

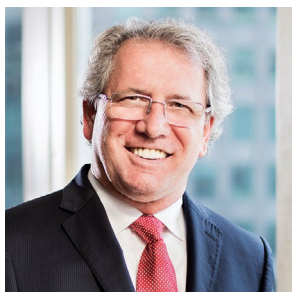
# 2021 CDP Climate Change Response

DELIVERING RESPONSIBLY



# About this Report

Delivering Responsibly is at the heart of how CN is building for a sustainable future. The following report contains the data and information CN disclosed in response to CDP's 2021 climate change questionnaire.



**GHISLAIN HOULE**  
Executive Vice-President and  
Chief Financial Officer  
*Signee of CN's CDP Climate  
Change Response*

CDP is a non-profit that runs the global disclosure system for investors, companies, cities, states and regions to drive companies and governments to reduce their greenhouse gas emissions (GHG), safeguard water resources and protect forests. CDP's annual environmental disclosure and scoring process is widely recognized as the gold standard of corporate environmental transparency. In 2021, 590 investors with over US\$110 trillion in assets and 200+ large purchasers with US\$5.5 trillion in procurement spend requested companies to disclose data on environmental impacts, risks and opportunities through CDP's platform.

We are proud to respond to CDP for the twelfth straight year. Transparency regarding climate-related governance, risks and opportunities, strategy, and performance is critical to maintaining the trust of our stakeholders and allows our investors to better understand the implications of climate change on our business. Our goal is to conduct our operations with minimal environmental impact while providing cleaner, more sustainable transportation services to our customers.

Since 1993, we have reduced our locomotive emission intensity by 43%, avoiding nearly 48 million tonnes of GHG emissions. CN's 2021 CDP response outlines our commitment to support the transition to a low-carbon future, complementing our ongoing discussions with investors and the work we do with our employees, customers, suppliers, NGOs and governments on the matter of climate change.

## Contents

C0	Introduction	01
C1	Governance	04
C2	Risks and Opportunities	08
C3	Business Strategy	20
C4	Targets and Performance	26
C5	Emissions Methodology	32
C6	Emissions Data	34
C7	Emissions Breakdown	39
C8	Energy	43
C9	Additional Metrics	46
C10	Verification	49
C11	Carbon Pricing	52
C12	Engagement	56
	Our Reporting	62
	Contact	63



**ABOUT THIS REPORT**

---

**C0 INTRODUCTION**

---

- An Introduction to CN
  - Reporting Data
  - Boundary
  - Transport Modes
- 

**C1 GOVERNANCE**

---

**C2 RISKS AND OPPORTUNITIES**

---

**C3 BUSINESS STRATEGY**

---

**C4 TARGETS AND PERFORMANCE**

---

**C5 EMISSIONS METHODOLOGY**

---

**C6 EMISSIONS DATA**

---

**C7 EMISSIONS BREAKDOWN**

---

**C8 ENERGY**

---

**C9 ADDITIONAL METRICS**

---

**C10 VERIFICATION**

---

**C11 CARBON PRICING**

---

**C12 ENGAGEMENT**

---

**OUR REPORTING**

---

**CONTACT**

---

# Introduction

---

CO<sub>2</sub>



# CO Introduction

## An Introduction to CN

CN is a North American transportation and logistics company. Our 19,500-mile rail network spans Canada and Mid-America, connecting ports on three coasts: the Atlantic, the Pacific and the Gulf of Mexico. We offer fully integrated rail and other transportation services, including intermodal, trucking, freight forwarding, warehousing and distribution. Our freight revenues are derived from seven commodity groups representing a diversified and balanced portfolio of goods. Essential to the economy, to the customers, and to the communities we serve, we transport more than 300 million tons of cargo annually serving exporters, importers, retailers, farmers and manufacturers. CN is committed to programs supporting social responsibility and environmental stewardship.

### A YEAR LIKE NO OTHER

2020 was a challenging year, starting with the February illegal rail blockades, followed by the economic shutdown due to COVID-19. In a year of global change and adjustment, we continued to invest, grow, and deploy innovative technologies that helped ensure the safe, effective and efficient movement of our customers' goods to market. We tackled the difficult challenges of the global pandemic head on, we held our capital budget fairly steady and continued to invest in the integrity and fluidity of our network and in more fuel-efficient locomotives as well as technologies that support safety and efficiency.

We also continued to strengthen our commitment to making a positive contribution to the fight against climate change. Since 1993, we have reduced our rail locomotive greenhouse gas emissions intensity by 43%, avoiding nearly 48 million tonnes of CO<sub>2</sub>e. CN remains the leader in the North American rail industry, consuming approximately 15% less locomotive fuel per gross ton-mile than the industry average.

### SETTING AMBITIOUS GOALS FOR SUSTAINABILITY

As we prepare for the future, we are committed to reduce emissions and improve our carbon intensity consistent with stabilizing global temperatures. In 2017, CN became the first railroad in North America, and amongst the first hundred companies globally, to set an approved science-based target. To ensure consistency with the most recent climate science and best practices that apply a well-below 2°C scenario, and in the context of the Company's acquisition of TransX, we revised our target in 2020. The new target, which was approved by the SBTi in April 2021, commits CN to reduce Scope 1 and 2 GHG emissions by 43% per gross ton miles by 2030 from a 2019 base year. We also commit to reduce Scope 3 GHG emissions from fuel- and energy-related activities 40% per gross ton miles by 2030 from a 2019 base year.

### INVESTING FOR TOMORROW

With approximately 85% of our Scope 1 emissions generated from rail operations, we believe the best way to reduce our carbon footprint is by continuously improving our rail efficiency. As such, our target informs our low-carbon transition plan and business strategy, which focuses on five key strategic areas: fleet renewals, innovative technologies, big data analytics, operating practices, and the greater use of renewable fuels. Achieving our target is dependent in part on the continuing successful development and availability of innovative technologies and the availability of sufficient volumes of cost competitive sustainable renewable fuels in the years to come, which will require collaboration between locomotive manufacturers and fuel producers. This ecosystem of collaboration will be key to enabling our success.

### CREATING A SUSTAINABLE FUTURE

Our goal is to provide cleaner, more sustainable transportation services to our customers. Shipping heavy goods by rail over long distances is three to four times more fuel efficient than trucks and has tremendous potential to reduce the environmental impact of transportation and help the fight against climate change. We are working with many of our customers to help them reduce their transportation supply chain emissions, leveraging rail for the long haul and trucking over shorter distances, which helps them reduce emissions by up to 75%. We are also supporting the growth in sustainable markets by transporting products such as wood pellets, wood chips, turbine components, solar panels and biofuels.

### ENGAGING EMPLOYEES TO TAKE ACTION

Through our EcoConnexions engagement program, launched in 2011, our 24,000 employees are provided with practical knowledge and tools to reduce energy consumption, minimize waste and improve good housekeeping practices in our yards. Launched in 2012, our EcoConnexions *From the Ground Up* and reforestation program promotes the greening of communities and First Nations situated adjacent to our rail network. Working together with our partners, Tree Canada and America in Bloom, we have assisted community groups to establish green spaces, tree plantings and mass reforestation projects in a sustainable, environmentally responsible manner. In total, since 2012, our EcoConnexions programs have planted more than two million trees – offsetting carbon emissions, improving air quality and the national landscape for future generations to enjoy.

#### ABOUT THIS REPORT

#### C0 INTRODUCTION

##### > An Introduction to CN

Reporting Data

Boundary

Transport Modes

#### C1 GOVERNANCE

#### C2 RISKS AND OPPORTUNITIES

#### C3 BUSINESS STRATEGY

#### C4 TARGETS AND PERFORMANCE

#### C5 EMISSIONS METHODOLOGY

#### C6 EMISSIONS DATA

#### C7 EMISSIONS BREAKDOWN

#### C8 ENERGY

#### C9 ADDITIONAL METRICS

#### C10 VERIFICATION

#### C11 CARBON PRICING

#### C12 ENGAGEMENT

#### OUR REPORTING

#### CONTACT





ABOUT THIS REPORT

C0 INTRODUCTION

An Introduction to CN

> Reporting Data

> Boundary

> Transport Modes

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

# C0 Introduction

## Reporting Data

**C0.2 - C0.4**  
Our reporting data

The report covers data and information from January 1 to December 31, 2020 for our operations in Canada and the United States of America (U.S.). Financial information is disclosed in Canadian dollars throughout the response.

## Boundary

**C0.5**  
Our reporting boundary

CN's climate-related impacts are reported using a consolidated approach within an operational control reporting boundary.

## Organizational Activities: Transport Services and Transport OEMS

**C-TS0.7**  
Transport modes

The transport modes for which we are providing data include rail, heavy-duty vehicles (HDV), marine, and light-duty vehicles (LDV).

**ABOUT THIS REPORT**

---

**C0 INTRODUCTION**

---

**C1 GOVERNANCE**

---

Board Oversight

Management  
Responsibility

Employee Incentives

---

**C2 RISKS AND  
OPPORTUNITIES**

---

**C3 BUSINESS  
STRATEGY**

---

**C4 TARGETS AND  
PERFORMANCE**

---

**C5 EMISSIONS  
METHODOLOGY**

---

**C6 EMISSIONS DATA**

---

**C7 EMISSIONS  
BREAKDOWN**

---

**C8 ENERGY**

---

**C9 ADDITIONAL  
METRICS**

---

**C10 VERIFICATION**

---

**C11 CARBON PRICING**

---

**C12 ENGAGEMENT**

---

**OUR REPORTING**

---

**CONTACT**

---

# Governance

---

CO<sub>2</sub>

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

> Board Oversight

Management  
Responsibility

Employee Incentives

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

**C1.1 - C1.1b**

Board-level oversight of climate-related issues and roles

## Board Oversight

### AUDIT COMMITTEE

The role of the Audit Committee is to assist the Board in fulfilling its oversight responsibilities with respect to the Company's financial reporting, monitoring risk management, internal controls and internal and external auditors.

In 2020, the Audit Committee reviewed the Company's risk assessment, including risk oversight and risk management policies under the Enterprise Risk Management, ensuring that an appropriate risk assessment process is in place to identify, assess and manage the principal risks of CN's business and financial strategy, including climate change risks. The committee made the decision to approve our climate risk mitigation controls, MD&A disclosure, as well as other climate-related disclosure commitments.

### ENVIRONMENT, SAFETY AND SECURITY COMMITTEE

The Environment, Safety and Security (ESS) Committee assists the Board in fulfilling its oversight responsibilities with respect to environmental matters, safety and security of the Company's operations, which include overseeing environmental, safety and security policies, practices and procedures, audits and assessments of compliance.

In 2020, the ESS Committee oversaw the development and implementation of environmental, safety and security policies, procedures and guidelines and reviewed the Company's business plan to ascertain that environmental, safety and security issues are taken into consideration. The Committee also oversaw the Company's Environmental, Sustainability, and Governance disclosures, including CN's Climate Action Plan for inclusion in CN's Information Circular.

The Board achieves this risk oversight through strategic overviews of significant risks and issues, including climate change, and business updates with the President and Chief Executive Officer, and executives. Company officers provide, to the Board or one of its committees, regular presentations and updates on the execution of business strategies, business opportunities, risk and safety management, ethical conduct, and detailed reports on specific risk issues. Specifically, all Board directors receive regular updates on the Company's climate change and fuel efficiency strategies and performance towards targets as part of the briefing materials provided before each Board meeting, approximately ten times per year.

Every quarter, the Environment, Safety and Security Committee of the Board of Directors meets to review performance on environmental compliance, strategies, risks, and performance. Board members also review CN's sustainability report, which includes specific information on the Company's carbon management strategy and performance.

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

Board Oversight

> Management Responsibility

Employee Incentives

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

# C1 Governance

## Management Responsibility

**C1.2 - C1.2a**

Highest management-level position(s) or committee(s) with responsibility for climate-related issues below board level

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Operating Officer (COO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Chief Financial Officer (CFO)	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Vice-President, Financial Planning	Both assessing and managing climate-related risks and opportunities	More frequently than quarterly
Sustainability Committee	Both assessing and managing climate-related risks and opportunities	As important matters arise

**EXECUTIVE VICE-PRESIDENT AND CHIEF OPERATING OFFICER (COO)**

The Executive Vice-President and Chief Operating Officer (COO) is the highest-level management position with direct responsibility for climate-related issues. As part of the Executive Leadership Team, the COO reports directly to the President and Chief Executive Officer (CEO) and the Board on climate-related risks and opportunities, including fuel efficiency, winter readiness plans and rail network resiliency and safety.

With approximately 85% of our direct greenhouse gas emissions generated from fuel consumption during rail operations, the COO's responsibilities must include fuel and carbon efficiency as part of the mandate to drive operational and service excellence. Specific to climate-related issues, the COO is responsible for ensuring we establish programs to meet fuel efficiency targets and enable the company to run a safe, fluid, reliable, and efficient railroad. This includes providing executive management oversight on the fuel efficiency strategy, which aligns with the Canadian rail industry emission intensity reduction target of 6% by 2022 from a 2017 baseline, as well as the Company's longer-term science-based target. Specifically, in 2020 the COO approved the renewal of CN's science-based target, aligning to a well-below 2°C scenario. The COO's responsibility has also included oversight on our investments in innovative rail technologies, as well as fuel conservation practices, such as locomotive shutdowns, streamlined railcar handling, train pacing, coasting and braking strategies. Furthermore, in 2020, the COO's responsibility also included oversight on our capital program of approximately \$2.9 billion, of which \$0.4 billion was on equipment capital expenditures including the acquisition of 41 new and efficient high-horsepower locomotives, as well adding network capacity and fluidity to accommodate our solid pipeline of growth in diverse markets and bringing technology to our Precision Scheduled Railroad.

**CHIEF FINANCIAL OFFICER (CFO)**

In parallel, the Chief Financial Officer (CFO), working with the Vice-President, Financial Planning, provides executive management oversight on our carbon strategies. With constantly changing climate-related risks and opportunities impacting the business, the Financial Planning and Sustainability function needs to have direct responsibility for ensuring CN proactively identifies climate-related risks and opportunities, and for ensuring the Company establishes the right policies and programs to meet regulatory compliance obligations, corporate targets, and effectively mitigate potential risks. For example, in 2020, the CFO and the Vice-President, Financial Planning continued to play an important role in ensuring the Company took a strategic approach to understand the impact of carbon pricing in Canada on our business, as well as the impact of emerging clean fuel regulations. They also ensured the development of strategies to mitigate these risks and to capitalize on longer-term opportunities by supporting the use of renewable fuels.

**SUSTAINABILITY COMMITTEE**

The mandate of CN's Sustainability Committee is to monitor, assess, propose and initiate mitigation measures for sustainability risks and opportunities, including climate-related matters. The committee comprises Director- and Senior Management-level representatives from relevant Business Units and Corporate Functions that have oversight over or can influence critical levers in managing CN's environmental or social impact. These include, but are not limited to, Operations, Facilities Management, Fuel Management, Procurement, and Sales and Marketing. CN's Assistant Vice-President, Sustainability chairs the quarterly meetings and reports directly to the Vice-President, Financial Planning. Critical matters are reported up to the Board as part of the regular updates by the CFO and COO. In 2020, the work of the committee continued, however, the frequency and the format of the meetings were altered as a result of the pandemic.



## ABOUT THIS REPORT

### C0 INTRODUCTION

### C1 GOVERNANCE

Board Oversight

Management  
Responsibility

### > Employee Incentives

### C2 RISKS AND OPPORTUNITIES

### C3 BUSINESS STRATEGY

### C4 TARGETS AND PERFORMANCE

### C5 EMISSIONS METHODOLOGY

### C6 EMISSIONS DATA

### C7 EMISSIONS BREAKDOWN

### C8 ENERGY

### C9 ADDITIONAL METRICS

### C10 VERIFICATION

### C11 CARBON PRICING

### C12 ENGAGEMENT

## OUR REPORTING

## CONTACT

**C1.3 - C1.3a**  
Incentives for the management of climate-related issues

## Employee Incentives

All employees are responsible for upstream and operations cost control, which includes energy efficiency, and are educated on energy management best practices through our EcoConnexions employee engagement program. Fuel efficiency, emission and energy reduction initiatives can be recognized through CN's People Awards for Excellence within the Rail Operations and Supply Chain Service Excellence category. Employees are also recognized for their efforts through the CN EcoConnexions program and many other internal communications.

For select roles we provide monetary incentives for the management of climate-related issues, including the attainment of efficiency and emission reduction targets.

### EXECUTIVE VICE-PRESIDENT AND CHIEF OPERATING OFFICER (COO)

The Executive Vice President and Chief Operating Officer (COO) has included in his My360 Performance Goals improvements in CN's fuel efficiency, in line with the Canadian rail industry medium-term emission intensity reduction target of 6% by 2022 from a 2017 baseline and also in line with the Company's long-term science-based target to reduce GHG emission intensity (tCO<sub>2</sub>e/million GTMs) by 43% by 2030, based on 2019 levels.

### CHIEF FINANCIAL OFFICER (CFO)

The Chief Financial Officer (CFO) has included in his My360 Performance Goals improvements in CN's fuel efficiency, in line with the Canadian rail industry medium-term emission intensity reduction target of 6% by 2022 from a 2017 baseline and also in line with the Company's long-term science-based target to reduce GHG emission intensity (tCO<sub>2</sub>e/ million GTMs) by 43% by 2030, based on 2019 levels.

### VICE-PRESIDENT, FINANCIAL PLANNING

At the executive level, the Vice-President, Financial Planning has included in her My360 Performance Goals direct performance on the Company's climate-related objectives and target to reduce GHG emission intensity (tCO<sub>2</sub>e/million GTMs) by 43% by 2030, based on 2019 levels. This includes fuel consumption from locomotives, shipping vessels, trucks, company vehicles and operating equipment, and buildings and yards energy consumption. Oversight for managing potential climate-related risks and opportunities to the business, such as climate change policy impacts, renewable fuel use and stakeholder engagement is also included.

### MANAGEMENT EMPLOYEES

Various management employees are responsible for executing our emissions and energy efficiency strategy. Performance indicators are included in their respective My360 Performance objectives.

CN works collaboratively across the value chain to support sustainable production and consumption. Our employees are highly engaged in working together to optimize materials and minimize waste in our operations. We are committed to sourcing more environmentally friendly products and services, working together with our suppliers to consider better alternatives across the entire product life cycle. For example, we've introduced innovative biodegradable degreasers at our maintenance centres, worked with suppliers to advance the use of renewable energy in our rail and non-rail fleet, and collaborated on packaging optimization such as boomerang boxes, pallets and bulk packaging. For example, the Fuel Management team performance score is tied to the Company's Canadian rail industry emission intensity reduction target of 6% by 2022 from a 2017 baseline and we engage with our suppliers to obtain key information on and optimize our fuel blends in alignment with the Canadian Renewable Fuel Standard and impending Clean Fuel Standard.

### FACILITY MANAGEMENT TEAM

The Facility Management team performance score is tied to the year-over-year target of reducing our overall energy spend by 2%. Furthermore, the Sustainability team's performance score is tied to the implementation of the emissions and energy efficiency strategy and the execution of the Company's climate change communications. The achievement of the above performance indicators is linked to employee recognition as well as the individual's annual compensation and bonus reward. These targets align with the Company's overall science-based target to reduce our GHG emission intensity (tCO<sub>2</sub>e/million GTM) (which includes fuel consumption from locomotives, shipping vessels, trucks, company vehicles and operating equipment, and buildings and yard energy consumption) by 43% by 2030, based on 2019 levels.

