2023 CDP CLIMATE CHANGE RESPONSE

Delivering Responsibly

Ghislain Houle
Executive Vice-President and Chief Financial Officer

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 the Carbon Disclosure Project (CDP) 2023 climate change questionnaire.

We believe maintaining the trust of our stakeholders and investors requires transparency on CN's approach to climate-related governance, risks and opportunities, strategy, and performance to provide clarity on the implications of climate change could pose to our business.

For the fourteenth straight year CN responded to the CDP's questionnaire, outlining our approach to combating climate change by reducing emissions, managing and mitigating climate risks, identifying low carbon business opportunities and collaborating with our stakeholders to achieve an effective transition to a low-carbon future.

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 2022, 746 investors with over US$136 trillion in assets and 340+ large purchasers with over US$6.4 trillion in procurement spend requested companies to disclose data on environmental impacts, risks and opportunities through CDP's platform.

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Intermodal train outside of Kamloops, British Columbia, on route to the Port of Prince Rupert, BC.

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An Introduction to CN

INCREASING OUR LEVEL OF AMBITION

With a team of 24,000 employees, CN (the Company) is a world-class transportation leader and trade-enabler. At CN, we understand our purpose is to play an essential role in moving the North American economy and enabling global trade.

We recognize that our climate is changing, and that businesses must not merely adapt, but be part of the solution. As a mover of the economy, CN is committed to playing a key role in the transition to a low-carbon economy and rail is a carbon-efficient and sustainable way to move goods and part of the climate solution.

In 2017, CN became the first railroad in North America, and among the first 100 companies globally, to set an approved science-based target. We revised our target in 2020 and CN's new target, which was approved by the Science Based Targets initiative (SBTi) in April 2021, commits CN to reducing Scope 1 and 2 GHG emission intensity by 43% by 2030 from a 2019 base year. We also commit to reduce Scope 3 GHG emission intensity from fuel- and energy-related activities by 40% by 2030 from a 2019 base year.

CN remains a leader in the North American rail industry, consuming approximately 15% less locomotive fuel per gross ton-mile than the industry average. Since 1993, we have reduced our rail locomotive GHG emission intensity by 45%, avoiding over 54 million tonnes of CO_2e. In 2021, we became the first North American railroad to formally commit to setting a net-zero target by joining the "Business Ambition for 1.5°C" and the United Nations' "Race To Zero" campaign. In 2022, CN joined the United Nations Global Compact, committing to making its principles a key part of our strategy, culture and day-to-day operations.

OUR BUSINESS AT A GLANCE

CN is a North American transportation and logistics company. Our 18,600-mile rail network spans Canada and the United States of America (U.S.), connecting ports on three coasts: the Atlantic, the Pacific and the Gulf of Mexico. Our freight revenues are derived from seven commodity groups representing a diversified and balanced portfolio of goods. We transport more than 300 million tons of cargo annually serving exporters, importers, retailers, farmers and manufacturers.

2022 REVENUES BY COMMODITY GROUP
(% of total revenues)

- **29%** Intermodal
- **19%** Petroleum and chemicals
- **16%** Grain and fertilizers
- **12%** Forest products
- **11%** Metals and minerals
- **5%** Automotive
- **5%** Coal
- **3%** Other revenues

2022 REVENUES BY GEOGRAPHIC FLOW
(% of freight revenues)

- **34%** Overseas
- **32%** Transborder
- **18%** Canadian domestic
- **16%** U.S. domestic

2022 KEY STATISTICS

>300M TONS OF CARGO MOVED	$17.1B REVENUES
$2.8B CAPITAL INVESTMENTS	23,971 EMPLOYEES (end of period)
18,600 ROUTE MILES	9 PORTS SERVED

READ MORE

The Delivering Responsibly section of our website provides online access to our complete sustainability reporting suite including the most current publications of our: Sustainability Report, Data Supplement, CDP Response, and TCFD Report.

www.cn.ca/delivering-responsibly

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An Introduction to CN (continued)

OUR STRATEGY TO DECARBONIZE OUR BUSINESS

With 87% 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 SBTi target informs our low-carbon transition plan and business strategy which focuses on five key strategic areas: fleet renewal, innovative technologies, big data analytics, operating practices, and cleaner fuels.

In 2021, we announced a partnership with Progress Rail and Chevron Renewable Energy Group (REG) to test high-level renewable fuel blends including biodiesel and renewable diesel. We are working to reduce our non-rail carbon footprint, which comprises approximately 15% of our total Scope 1 and 2 emissions, by upgrading our ground fleet, retrofitting yards and buildings, and decarbonizing our vessel fleet. In 2020, CN signed a memorandum of understanding (MOU) with Lion Electric to acquire 50 innovative zero-emissions trucks for intermodal use in urban areas.

