization involved in monitoring and driving performance.

Related specifically to engagement activities, a small group within CP works on policy and is focused on identifying areas of business alignment and sustainability synergies. Positions and trends are discussed regularly to ensure internal and external alignment. Activities are also reported to the Board of Directors to ensure consistency with the company’s climate change strategy.
C12.4

Have you published information about your organization’s response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

**PUBLICATION**
In mainstream reports

**Status**
Complete

**Attach the document**

**Page/Section reference**
Page 79: Sustainability

**Content elements**
Governance
Strategy
Other metrics

**PUBLICATION**
In voluntary sustainability report

**Status**
Complete

**Attach the document**

**Page/Section reference**

**Content elements**
Governance
Strategy
Risks & opportunities
Emissions figures
Other metrics
Other, please specify (Why energy efficiency and emissions matter to CP, Management approach, Projects and initiatives, Performance and results)

**Comment**
**PUBLICATION**
Company climate statement

**Status**
Complete

**Attach the document**

**Page/Section reference**
All

**Content elements**
Governance
Strategy
Risks & opportunities
Other, please specify (Commitment, Vision for the future, Alignment with external initiatives, Climate action)

**Comment**
Sustainability at CP: Climate Change:
https://sustainability.cpr.ca/about/climate-change/
C14. Signoff
C15.1

Provide details for the person that has signed off (approved) your CDP climate change response.

<table>
<thead>
<tr>
<th>Job title</th>
<th>Corresponding job category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Vice-President and Chief Financial Officer</td>
<td>Chief Financial Officer (CFO)</td>
</tr>
</tbody>
</table>
Appendix 1: Verification Report
Ms. Janet Hoang  
Sustainability Specialist  
Canadian Pacific  
7550 Ogden Dale Road SE  
Calgary, Alberta  
T2C 4X9

Dear Ms. Hoang:

Re: Assurance Report

The purpose of this letter is to clarify matters set out in the Assurance Report. It is not an Assurance Report and is not a substitute for the Assurance Report.

This letter and the verifier’s Assurance Report, including the opinion(s), are addressed to you and are solely for your benefit in accordance with the terms of the contract. We consent to the release of this letter by you to the CDP in order to satisfy the terms of CDP disclosure requirements but without accepting or assuming any responsibility or liability on our part to CDP or to any other party who may have access to this letter or our Assurance Report.

In accordance with our engagement with you dated June 8, 2020 (the "contract") and for the avoidance of doubt, we confirm that our Verification Report: 2019 CDP GHG Report to you dated July 23, 2020 (the "Assurance Report") incorporated the following matters:

1. Boundaries of the reporting company covered by the Assurance Report and any known exclusions*¹:

   CP operations assessed as part of this verification included CP’s entire corporate operations, which includes all sources in which CP has majority ownership and operational control. The inventory boundary includes the CP direct mobile emissions (locomotive and other vehicles such as corporate on-road and off-road vehicles), direct stationary combustion (building heating), and indirect emissions due to electricity supply to CP corporate operations. Other indirect (Scope 3) emissions included in the inventory include purchased goods and services, capital goods, fuel and energy-related activities, upstream transportation and distribution, waste generated in operations, business travel, and employee commuting. Verification is completed at the corporate level.

*¹ Optional field
2. Emissions data verified - broken down by Scope 1, Scope 2, and Scope 3 categories with figures given; option to include other relevant data that has been verified with figures:

<table>
<thead>
<tr>
<th>Total Entity-Wide Emissions Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Scope 1 Emissions(^2):</td>
</tr>
<tr>
<td>Biodiesel Scope 1 Emissions:</td>
</tr>
<tr>
<td>Scope 2 Emissions:</td>
</tr>
<tr>
<td>Scope 3 Emissions:</td>
</tr>
</tbody>
</table>

**Reporting Metrics in the CDP Climate Change Questionnaire 2020 Verified**

- **Year to year change in emissions for both Scope 1 and 2 emissions between the 2018 and 2019 reporting periods.**
- **Section C4.1b** - 13.3 metric tons CO\(_2\)e/1,000 revenue [metric] ton kilometres
- **Section C6.10** - 0.000408 metric tons CO\(_2\)e/total revenue
- **Section C-TS6.15** - 10.73 metric tons CO\(_2\)e/ton-mile
- **Section C8.2a, 2019 CP Energy Consumption Total** - 11,624.8 MWh

3. Period covered (e.g., '12 months to DD MM YY'):

The reporting period is between 01/01/19 and 31/12/19.

4. Verification standard used:

For the verification of the 2019 GHG Report, GHD has applied ISO 14064-3.

5. Assurance opinion (incl. level of assurance and any qualifications):

The GHG Protocol states, "as a rule of thumb, an error is considered to be materially misleading if its value exceeds 5 percent of the total inventory for the part of the organization being verified."

Consistent with this, and industry practice, GHD established a quantitative materiality for this verification of ±5 percent of the total reported GHG emissions. An individual error, misrepresentation, or a series of discrete errors, omissions or misrepresentations or individual or a series of qualitative factors, when aggregated may be considered material.

\(^2\) Excluding biodiesel.
• **Net sum of all Scope 1 discrepancies**: 0.09 percent under reporting.
• **Net sum of all Scope 2 discrepancies**: no discrepancies noted.
• **Net sum of all Scope 3 discrepancies**: 0.001 percent under reporting.

The purpose of verification was to have an independent third party assess CP’s 2019 GHG Report, calculations and compliance with the requirements of ISO 14064-3, the *GHG Protocol*, and associated guidance. The objective of the verification was to provide CP with assurance that there are no material misstatements in the 2019 GHG Report and that the information reported is accurate and consistent with the requirements of the *GHG Protocol*.

Based on our verification, the GHG statement is, in all material aspects, in accordance with the verification criteria and is free of material misstatements.

6. Verification provider and accreditations (if relevant):

<table>
<thead>
<tr>
<th>VERIFICATION BODY NAME:</th>
<th>GHD Limited</th>
</tr>
</thead>
<tbody>
<tr>
<td>VERIFICATION BODY ADDRESS:</td>
<td>455 Phillip St., Waterloo, Ontario, N2L 3X2</td>
</tr>
<tr>
<td>VERIFICATION BODY CONTACT:</td>
<td>Mr. Gordon Reusing</td>
</tr>
<tr>
<td>TITLE:</td>
<td>Principal</td>
</tr>
<tr>
<td>TELEPHONE:</td>
<td>519-340-4231</td>
</tr>
<tr>
<td>EMAIL:</td>
<td><a href="mailto:Gordon.Reusing@ghd.com">Gordon.Reusing@ghd.com</a></td>
</tr>
</tbody>
</table>

Accreditations: GHD is a Canadian based company accredited by the American National Standard Institute (ANSI) under ISO 14065 to provide organizational level verification services.

7. Lead verifier name and relevant accreditations/professional membership (if relevant):

<table>
<thead>
<tr>
<th>LEAD VERIFIER:</th>
<th>Mr. Neil Lonsdale</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITLE:</td>
<td>Environmental Engineer</td>
</tr>
<tr>
<td>TELEPHONE:</td>
<td>519-340-3835</td>
</tr>
<tr>
<td>EMAIL:</td>
<td><a href="mailto:Neil.Lonsdale@ghd.com">Neil.Lonsdale@ghd.com</a></td>
</tr>
</tbody>
</table>
8. This letter should be prepared on the verifier’s letterhead or include the signature of the lead verifier (or authorized signatory/organization responsible for issuing the Assurance Report/statement) in the box below:

[Signature]

Neil Lonsdale, P. Eng.