**ABOUT THIS REPORT**

---

**C0 INTRODUCTION**

---

**C1 GOVERNANCE**

---

**C2 RISKS AND OPPORTUNITIES**

---

Definitions

Management Processes

Risk Disclosure

Opportunity Disclosure

---

**C3 BUSINESS STRATEGY**

---

**C4 TARGETS AND PERFORMANCE**

---

**C5 EMISSIONS METHODOLOGY**

---

**C6 EMISSIONS DATA**

---

**C7 EMISSIONS BREAKDOWN**

---

**C8 ENERGY**

---

**C9 ADDITIONAL METRICS**

---

**C10 VERIFICATION**

---

**C11 CARBON PRICING**

---

**C12 ENGAGEMENT**

---

**OUR REPORTING**

---

**CONTACT**

---

# Risks and Opportunities

---

CO<sub>2</sub>

# C2 Risks and Opportunities

## Definitions

**C2.1**  
Our definition of short-, medium- and long-term time horizons

Time horizon	From (years)	To (years)	Comments
Short-term	0	1	The short-term time horizon aligns with our annual planning and targets.
Medium-term	2	5	The medium-term horizon aligns with our five-year strategic plan.
Long-term	5	10	The long-term horizon aligns with our 2030 science-based target.

**C2.1b**  
Our definition of substantive financial or strategic impact on your business

When identifying or assessing climate risk, the determination of whether it has a substantive financial impact is aligned with our corporate risk management framework taking into consideration the likelihood and the severity of the impact.

For operational and business-level risks, including climate-related risks, a substantive financial or strategic impact is defined as having a financial impact that is greater than 1% of revenue or is otherwise perceived as significant and could result in irreparable damage to CN's reputation and/or assets.

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

> Definitions

Management Processes

Risk Disclosure

Opportunity Disclosure

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

# C2 Risks and Opportunities

## Management Processes

A multi-disciplinary company-wide risk management process is used to assess short-, medium-, and long-term climate-related risks and opportunities more than once a year.

**C2.2**  
Process(es) for identifying, assessing and responding to climate-related risks and opportunities

Value chain stage(s) covered	Description of process
Upstream	<p><b>Process to Determine Substantive Financial or Strategic Impact</b></p> <p>Climate change is integrated into our risk assessment processes, which considers both physical and transition risks, including temperature extremes, flooding, hurricanes, and tornadoes, as well as legal, policy and market impacts.</p> <p>At a company level, CN uses enterprise and operational risk management processes to identify, prioritize, assess, respond to, and disclose risks, including climate-related risks that have the potential to affect business strategy. For each risk (inherent or residual), a ranking is provided ranging from high to low, based on financial, operational, environmental, and reputational impacts (worst case) and the associated likelihood of occurring. Current and planned mitigation activities are captured and assigned ownership at the appropriate level. For example, ownership for enterprise-level risks resides at the executive level. We regularly report on our risks internally, highlighting substantive risks/opportunities that have the potential financial impact that is greater than 1% of revenue or is otherwise perceived as significant and could result in irreparable damage to CN's reputation and/or assets. In response to increasing public and investor concerns over climate change, we have been strengthening the transparency and credibility of the information we publish publicly on climate-related issues, including governance, risks, opportunities and our performance. In 2020, climate-related disclosures were included as part of our Annual Report, Investor Fact Book, TCFD Report, and on our website.</p> <p>The processes for upstream climate-related risks and opportunities, which typically refer to the impacts on our supply chain, take place on an ongoing basis at the operational level, and more formally on an annual basis during our climate risk assessment leading up to the business planning cycle and voluntary Environmental, Social, and Governance (ESG) disclosure events.</p> <p><b>Case Study of Application to Physical Risks / Opportunities</b></p> <p>CN has identified and assessed the volatility of fuel prices due to changes in the economy or supply disruptions. Fuel shortages can occur due to refinery disruptions, production quota restrictions, climate impacts such as severe weather events, and labour and political instability. Increases in fuel prices or supply disruptions may materially adversely affect the Company's results of operations, financial position or liquidity. For example, severe weather conditions in February/March 2019 caused significant delays to the fuel tank car logistics network. To avoid fuel shortages in Northern British Columbia, we deployed trucks to deliver diesel fuel from Edmonton and Vancouver to Prince George and Kamloops.</p> <p>In response, the Company manages fuel price risk by offsetting the impact of rising fuel prices with a fuel surcharge program. While CN's fuel surcharge program provides effective coverage, residual exposure remains given that fuel price risk cannot be completely managed due to timing and given the volatility in the market. Additional measures include the regular review of the opportunity for geographical diversification of our fuel supplier locations and deployed trucks to deliver diesel fuel to the required locations. Our suppliers also consider the weather in their operations and proactively ensure CN fuel tanks are maintained at required levels, which allow uninterrupted access to several days of inventory.</p> <p><b>Case Study of Application to Transition Risks / Opportunities</b></p> <p>From a transition risk perspective, CN identified and assessed the risks associated with the availability, accessibility and operational impact of renewable fuels. Renewable fuels present an immediate opportunity to further reduce our locomotive emissions, but could impact CN's procurement costs as well as operations where high blends of renewable fuels cannot be used in our trains based on supplier specifications.</p> <p>In response, our Fuel Procurement team is working with suppliers to gain greater transparency into blend rates for the fuel we receive. In 2020, we continued to work with our locomotive manufacturers to assess the potential risks of sourcing and using renewable fuels in our locomotives, allowing us to gain critical information to integrate mitigation strategies into our procurement approach, while also informing our technology and innovation needs.</p>

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

Definitions

> Management Processes

Risk Disclosure

Opportunity Disclosure

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT



# C2 Risks and Opportunities

## Management Processes (continued)

### ABOUT THIS REPORT

#### C0 INTRODUCTION

#### C1 GOVERNANCE

#### C2 RISKS AND OPPORTUNITIES

Definitions

#### > Management Processes

Risk Disclosure

Opportunity Disclosure

#### C3 BUSINESS STRATEGY

#### C4 TARGETS AND PERFORMANCE

#### C5 EMISSIONS METHODOLOGY

#### C6 EMISSIONS DATA

#### C7 EMISSIONS BREAKDOWN

#### C8 ENERGY

#### C9 ADDITIONAL METRICS

#### C10 VERIFICATION

#### C11 CARBON PRICING

#### C12 ENGAGEMENT

### OUR REPORTING

### CONTACT

Value chain stage(s) covered	Description of process
Direct operations	<p><b>Process to Determine Substantive Financial or Strategic Impact</b></p> <p>Climate change is integrated into our risk assessment processes, which considers both physical and transition risks, including temperature extremes, flooding, hurricanes, and tornadoes, as well as legal, policy and market impacts.</p> <p>At a company level, CN uses enterprise and operational risk management processes to identify, prioritize, assess, respond to, and disclose risks, including climate-related risks that have the potential to affect business strategy. For each risk (inherent or residual), a ranking is provided ranging from high to low, based on financial, operational, environmental, and reputational impacts (worst-case) and the associated likelihood of occurring. We capture current and planned mitigation activities and assign ownership at the appropriate level. For example, ownership for enterprise-level risks resides at the executive level. We regularly report on our risks internally, highlighting substantive risks/opportunities that have the potential financial impact that is greater than 1% of revenue or is otherwise perceived as significant and could result in irreparable damage to CN's reputation and/or assets. In response to increasing public and investor concerns over climate change, we have been strengthening the transparency and credibility of the information we publish publicly on climate-related issues, including concerning governance, risks, opportunities and performance. In 2020, climate-related disclosures were included as part of our Annual Report, Sustainability Report, Investor Fact Book, TCFD Report and on our website.</p> <p>The processes for climate-related risks and opportunities on our direct operations, which typically refer to existing and emerging regulations, technology changes, market, reputation and both chronic and acute physical weather events, take place on an ongoing basis at the operational level, and more formally on an annual basis during our climate risk assessment leading up to the business planning cycle and voluntary ESG disclosure events.</p> <p><b>Case Study of Application to Physical Risks / Opportunities</b></p> <p>CN has identified and assessed the risk associated with extreme cold. Severe cold, due to its detrimental effects on the physical characteristics of steel against steel, presents unique challenges that can negatively impact freight volumes moved by rail no matter the investments and practices to strengthen the network and optimize the service. At -25°C and below, long compressed air brake systems on trains also become more vulnerable to malfunction. For example, in 2020 a Ministerial Order issued on April 3, 2020 limited the speed of certain crude oil and liquid petroleum gas (LPG) trains to 50 mph from March to November, and down to 40 mph from November to March. When temperature hits -25°C, speed is further reduced to 30 mph in certain areas. The slowing of these trains has the effect of slowing all subsequent trains on the rail network, which in turn reduces capacity and increases the risk of congestion at the time of year when CN already faces difficult operating conditions.</p> <p>In response, CN self-imposes speed restriction through its Cold Weather Slow Policy, a standing operating procedure that includes mandatory slow orders for train movement at specific extreme cold temperatures. In addition, CN has taken other measures to fortify its defences against temperature-based rail failure risks. These include a standard company-wide protocol of temperature-based slow order bulletins to crews, significant investments in the train control system (CTC) enabling 99% of CN's main route to be protected under this method of control, and ongoing elimination of joints on continuous welded rail. CN continues to refine its use of air distribution cars on trains to drive maximum benefit. Their availability being critical, CN monitors their location to ensure they are positioned along the network for best use during cold snaps. Strict adherence to the four-tier restriction system, which calls for specific train length reductions in cold weather, is very effective in keeping the network safe. Representatives from support sections are temporarily located in operation centres to work in unison and assist chief dispatchers with troubleshooting. Such arrangement allows various expertise to come together with solutions as challenges arise and supports the flow of information to and from the operation centres.</p> <p><b>Case Study of Application to Transition Risks / Opportunities</b></p> <p>From a transition risk perspective, CN has identified and assessed the risk that the increasing price of carbon and enhanced emissions reporting regulations will yield increased direct costs. CN's tri-coastal network throughout Canada and the U.S. spans from east to west and down through the Midwest to the Gulf of Mexico. Due to this, we are subject to a larger number of provincial, state and federal GHG reporting, verification, and carbon market regulations in Canada and the U.S. than most rail companies. Our HDV and Marine business units further differentiate our regulatory and reporting commitments from most of our competitors. These carbon pricing mechanisms have a direct impact on our operational costs, as well as the flow-through cost to our customers.</p> <p>In response, CN manages the costs of these climate-related regulations through carbon surcharges for customers and by allocating resources to meet our compliance objectives. We also actively work with fuel suppliers and locomotive manufacturers and are focused on testing and exploring the greater use of sustainable renewable fuel blends, beyond regulated amounts, in our locomotives, to achieve our emissions target.</p>



# C2 Risks and Opportunities

## ABOUT THIS REPORT

### C0 INTRODUCTION

### C1 GOVERNANCE

### C2 RISKS AND OPPORTUNITIES

Definitions

#### > Management Processes

Risk Disclosure

Opportunity Disclosure

### C3 BUSINESS STRATEGY

### C4 TARGETS AND PERFORMANCE

### C5 EMISSIONS METHODOLOGY

### C6 EMISSIONS DATA

### C7 EMISSIONS BREAKDOWN

### C8 ENERGY

### C9 ADDITIONAL METRICS

### C10 VERIFICATION

### C11 CARBON PRICING

### C12 ENGAGEMENT

## OUR REPORTING

## CONTACT

#### C2.2a

Risk types considered in climate-related risk assessments

## Management Processes (continued)

### RISK TYPES

The following risk types are relevant and always included in climate-related risk assessments:

#### Current Regulation

At a company level, CN uses enterprise and operational risk management processes to identify, prioritize, and assess risks, including climate-related risks, that have the potential to affect business strategy. Specifically, we monitor the potential impact of current federal, state and provincial regulations in Canada and the U.S. as they may affect our revenues, costs, and operational process requirements. In addition, CN targets zero non-compliance, to avoid the associated financial burden, risk to our license to operate, and damage to our reputation.

We have dedicated resources in relevant departments to support our ongoing commitments. For example, members of our fuel procurement department in collaboration with the Assistant Vice-President of Sustainability and Manager, Climate Change, manage the regular reporting on our fuel purchases and the associated Emissions Trading System (ETS) allowances. These reports are also used internally to assess the risk of increasing direct costs and opportunities to manage them. For example, in 2020, we reported on our imports of locomotive and miscellaneous fuels into the province of Quebec. We furthermore engaged an external consultant to complete the third-party verification of our report.

#### Emerging Regulation

At a company level, CN uses enterprise and operational risk management processes to identify, prioritize, and assess risks, including climate-related risks, that have the potential to affect business strategy. Specifically, we monitor the potential impact of emerging federal, state and provincial regulations in Canada and the U.S. as they may affect our revenues, costs, and operational process requirements. For example, we monitor and assess the potential impact of emerging regulations such as the Clean Fuel Standard, which the federal government is developing to reduce Canada's GHG emissions through the increased use of lower-carbon fuels, energy sources and technologies. A draft regulatory design paper was released with final regulations to come into force in 2022. In response, we are assessing the impacts of increasing renewable fuel blend rates in our locomotive diesel fuel supply to determine potential mechanical impacts as well as the impacts on locomotive fuel efficiency and

on fuel costs. In the medium term, the proposed Canadian Federal Clean Fuel Standard and other existing renewable and clean fuel standards in jurisdictions where CN operates will continue to present an important opportunity for us to further reduce our emissions through increasing sustainable renewable fuel blends. Specifically, we have set a short-term year-on-year rolling target of 2% sustainable renewable fuel consumption for our Canadian locomotive fleet. In 2020, the use of sustainable renewable fuels in our fleet saved approximately 77,000 tCO<sub>2</sub>e.

#### Technology

Technology is being monitored as a transitional risk driver in our enterprise and operational risk management processes. We continue to explore and invest in innovative technologies. We equip our locomotives with energy management and data telemetry systems as well as distributed power functionality to help us maximize locomotive operating effectiveness and efficiency. These innovative technologies will allow us to continuously improve train handling, braking performance, and overall fuel efficiency, therefore, improving our carbon efficiency in the years to come. For example, we assess technology risks in the context of stringent locomotive air emission standards set by the U.S. Environmental Protection Agency (EPA) and Canada that require newly manufactured and re-manufactured off-road engines to be Tier 4-compliant and have idle emission controls. We use the information for the risk and opportunities assessment and to inform our strategy to acquire, upgrade and retire locomotives.

#### Legal

Legal risks to the Company are always included in the risk assessment process. Specifically, we monitor the risks associated with the violation of or potential non-compliance with laws and regulations such as, for example, discharges to air, land, and water or handling, storage, use, generation, transportation, and disposal of waste and other materials. We monitor these risks as well as the effectiveness of related mitigation strategies in alignment with our efforts to avoid non-compliances and potential lawsuits.

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

Definitions

> Management Processes

Risk Disclosure

Opportunity Disclosure

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

## Management Processes (continued)

### Market

Through our climate-related risk assessments, we consider climate-related risks that could impact the markets we serve. Specifically, we assess the extent to which climate-related physical and transition risks could affect our customers, making it difficult for our customers to produce products in a cost-competitive manner that would in turn impact the markets we serve. For example, through our assessments, we have identified certain commodities moved by CN that could be adversely affected, including our utility coal customers due to thermal coal capacity being replaced with natural gas generation. Meanwhile, we also consider opportunities in the growth of cleaner energy markets such as wood pellets, wood chips, turbine components, solar panels, lithium, and biofuels.

CN continues to play a key role in the transition to a lower-carbon economy by moving cleaner energy products. For example, in 2020, CN increased its revenues from the transport of wood pellets by more than 15%.

### Reputation

Climate-related events, such as floods, washouts, or extreme weather events that could lead to derailments or delays, have the potential to negatively impact CN's reputation with shareholders and stakeholders. Therefore, we include the potential impact of climate-related events and the associated disclosure and communication process in the risk assessment and mitigation process. We also recognize that with increasing public and investor concerns over climate change, a lack of disclosure on how we identify and manage climate change risks could expose us to potential reputational risk. Over the past few years, there has been an increase in investor interest on environmental, social and governance factors, which includes responding to and mitigating climate risks. For example, In November 2020, CN received a shareholder proposal from TCI, one of its investors, requesting a climate action plan and a non-binding advisory vote on such plan. As a result, we continue to strengthen the transparency and credibility of the information we publish publicly on climate-related issues, including concerning governance, risks, opportunities and performance. In 2020, climate-related disclosures were included in our Annual Report, Sustainability Data Supplement, Investor Fact Book, TCFD report and on our website. Starting in 2021, CN will seek an annual advisory vote on the Company's Climate Action Plan. The non-binding vote took place at CN's Annual General Meeting in April.

### Acute Physical

Through our climate-related risk assessments, we consider risk exposure to extreme weather events, including flooding, heat and cold extremes, cyclones and tornadoes. For example, we assess the impacts of extreme cold on our operations. Below -25°C, railway technologies (steel rail, steel wheels, and long compressed air brake systems) become more vulnerable to problems that can disrupt normal operations. We also assess the impact of episodes of flash flooding, which could result in landslides in unstable mountainous regions and mudslides further damaging rail bed support structures and cause overflows onto our tracks. Vulnerability and risks of tornadoes and cyclones are also assessed, particularly at our sites and network within the U.S. Tornado Belt, the Midwest and New Orleans area. For example, in February 2020, CN experienced interruptions of train operations caused by track washouts and extreme cold weather periods (under -25°C).

### Chronic Physical

Through our climate-related risk assessments, we consider exposure to changes in chronic physical impacts, such as long-term weather change and increasing temperatures, which affect our infrastructure and our train operations significantly. To mitigate chronic physical risks associated with the increasing frequency of extreme weather, we refine our business resiliency and continuity plans to ensure the dependability of train operations. For example, chronic shifts in climate patterns, such as increased temperatures could cause rail to expand and buckle, resulting in more track repairs or speed restrictions to avoid derailments.

In addition, shifts in climate patterns can also impact the markets and commodities we move. For example, the cold temperatures in early January and February 2019 caused unprecedented harvest delays, impacting the entire Western Canadian grain supply chain. Through resiliency planning, CN and its supply chain partners were able to adapt to move historically strong grain shipment volumes in November when the crop was finally harvested and ready to ship.