BUILDING RESILIENCY AND BIODIVERSITY

An important element of building our resiliency involves climate scenario analysis to identify and understand how climate-related risks will impact our business while integrating this into our risk assessment process. In 2022, we released CN's third Task Force on Climate-related Financial Disclosures (TCFD) report which expanded on the results of our qualitative and quantitative climate change scenario analysis and the climate-related risks and opportunities we face as a business.

We also recognize the importance of biodiversity and protecting natural capital. Our EcoConnexions From the Ground Up and Reforestation programs promote the greening of municipalities and Indigenous communities situated adjacent to our rail network. Working together with our partners, we have planted over 2.3 million trees – improving air quality and the national landscape for future generations to enjoy. Our target is 3 million trees by 2030.

COLLABORATING BEYOND 2030

Decarbonizing rail transportation will continue to require innovative fuel-efficient technologies, the greater use of cleaner sustainable fuels, and designing innovative low-emission supply chain solutions through investments and collaboration with various stakeholders including governments, supply chain partners, customers, suppliers, academics and cleantech to accelerate the fight against climate change.

We are also actively engaging with other rail companies, directly and through associations such as the Association of American Railroads (AAR) and the Railway Association of Canada (RAC) as well as with diverse locomotive manufacturers, fuel suppliers and customers. In support of our ambitious long-term goals, in 2021, we announced the purchase of Wabtec's FLXdrive battery-electric freight locomotive – the first 100% battery heavy-haul locomotive which could reduce locomotive fuel consumption and emissions by up to 30%, in addition to the partnership with Progress Rail and Chevron REG. These new technologies and the greater use of renewable fuels are key components in achieving an effective transition to a lower-carbon future.

We believe rail has a tremendous potential to reduce the environmental impact of transportation and we are committed to playing a key role in the transition to a more sustainable world.

Elma, MB
Photo by CN Employee, **Ildar Noureev**

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Reporting Data

C0.2 - C0.4
Our reporting data

The report covers data and information from January 1 to December 31, 2022 for our operations in Canada and the United States of America. 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).

Unique Identifiers

C0.8
Our unique identifier codes

CN's unique identifier codes are as follows:

International Securities Identification Number (ISIN)
ISIN: CA1363751027

Committee on Uniform Securities Identification Procedures (CUSIP)
CUSIP: 136375102

Ticker Symbol
TSX: CNR.TO
NYSE: CNI

IN THIS SECTION

- Board Oversight
- Management Responsibility
- Employee Incentives

GOVERNANCE

CN's iconic logo, which has symbolized the fluidity of our network since 1960, is proudly displayed on our headquarters in downtown Montreal, QC.

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Board Oversight

C1.1 – C1.1d
Board-level oversight of climate-related issues including board member competency

BOARD OF DIRECTORS

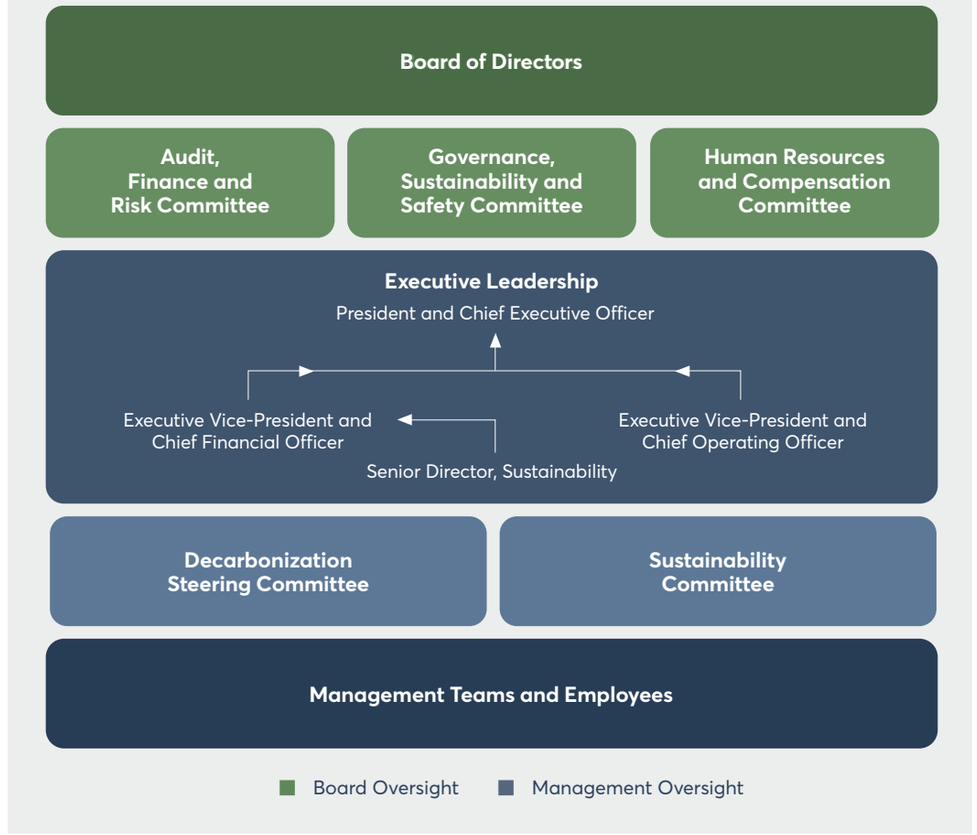
The Board has oversight responsibility for the stewardship of CN and our business and is accountable to shareholders for the performance of CN. The Board has clearly delineated its role and the role of management. The Board's role is to supervise the management of CN's business and affairs, with the objective of creating value for shareholders and considering the interests of other stakeholders. Management's role is to conduct the day-to-day operations in a way to meet this objective and includes the monitoring of internal controls, 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. CN has identified climate change as an enterprise risk, and as such, the Board supervises the management of climate-related risks and opportunities.