# C2 Risks and Opportunities

## ABOUT THIS REPORT

### C0 INTRODUCTION

### C1 GOVERNANCE

### C2 RISKS AND OPPORTUNITIES

Definitions

Management Processes

#### > Risk Disclosure

Opportunity Disclosure

### C3 BUSINESS STRATEGY

### C4 TARGETS AND PERFORMANCE

### C5 EMISSIONS METHODOLOGY

### C6 EMISSIONS DATA

### C7 EMISSIONS BREAKDOWN

### C8 ENERGY

### C9 ADDITIONAL METRICS

### C10 VERIFICATION

### C11 CARBON PRICING

### C12 ENGAGEMENT

## OUR REPORTING

## CONTACT

#### C2.3 - C2.3a

Climate-related risks with potential for a substantive financial or strategic impact on our business

## Risk Disclosure

Identifier • Risk type	Company-specific description	Time horizon • Likelihood • Magnitude of impact	Potential financial impact figure and explanation	Response and explanation of cost calculation
Risk 001 • Acute physical	<p>The risk that an increased severity and frequency of extreme weather events yields increased direct costs:</p> <p>Extreme temperatures can present a risk to our network and infrastructure. For example, rail misalignments and track buckling are possible from thermal rail expansion due to extreme heat, and extreme cold can result in track freezing leading to greater frequency of broken rails, frozen switches, and high rates of wheel replacements. Further, flash floods can result in landslides and mudslides, and cause overflows damaging the rail bed support structures and tracks. Temperature extremes can also impact our sites and networks in the U.S. Tornado Belt, Midwest and New Orleans area, making our operations vulnerable to increases in tornado occurrences and intensity.</p> <p>For example, in February 2020, CN experienced interruptions in rail operations caused by track washouts and extreme cold weather periods (under -25°C).</p>	<p>Short-term</p> <p>•</p> <p>Virtually certain</p> <p>•</p> <p>High</p>	<p>We calculate the financial costs incurred from extreme weather events such as harsh winter conditions, flooding, and wildfires, including damage to our assets and infrastructure impacting maintenance costs and operations such as snow removal costs. In 2020, the financial impact of extreme weather events on our business was estimated to be between \$90 million and \$150 million.</p>	<p>The Company's success is dependent on its ability to operate its railroad efficiently. Severe weather and natural disasters, such as extreme cold or heat, flooding, droughts, fires, hurricanes and earthquakes, can disrupt operations and service for the railroad, affect the performance of locomotives and rolling stock, as well as disrupt operations for both the Company and its customers. Business interruptions resulting from severe weather could result in increased costs, increased liabilities and lower revenues, which could have a material adverse effect on the Company's results of operations, financial condition or liquidity.</p> <p>To manage the risk, we have in place several programs to respond to the physical impacts of climate change, including extreme weather readiness plans, an emergency response planning program, inspection programs and strategies to deploy non-rail modes of transport. We have established rapid-deployment teams to quickly take action when a service disruption occurs. These teams include staff to rework train schedules, as well as develop work and contingency recovery plans to deploy and manage needed equipment and repair crews.</p> <p>Year over year, we expend considerable costs towards the maintenance of our infrastructure to protect company assets from wear and tear that could be attributable to changes in climate. Costs also include operational expenses, such as snow removal. For example, after the extreme cold in 2019, CN did a review of its operations, with a focus on the best practices for management of equipment in severe weather conditions. As a result, CN continues to refine its use of air distribution cars on trains to drive maximum benefit. Their availability being critical, we monitor their location to ensure they are positioned along the network for best use during cold snaps. In addition, strict adherence to the four-tier restriction system, which calls for specific train length reductions in cold weather, is very effective in keeping the network safe. Enhancements to operation centers to facilitate the flow of information helps further improve rail service.</p> <p>We calculated the \$100 million cost of response based on costs incurred for our readiness programs in addition to the costs incurred for the maintenance of our infrastructure. As a result, volumes shipped during the 2019–2020 winter were greater than the average volumes over the past five years.</p>



## ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

Definitions

Management Processes

> Risk Disclosure

Opportunity Disclosure

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

## Risk Disclosure (continued)

Identifier • Risk type	Company-specific description	Time horizon • Likelihood • Magnitude of impact	Potential financial impact figure and explanation	Response and explanation of cost calculation
Risk 002 • Market	<p>The risk of a decline in demand for products currently representing a significant percentage of CN's commodity portfolio due to changes to consumer behaviours and climate change regulations will yield decreased revenues:</p> <p>Increasing consumer preference for cleaner energy sources to limit the impacts of climate change, further accelerated by federal, state and provincial commitments to clean electricity, could affect certain commodities moved by CN, including petroleum and chemicals and utility coal markets in Canada.</p>	<p>Medium-term</p> <p>About as likely as not</p> <p>Medium—high</p>	<p>Within North America, policies and use of renewable energies are sparking the decline of coal. In Canada, this declining trend is driven primarily by retirements of coal-fired generation capacity resulting from regulations to phase out traditional coal-fired power plants by 2030.</p> <p>Thermal coal is expected to contract by 89% in Canada over the next 30 years, according to the Canada Energy Regulator. If consumer preference was to impact our thermal coal customers to the extent that all coal shipments ceased, it would reduce our rail freight revenues by up to 4% (527/13,218), equivalent to an estimated \$527 million in 2020.</p> <p>We calculated our estimated financial impact range of \$400 million to \$700 million based on the revenue mix of our business.</p>	<p>Shifts in customer and shareholder behaviour towards more environment friendly products has impacted the business models of several companies. The demand has grown for companies to alter their commodity portfolios to reduce investments and operations in coal and other fossil fuels.</p> <p>To manage this risk, we continue to maintain a diversified and balanced portfolio of goods. CN's freight revenues are derived from seven commodity groups. The product and geographic diversity better positions the Company to face economic fluctuations and enhances its potential for growth opportunities. For the year ended December 31, 2020, no individual commodity group accounted for more than 27% of total revenues.</p> <p>We engage with existing and potential customers to promote the environmental benefits of rail and increase our market share in other commodity groups. CN continues to play a key role in the transition to a lower-carbon economy by moving cleaner energy products like wood pellets, wood chips, wind turbine components, solar panels, as well as biofuel. For example, in 2020, CN increased its revenues from the transport of wood pellet by more than 15%</p> <p>The costs associated with communicating with our customers, and exploring opportunities to position CN's carbon-efficient rail service is included in the Marketing and Sustainability functional budgets. Specifically, we have estimated the costs associated with internal resource time, advertising, and consultants to be approximately \$500,000.</p>
Risk 003 • Technology	<p>The risk that mandates on and regulations of services yield increased capital expenditure to transition to lower emissions technology:</p> <p>With approximately 85% of our GHG emissions generated from rail operations, we believe the best way to reduce our carbon footprint is by continuously improving our rail efficiency. Over the years, this focus has resulted in significant progress decoupling growth from carbon emissions, making us the most fuel-efficient railroad in North America.</p> <p>New mandates and regulations, such as the Canadian Clean Fuel Standard that is proposed to come into effect in 2022, will require us to continuously review our fleet and invest in new technologies.</p> <p>The move towards renewable fuels or alternative energy sources requires significant operational or capital expenditure. The rail industry is currently researching the use of battery and hydrogen power for propulsion. These new fuel sources would represent significant implementation costs.</p>	<p>Medium-term</p> <p>Very likely</p> <p>Medium—high</p>	<p>Cleaner, more fuel-efficient rail and non-rail equipment will be important in helping us continue to decouple growth from GHG emissions. Already, we are making significant investments in Tier 4 locomotives, new-generation railcars, hybrid and electric vehicles.</p> <p>The railway industry, in collaboration with locomotive manufacturers, is engaged in various technology pilot programs. Pilot costs range from \$4.5 to \$10 million per locomotive.</p> <p>We calculated our estimated financial impact figure range of \$500 million to \$1 billion based on estimated new technology costs.</p>	<p>In addition to the capital-intensive renewal of our fleet, the installation of fuel-efficient technologies and big data management analytics capabilities are helping us further reduce our carbon footprint and are part of our low-carbon transition plan in alignment with our science-based target reduction of 43% GHG emission intensity by 2030.</p> <p>We equip our locomotives with energy management and data telemetry systems as well as distributed power functionality to help us maximize locomotive operating effectiveness and efficiency. These innovative technologies will allow us to continuously improve train handling, braking performance, and overall fuel efficiency, therefore, improving our carbon efficiency and making our services more attractive to customers. Investments in information technology enable deeper analysis to continue to identify, through big data analytics, additional opportunities for fuel conservation that will present opportunities for us to further reduce our emissions in the coming years. Informed by deeper analysis of the available data, CN increased efficiencies and achieved an all-time record fuel efficiency performance.</p> <p>The estimated annual R&amp;D costs of \$3 million reflects the spend associated with the development and deployment of smart systems including fuel-efficient technologies (e.g. WiTronix, AESS, Trip Optimizer) and big data management analytics capabilities.</p>

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

Definitions

Management Processes

> Risk Disclosure

Opportunity Disclosure

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

## Risk Disclosure (continued)

Identifier • Risk type	Company-specific description	Time horizon • Likelihood • Magnitude of impact	Potential financial impact figure and explanation	Response and explanation of cost calculation
Risk 004 • Current regulations	<p>The risk that the increasing price of carbon and enhanced emissions reporting regulations will yield increased direct costs:</p> <p>CN's tri-coastal network throughout Canada and the U.S. spans from east to west and down through the Midwest to the Gulf of Mexico. Due to this, we are subject to a larger number of provincial and federal GHG reporting, verification, and carbon market regulations in Canada and the U.S. than most rail companies. Our HDV and Marine business units further differentiate our regulatory and reporting commitments from most of our competitors.</p> <p>Specifically, in 2020, CN was impacted by the Quebec and Nova Scotia GHG cap-and-trade systems and was therefore required to provide GHG reporting and verification. CN furthermore had to pay carbon taxes in British Columbia, Alberta, as well as the federal backstop levy, which came into effect in April 2019.</p> <p>In the medium to long term, CN will be impacted by increasing carbon costs from fuel distributors, federal and provincial carbon taxes, and cap-and-trade allowance purchases associated with the impact of fossil fuels. These carbon pricing mechanisms have a direct impact on the operational costs of CN, as well as the flow-through cost for CN to customers.</p>	<p>Long-term</p> <p>•</p> <p>Likely</p> <p>•</p> <p>Medium—high</p>	<p>In alignment with our climate risk assessment, CN conducted scenario analysis on policy risk related to the implementation of carbon-pricing mechanisms. CN used a time horizon from 2019 (CN's base year) to 2030 using projections and assumptions established for the development of CN's science-based target.</p> <p>The analysis was conducted for 1.8°C and 3.5°C of warming scenarios and provides CN with relevant insights. To calculate the financial impact range of \$200 to \$450 million of carbon price risk, we used our GHG baseline, estimated future emissions to 2030 and multiplied those emissions by the respective carbon pricing scenarios using the IEA and Bank of Canada forecast for Canada and the U.S.</p>	<p>Carbon pricing mechanisms have a direct impact on the operational costs of CN, as well as the flow-through cost for CN to customers. We manage the costs of these climate-related regulations through carbon surcharges for customers and by allocating resources to meet our compliance objectives.</p> <p>Driven by regulatory requirements, the growth of the renewable fuel market presents an immediate opportunity to further reduce our emissions and carbon costs by using sustainable renewable fuel blends in our fleets. We are aligned with Canada's Clean Fuel Standard, which aims to reduce GHG emissions through the increased use of lower-carbon fuels and energy sources. We are actively working with our fuel suppliers and locomotive manufacturers and are focused on testing and exploring the greater use of sustainable renewable fuel blends, beyond regulated amounts, in our locomotives, to achieve our target. In 2020, the use of sustainable renewable fuels in our fleet saved approximately 77,000 tCO<sub>2</sub>e.</p> <p>We calculate the costs of meeting our compliance obligations, CN incurs \$140,000 in expenses to comply with the respective carbon pricing regulations and on professional services relating to mandatory GHG reporting and third-party verification.</p>

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

Definitions

Management Processes

Risk Disclosure

> Opportunity Disclosure

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

## Opportunity Disclosure

C2.4 - C2.4a

Climate-related opportunities with the potential to have a substantive financial or strategic impact

Identifier • Where in the value chain does the risk driver occur? • Opportunity type • Primary climate-related risk driver	Company-specific description	Time horizon • Likelihood • Magnitude of impact	Potential financial impact figure and explanation	Strategy to realize opportunity and explanation of cost calculation
OPP001 • Direct operations • Products and services • Development and/or expansion of low-emission goods and services	<p>The opportunity to increase revenues resulting from increased demand for low-emission goods and services:</p> <p>The movement towards carbon pricing in North America coupled with the growing pressures on CN customers to reduce their supply chain carbon emissions present important opportunities for us to position the environmental benefits of rail.</p> <p>Specifically, positioning the environmental benefits of shipping heavy freight by rail over long distances versus by other more carbon-intensive modes, such as transport trucks, could present opportunities to grow revenue within our intermodal and carload segments, with customers looking to reduce their transportation supply chain emissions.</p> <p>Railroads are the most environmentally sound way to move freight over land. Shipping freight by rail instead of trucks can reduce GHG emissions by up to 75% on average according to the Association of American Railroads (AAR). For example, CN's truck-competitive segment has continued to increase and in 2020, represented 56% of our revenues.</p>	Medium-term • More likely than not • Medium—high	<p>Modal shift provides an opportunity to grow revenues within our intermodal and carload business segments, with customers looking to reduce their supply chain emissions by shifting freight shipments from truck to rail.</p> <p>CN cannot specifically quantify the amount of that opportunity due to restrictions governing public disclosure of sensitive forward-looking financial information; therefore, CN is estimating the opportunity to be more than \$1.00 and up to \$8.1 billion. CN made this range estimation based on our truck-competitive business revenue, which accounted for 56% of the revenue in 2020.</p> <p>Over time, revenues from this business segment could continue to increase as we grow our market share from truck to rail freight.</p>	<p>Positioning the environmental benefits of shipping freight by rail over long distances versus by other more carbon-intensive modes, such as trucks, presents an opportunity to grow revenues within our intermodal and carload segments. We actively engage with existing and potential customers to position the environmental benefits that rail offers for long-haul shipments of freight over other modes of transport.</p> <p>CN furthermore invests in the expansion and strengthening of the Company's rail network. Investments include key track expansion projects that will boost capacity allowing CN to better service our customers. Other program elements will focus on the replacement, upgrade and maintenance of key track infrastructure to improve overall safety, fluidity and efficiency.</p> <p>In 2020, CN's \$2.9 billion capital program included expansion projects such as:</p> <ul style="list-style-type: none"> <li>• Construction of about 3.5 miles of double track between Vancouver and Edmonton, near Glen Valley.</li> <li>• Building new sidings on the Edmonton to Prince Rupert corridor to increase capacity for growing demand.</li> <li>• Investments to continue multi-year infrastructure projects that will increase capacity at the ports of Vancouver and Prince Rupert in collaboration with the Government of Canada, the Vancouver Fraser Port Authority and the Prince Rupert Port Authority.</li> </ul> <p>In 2020, CN continued to provide customers with transparent information on their GHG emissions from transportation of goods. For example, CN was one of the highest-rated companies celebrated in the CDP's Supplier Engagement Rating Leaderboard for engaging customers on climate change.</p> <p>The cost to realize the opportunity is included in the Company's spend allocated to our capital program and has been estimated using the 2020 annual equipment and infrastructure investment.</p>

## C2 Risks and Opportunities

### ABOUT THIS REPORT

#### C0 INTRODUCTION

#### C1 GOVERNANCE

#### C2 RISKS AND OPPORTUNITIES

Definitions

Management Processes

Risk Disclosure

#### > Opportunity Disclosure

#### C3 BUSINESS STRATEGY

#### C4 TARGETS AND PERFORMANCE

#### C5 EMISSIONS METHODOLOGY

#### C6 EMISSIONS DATA

#### C7 EMISSIONS BREAKDOWN

#### C8 ENERGY

#### C9 ADDITIONAL METRICS

#### C10 VERIFICATION

#### C11 CARBON PRICING

#### C12 ENGAGEMENT

### OUR REPORTING

### CONTACT

### Opportunity Disclosure (continued)

Identifier • Where in the value chain does the risk driver occur? • Opportunity type • Primary climate-related risk driver	Company-specific description	Time horizon • Likelihood • Magnitude of impact	Potential financial impact figure and explanation	Strategy to realize opportunity and explanation of cost calculation
OPP002 • Direct operations • Markets • Access to new markets	<p>The opportunity to increase revenues through access to new and emerging markets:</p> <p>Concerns over price volatility, potential scarcity of non-renewable fuels, and environmental concerns have led to the rapidly growing adoption of renewable and alternative sources of energy. Assuming government policies evolve at a similar speed as in the past, renewables share is expected to triple to ~13% of global energy generation by 2036.</p> <p>Although the base is smaller, CN's clean energy revenues have been growing faster than fossil fuel revenues in the period from 2009 to 2020. Specifically, for the seven years starting 2014 clean energy has grown by ~7% CAGR versus fossil fuels (~2% CAGR). In 2020, CN clean energy's share of CN's energy portfolio was 8%.</p>	<p>Long-term • More likely than not • Medium</p>	<p>Based on global market predictions, CN's "Clean Energy" CAGR could increase to about 7% out to 2036. This would imply a growth of revenues from clean energy from about \$250 million in 2020 to over \$780 million by 2036.</p> <p>We calculated our range of \$750 million to \$1 billion based on estimated clean energy market growth of 7% to 2036 using global market predictions.</p>	<p>As one of the most efficient and environmentally friendly ways to move goods, rail has a tremendous potential to reduce the environmental impact of transportation by offering sustainable transportation solutions today and into the future. The allure of rail shipping as an environmental, efficient, and cost-effective mode of transport is especially compelling as we move towards a clean economy and as innovation continues to meet production to bring cleaner and more environmentally sustainable products to the marketplace.</p> <p>We are working closely with our customers to further develop these business opportunities. This includes proactively engaging with clean energy customers to market the environmental benefits of shipping by rail. For example, CN is working closely with our customers to provide supply chain solutions to transport wood pellets from North American plants to customers across the world looking to move to a more sustainable renewable fuel solution.</p> <p>Made from compressed wood waste, like sawdust shavings, bark, etc., these high-heat, low-ash pellets are used as a biofuel for residential, institutional, or industrial heating. Wood pellets ship from Canada to Europe, the UK, and Asia. At present, wood pellets power an estimated 1% of the power grid in the UK.</p> <p>The costs associated with communicating with our customers, and exploring opportunities to position CN's service is included in the Marketing and Sustainability functional budgets. The total costs associated with internal resource time, advertising, and consultants are estimated to be approximately \$500,000.</p>

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

Definitions

Management Processes

Risk Disclosure

> Opportunity Disclosure

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

## Opportunity Disclosure (continued)

Identifier • Where in the value chain does the risk driver occur? • Opportunity type • Primary climate-related risk driver	Company-specific description	Time horizon • Likelihood • Magnitude of impact	Potential financial impact figure and explanation	Strategy to realize opportunity and explanation of cost calculation
OPP003 • Upstream • Resource efficiency • Increased access to capital	<p>The opportunity to reduce direct cost by moving to more efficient buildings:</p> <p>Opportunities exist from the increasing availability of government and utility company subsidies for the implementation of energy efficiency projects such as building and technology retrofits. Our Sustainability and Facilities Management teams leverage subsidies to implement technology retrofit projects in buildings and yards.</p> <p>The projects increase operational efficiency, reduce energy consumption and contribute to lowering emissions and reducing capital and operating costs. Specific types of projects implemented include heating ventilation and cooling (HVAC) system upgrades, installation of more efficient air compressors and yard air lines to charge our train braking systems, and lighting upgrades to LED in our yards and buildings.</p>	Short-term • Virtually certain • Low	In 2020, CN received approximately \$293,000 in subsidies from various government and utility company programs for energy efficiency projects. Funding was impacted by the pandemic.	<p>CN seeks to pursue facilities projects to increase operational efficiency, reduce energy consumption and contribute to lowering emissions and reducing capital and operating costs.</p> <p>Our \$5-million annual CN EcoFund, combined with government and utility incentives and subsidies, has enabled us to secure the necessary funding to drive energy-efficient upgrades in our buildings and yards. We continue to invest in retrofits to boilers, air compressors, HVAC systems, and LED lighting, enabling us to improve our carbon efficiency and save costs. Since 2011, we achieved a 33% reduction in electricity consumption at key yards, avoiding more than 86,000 tonnes of carbon.</p> <p>To maximize the opportunity, we continue to monitor funding opportunities from government and utility company subsidy programs that align with our procurement strategy. We actively submit project proposals and continue to collaborate with key utilities on identifying energy efficiency project opportunities. In 2020, CN received subsidies from BC Hydro, Manitoba Hydro, Minnesota Power, and Commonwealth Edison for energy efficiency projects implemented across our network. These projects mainly involved indoor and outdoor lighting upgrades from older technology to energy-efficient LEDs. Our building retrofit projects did slow down in 2020 due to the pandemic.</p> <p>The costs associated with this opportunity are integrated into CN's Sustainability and Facilities Management department budgets, which are estimated at \$50,000.</p>
OPP004 • Upstream • Resource efficiency • Reduced direct costs	<p>The opportunity to reduce operating costs by increasing the efficiency of resources:</p> <p>Opportunities exist to realize long-term carbon efficiencies and fuel savings through our locomotive fleet renewal strategy and fuel conservation practices.</p> <p>CN has a strong track record of fuel and carbon efficiency, and we have improved locomotive emissions intensity by 43% since 1993. Today, CN remains the North American rail industry leader, consuming approximately 15% less locomotive fuel per gross ton mile than the average of our Class I peers. In fact, CN delivered the Company's best fuel efficiency ever in 2020 – 4% better than the previous record set in 2019 – which avoided approximately 275,000 tonnes of CO<sub>2</sub> emissions.</p>	Short-term • Virtually certain • Medium	<p>The financial impact from stringent emission limits and the GHG reduction targets is calculated based on the fuel saving opportunities we have achieved in 2020.</p> <p>For example, by updating and acquiring new locomotives within our rail locomotive fleet, and through enhanced locomotive handling procedures, we achieved savings of approximately \$59 million in our fuel operating costs in 2020.</p>	<p>With approximately 85% of our GHG emissions generated from rail operations, we believe the best way to reduce our carbon footprint is by continuously improving our rail efficiency. Five key areas are included in our strategy: Fleet Renewal, Innovative Technology, Big Data, Operating Practices, and Cleaner Fuels.</p> <p>In addition to the capital-intensive renewal of our fleet, the installation of fuel-efficient technologies and big data management analytics capabilities are helping us further reduce our carbon footprint and are part of our low-carbon transition plan in alignment with our science-based target reduction of 43% GHG emission intensity by 2030. For the year ended December 31, 2020, we achieved an all-time record fuel efficiency – 4% better than the previous record set in 2019 – which avoided approximately 275,000 tonnes of CO<sub>2</sub> emissions and \$59 million in fuel costs.</p> <p>We calculated the costs based on locomotive acquisitions, upgrades and fuel-efficient operations, which change annually. For example, in 2020 we spent \$0.4 billion for equipment expenditures, which included our new high-horsepower locomotives, as well as fuel-efficient technologies such as, WiTronix, AESS, Trip Optimizer and big data management analytics systems.</p>

**ABOUT THIS REPORT**

---

**C0 INTRODUCTION**

---

**C1 GOVERNANCE**

---

**C2 RISKS AND OPPORTUNITIES**

---

**C3 BUSINESS STRATEGY**

---

Scenario Analysis

Business Strategy

Financial Planning

Low-Carbon  
Transition Plan

---

**C4 TARGETS AND PERFORMANCE**

---

**C5 EMISSIONS METHODOLOGY**

---

**C6 EMISSIONS DATA**

---

**C7 EMISSIONS BREAKDOWN**

---

**C8 ENERGY**

---

**C9 ADDITIONAL METRICS**

---

**C10 VERIFICATION**

---

**C11 CARBON PRICING**

---

**C12 ENGAGEMENT**

---

**OUR REPORTING**

---

**CONTACT**

---

# Business Strategy

---

CO<sub>2</sub>



## ABOUT THIS REPORT

### C0 INTRODUCTION

### C1 GOVERNANCE

### C2 RISKS AND OPPORTUNITIES

### C3 BUSINESS STRATEGY

#### > Scenario Analysis

Business Strategy

Financial Planning

Low-Carbon Transition Plan

### C4 TARGETS AND PERFORMANCE

### C5 EMISSIONS METHODOLOGY

### C6 EMISSIONS DATA

### C7 EMISSIONS BREAKDOWN

### C8 ENERGY

### C9 ADDITIONAL METRICS

### C10 VERIFICATION

### C11 CARBON PRICING

### C12 ENGAGEMENT

## OUR REPORTING

## CONTACT

#### C3.2

Our use of climate-related scenario analysis to inform our business strategy and financial planning

## Scenario Analysis

We use both qualitative and quantitative analysis to inform our strategy.

### AREAS OF ORGANIZATION CONSIDERED AND TIME HORIZONS

In alignment with our climate risk process, this year, we conducted climate scenario analysis on both physical and transition risks. With respect to transition risk, we assessed the financial impact of carbon prices in North America up to 2030 related to our locomotive fuel emissions, which represents approximately 85% of our Scope 1 emissions. We determined that a long-term time horizon until 2030 for the analysis was relevant for our business as it aligns with our science-based target and the Government of Canada's 2030 GHG reduction target. The physical risk analysis focused on the impact of extreme cold temperatures on our rail network in Canada, taking into consideration a long-term (2026-2030) horizon. The long-term horizon was selected to better understand exposure and plan network resilience measures.

### METHODOLOGY

**Inputs:** Carbon price scenario inputs included CN GHG locomotive fuel emissions for the 2019 baseline year, as well as emission projections up to 2030, taking into consideration forecasted business volumes as well as fuel efficiency gains in line with our climate science target. For the extreme cold scenario analysis, the inputs included the number of extreme cold days below -25°C, and the four-tier restriction system which calls for specific train length reductions set by our operations team, and the GIS latitude and longitude coordinates across our Canadian rail network at 498 sub-stations.

**Assumptions:** We applied the Government of Canada's carbon price projections until 2030, which line up with the Bank of Canada's scenario that aligns with the well-below 2°C Paris Agreement goals. We also modelled the Bank of Canada's Nationally Determined Contributions (NDC), which is aligned to a 3.5°C warming scenario by the end of the century. For the U.S., we analyzed the IEA's Sustainable Development Scenario leading to below 2°C and a prorated Bank of Canada's NDC scenario for our U.S. operations leading to 3.5°C. The physical risk analysis was conducted for RCP 2.6 and RCP 4.5 scenarios, using data from the World Climate Research Programme.

**Analytical Methods:** To conduct the carbon price analysis, we multiplied the carbon price by the forecasted locomotive emission volumes to determine the financial exposure to carbon price. For the extreme cold analysis, we calculated the total number of cold days impacting our Canadian rail network between 2020 and 2030. We also multiplied the % of the year with extreme cold days by the GTMs to determine our delayed GTM impact.

### RESULTS AND OUTCOMES

The carbon price analysis indicated that in a 1.8°C scenario, CN could be exposed to a carbon price financial impact of approximately \$750 million by 2030, where no SBT exists versus approximately \$450 million where CN meets its SBT. Conversely, in a 3.5°C scenario, CN could be exposed to a carbon price financial impact of approximately \$350 million by 2030, where no SBT exists, versus \$200 million where CN meets its SBT. The physical scenario analysis indicated that in a 1.8°C scenario, the number of extreme cold days (-25°C and lower) that could impact CN's network by 2030 would decrease by 26% from 2020. In a 3.5°C scenario, the number of extreme cold days that could impact CN's network by 2030 would decrease by 44% from 2020. Extreme cold days, on average, are most pronounced on our operations in Alberta, Manitoba, Saskatchewan and British Columbia.

### CASE STUDY: HOW THE RESULTS HAVE INFORMED OUR BUSINESS OBJECTIVES AND STRATEGY

The results of the carbon price scenario analysis have informed and reinforced our commitment to achieving our climate science target and climate strategy. The extreme cold weather scenario analysis continues to be discussed in the context of influencing our winter readiness plans, particularly in areas of extreme cold exposures. These strategies can include reducing carload train lengths, modal shift from rail to truck as well as adapting and right-sizing the fleet.

## ABOUT THIS REPORT

### C0 INTRODUCTION

### C1 GOVERNANCE

### C2 RISKS AND OPPORTUNITIES

### C3 BUSINESS STRATEGY

Scenario Analysis

#### > Business Strategy

Financial Planning

Low-Carbon Transition Plan

### C4 TARGETS AND PERFORMANCE

### C5 EMISSIONS METHODOLOGY

### C6 EMISSIONS DATA

### C7 EMISSIONS BREAKDOWN

### C8 ENERGY

### C9 ADDITIONAL METRICS

### C10 VERIFICATION

### C11 CARBON PRICING

### C12 ENGAGEMENT

## OUR REPORTING

## CONTACT

#### C3.3

Climate-related risk and opportunities are integrated into our business strategy

## Business Strategy

Business area	Description of influence
Products and services	<p><b>Influence on Strategy in the Time Horizon</b></p> <p>Market risks and opportunities have a direct influence on our products and services strategy in the short, medium and long term. Our intermodal and carload business growth strategy has been influenced by the ability to position the environmental benefits of rail with our customers. Specifically, the movement towards carbon pricing in North America, coupled with growing pressures on our customers to reduce their supply chain emissions presents opportunities for our business. For example, at the outbreak of the pandemic, demand for CN's services dropped significantly. Most commodity groups were negatively impacted to varying degrees, except for agri-food (e.g. bulk and processed grain and refrigerated groceries). Revenues for the year ended December 31, 2020 decreased by 7%, when compared to 2019. However, revenues for the intermodal commodity group decreased by only 1%, partly due to higher international container traffic via the ports of Vancouver and New Orleans, as well as increased domestic intermodal shipments, of which a portion is attributable to truck-to-rail conversion. Over time, revenues from this business segment could continue to increase as we grow our market share from truck-to-rail freight.</p> <p><b>Case Study</b></p> <p>With approximately 85% of our GHG emissions generated from rail operations, we believe the best way to reduce our carbon footprint is by continuously improving our rail efficiency. As such, we are focused on five key strategic areas: fleet renewals, leveraging innovative technologies, big data analytics, operating practices, and the greater use of renewable fuels. In 2020, the most substantial strategic decisions influenced by this opportunity were the investments we made in the growth of our intermodal business, which is part of the \$2.9 billion we allocated to our capital program. For example, we invested in our inland terminals to accommodate greater demand in key consumer markets. These include investments in Milton, ON, where we will build a new \$250-million logistics hub, and a new multipurpose and intermodal facility in New Richmond, WI, to serve shippers and receivers in the metropolitan area of Minneapolis and Saint-Paul, MN. CN's capital spending also included \$0.8 billion on strategic initiatives to increase capacity, enable growth and improve network resiliency.</p>
Supply chain and/or value chain	<p><b>Influence on Strategy in the Time Horizon</b></p> <p>Regulatory risks and opportunities associated with the decrease of carbon and air emissions and the increase of renewable fuel sources have a significant short-, medium- and long-term influence on our fuel procurement and management strategy, which includes the active engagement of our locomotive manufacturers as well as our fuel suppliers.</p> <p><b>Case Study</b></p> <p>As part of our lower-carbon transition plan, we made the strategic decision to engage our suppliers to explore the use of renewable fuels as an important part of how we meet our regulatory compliance obligations and efficiency objectives in line with our science-based target. For example, we worked with key fuel suppliers to obtain more detailed insights on industry biodiesel and renewable fuel blends. This information allowed us to further engage with locomotive and equipment manufacturers and our mechanical team to understand the potential mechanical and fuel efficiency implications and usage. In 2020, the use of renewable fuels in our fleet saved almost 77,000 tonnes of carbon.</p>
Investment in R&D	<p><b>Influence on Strategy in the Time Horizon</b></p> <p>Regulatory risks and opportunities associated with the increase in fuel efficiency and the use of renewable fuels also have a significant medium- and long-term influence on our R&amp;D investment decisions. As the majority of our GHG emissions result from rail operations, the best way to reduce our carbon footprint is by continuously improving our rail fuel efficiency. Over the years, this focus has led us to strategically invest in new technologies to drive even greater efficiency through research and development.</p> <p><b>Case Study</b></p> <p>As part of our R&amp;D strategy, we collaborate with Université de Montréal to develop mathematical models that have the potential to improve operational and fuel efficiency (and reduce carbon emissions). These models focus on two key areas for efficiency improvements: optimized locomotive power on trains, and improved aerodynamics of intermodal trains. Preliminary results have been produced and are under review. CN is in Year 4 of this five-year optimization research project and thus the business impacts have not yet been realized. The research was also delayed due to the pandemic and may extend to Year 6.</p>





# C3 Business Strategy

## Business Strategy (continued)

### ABOUT THIS REPORT

#### C0 INTRODUCTION

#### C1 GOVERNANCE

#### C2 RISKS AND OPPORTUNITIES

#### C3 BUSINESS STRATEGY

Scenario Analysis

#### > Business Strategy

Financial Planning

Low-Carbon Transition Plan

#### C4 TARGETS AND PERFORMANCE

#### C5 EMISSIONS METHODOLOGY

#### C6 EMISSIONS DATA

#### C7 EMISSIONS BREAKDOWN

#### C8 ENERGY

#### C9 ADDITIONAL METRICS

#### C10 VERIFICATION

#### C11 CARBON PRICING

#### C12 ENGAGEMENT

### OUR REPORTING

### CONTACT

Business area	Description of influence
Operations	<p><b>Influence on Strategy in the Time Horizon</b></p> <p>Regulatory risks and opportunities associated with the increase of fuel efficiency and use of renewable fuels, among other climate risks and opportunities, also influence our short- and medium-term operations strategy. As part of the Company's comprehensive sustainability action plan and to comply with our environmental policy, we engage in a number of initiatives, including the use of fuel-efficient locomotives, trucks and other vehicles that reduce GHG emissions; increasing and building operational efficiencies; investing in energy-efficient data centres; reducing, recycling and reusing waste and scrap at our facilities and on our network; and engaging in modal shift agreements that favor low-emission transport services. The Company combines its expert resources, environmental management procedures, training and audits for employees and contractors, and emergency preparedness response activities to help ensure that we conduct our operations and activities while protecting the natural environment. Our environmental activities include monitoring our environmental performance in Canada and the U.S., identifying environmental issues inside the Company, and managing them in accordance with our environmental policy, which is overseen by the Environment, Safety and Security Committee of the Board of Directors. Certain risk mitigation strategies, such as periodic audits, employee training programs and emergency plans and procedures, are in place to minimize the environmental risks to the Company.</p> <p><b>Case Study</b></p> <p>The most substantial strategic decisions dealing with rail fuel efficiency included our capital and operational spending. Over the years, our operating model, Precision Scheduled Railroading, has enabled us to use fewer railcars and locomotives to ship more freight in a tight, reliable and efficient operation. Our strategy to continuously improve our fuel efficiency has been influenced by carbon prices as well as changing customer preferences for low-carbon freight transportation modes. To drive even greater fuel and carbon efficiency into our operations in 2020, we continued to invest in new locomotives, leveraging technology and providing on-the-job information and training on practices to optimize fuel efficiency.</p>





# C3 Business Strategy

## ABOUT THIS REPORT

### C0 INTRODUCTION

### C1 GOVERNANCE

### C2 RISKS AND OPPORTUNITIES

### C3 BUSINESS STRATEGY

Scenario Analysis

Business Strategy

#### > Financial Planning

Low-Carbon Transition Plan

### C4 TARGETS AND PERFORMANCE

### C5 EMISSIONS METHODOLOGY

### C6 EMISSIONS DATA

### C7 EMISSIONS BREAKDOWN

### C8 ENERGY

### C9 ADDITIONAL METRICS

### C10 VERIFICATION

### C11 CARBON PRICING

### C12 ENGAGEMENT

## OUR REPORTING

## CONTACT

#### C3.4

Climate-related risks and opportunities influence our financial planning

## Financial Planning

Financial planning elements that have been influenced include:

### REVENUE

As part of our financial planning processes, we assess the potential revenues and growth projections from individual commodity groups, which include impacts of climate-related risks and opportunities. Specifically, as part of the review of our intermodal business segment, taking into consideration market trends and customer demands for more environmentally friendly and fuel-efficient options for freight transportation through modal shift, we established growth targets and investment strategies. The time horizon for our financial planning related to revenues covers five years. For example, in our intermodal business, we forecast our revenues to inform the financial plans e.g., procurement, market and sales as well as investment and acquisition decisions, such as the addition of TransX to our organization in 2019.

### CAPITAL EXPENDITURES

We furthermore allocate a significant budget to our capital program. In 2020, CN spent approximately \$2.9 billion in its capital program, with \$1.6 billion invested to maintain the safety and integrity of the network, particularly track infrastructure. CN's capital spending also included \$0.8 billion on strategic initiatives to increase capacity, enable growth and improve network resiliency, including line capacity upgrades and information technology initiatives, \$0.4 billion on equipment capital expenditures, including the acquisition of 41 new high-horsepower locomotives and 1,449 new grain hopper cars, and \$0.1 billion on implementation of Positive Train Control (PTC), the safety technology system mandated by the U.S. Congress. Capacity improvements enable fluidity, through dwell, car velocity, through network train speed, as well as fuel efficiency. The new locomotives will enable us to meet emission standards and drive even greater emission reductions across our business.

### ACQUISITIONS AND DIVESTMENTS

We target acquisitions that support our business growth strategy, including those that could allow us to take advantage of positioning the environmental benefits of rail through modal shift. In the first quarter of 2020, the Company completed the purchase price allocation of the Manitoba-based TransX Group of Companies (TransX) which was acquired on March 20, 2019. Already, these acquisition investments are contributing to increased revenues. In 2020, our intermodal business segment saw the smallest decrease in revenues; the intermodal commodity group decreased by only 1% overall, partly due to higher international container traffic via the ports of Vancouver and New Orleans, as well as increased domestic intermodal shipments due to truck-to-rail conversion.

### ASSETS

As part of our financial planning process, our Network Transportation and System Engineering function will assign specific budgets to ensure we plan for potential disruptions to our network and impact on our assets from extreme weather events. In 2020, the magnitude of the impact, taking into account both financial impact and management costs, was approximately \$150 million for extreme weather events.

### ACCESS TO CAPITAL

As part of our financial planning process, we factored access to capital from various state and provincial government efficiency incentive programs into our 2020 budget. CN's Sustainability and Facilities Management teams leverage these subsidies to implement energy efficiency projects in our buildings and yards. To maximize the opportunity, we continue to monitor funding opportunities from government and utility company subsidy programs. In 2020, the magnitude of the impact of these incentives was approximately \$293,000, through subsidies from BC Hydro, Manitoba Hydro, Efficiency Nova Alberta, and Bluewater Power Distribution. The added capital from these programs allowed us to complete several indoor and outdoor lighting upgrades from older technology to energy-efficient LED technology.

### DIRECT COSTS

We track the potential impact of climate-related events on our operating costs on an annual time horizon. Specifically, in 2020, we took into consideration the financial impact associated with compliance costs related to carbon pricing regulatory regimes (including fuel distributor flow-through costs, carbon taxes, and cap-and-trade allowance purchases associated with the import of fuel), operational costs from extreme weather events on our network, and operating costs to position the environmental benefits of rail with our customers.

As part of the financial planning process, we allocate the necessary funds through departmental operating budgets. In 2020, the magnitude of the operating costs (taking into consideration both the financial impact and management costs of climate-related risks) were estimated to be approximately \$140,000 annually to ensure our compliance with carbon regulatory requirements, \$100 million for weather events, approximately \$500,000 for marketing the environmental benefits of rail, and approximately \$3,000,000 on fuel management to execute and improve current practices and develop and leverage supporting technologies.