Risk oversight is achieved through a strategic overview of significant risks and issues, including climate change, and business updates with the President and Chief Executive Officer (CEO), and executives. Company officers provide regular 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 members receive regular updates on the Company's climate change strategy and performance towards targets as part of the briefing materials as well Board members receive CN's sustainability report, which discloses our climate change strategy and performance to external and internal stakeholders.

As a supporter of the Paris Agreement, CN is proud to enable shareholders to vote annually on our Climate Action Plan. In 2022, the Board oversaw CN's Climate Action Plan for inclusion in CN's Information Circular. We obtain feedback on our Climate Action Plan from shareholder votes at our annual general meetings (AGM). Our Climate Action Plan includes annual disclosure of our GHG emissions aligned to the TCFD recommendations, a science-based 2030 emission intensity reduction target, and annual progress update.

The first non-binding vote took place at our AGM of shareholders in April 2021. The last vote took place in April 2023 with 96.5% in support of CN's Climate Action Plan. This vote complements CN's long-standing and robust climate change plans and disclosures, our public reporting of our GHG emissions, our strategy to reduce emissions, as well our year-over-year progress.

CLIMATE GOVERNANCE STRUCTURE



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Board Oversight

GOVERNANCE, SUSTAINABILITY AND SAFETY COMMITTEE

The Governance, Sustainability and Safety (GSS) Committee of the Board has the highest level of responsibility for managing CN's environmental and sustainability issues and performance. Specifically, the role of the GSS Committee is to assist the Board in fulfilling its oversight responsibilities in relation to governance, safety and sustainability which include developing, reviewing and monitoring criteria for selecting directors, reviewing the corporate governance guidelines applicable to the Company, overseeing policies, practices and metrics relating to ESG, and assessing and monitoring CN's environmental, safety and security policies and practices, including CN's Climate Action Plan.

In 2022, the GSS committee oversaw CN's ESG disclosures, including CN's Climate Action Plan Report for inclusion in CN's Management Information Circular, the 2022 CDP Climate Change Response Report, and the 2021 TCFD Report. The GSS monitored the Company's decarbonization strategy and reviewed Canadian and U.S. environmental and safety, legal and regulatory developments of importance to CN.

AUDIT, FINANCE AND RISK COMMITTEE

The role of the Audit, Finance and Risk (AFR) Committee of the Board is to assist the Board in fulfilling its oversight responsibilities in with respect to the Company's financial reporting, monitoring risk management, internal controls and internal and external auditors. The AFR Committee of the Board of Directors has the responsibility for monitoring our risk management and internal controls approach, which includes climate related risks. Specifically, the AFR Committee reviews risk management policies and provides oversight of our compliance with applicable legal and regulatory requirements.

In 2022, the AFR reviewed the results of our Enterprise Risk Management (ERM), including the identification of the Company's net risks, which included different scenarios and the identification of climate change physical and transition risks. Specifically, the AFR Committee reviewed and concurred with, our climate risk mitigation controls and initiatives to integrate climate risk management activities into the business plan.