# C3 Business Strategy

## Low-Carbon Transition Plan

### ABOUT THIS REPORT

#### C0 INTRODUCTION

#### C1 GOVERNANCE

#### C2 RISKS AND OPPORTUNITIES

#### C3 BUSINESS STRATEGY

Scenario Analysis

Business Strategy

Financial Planning

#### > Low-Carbon Transition Plan

#### C4 TARGETS AND PERFORMANCE

#### C5 EMISSIONS METHODOLOGY

#### C6 EMISSIONS DATA

#### C7 EMISSIONS BREAKDOWN

#### C8 ENERGY

#### C9 ADDITIONAL METRICS

#### C10 VERIFICATION

#### C11 CARBON PRICING

#### C12 ENGAGEMENT

### OUR REPORTING

### CONTACT

#### C3.1

Our low-carbon transition plan is a scheduled resolution at our Annual General Meetings

#### C3.4a

Our low-carbon transition plan

### ANNUAL GENERAL MEETING RESOLUTION

We have developed a low-carbon transition plan, which is part of CN's Climate Action Plan. The Board of Directors of CN announced in February 2021 that it would seek an annual advisory vote on the Company's Climate Action Plan. The first non-binding vote took place at CN's Annual General Meeting of Shareholders in April 2021.

Our Climate Action Plan includes annual disclosure of greenhouse gas emissions aligned with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), a science-based 2030 emission intensity reduction target, and annual progress update.

### KEY INITIATIVES

Our low-carbon transition plan is in alignment with our revised science-based target reduction of 43% GHG emission intensity by 2030. Through our low-carbon transition plan, we are working to mitigate and adapt to climate risks and opportunities. Innovations in fuel-efficient locomotives, rail technology, and data analytics, combined with enhanced operating practices, training and cleaner fuels will help us realize further emission reductions. Specifically, our strategy is focused on the following key initiatives:

**Fleet Renewal:** Cleaner, more fuel-efficient rail and non-rail equipment will be important in helping us continue to decouple growth from GHG emissions. Already, we are making significant investments in Tier 4 locomotives, new-generation railcars, as well as hybrid and electric vehicles.

**Innovative Technology:** We continue to explore and invest in innovative technologies. From locomotive telemetry systems to distributed power, to energy management systems, we are aiming for significant improvements in train handling, braking performance, and overall fuel efficiency.

**Big Data:** Through our locomotive telemetry systems, we collect large amounts of data to improve performance and fuel conservation. In addition, HPTA uses the data from the systems to optimize a locomotive's horsepower-to-tonnage ratio, further minimizing fuel consumption. Investments in information technology enable deeper analysis to continue to identify, through big data analytics, additional opportunities for fuel conservation that will present opportunities for us to further reduce our emissions in the coming years.

**Operating Practices:** Building on our foundational Precision Scheduled Railroading model, we are focused on providing on-the-job training on practices to optimize fuel efficiency. Providing information to track performance in real time to enable fuel conservation through notch limiting, idling reduction and horsepower optimization. We also continue to educate our train crews and rail traffic controllers on best practices – from locomotive shutdowns to streamlined railcar handling, train pacing, coasting and braking strategies. In addition, our locomotive engineers receive real-time information on train characteristics, performance and terrain, through an Energy Management System (EMS), which helps to compute the most efficient train settings and regulate speed. Capitalizing on our locomotive telemetry systems and advanced data analytics, also key DSR initiatives, will help us identify additional opportunities for fuel-conservation operating practices in the coming years.

**Cleaner Fuels:** Driven by regulatory requirements, the growth of the renewable fuel market presents an immediate opportunity to further reduce our emissions by using sustainable renewable fuel blends in our fleets. We are aligned with Canada's Renewable Fuel Standard, which aims to reduce GHG emissions through the increased use of lower-carbon fuels and energy sources. Specifically, we have set a short-term year-on-year rolling target of 2% sustainable renewable fuel consumption for our Canadian locomotive fleet. In 2020, the use of sustainable renewable fuels in our fleet saved approximately 77,000 tCO<sub>2</sub>e.

In the medium term, the proposed Canadian Federal Clean Fuel Standard and other existing renewable and clean fuel standards in jurisdictions where CN operates will continue to present an important opportunity for us to further reduce our emissions through increasing sustainable renewable fuel blends. Furthermore, we are also actively working with our fuel suppliers and locomotive manufacturers and are focused on testing and exploring the greater use of sustainable renewable fuel blends, beyond regulated amounts, in our locomotives, to achieve our target.

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

Emissions Targets

Emissions Reduction Initiatives

Low-Carbon Products

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

# Targets and Performance

CO<sub>2</sub>

# C4 Targets and Performance

## Emissions Targets

Our emissions targets during the reporting year were defined as intensity targets.

**C4.1 - C4.1b**  
Emissions targets active in the reporting year

Target reference number • Year target was set • Target coverage • Scope(s) • Percentage of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure	Base year • Intensity figure that year	Target year • Target reduction from base year • Intensity figure in target year • Percentage change anticipated in absolute Scope 1 and 2 emissions • Is this a science-based target?	Target status in reporting year • Intensity figure in reporting year • Percentage achieved	Explanation, including target coverage
Int1 • 2017 • Company-wide • Scope 1 and 2 (location-based) • 100%	2019 • 11.61 tCO <sub>2</sub> e/million gross ton miles	2030 • 43% • 6.6 tCO <sub>2</sub> e/million gross ton miles • 22.5% • Yes, approved	Revised • 11.28 tCO <sub>2</sub> e/million gross ton miles • 6.6%	<p>In 2021, the Science Based Targets initiative (SBTi) approved CN's revised emissions reduction target, consistent with levels required to meet the goals of the Paris Agreement. CN commits to reduce Scope 1 and 2 GHG emissions 43% per million gross ton miles by 2030 from a 2019 base year.</p> <p>The target replaces CN's previous target (GHG emissions intensity (tonnes CO<sub>2</sub>e/million tonne kilometres) reduction of 29% by 2030, based on 2015 levels, covering total Scope 1 and 2 emissions. In 2020, total Scope 1 and 2 emissions combined were 5,397,665 tonnes of CO<sub>2</sub>e, a decrease of 538,870 tonnes of CO<sub>2</sub>e, or 9.1%, when compared to the year 2019. On a GTM basis, it was approximately 2.9% less emission intensity than our base year of 2019.</p> <p>Absolute emissions for the year were in line with our projected target pathway despite the challenges encountered in 2020. At the outbreak of the COVID-19 pandemic at the start of 2020, demand for CN's services dropped significantly, with the second quarter registering the most pronounced decline. Most commodity groups were negatively impacted to varying degrees, except for agri-food (e.g. bulk and processed grain and refrigerated groceries).</p> <p>In 2020, we spent approximately \$2.9 billion in our capital program, with \$1.6 billion invested to maintain the safety and integrity of the network, particularly track infrastructure. Our capital spending also included \$0.8 billion on strategic initiatives to increase capacity, enable growth and improve network resiliency, including line capacity upgrades and information technology initiatives. Capacity improvements enable fluidity, through dwell, car velocity, through network train speed, as well as fuel efficiency. We also spent \$0.4 billion for equipment expenditures, which included our new high-horsepower locomotives as well as fuel-efficient technologies such as WiTronix, AESS, and Trip Optimizer units and big data management analytics capabilities. The new locomotives and technologies, coupled with training will enable us to meet emission standards and drive even greater emission reductions across our business in the future.</p>

### ABOUT THIS REPORT

#### C0 INTRODUCTION

#### C1 GOVERNANCE

#### C2 RISKS AND OPPORTUNITIES

#### C3 BUSINESS STRATEGY

#### C4 TARGETS AND PERFORMANCE

##### > Emissions Targets

Emissions Reduction Initiatives

Low-Carbon Products

#### C5 EMISSIONS METHODOLOGY

#### C6 EMISSIONS DATA

#### C7 EMISSIONS BREAKDOWN

#### C8 ENERGY

#### C9 ADDITIONAL METRICS

#### C10 VERIFICATION

#### C11 CARBON PRICING

#### C12 ENGAGEMENT

### OUR REPORTING

### CONTACT

# C4 Targets and Performance

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

> Emissions Targets

Emissions Reduction Initiatives

Low-Carbon Products

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

## Emissions Targets (continued)

Target reference number • Year target was set • Target coverage • Scope(s) • Percentage of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure	Base year • Intensity figure that year	Target year • Target reduction from base year • Intensity figure in target year • Percentage change anticipated in absolute Scope 1 and 2 emissions • Is this a science-based target?	Target status in reporting year • Intensity figure in reporting year • Percentage achieved	Explanation, including target coverage
Int2 • 2021 • Company-wide	2019 • 3.61 tCO <sub>2</sub> e/million gross ton miles	2030 • 40.3% • 2.16 tCO <sub>2</sub> e/million gross ton miles	Underway • 3.29 tCO <sub>2</sub> e/million gross ton miles • 22%	In 2021, the Science Based Targets initiative (SBTi) approved CN's new emissions reduction target, consistent with levels required to meet the goals of the Paris Agreement.  In alignment with the SBTi framework for the transportation sector, CN commits to reducing its well to wheels emissions. Specifically, CN commits to reduce Scope 3 GHG emissions from fuel- and energy-related activities by 40% per million gross ton miles by 2030 from a 2019 base year.
• Scope 3: Fuel- and energy-related activities (not included in Scopes 1 or 2) • 100%		• 0% • Yes, approved		
Int3 • 2019 • Business division (Rail)	2017 • 14.06 kg CO <sub>2</sub> e/1,000 revenue km	2022 • 6% • 13.21 kg CO <sub>2</sub> e/1,000 revenue km	Underway • 13.31 kg CO <sub>2</sub> e/1,000 revenue km • 89%	Through the renewal of a long-standing Memorandum of Understanding (MOU) with Transport Canada, we committed to a 6% intensity-based reduction in locomotive GHG emissions, measured against a 2017 baseline and over five years ending in 2022. Refer to page 3 of the RAC MOU at <a href="http://www.railcan.ca/wp-content/uploads/2019/07/TC-RAC-MOU-2018-22.pdf">www.railcan.ca/wp-content/uploads/2019/07/TC-RAC-MOU-2018-22.pdf</a> . Emission targets will be measured against 2017 carrier-class emissions intensity levels as reported in the 2017 Locomotive Emissions Monitoring Report ( <a href="http://www.railcan.ca/wp-content/uploads/2019/12/2017_LEM_Report-1.pdf">www.railcan.ca/wp-content/uploads/2019/12/2017_LEM_Report-1.pdf</a> ).
• Scope 1 • 100%		• 4.1% • No, but we are reporting another target, which is science-based		

# C4 Targets and Performance

## ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

Emissions Targets

> Emissions Reduction Initiatives

Low-Carbon Products

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

### C4.3 - C4.3b

Emissions reduction initiatives active within the reporting year

### C4.3b

Initiatives implemented in the reporting year

## Emissions Reduction Initiatives

Stage of development	Number of initiatives	Total estimated annual CO <sub>2</sub> e savings in metric tons CO <sub>2</sub> e
Under investigation	0	0
To be implemented	6	350,000
Implementation commenced	4	183
Implemented	7	275,025
Not to be implemented	0	0

Initiative category	Initiative type Estimated annual CO <sub>2</sub> e savings (metric tons CO <sub>2</sub> e)	Scope(s) Voluntary or mandatory?	Annual monetary savings Investment required	Payback period Estimated lifetime of the initiative	Comments
Energy efficiency in production processes	Process optimization	Scope 1	\$59 million	4 - 10 years	The estimated emissions savings relate to Scope 1 emissions covering our rail locomotives. In 2020 we continued to implement projects related to our rail locomotive emissions and energy efficiency strategy, which represent approximately 85% of our direct greenhouse gas emissions. This includes new locomotive acquisitions, fuel efficiency training for our locomotive crews, installation of new locomotive technologies such as Trip Optimizer, locomotive telemetry systems, and anti-idling devices. Our locomotive engineers receive real-time information on train characteristics, performance and terrain through an Energy Management System (EMS), which helps to compute the most efficient train settings and regulate speed. Our in-house-built Horsepower Tonnage Analyzer (HPTA) also instructs crews on how to optimize a locomotive's horsepower-to-tonnage ratio to minimize fuel consumption.  These projects will help us achieve our science-based emissions intensity reduction target of 43% in 2030, based on 2019 levels.
	274,630	Voluntary	\$372.6 million	>30 years	
Energy efficiency in buildings	Other, please specify: Various projects	Scope 2 (location-based)	\$650,000	4 - 10 years	We continue to work to reduce Scope 2 emissions from electricity consumption at our buildings and yards. We invest in energy efficiency projects including HVAC, lighting and air compressor upgrades. This includes a \$5-million EcoFund to support energy and emission reduction projects.
	276	Voluntary	\$3.5 million	11 - 15 years	

# C4 Targets and Performance

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

Emissions Targets

> Emissions Reduction Initiatives

Low-Carbon Products

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

C4.3c

Methods driving investment in emissions reduction activities

## Emissions Reduction Initiatives (continued)

### COMPLIANCE WITH REGULATORY REQUIREMENTS/STANDARDS

Through the U.S. EPA and Environment Canada Locomotive Emission Standards, CN continues to follow through on its commitment to acquire, retire and upgrade locomotives to improve air quality, enhance rail fuel efficiency and reduce rail GHG emission intensity. Based on this obligation, we assess our locomotive fleet annually through financial optimization calculations to determine the budget that would be necessary to meet our commitments in the context of our business needs. For example, in 2020 we spent approximately \$0.4 billion on equipment capital expenditures, including the acquisition of 41 new high-horsepower locomotives.

### DEDICATED BUDGET FOR ENERGY EFFICIENCY

We invest in the efficiency of our locomotive fleet beyond our regulatory compliance obligations. This includes new rail technologies such as Trip Optimizer, Automatic Engine Start/Stop devices (AESS), Locomotive Telemetry systems, which wirelessly communicate operational data from locomotives to a central system, and Horse Power Tonnage Analyzer (HPTA), which uses the data collected by Locomotive Telemetry to optimize a locomotive's horsepower-to-tonnage ratio.

### EMPLOYEE ENGAGEMENT

Our employees are integral to our ability to reduce energy consumption. Our EcoConnexions employee engagement program, launched in 2011, is focused on embedding environmental sustainability into our culture, including targeted initiatives to reduce energy consumption and emissions. Through the EcoConnexions program, our employees are engaged to make a difference. With the help of dedicated EcoChampions across our network, we are working collaboratively to share best practices and reduce our environmental impact.

### DEDICATED BUDGET FOR ENERGY EFFICIENCY

Energy efficiency is part of our science-based target to reduce our GHG emission intensity by 43% by 2030, based on 2019 levels. To meet this objective, we identified processes and equipment where the biggest reductions were possible by reviewing our energy management data information. Once identified, we conducted a business analysis to determine the key projects that could support our reduction initiatives.

We then assessed the projects based on saving potentials, investment needs and return on investment calculations. Feasible projects are financed through a dedicated energy management budget, facility-specific budgets and subsidies/grants. We have also established a dedicated EcoFund budget of \$5 million annually for our emission and energy reduction activities as identified through our EcoConnexions employee engagement program.

### INTERNAL INCENTIVES/RECOGNITION PROGRAM

Through our My360 employee performance objectives, a percentage of the bonus structure is allocated to meeting corporate objectives, including our fuel efficiency target. These incentive contributions vary according to employee levels within the organization and the extent to which the employee contributes to meeting objectives.





# C4 Targets and Performance

## Low-Carbon Products

**C4.5 - C4.5a**  
We classify some of our existing services as low-carbon products

The rail freight service we provide is on average four to five times more fuel efficient than highway freight transportation. One single freight train can carry the cargo load of over 300 trucks. As a result of this efficiency, CN helps customers avoid and/or reduce GHG emissions that would otherwise be generated from more carbon-intensive modes of transportation. This equates to a 75% reduction in CO<sub>2</sub>e for freight transportation by rail that could have been moved by truck.

56% of our revenue were associated with low-carbon products and services in the reporting year.

We are working with many of our customers to help them reduce their transportation supply chain GHG emissions, by leveraging rail for the long haul and trucking over shorter distances. The greater use of combined modes helps lower transportation costs by allowing each mode to be used for the portion of the trip to which it is best suited. It also helps reduce emissions, traffic congestion, accidents and the burden on transportation infrastructure.

Through Precision Scheduled Railroading, we are using fewer railcars and locomotives to ship more freight in a tight, reliable and efficient operation for our customers. By fostering better end-to-end service performance, working closely with customers and supply chain partners, including ports, we are driving further emission reductions across the entire supply chain.

### ABOUT THIS REPORT

#### C0 INTRODUCTION

#### C1 GOVERNANCE

#### C2 RISKS AND OPPORTUNITIES

#### C3 BUSINESS STRATEGY

#### C4 TARGETS AND PERFORMANCE

Emissions Targets

Emissions Reduction Initiatives

#### > Low-Carbon Products

#### C5 EMISSIONS METHODOLOGY

#### C6 EMISSIONS DATA

#### C7 EMISSIONS BREAKDOWN

#### C8 ENERGY

#### C9 ADDITIONAL METRICS

#### C10 VERIFICATION

#### C11 CARBON PRICING

#### C12 ENGAGEMENT

### OUR REPORTING

### CONTACT



**ABOUT THIS REPORT**

**C0 INTRODUCTION**

**C1 GOVERNANCE**

**C2 RISKS AND OPPORTUNITIES**

**C3 BUSINESS STRATEGY**

**C4 TARGETS AND PERFORMANCE**

**C5 EMISSIONS METHODOLOGY**

Base Year Emissions

Emissions Methodology

**C6 EMISSIONS DATA**

**C7 EMISSIONS BREAKDOWN**

**C8 ENERGY**

**C9 ADDITIONAL METRICS**

**C10 VERIFICATION**

**C11 CARBON PRICING**

**C12 ENGAGEMENT**

**OUR REPORTING**

**CONTACT**

# Emissions Methodology

CO<sub>2</sub>

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

> Base Year Emissions

> Emissions Methodology

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

# C5 Emissions Methodology

## Base Year Emissions

**C5.1**  
Base year and base year emissions (Scope 1 and 2)

Scope	Base year start	Base year end	Base year emissions (metric tons CO <sub>2</sub> e)
Scope 1	January 1, 2019	December 31, 2019	5,771,894
Scope 2 (location-based)	January 1, 2019	December 31, 2019	164,641
Scope 2 (market-based)	N/A	N/A	N/A

## Emissions Methodology

**C5.2**  
Protocol used to calculate Scope 1 and 2 emissions

We use the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)*.

ABOUT THIS REPORT

---

C0 INTRODUCTION

---

C1 GOVERNANCE

---

C2 RISKS AND OPPORTUNITIES

---

C3 BUSINESS STRATEGY

---

C4 TARGETS AND PERFORMANCE

---

C5 EMISSIONS METHODOLOGY

---

C6 EMISSIONS DATA

---

Scope 1

Scope 2

Scope 3

Biogenic Carbon Data

Emissions Intensities

---

C7 EMISSIONS BREAKDOWN

---

C8 ENERGY

---

C9 ADDITIONAL METRICS

---

C10 VERIFICATION

---

C11 CARBON PRICING

---

C12 ENGAGEMENT

---

OUR REPORTING

---

CONTACT

---



CO<sub>2</sub>

# Emissions Data

---



ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

> Scope 1

> Scope 2

Scope 3

Biogenic Carbon Data

Emissions Intensities

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

# C6 Emissions Data

## Scope 1 Emissions Data

**C6.1**  
Gross global Scope 1 emissions

Year	Gross global Scope 1 emissions (metric tons CO <sub>2</sub> e)
Reporting year	5,234,302

## Scope 2 Emissions Reporting

**C6.2**  
Our approach to reporting Scope 2 emissions

Scope 2, location-based	Scope 2, market-based
We are reporting a Scope 2, location-based figure.	We have no operations where we are able to access electricity supplier emission factors or residual emission factors, and are unable to report a Scope 2, market-based figure.

## Scope 2 Emissions Data

**C6.3 - C6.4**  
Gross global Scope 2 emissions in metric tons CO<sub>2</sub>e

Year	Scope 2, location-based	Scope 2, market-based (if applicable)	Start date	End date
Reporting year	163,363	N/A	January 1, 2020	December 31, 2020





# C6 Emissions Data

## Scope 3 Emissions Data

### RELEVANT AND CALCULATED SCOPE 3 EMISSIONS

Percentage of emissions calculated using data obtained from suppliers or value chain partners equals 100%.

**C6.5**  
Our organization's gross global Scope 3 emissions (no exclusions)

Scope 3 category	Metric tons CO <sub>2</sub> e	Emissions calculation methodology	Explanation
Purchased goods and services	230,783	Emissions for purchased goods were calculated using volumes of key purchased goods by type of material applied against applicable emission factors from the Greet 2019 and ICE 2.0 models. Emissions for purchased services were calculated following an environmental economic input-output methodology using data from the World Input-Output Database. Emission factors on a tCO <sub>2</sub> e per \$ basis were calculated by economic sector. The sector-appropriate emission factor was then applied against the 2020 expenditures for that sector to calculate total emissions.	Volumes of purchased goods by type of material as well as dollars spent on purchased services were obtained directly from supplier invoice data in our SAP system. Note: Methodology for extracting volumes of rail and other track material was updated to reflect the year the goods were received by CN versus previous years' data, which was extracted based on the year the purchase order was issued. There can be a lag of several months between purchase order date and receipt of goods.
Capital goods	409,966	Emissions for capital goods were calculated using volumes of key capital goods by type of material applied against applicable emission factors from the Greet 2019 and ICE 2.0 models.	Volumes of capital goods by type of material were obtained directly from supplier invoice data in our SAP system. Note: Methodology for extracting volumes of rail and other track material was updated to reflect the year the goods were received by CN versus previous years' data, which was extracted based on the year the purchase order was issued. There can be a lag of several months between purchase order date and receipt of goods.
Fuel- and energy-related activities (not included in Scope 1 or 2)	1,573,268	Upstream emissions from the production of fuels used to operate our locomotives, HDV, and LDV fleets were calculated using the GHGenius version 5.01a calculation tool.	Litres and gallons of fuel purchased by jurisdiction were obtained from supplier invoice data in our SAP system.
Upstream transportation and distribution	52,251	Emissions were calculated following an environmental economic input-output methodology using data from the World Input-Output Database. Emission factors on a tCO <sub>2</sub> e per \$ basis were calculated by economic sector. The sector-appropriate emission factor was then applied against the 2020 expenditures for upstream transportation to calculate total emissions.	Dollars spent on upstream transportation and distribution were obtained directly from supplier invoice data in our SAP system.
Waste generated in operations	38,667	Emissions were estimated using standard emission factors multiplied by activity level formulas. Tons of waste generated by disposal method for 2020 were obtained from internal data sources. Emission factors were obtained from various sources including Canada's National Inventory Report, 1990-2018, 2006 IPCC Guidelines for National Greenhouse Gas Inventories Metal Industry Emissions, and the Ecoinvent database V3.	Tons of waste generated by disposal method were obtained directly from our waste management service providers.

#### ABOUT THIS REPORT

#### C0 INTRODUCTION

#### C1 GOVERNANCE

#### C2 RISKS AND OPPORTUNITIES

#### C3 BUSINESS STRATEGY

#### C4 TARGETS AND PERFORMANCE

#### C5 EMISSIONS METHODOLOGY

#### C6 EMISSIONS DATA

Scope 1

Scope 2

#### > Scope 3

Biogenic Carbon Data

Emissions Intensities

#### C7 EMISSIONS BREAKDOWN

#### C8 ENERGY

#### C9 ADDITIONAL METRICS

#### C10 VERIFICATION

#### C11 CARBON PRICING

#### C12 ENGAGEMENT

#### OUR REPORTING

#### CONTACT



ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

Scope 1

Scope 2

> Scope 3

> Biogenic Carbon Data

Emissions Intensities

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

## C6 Emissions Data

### Scope 3 Emissions Data (continued)

#### SCOPE 3 EMISSIONS THAT ARE NOT RELEVANT AS PER PROVIDED EXPLANATION

Scope 3 category	Explanation
Business travel	In 2018, business travel emissions represented less than 2% of Scope 3 emissions. They were considered negligible in the 2019 and 2020 reporting years.
Employee commuting	Employees travel to and from work using road transport (car or bus) or commuter train or subway. In 2020, employee commuting emissions represented less than 1% of Scope 3 emissions and were considered negligible.
Upstream leased assets	We lease railcars and some rail equipment. Emissions related to the operation of these assets are included in our Scope 1 and Scope 3 category 3 emissions.
Downstream transportation and distribution	As a transport and logistics services company, all distribution and transportation-related emissions are included in our Scope 1 and 2 emissions.
Processing of sold products	As a transport and logistics services company, we do not process sold products.
Use of sold products	We do not process sold products that are then used by third parties. We offer a transportation and logistics services.
End-of-life treatment of sold products	We do not process sold products and therefore end-of-life treatment of sold products is not relevant.
Downstream leased assets	We do not lease assets downstream.
Franchises	We do not own any franchises.
Investments	Operation of equity and debt investments (e.g. TransX) are included in Scope 1 or Scope 2. In alignment with the Corporate Value Chain Accounting Reporting Standard, emissions from operations of pension fund investments are considered optional at this point.

### Biogenic Carbon Data

**C6.7 - C6.7a**

Carbon dioxide emissions from biogenic carbon

Carbon dioxide emissions from biogenic carbon are relevant to our organization. The biologically sequestered carbon we have reported – 66,791 metric tons CO<sub>2</sub>e – relates to volumes of renewable fuel consumed by our locomotives, HDV, and LDV fleets.



# C6 Emissions Data

## ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

Scope 1

Scope 2

Scope 3

Biogenic Carbon Data

> Emissions Intensities

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

### C6.10

Gross global combined Scope 1 and 2 emissions

## Emissions Intensities

Intensity figure	Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO <sub>2</sub> e)	Metric denominator Metric denominator: Unit total	Scope 2 figure used	Percentage change from previous year Direction of change	Reason for change
0.0003906	5,397,665	Unit total revenue 13,819,000,000	Location-based	-1.9% Decreased	On a unit total revenue basis, CN's emissions intensity decreased due to a combination of continued emissions reduction activities relating to fuel efficiency for our locomotives and other fleets, as well as energy reduction projects at our key yards. These initiatives are described in detail in response to question 4.3b, for example, lighting efficiency improvements in our yards through new equipment and increased locomotive fuel efficiencies through new equipment and operational improvements and behaviours.

## Emissions Intensities: Transport Services

### C-TS6.15

Intensity (activity-based) metrics for our emissions from transport activities in Scope 1

Activity	Intensity figure	Metric numerator: emissions in metric tons CO <sub>2</sub> e per t.km	Metric denominator: unit total Percentage change from previous year	Explanation
LDV	N/A	N/A	N/A	CN uses its On Company Service Fleet to carry personnel and maintenance equipment. The fleet is not used for transport activities.
HDV	0.00008945	281,514	3,147,271,611 -0.8%	The reported intensity figure covers 100% of the Scope 1 emissions from our truck fleets. Overall, our truck emissions intensity in 2020 decreased vs 2019 due to an enhanced focus on maintenance during the economic downturn and preferred use of the newest, most fuel-efficient vehicles.
Rail	0.00001331	4,475,588	336,357,277,511 -5.3%	The reported intensity figure covers 100% of our Scope 1 rail transport emissions. Overall, in 2020 our rail emissions intensity on a tonne-km basis decreased and we achieved an all-time record fuel efficiency of 0.89 U.S. gallons of locomotive fuel consumed per 1,000 gross ton miles. We increased efficiencies by maintaining a fluid supply chain, by leveraging technology and by providing on-the-job information and training on practices to optimize fuel efficiency. Specifically, CN's in-house-built Horsepower Tonnage Analyzer (HPTA), provided opportunities to optimize locomotive horsepower-to-tonnage ratios and big data analytics were used to improve train schedules and to instruct train crews and rail traffic controllers on additional best practices for fuel conservation, including locomotive shutdowns which minimized idling.
Marine	0.00001126	155,596	13,822,822,167 -1.2%	The reported intensity figure covers 100% of the Scope 1 emissions from our Great Lakes Vessel fleet. Overall, our marine emissions intensity in 2020 decreased vs 2019 due to the layup of the two least fuel-efficient steamships during the economic downturn.
All	0.00001390	4,912,697	353,327,371,288 -4.4%	The reported figure covers 100% of the Scope 1 emissions from our freight transportation fleets. In 2020 our overall freight transportation fleet emissions intensity decreased vs 2019 mainly due to the all-time record locomotive fuel efficiency achievements.



ABOUT THIS REPORT

---

C0 INTRODUCTION

---

C1 GOVERNANCE

---

C2 RISKS AND OPPORTUNITIES

---

C3 BUSINESS STRATEGY

---

C4 TARGETS AND PERFORMANCE

---

C5 EMISSIONS METHODOLOGY

---

C6 EMISSIONS DATA

---

C7 EMISSIONS BREAKDOWN

---

Scope 1

Scope 2

Emissions Performance

---

C8 ENERGY

---

C9 ADDITIONAL METRICS

---

C10 VERIFICATION

---

C11 CARBON PRICING

---

C12 ENGAGEMENT

---

OUR REPORTING

---

CONTACT

---

# Emissions Breakdown

---

CO<sub>2</sub>

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

> Scope 1

Scope 2

Emissions Performance

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

# C7 Emissions Breakdown

## Scope 1 Breakdown: GHGs

**C7.1 - C7.2**  
Scope 1 emissions by greenhouse gas type

Greenhouse gas	Scope 1 emissions (metric tons in CO <sub>2</sub> e)	GWP Reference
CO <sub>2</sub>	4,809,235	IPCC Fifth Assessment Report (AR5 – 100 years)
CH <sub>4</sub>	7,542	IPCC Fifth Assessment Report (AR5 – 100 years)
N <sub>2</sub> O	418,398	IPCC Fifth Assessment Report (AR5 – 100 years)

## Scope 1 Breakdown: Country

**C7.2**  
Scope 1 emissions by country/region

Country/Region	Scope 1 emissions (metric tons CO <sub>2</sub> e)
Canada	3,948,114
U.S.	1,286,188

## Scope 1 Breakdown: Business Breakdown

**C7.3 - C7.3c**  
Gross global Scope 1 emissions breakdowns by activity

Activity	Scope 1 emissions (metric tons CO <sub>2</sub> e)
Locomotives	4,475,588
Intermodal trucks	281,514
Marine fleet	155,596
On Company Service fleet	73,211
Miscellaneous fuel consumption	179,052
Intermodal equipment	69,344

## Scope 1 Breakdown: Sector Production Activities

**C-TS7.4**  
Gross global Scope 1 emissions by sector production activity

Sector production activity	Gross Scope 1 emissions (metric tonnes CO <sub>2</sub> e)	Comment
Transport services activities	5,161,091	Our Scope 1 emissions that are dependent on being part of the transport services sector include emissions from our locomotive, marine and truck fleets, as well as emissions from the combustion of fuels to operate ancillary equipment in our yards. Excluded from this figure are the emissions from the operation of our company vehicles used mainly for work activities along our rail network.

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

Scope 1

> Scope 2

Emissions Performance

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

## C7 Emissions Breakdown

### Scope 2 Breakdown: Country

**C7.5**  
Gross global Scope 2 emissions by country/region

Country/Region	Scope 2, location-based (metric tons CO <sub>2</sub> e)	Purchased and consumed electricity, heat, steam or cooling (MWh)
Canada	53,159	316,387
U.S.	110,204	240,764

### Scope 2 Breakdown: Business Breakdowns

**C7.6 - C7.6a**  
Gross global Scope 2 emissions breakdowns by business division

Business Division	Scope 2, location-based (metric tons CO <sub>2</sub> e)
Western	46,230
Eastern	6,929
Southern	110,204

### Scope 2 Breakdown: Sector Production Activities

**C-TS7.7**  
Our transport service activities: global Scope 2 emissions

Sector production activity	Scope 2, location-based, (metric tons CO <sub>2</sub> e)	Comment
Transport services activities	163,363	CN's Scope 2 emissions are related to the consumption of electricity in our buildings and yards, which are part of our services activities. Most of CN's offices are part of our industrial buildings and the electricity used for administrative purposes is not material compared to the electricity use for transportation activities.  In 2020, CN did not operate any electric rail locomotives, however, discussions on the prospects of rail electrification and hydrogen power trains are currently underway and the Company also expects to operate Lion electric trucks by early 2022.

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

Scope 1

Scope 2

> Emissions Performance

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

# C7 Emissions Breakdown

## Emissions Performance

Compared to the previous year, our gross global emissions have decreased.

**C7.9 - C7.9b**

Gross global emissions (Scope 1 and 2 combined) compared to previous reporting year

Reason	Change in emissions (metric tons CO <sub>2</sub> e)	Direction of change and emissions value percentage	Explanation
Change in renewable energy consumption	0	No change	CN considers the growth of the renewable fuel market as important opportunity to further reduce our emissions by using biomass-based fuel blends in our fleets. In 2020, the use of renewable fuels in our fleet saved almost 77,000 tonnes of carbon, which is an important milestone as we continue to work with our suppliers to improve our use of renewable fuels. Despite our continued work with our suppliers to improve our use of renewable fuels, the Company experienced a decrease in absolute fuel volumes due to the significant decrease in freight volumes in the first half of 2020, as a result of rail blockades followed by various economic shutdowns due to the COVID-19 pandemic. Specifically, CN saved 0 tCO <sub>2</sub> e less in fuel emission compared to 2019 [(0/5,397,665) * 100 = 0.0%].
Other emissions reduction activities	275,023	Decreased by 4.6%	The carbon emissions from locomotives decreased due to continued implementation of projects in 2020 related to our rail locomotive emissions and energy efficiency strategy, which represent 85% of our Scope 1 and 2 greenhouse gas emissions. This included increased efficiencies by maintaining a fluid supply chain leveraging technology and providing on-the-job information and training on practices to optimize fuel efficiency. Specifically, CN's in-house-built Horsepower Tonnage Analyzer (HPTA) provided opportunities to optimize locomotive horsepower-to-tonnage ratios and big data analytics were used to improve train schedules and to instruct train crews and rail traffic controllers on additional best practices for fuel conservation, including locomotive shutdowns, which minimized idling. In addition, we achieved emissions savings from energy efficiency projects implemented at our key yards. This includes lighting and HVAC upgrades, as well as upgrades to air compressors. We calculated a reduction of approximately 275,023 tCO <sub>2</sub> e from emission reduction activities related to locomotive fuel efficiency and energy efficiency in our buildings and yards. Based on the carbon reductions, we calculated a 4.6% reduction in emissions [(275,023/5,397,665) * 100 = 4.6% decrease compared to 2019 emissions].
Change in output	338,349	Decreased by 5.7%	CN experienced decreases in emissions due to lower freight volumes. We calculated a decrease of approximately 338,349 tCO <sub>2</sub> e from changes in output. Based on the changes in output, we calculated a 5.7% decrease in emissions compared to the combined Scope 1 and 2 emissions in 2019 [(338,349/5,397,665) * 100 = 5.7% decrease].
Other: loss of network fluidity	74,502	Increased by 1.3%	2020 was a challenging year for CN and its customers. The early part of the year was impacted by illegal rail blockades unrelated to CN's activities, affecting the fluidity and efficiency of our operations, followed by the ongoing COVID-19 pandemic, forcing major economies to lock down. We calculated an increase of approximately 74,502 tCO <sub>2</sub> e from the impact of the blockades and the pandemic. Based on the estimated productivity impacts, we calculated a 1.3% increase in emissions [(74,502/5,397,665) * 100 = 1.3% increase].

Our calculations in C7.9 and C7.9a are based on Scope 1 and location-based Scope 2 emissions figures.

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

Energy Spend

Energy Consumption

Fuel Consumption

Energy Efficiency Metrics

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

CO<sub>2</sub>

# Energy

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

> Energy Spend

> Energy Consumption

Fuel Consumption

Energy Efficiency Metrics

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

## C8 Energy

### Energy Spend

More than 10% but less than or equal to 15%.

**C8.1 - C8.2**

Percentage of total operational spend on energy-related activities

### Energy Consumption

We only consume fuel and purchased or acquired electricity. We don't consume any – purchased, acquired or generated – heat, steam, or cooling.

**C8.2 - C8.2a**

Energy consumption totals for our energy-related activities

Activity	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable + non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	244,598	19,375,802	19,620,400
Consumption of purchased or acquired electricity	HHV (higher heating value)	166,866	390,285	557,151
Total energy consumption	N/A	411,464	19,766,087	20,177,551

**C8.2b**

Applications of our consumption of fuel

We only consume fuel for the generation of heat (including combustion for engines). We don't consume fuel for the generation of electricity, steam, or cooling, or for co-generation or tri-generation.

## ABOUT THIS REPORT

### C0 INTRODUCTION

### C1 GOVERNANCE

### C2 RISKS AND OPPORTUNITIES

### C3 BUSINESS STRATEGY

### C4 TARGETS AND PERFORMANCE

### C5 EMISSIONS METHODOLOGY

### C6 EMISSIONS DATA

### C7 EMISSIONS BREAKDOWN

### C8 ENERGY

Energy Spend

Energy Consumption

#### > Fuel Consumption

#### > Energy Efficiency Metrics

### C9 ADDITIONAL METRICS

### C10 VERIFICATION

### C11 CARBON PRICING

### C12 ENGAGEMENT

## OUR REPORTING

## CONTACT

#### C8.2c

Fuel consumed by fuel type

## Fuel Consumption by Type

Fuel type (Heating value is HHV)	Total MWh consumed by the organization	Emission factor (KgCO <sub>2</sub> e per litre)	Emission factor source
Other, please specify: Diesel (locomotives)	16,143,563	2.9502	Env. Canada National Inventory Report 1990-2018, Part 2, Table A6.1-13. The emission factor reported here is specific to locomotive diesel fuel.
Diesel (others)	2,249,790	2.7241	Env. Canada National Inventory Report 1990-2018, Part 2, Table A6.1-13, HDDV Advanced Control. The emission factor reported here is for diesel consumed by our trucks and other yard equipment requiring diesel fuel to operate (excludes locomotives – emission factor provided under "other").
Propane liquid	102,948	1.5443	Env. Canada National Inventory Report 1990-2018, Part 2, Table A6.1-3.
Gasoline (motor)	212,298	2.3746	Env. Canada National Inventory Report 1990-2018, Part 2, Table A6.1-13.
Furnace Oil (fuel oil #2)	4,045	3.1763	Env. Canada National Inventory Report 1990-2018, Part 2, Table A6.1-4.
Stove Oil (fuel oil #1)	1,092	2.7614	Env. Canada National Inventory Report 1990-2018, Part 2, Table A6.1-4.
Kerosene	1,073	2.5684	Env. Canada National Inventory Report 1990-2018, Part 2, Table A6.1-4.
Natural Gas	709,613	1.9039	Env. Canada National Inventory Report 1990-2018, Part 2, Table A6.1-1 and A6.1-2.
Biogasoline	40,412	0.0676	Env. Canada National Inventory Report 1990-2018, Part 2, Table A6.1-13.
Biodiesel	204,186	0.2692	Env. Canada National Inventory Report 1990-2018, Part 2, Table A6.1-13.

#### C-TS8.2f

Energy from the grid

We do not currently have any transport movements that directly source energy from the grid. In 2019, CN extended the investment in battery-electric vehicles for its On-Company Service fleet. In 2020, the average emission factor for our LDV fleet was 12 gCO<sub>2</sub>e/kWh.

## Transport-Related Energy Efficiency Metrics

#### C-TS8.5

Relevant efficiency metrics

Activity	Metric figure	Metric numerator: Unit total	Metric denominator: Unit total	Percentage change from previous year	Explanation
Rail	1,118	455,368 million gross ton miles	407 million gallons of fuel	4.5%	Overall, in 2020 our rail emissions intensity on a tonne-km basis decreased and we achieved an all-time record fuel efficiency of 0.89 U.S. gallons of locomotive fuel consumed per 1,000 gross ton miles. We increased efficiencies by maintaining a fluid supply chain, by leveraging technology and by providing on-the-job information and training on practices to optimize fuel efficiency. Specifically, CN's in-house-built Horsepower Tonnage Analyzer (HPTA) provided opportunities to optimize locomotive horsepower-to-tonnage ratios and big data analytics were used to improve train schedules and to instruct train crews and rail traffic controllers on additional best practices for fuel conservation, including locomotive shutdowns, which minimized idling.

**ABOUT THIS REPORT**

---

**C0 INTRODUCTION**

---

**C1 GOVERNANCE**

---

**C2 RISKS AND OPPORTUNITIES**

---

**C3 BUSINESS STRATEGY**

---

**C4 TARGETS AND PERFORMANCE**

---

**C5 EMISSIONS METHODOLOGY**

---

**C6 EMISSIONS DATA**

---

**C7 EMISSIONS BREAKDOWN**

---

**C8 ENERGY**

---

**C9 ADDITIONAL METRICS**

---

Other Climate-Related Metrics

Low-Carbon Technology Implementation

Low-Carbon Investments

---

**C10 VERIFICATION**

---

**C11 CARBON PRICING**

---

**C12 ENGAGEMENT**

---

**OUR REPORTING**

---

**CONTACT**

---



# Additional Metrics

---

CO<sub>2</sub>





ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

> Other Climate-Related Metrics

> Low-Carbon Technology Implementation

Low-Carbon Investments

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

## C9 Additional Metrics

### Other Climate-Related Metrics

**C9.1**  
Additional relevant climate-related metrics

Description	Metric value	Metric numerator	Metric denominator (intensity metric only)	Percentage change from previous year	Direction of change	Explanation
Other, please specify: MWh renewable fuel energy/ million tonne km	0.69	Renewable fuel energy consumption in MWh	Tonne km (millions)	10.1%	Decrease	Renewable fuel regulations in Canada require an average of 2% renewables in all diesel produced or imported to Canada. Compliance with these regulations contributes to the achievement of emission reduction targets across the rail sector. In 2020, the continued collaboration with our suppliers enabled our procurement, fuel management and operations teams to increase our emissions savings from the use of renewable fuels to 77,000 tonnes CO <sub>2</sub> e. In addition, we continue to work closely with our suppliers to increase the amount of blended fuel we receive and to obtain greater visibility on blends to improve the quantification of the impact of renewable fuels on our emissions.

### Low-Carbon Technology Implementation

**C-TS9.3**  
Tracking metrics for the implementation of low-carbon transport technology

Activity	Metric	Technology	Metric figure	Unit	Explanation
Rail	Fleet adoption	Other, please specify: New high-horsepower locomotives with reduced GHG and particulate matter emissions.	41	Number of locomotives	We continue to upgrade existing locomotives and acquire new locomotives enabling us to not only meet our compliance objectives but also benefit from even greater fuel efficiencies. In 2020, we acquired 41 new high-horsepower locomotives.
HDV	Fleet adoption	Other, please specify: Trucks using diesel blended with renewable fuels	2,567	Number of trucks	CN's owner-operated CNTL trucking fleet and newly acquired TransX trucking fleet use diesel blended with renewable fuels when operating in Canada, in compliance with federal and provincial clean fuel regulations. As these regulations increase in stringency, emissions from our trucks will continue to decrease in intensity.

## ABOUT THIS REPORT

### C0 INTRODUCTION

### C1 GOVERNANCE

### C2 RISKS AND OPPORTUNITIES

### C3 BUSINESS STRATEGY

### C4 TARGETS AND PERFORMANCE

### C5 EMISSIONS METHODOLOGY

### C6 EMISSIONS DATA

### C7 EMISSIONS BREAKDOWN

### C8 ENERGY

### C9 ADDITIONAL METRICS

Other Climate-Related Metrics

Low-Carbon Technology Implementation

#### > Low-Carbon Investments

### C10 VERIFICATION

### C11 CARBON PRICING

### C12 ENGAGEMENT

## OUR REPORTING

## CONTACT

**C-TS9.6 - C-TS9.6a**  
Investment in research and development of low-carbon products or services over the last three years

## Low-Carbon Investments

With approximately 85% of our GHG emissions generated from rail operations, we believe the best way to reduce our carbon footprint is by continuously improving our rail fuel efficiency. Over the years, this focus has led us to strategically focus on investing in new technologies to drive even greater efficiency through investments in research and development. For example, CN has invested in a five-year optimization research project with Université de Montréal to develop mathematical models that have the potential to improve

operational and fuel efficiency (and reduce carbon emissions). These models focus on two key areas for efficiency improvements: optimized locomotive power on trains, and improved aerodynamics of intermodal trains. Preliminary results have been produced and are under review. CN is in year 4 of this research project and thus the business impacts have not yet been realized. The work was also impacted by COVID-19 in 2020 and therefore the project may be extended to six years to make up for lost research time.

Activity	Technology area	Stage of development	Average percentage of total R&D investment over the last 3 years	Investment in the reporting year	Comments
Rail	Smart systems	Large-scale commercial deployment	41 - 60%	\$3 million	In addition to the capital-intensive renewal of our fleet, the development and deployment of smart systems such as fuel-efficient technologies and big data management analytics capabilities, combined with employee training and communications, are helping us further reduce our carbon footprint and are part of our low-carbon transition plan in alignment with our science-based target reduction of 43% GHG emission intensity by 2030.  We estimate the annual R&D costs associated with the development and deployment of smart systems to be \$3 million.
Rail	Smart systems	Applied research and development	≤20%	\$200,000	CN has invested in a five-year optimization research project with Université de Montréal to develop mathematical models that have the potential to improve operational and fuel efficiency (and reduce carbon emissions). These models focus on two key areas for efficiency improvements: optimized locomotive power on trains, and improved aerodynamics of intermodal trains. Preliminary results have been produced and are under review. CN is in Year 4 of this research project and thus the business impacts have not yet been realized. The work was also impacted by COVID-19 in 2020 and therefore the project may be extended to six years to make up for lost research time.
HDV	Electrification	Pilot demonstration	21 - 40%		As part of our sustainability strategy to reduce emissions through innovation, we recently launched a pilot project to use electric trucks. Working with Lion Electric Co., we committed to 50 zero-emission electric trucks to be deployed in cities across our network, such as Vancouver, Greater Toronto, Montreal and Hamilton. They will be tested for various tasks such as urban delivery, container shuttle service to port operations and cross-town service.  The trucks are custom-built, produce no noise pollution and are estimated to remove 100 tonnes of GHG from the road annually. By using the zero-emission trucks in different settings, we want to identify where these trucks can make the most impact on how we service our customers and reduce emissions.  The project is also spurring innovation and creating jobs in nearby communities ( <a href="http://www.cn.ca/en/news/2019/04/cn-launches-new-pilot-project-using-electric-trucks/">www.cn.ca/en/news/2019/04/cn-launches-new-pilot-project-using-electric-trucks/</a> ).
LDV	Electrification	Small-scale commercial deployment	≤20%		As part of our sustainability strategy to reduce emissions through energy efficiency projects at our yard, CN is purchasing electric light-duty vehicle and charging stations for the transportation of mechanical engineers between our yards.

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

Verification

Other Verified Data

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

CO<sub>2</sub>

# Verification

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

> Verification

Other Verified Data

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

# C10 Verification

## Verification

**C10.1**

Verification applying to reported emissions

Scope	Verification/assurance status
Scope 1	Third-party verification or assurance process in place.
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place.
Scope 3	Third-party verification or assurance process in place.

**C10.1a - C10.1c**

Verification/assurance undertaken for Scope 1, 2 and 3 emissions

Scope	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Relevant standard	Proportion of reported emissions verified (%)
Scope 1	Annual process	Complete	Limited assurance	ISAE 3410	86%
Scope 2 location-based	Annual process	Complete	Limited assurance	ISAE 3410	100%
Scope 3 categories, including:	Annual process	Complete	Limited assurance	ISAE 3410	100%
Purchased goods and services					
•					
Capital goods					
•					
Fuel- and energy-related activities (not included in Scope 1 or 2)					
•					
Upstream transportation and distribution					

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

Verification

> Other Verified Data

C11 CARBON PRICING

C12 ENGAGEMENT

OUR REPORTING

CONTACT

# C10 Verification

## Other Verified Data

**C10.2 – C10.2a**  
Other verified climate-related information

Disclosure module verification relates to	Data verified	Verification standard	Explanation
C6. Emissions data	Year-on-year change in emissions (Scope 1)	Limited assurance in accordance with the ISAE 3410 standard	A third party has verified the change in our Scope 1 emissions from locomotive fuel consumption included in our total Scope 1 emissions figure reported in C6.1 vs the corresponding figure for 2020. Emissions from locomotive fuel consumption account for approximately 85% of our total direct emissions. We complete this verification on an annual basis to track our emissions performance.
C6. Emissions data	Year-on-year change in emissions (Scope 2)	Limited assurance in accordance with the ISAE 3410 standard	A third party has verified the change in our 2020 location-based Scope 2 emissions from consumption of electricity in our buildings and yards in C6.3 versus the corresponding figure for 2019. Data verified accounted for 100% of our Scope 2 emissions. We complete this verification on an annual basis to track our emissions performance.
C6. Emissions data	Year-on-year change in emissions (Scope 3)	Limited assurance in accordance with the ISAE 3410 standard	A third party has verified the change in our 2020 Scope 3 emissions from diesel fuel production included in our total Scope 3 emissions reported in C6.5 versus the corresponding figure for 2019. Data verified accounted for 92% of our Scope 3 emissions. We complete this verification on an annual basis to track our emissions performance.
C8. Energy	Other, please specify: Energy consumption for locomotive diesel fuel	Limited assurance in accordance with the ISAE 3410 standard	A third party has verified the 2020 diesel locomotive fuel consumption in MWh reported in C8.2c. Fuel consumption for our locomotives accounts for 86% of our total direct fuel consumption. We complete this verification on an annual basis to track our energy performance.
C8. Energy	Other, please specify: Energy consumption for electricity	Limited assurance in accordance with the ISAE 3410 standard	A third party has verified the 2020 energy consumption from purchased electricity C8.2a. The figure reported accounts for 100% of our electricity consumption in our buildings and yards. We complete this verification on an annual basis to track our energy performance.

ABOUT THIS REPORT

---

C0 INTRODUCTION

---

C1 GOVERNANCE

---

C2 RISKS AND OPPORTUNITIES

---

C3 BUSINESS STRATEGY

---

C4 TARGETS AND PERFORMANCE

---

C5 EMISSIONS METHODOLOGY

---

C6 EMISSIONS DATA

---

C7 EMISSIONS BREAKDOWN

---

C8 ENERGY

---

C9 ADDITIONAL METRICS

---

C10 VERIFICATION

---

C11 CARBON PRICING

---

Carbon Pricing Systems

Project-Based Carbon Credits

Internal Price on Carbon

---

C12 ENGAGEMENT

---

OUR REPORTING

---

CONTACT

---

CO<sub>2</sub>

# Carbon Pricing

---

# C11 Carbon Pricing

## Carbon Pricing Systems

### ABOUT THIS REPORT

#### C0 INTRODUCTION

#### C1 GOVERNANCE

#### C2 RISKS AND OPPORTUNITIES

#### C3 BUSINESS STRATEGY

#### C4 TARGETS AND PERFORMANCE

#### C5 EMISSIONS METHODOLOGY

#### C6 EMISSIONS DATA

#### C7 EMISSIONS BREAKDOWN

#### C8 ENERGY

#### C9 ADDITIONAL METRICS

#### C10 VERIFICATION

#### C11 CARBON PRICING

##### > Carbon Pricing Systems

Project-Based Carbon Credits

Internal Price on Carbon

#### C12 ENGAGEMENT

### OUR REPORTING

### CONTACT

#### C11.1 - C11.1b

Applicable carbon trading regulations

System name	Percentage of Scope 1 emissions covered by the ETS • Percentage of Scope 2 emissions covered by the ETS	Period start and end date	Allowances purchased	Verified Scope 1 emissions in metric tons CO <sub>2</sub> e	Details of ownership	Comments
Quebec Cap and Trade	3.8% • 0%	January 1, 2020 - December 31, 2020	0	3,412	Purchases and imports of fossil fuels	In cap-and-trade jurisdictions, all purchases of fossil fuels within the jurisdiction include a carbon price component that is flowed through to CN by our fuel suppliers. In addition, CN must purchase emission allowances for any imports of fossil fuels from outside the cap-and-trade jurisdiction to be consumed within the jurisdiction. Allowance purchases reported here reflect fossil fuel imports ONLY as per the regulation. Coverage of Scope 1 emissions reflects total propane imported in Quebec subject to the carbon price flow through.
Nova Scotia Cap and Trade	0.8% • 0%	January 1, 2020 - December 31, 2020	0	0	Purchases and imports of fossil fuels	In cap-and-trade jurisdictions, all purchases of fossil fuels within the jurisdiction include a carbon price component that is flowed through to CN by our fuel suppliers. In addition, CN must purchase emission allowances for any imports of fossil fuels from outside the cap-and-trade jurisdiction to be consumed within the jurisdiction. Allowance purchases reported here reflect fossil fuel imports ONLY as per the regulation. Coverage of Scope 1 emissions reflects total propane imported to Nova Scotia subject to the carbon price flow through.

#### C11.1c

Tax systems in which we participate

Tax system	Period start date	Period end date	Percentage of total Scope 1 emissions covered by tax	Total cost of tax paid	Comment
BC carbon tax	January 1, 2020	December 31, 2020	12.9%	\$32.7 million	Carbon tax obligations are tracked and paid monthly by Accounts Payable with support from the Taxation group.
Canada federal fuel charge	January 1, 2020	December 31, 2020	22.2%	N/A	Tax amounts paid are confidential and cannot be disclosed.

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

> Carbon Pricing Systems

> Project-Based Carbon Credits

Internal Price on Carbon

C12 ENGAGEMENT

OUR REPORTING

CONTACT

# C11 Carbon Pricing

## Carbon Pricing Systems (continued)

**C11.1d**

Strategy for complying with the systems we are regulated by

**DESCRIPTION OF STRATEGY FOR COMPLYING WITH THE SYSTEM**

Our strategy to comply with the emission trading and tax systems is to ensure we effectively monitor, forecast and plan for the impacts of carbon pricing and regulations on our business. On an annual basis, we report and verify our emissions, track our fuel consumption and import volumes to calculate regulated emissions, and submit the required verified reports, and pay our carbon tax and cap-and-trade liabilities promptly.

**EXAMPLE OF HOW THE STRATEGY HAS BEEN APPLIED**

For example, within each of the jurisdictions, we track our monthly fuel purchases and consumption data to estimate carbon cost impacts to the Company, as well as to determine our regulatory compliance obligations under the respective cap-and-trade or tax systems. Cap-and-trade compliance obligations are tracked by the Sustainability department, who arrange to participate in the quarterly emissions allowance auctions as required. Carbon tax obligations are tracked and paid monthly by Accounts Payable with support from the Taxation group.

Furthermore, to minimize our compliance risks and carbon price costs, our Fuel Procurement department has continued to follow a strategy to eliminate fuel imports across jurisdictions and source fuel locally as much as possible (except in emergencies where local fuel is unavailable). For example, in 2020 CN had no diesel fuel imports into the provinces of Quebec or Nova Scotia. Emissions allowance purchase requirements were minimized to cover imports of propane to fuel switch heaters, which could not be sourced locally. In addition, we continue to focus on our fuel efficiency and carbon management strategy, which will further enable us to minimize our exposure to carbon costs.

## Project-Based Carbon Credits

**C11.2**

Project-based carbon credits

We have not originated or purchased any project-based carbon credits within the reporting period.



# C11 Carbon Pricing

## Internal Price on Carbon

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

Carbon Pricing Systems

Project-Based Carbon Credits

> Internal Price on Carbon

C12 ENGAGEMENT

OUR REPORTING

CONTACT

**C11.3 - 11.3a**

How our organization uses an internal price on carbon (GHG Scope 1)

CN has established an internal shadow price of carbon of \$27.4 per metric ton.

CN's objective for implementing an internal carbon price include:

- Navigate GHG regulations
- Stakeholder expectations
- Change internal behaviour
- Drive energy efficiency
- Drive low-carbon investment
- Identify and seize low-carbon opportunities
- Supplier engagement

CN has established an internal price on carbon as a strategic planning tool, considering that addressing climate change is a business cost and opportunity. The development of an internal price of carbon helps to identify revenue opportunities, risks, and creates an incentive to drive energy efficiencies to reduce costs. The use of a shadow price across the jurisdictions where we operate simplifies planning.

**VARIANCE OF PRICE(S) USED**

To account for the range of carbon costs across Canadian provinces that have implemented carbon price mechanisms through carbon taxes and cap-and-trade markets, or that have to adhere to the federal backstop, we review our internal price on carbon annually. The annual review considers changes to the pricing schemes as well as our operations.

For business decisions that pertain to a single jurisdiction, such as the decision to import fuel versus purchasing local, we consider the actual carbon cost, yielding a variance of the price from \$20 per tCO<sub>2</sub>e (Quebec/Ontario) to \$40 per tCO<sub>2</sub>e (British Columbia).

**IMPACT AND IMPLICATION**

The use of the carbon price is critical for the development of a sound low-carbon transition plan in support of our carbon emissions reduction target. It is also a key input for scenario planning purposes. For example, the carbon price is applied by our corporate procurement group to inform business decisions related to the purchase of fuel and propane. Our sustainability and tax groups apply the carbon price to ensure we meet our compliance obligations under Canadian GHG regulatory requirements. We internalize the cost of carbon-based on current and projected carbon tax and cap-and-trade carbon pricing analysis. Based on our analysis up until 2025, we have estimated our carbon price to be on average \$27.4 per tonne of carbon in 2020, with an increase to \$95 per tonne of carbon by 2025 for our Canadian operations.

ABOUT THIS REPORT

---

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

Supplier Engagement

Customer Engagement

Public Policy Engagement

Communications

---

OUR REPORTING

CONTACT

---



CO<sub>2</sub>

# Engagement

---



# C12 Engagement

## Supplier Engagement

### ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

> Supplier Engagement

Customer Engagement

Public Policy Engagement

Communications

OUR REPORTING

CONTACT

### C12.1 - 12.1a

Climate-related supplier engagement strategy

Type of engagement	Details of engagement	Percentage of suppliers by number	Percentage total procurement spend (direct and indirect)	Percentage of supplier-related Scope 3 emissions as reported in C6.5	Rationale for the coverage of our engagement	Impact of engagement, including measures of success
Information collection (understanding supplier behaviour)	Collect climate change and carbon information at least annually from suppliers	7%	27%	70%	<p>In 2020, we continued to engage with our major fuel suppliers to collect information on the type and percentage renewable blend composition of our fuel supply.</p> <p>Understanding the fuel composition and the associated GHG emissions is critical for us to ensure we comply with renewable fuel regulations in Canada and to continue to work towards our GHG reduction targets.</p> <p>Engaging our suppliers in pilot studies also enables us to continuously explore how we can enhance the renewable content in our blends and thereby decrease our emissions.</p> <p>Major fuel suppliers account for approximately 7% of our 76 Tier 1 critical suppliers. However, fuel is CN's third-biggest operating expense and makes up 27% of our operational expenses on raw materials, goods and services procured. Scope 3 emissions from the production of fuel account for 68% of our total Scope 3 emissions reported in C6.5.</p>	<p>Key measures of success of this engagement include the percentage of renewable fuels in our purchased diesel as well as our overall carbon efficiency. These two success factors need to be balanced to ensure sustainable and economically viable operations.</p> <p>In 2020, the continued collaboration with our suppliers enabled our procurement, fuel management and operations teams to increase our emissions savings from the use of renewable fuels to 77,000 tonnes CO<sub>2</sub>e, while simultaneously improving our fuel efficiency by 4.5%.</p> <p>The data and information we obtain from monitoring these metrics inform our engagement with our fuel suppliers, e.g. concerning refined data/information requests as well as procurement decisions.</p>



# C12 Engagement

## Customer Engagement

**C12.1b**  
Climate-related customer engagement strategy

Type of engagement	Details of engagement	Percentage of customers by number	Percentage customer-related Scope 3 emissions as reported in C6.5	Rationale for selecting this group of customers and scope of engagement	Impact of engagement, including measures of success
Education/information sharing	Run an engagement campaign to educate customers about the climate change impacts of (using) our products, goods, and/or services	100%	0%	<p>We proactively engaged with customers committed to carbon management who were interested to learn more about CN's performance.</p> <p>We also provide public forums for our customers to understand how shipping their goods by rail will benefit their business. For example, our web-based carbon calculator – the first of its kind in the industry – is a public forum that allows customers and potential customers to estimate the emissions from rail, marine and truck transportation. As the carbon calculator is a public forum we assume all customers participate.</p> <p>In addition, we respond to numerous investor and customer requests about emissions associated with hauling customer freight and opportunities to further reduce them.</p>	<p>We assess the success of our engagement through different measures.</p> <p>For example, we track the use of our web-based calculator. Specifically, in 2020, we had over 5,700 requests for carbon emissions calculations through our web calculator, an increase of more than 60% versus the previous year.</p> <p>In addition, we leverage the growth of our intermodal business segment as a measure of success as it exemplifies the value we create for our customers, helping them to shift their freight transport from highway to rail. Specifically, in 2020, revenues from our intermodal business segment incurred the smallest decrease in revenues due to the economic downturn as a result of the pandemic.</p>
Collaboration and innovation	EcoConnexions Partnership Program	32%	0%	<p>Launched in 2014, CN's EcoConnexions Partnership Program aims to both partner with and recognize customers who are committed to building an efficient and more sustainable future, including leveraging the environmental benefits of shipping heavy freight over long distances by rail rather than truck, to reduce emissions.</p> <p>Each year, customers are invited to partake in the program and submissions are evaluated based on sustainable policies, energy efficiency, reporting to the CDP, and modal shift.</p>	<p>As a result of our engagements through the EcoConnexions Partnership Program, we have influenced performance on energy efficiency and carbon reporting. In addition, we contributed to increasing market share from customers shifting from truck to our more sustainable rail transportation for long-haul shipments. We have also worked collaboratively with our customers to protect environmental ecosystems.</p> <p>For example, through the EcoConnexions Partnership Program CN has planted more than 520,000 trees since 2014.</p> <p>A specific measure of success of this program is the number of participants. In 2019, the number of participants increased from 40 to 45 and we were able to increase the number of trees planted from 100,000 to 120,000 trees. 23 of the participants represent 15.3% of our top 150 customers. In 2020, the program was paused due to the COVID-19 pandemic.</p>

### ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

Supplier Engagement

> Customer Engagement

Public Policy Engagement

Communications

### OUR REPORTING

### CONTACT

ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

Supplier Engagement

Customer Engagement

> Public Policy Engagement

Communications

OUR REPORTING

CONTACT

# C12 Engagement

## Public Policy Engagement

**C12.3 - C12.3a**

Direct engagement in activities to influence policy makers on climate-related issues

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Cap-and-trade	Support	We engage with various Canadian federal and provincial governments (Quebec and Nova Scotia) on their cap-and-trade systems to position rail freight as a viable low-carbon transportation solution.	We support provincial and state carbon markets within Canada and the U.S. We believe that involvement with leading policy makers on carbon markets moves the transportation sector forward in identifying practical solutions that contribute to, and support, future policy developments in a manner that will foster low-carbon economic growth while ensuring significant GHG emission reductions.
Climate finance	Support	We engage with various Canadian federal and provincial governments on funding to support and grow the transportation of freight by rail as a means of decreasing emissions in the transportation sector. Rail is approximately four times more fuel efficient than truck, reducing GHG emissions by 75% for an equivalent volume of freight.	We advocate for the allocation of funds to support modal shift from truck to rail (including investment in rail infrastructure) as a means of reducing freight transportation emissions. We also support investment in rail fuel efficiency technologies as well as the development of zero-emission rail technologies to further decarbonize the rail sector and increase the environmental benefits of shipping by rail.

**C12.3b - C12.3c**

Trade associations CN belongs to which are likely to take a position on climate change legislation

Trade association	Is our position on climate change consistent with theirs?	The trade association's position	How we have influenced, or are attempting to influence their position
Railway Association of Canada (RAC)	Consistent	<p>The Railway Association of Canada (RAC) represents close to 60 freight and passenger railway companies. RAC's mission is to work with governments and communities across the country to ensure that Canada's rail sector remains globally competitive, sustainable, and most importantly, safe.</p> <p>The Railway Association of Canada, in April 2019, announced that it has signed a Memorandum of Understanding (MOU) with Transport Canada to establish voluntary reduction targets for emissions produced by locomotives in Canada. This is the fourth MOU signed by RAC and the federal government since 1995, and it demonstrates the rail industry's long-time commitment to reducing locomotive emissions (<a href="http://www.railcan.ca/news/fourth-memorandum-of-understanding-mou-signed-between-the-railway-association-of-canada-and-the-federal-government-for-reducing-locomotive-emissions/">www.railcan.ca/news/fourth-memorandum-of-understanding-mou-signed-between-the-railway-association-of-canada-and-the-federal-government-for-reducing-locomotive-emissions/</a>).</p>	<p>CN is a long-standing full member of RAC and actively engaged in initiatives such as the MOU with Transport Canada and the development of the emissions targets.</p> <p>CN holds two seats on RAC's Board of Directors.</p> <p>CN's Director of Sustainability is a co-chair of the Environment Committee and works closely with RAC's Policy Analyst and Program Coordinator on matters of policy, emissions regulations, and climate risks and opportunities.</p>
Association of American Railroads (AAR)	Consistent	<p>Founded in 1934, AAR is the world's leading railroad policy, research, standard-setting and technology organization that focuses on the safety and productivity of the U.S. freight rail industry. AAR full members include the seven Class I freight railroads in the United States, Canada and Mexico.</p> <p>Working with elected officials and leaders in Washington, DC, AAR advances sound public policy that supports the interests of the freight rail industry to ensure it will continue to meet America's transportation needs. The AAR positions freight rail as being ahead of other land modes of surface transportation when it comes to limiting its carbon footprint. Yet it also advocates and works with its members to enhance operating practices and rail car components to minimize fuel usage by improving aerodynamics and reducing overall weight, friction between wheels and rail, and total horsepower required for moving the train.</p>	<p>We engage with the AAR as a member of the organization and support them in promoting cleaner, greener, efficient, and environmentally responsible transportation solutions.</p> <p>CN's Assistant Vice-President, Sustainability is a member of the Environment Committee and works with the AAR on matters of climate policy, and to position the environmental benefits of shipping heavy freight by rail as well as the industry's efforts to further decarbonize rail operations.</p>



ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

Supplier Engagement

Customer Engagement

> Public Policy Engagement

Communications

OUR REPORTING

CONTACT

# C12 Engagement

## Public Policy Engagement (continued)

**C12.3d**  
Public disclosure of research organizations we fund

Yes, we publicly disclose a list of all the research organizations we fund.

**C12.3e**  
Details of other engagement activities we undertake

**Description:** We play an active role in the advocacy of rail as part of the climate change solution with federal, provincial and state governments in North America. Rail transportation is approximately four times more fuel-efficient than trucks, translating into a 75% reduction in greenhouse gas emissions for an equivalent volume of freight. CN firmly believes that solutions to meet Canada's emission reduction targets should include encouraging shippers to use the most carbon-friendly transportation option available.

**Method of Engagement:** We have engaged with the federal, provincial and state governments in North America through individual meetings, as well as through the Railway Association of Canada.

**Topic of Engagement:** The topic of engagement is how railways can help meet jurisdictional emissions reduction targets.

**C12.3f**  
Processes to ensure all direct and indirect activities that influence public policy are consistent with our overall climate change strategy

The direct and indirect activities that could influence public policy are typically reviewed by the Government and Public Affairs department on an annual basis to ensure alignment with the strategic direction of the business, including our climate change strategic focus areas. Public policy decisions that could impact

**Nature of Engagement:** Our engagement relates to educating the federal, provincial and state governments on the environmental benefits of shipping by rail versus truck through discussions as well as through the submission of a written brief outlining these benefits and the proposed actions that can be taken to encourage the shipment of freight by rail.

**Action Advocated as Part of Engagement:** Actions advocated include allocating of funds to support modal shift from truck to rail, investment in rail fuel efficiency technologies and innovation, investment in rail infrastructure, harmonizing the regulatory regime for carbon regulations and markets in North America and climate adaptation.

our overall climate strategy are communicated to the Sustainability team to be validated for consistency with our climate strategy. Where inconsistencies are noted, recommendations are proposed to ensure alignment.





ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

- Supplier Engagement
- Customer Engagement
- Public Policy Engagement

> Communications

OUR REPORTING

CONTACT

# C12 Engagement

## Communications

**C12.4**

Information CN has published relating to our response to climate change and GHG emissions performance

Publication	Status	Content elements	Comments
Annual Report	Complete	Governance; strategy; risks and opportunities; other metrics; and other fuel efficiency	We publish information on our sustainability initiatives, our fuel efficiency performance (directly relates to our locomotive emissions), as well as business risks related to climate change in our 2020 Annual Report, available on our website <a href="http://www.cn.ca">www.cn.ca</a> .
Management Information Circular	Complete	Governance; strategy; risks and opportunities; emissions figures; emission targets; and other fuel efficiency	We publish information on our Climate Action Plan in our 2021 Management information Circular, available on our website <a href="http://www.cn.ca">www.cn.ca</a> .
TCFD Report	Underway	Governance; strategy; risks and opportunities; emissions figures; and emission targets	We publish a comprehensive view into how CN understands and manages the risks and opportunities associated with climate change in four sections: Governance, Risk Management, Strategy, and Metrics & Targets. The 2019 TCFD report is available on our website <a href="http://www.cn.ca">www.cn.ca</a> .
Data Supplement	Complete	Emissions figures, emission targets; and other metrics	We publish statistics related to our carbon inventory, emissions intensity, emissions targets and other energy and fuel efficiency metrics in our 2020 Delivering Responsibly Data Supplement, available on our website <a href="http://www.cn.ca">www.cn.ca</a> .



ABOUT THIS REPORT

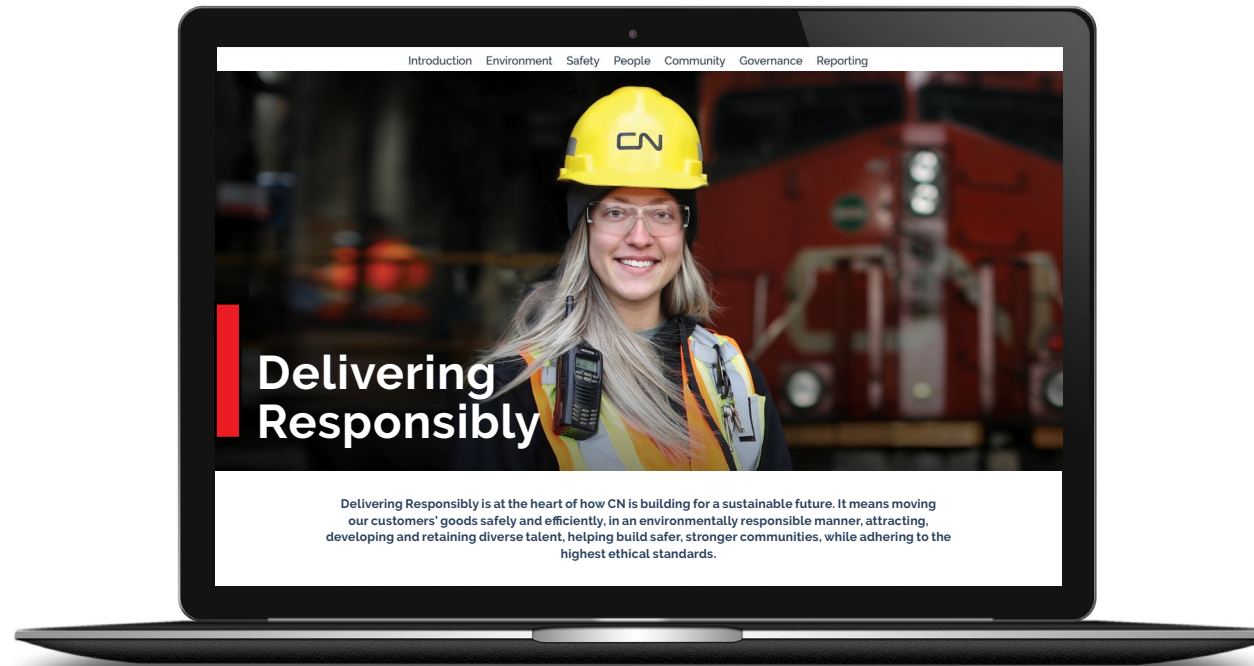
- C0 INTRODUCTION
- C1 GOVERNANCE
- C2 RISKS AND OPPORTUNITIES
- C3 BUSINESS STRATEGY
- C4 TARGETS AND PERFORMANCE
- C5 EMISSIONS METHODOLOGY
- C6 EMISSIONS DATA
- C7 EMISSIONS BREAKDOWN
- C8 ENERGY
- C9 ADDITIONAL METRICS
- C10 VERIFICATION
- C11 CARBON PRICING
- C12 ENGAGEMENT

OUR REPORTING

CONTACT

# Our Reporting

Transparent reporting is part of our commitment to be open about our business and to communicate our progress with focus, clarity and comparability. Our Delivering Responsibly website provides online access to our complete reporting suite including our most current Sustainability Report and Data Supplement, TCFD Report and CDP Response – as well as an archive of past reports.



[www.delivering-responsibly.cn.ca](http://www.delivering-responsibly.cn.ca)

## Current Reports



[Sustainability Report](#)



[Data Supplement / GRI and SASB Index](#)



[CDP Response](#)



[TCFD Report](#)





## ABOUT THIS REPORT

C0 INTRODUCTION

C1 GOVERNANCE

C2 RISKS AND OPPORTUNITIES

C3 BUSINESS STRATEGY

C4 TARGETS AND PERFORMANCE

C5 EMISSIONS METHODOLOGY

C6 EMISSIONS DATA

C7 EMISSIONS BREAKDOWN

C8 ENERGY

C9 ADDITIONAL METRICS

C10 VERIFICATION

C11 CARBON PRICING

C12 ENGAGEMENT

## OUR REPORTING

### CONTACT

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**FORWARD-LOOKING STATEMENTS:** Certain statements included in this report constitute “forward-looking statements” within the meaning of the *United States Private Securities Litigation Reform Act of 1995* and under Canadian securities laws, including statements based on management’s assessment and assumptions and publicly available information with respect to CN. By their nature, forward-looking statements involve risks, uncertainties and assumptions. CN cautions that its assumptions may not materialize and that current economic conditions render such assumptions, although reasonable at the time they were made, subject to greater uncertainty. Forward-looking statements may be identified by the use of terminology such as “believes,” “expects,” “anticipates,” “assumes,” “outlook,” “plans,” “targets”, or other similar words.

Forward-looking statements are not guarantees of future performance and involve risks, uncertainties and other factors which may cause actual results, performance or achievements of CN to be materially different from the outlook or any future results, performance or achievements implied by such statements. Accordingly, readers are advised not to place undue reliance on forward-looking statements. Important risk factors that could affect the forward-looking statements in this report include, but are not limited to: the duration and effects of the COVID-19 pandemic, general economic and business conditions, particularly in the context of the COVID-19 pandemic; industry competition; inflation, currency and interest rate fluctuations; changes in fuel prices; legislative and/or regulatory developments; compliance with environmental laws and regulations; actions by regulators; increases in maintenance and operating costs; security threats; reliance on technology and related cybersecurity risk; trade restrictions or other changes to international trade arrangements; transportation of hazardous materials; various events which could disrupt operations, including illegal blockades of rail networks, and natural events such as severe weather, droughts, fires, floods and earthquakes; climate change; labor negotiations and disruptions; environmental claims; uncertainties of investigations, proceedings or other types of claims and litigation; risks and liabilities arising from derailments; timing and completion of capital programs; and other risks detailed from time to time in reports filed by CN with securities regulators in Canada and the United States. Reference should also be made to Management’s Discussion and Analysis (MD&A) in CN’s annual and interim reports, Annual Information Form and Form 40-F, filed with Canadian and U.S. securities regulators and available on CN’s website, for a description of major risk factors relating to CN.

Forward-looking statements reflect information as of the date on which they are made. CN assumes no obligation to update or revise forward-looking statements to reflect future events, changes in circumstances, or changes in beliefs, unless required by applicable securities laws. In the event CN does update any forward-looking statement, no inference should be made that CN will make additional updates with respect to that statement, related matters, or any other forward-looking statement.

**PICTURED:** Prince Rupert, BC





# Our Sustainability Commitment

Delivering Responsibly is at the heart of how CN is building for a sustainable future. It means moving our customers' goods safely and efficiently, in an environmentally responsible manner, attracting, developing and retaining diverse talent, helping build safer, stronger communities, while adhering to the highest ethical standards. Five principles anchor our commitment:

## ENVIRONMENT

Conduct our operations with minimal environmental impact, while providing cleaner, more sustainable transportation services to our customers.

## SAFETY

Be the safest railroad in North America by establishing an uncompromising safety culture and implementing a management system designed to minimize risk and drive continuous improvement.

## PEOPLE

Provide a safe, supportive and diverse work environment where our employees can grow to their full potential and be recognized for their contributions to our success.

## COMMUNITY

Build safer, stronger communities by investing in community development, creating positive socio-economic benefits and ensuring open lines of communication.

## GOVERNANCE

Continuously improve our culture of integrity and ethical business, building trust and confidence with all our stakeholders.

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PICTURED (COVER):

Red Pass, BC  
Photo by CN Employee  
Tim Stevens

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