BOARD COMPETENCE ON CLIMATE-RELATED ISSUES

In 2022, five of 11 Board members had direct competence on climate-related issues. The criteria for assessing competence on climate-related issues is determined as part of the ESG category reflected in the Competency Matrix from CN's Management Information Circular. Specifically, climate-related competency would include Board member experience in managing and overseeing decarbonization strategies, as well as climate-related risks and opportunities and their impact, performance and relationship to the Company's business and strategy as well as experience in establishing ESG goals and targets. It would also include experience in understanding and assessing complex climate-related regulatory requirements, as well as stakeholder-led initiatives.

Additionally, the Board ensures that the skillset developed by Board members through their business expertise and experience meets the needs of the Board. CN's Board members have access to education and information on an ongoing basis. The competencies of Board members include consideration of climate change knowledge.

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Board Oversight (continued)

Oversight level	Governance mechanisms into which climate-related issues are integrated	Frequency with which climate-related issues are a scheduled agenda item	Explanation of oversight
Board of Directors	• Overseeing and guiding employee incentives • Reviewing and guiding strategy • Overseeing and guiding the development of a transition plan • Monitoring the implementation of a transition plan • Overseeing the setting of corporate targets • Monitoring progress towards corporate targets • Reviewing and guiding the risk management process • Reviewing climate-related disclosures	Some meetings	The Board has oversight responsibility for the stewardship of CN and our business and is accountable to shareholders for the performance of CN. The Board has clearly delineated its role and the role of management. The role of the Board is to supervise the management of CN's business and affairs, with the objective of creating value for shareholders and taking into account the interests of other stakeholders. Management's role is to conduct the day-to-day operations in a way that will meet this objective. This includes the monitoring of internal controls, 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. CN has identified climate change as an enterprise risk, and as such, the Board supervises the management of climate-related risks and opportunities. Risk oversight is achieved through strategic overview of significant risks and issues, including climate change, and business updates with the President and CEO, and executives. Company officers provide regular 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 members receive regular updates on the Company's climate change approach and performance towards targets as part of the briefing materials. In addition, Board members receive CN's sustainability report, which includes specific information on the Company's climate strategy and performance. Employee incentives are also overseen by the Board, through the Human Resources and Compensation Committee. In 2022, CN's Human Resources and Compensation Committee reviewed CN's annual performance as measured under the Annual Incentive Bonus Plan (AIBP) which is aligned with the strategic vision of CN and our ESG priorities. As a supporter of the Paris Agreement, CN is proud to being amongst the leading companies globally to enable shareholders to vote on the Company's Climate Action Plan which occurs annually. In 2022, the Board oversaw CN's Climate Action Plan for inclusion in CN's Information Circular. We obtain feedback on our Climate Action Plan from shareholder votes at our AGMs. Our Climate Action Plan includes annual disclosure of our GHG emissions aligned to the TCFD recommendations, a science-based 2030 emission intensity reduction target, and an annual progress update. The first non-binding vote took place at our AGM of Shareholders in April 2021. The last vote took place in April 2023 with 96.5% in support of the Climate Action Plan. This vote complements CN's long-standing and robust climate change plans and disclosures, our public reporting of our GHG emissions, our strategy to reduce emissions, as well our year-over-year progress.
Board-level committee	• Reviewing and guiding strategy • Overseeing and guiding the development of a transition plan • Monitoring the implementation of a transition plan • Overseeing the setting of corporate targets • Monitoring progress towards corporate targets • Overseeing and guiding public policy engagement • Reviewing and guiding the risk management process • Reviewing climate-related disclosures	All meetings	The AFR Committee of the Board is responsible for monitoring risk management and internal controls, including climate-related risks. In 2022, the AFR Committee monitored updates on the new proposed rules for enhanced climate-related disclosure as well as reviewed the results of CN's ERM and made the decision to approve the identification of CN's net risks, which included the identification of climate change risks. Specifically, the AFR Committee approved the climate risk mitigation controls and initiatives to integrate climate risk management activities into the business plan. The role of the GSS Committee is to assist the Board in fulfilling its oversight responsibilities in relation to governance, safety and sustainability which include developing, reviewing and monitoring criteria for selecting directors, reviewing the corporate governance guidelines applicable to the Company, overseeing policies, practices and metrics relating to ESG, and assessing and monitoring CN's environmental, safety and security policies and practices, including CN's Climate Action Plan. The GSS holds quarterly meetings to review performance on environmental compliance, strategies, and risks. The Board receive regular updates on CN'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.

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Management Responsibility

C1.2

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

CN's executive management have responsibility in both assessing and managing climate-related risks and opportunities.

Position or committee	Climate-related responsibilities of this position	Reporting line • Frequency of reporting to the Board	Explanation of oversight
Chief Financial Officer (CFO)	• Developing a climate transition plan • Implementing a climate transition plan • Conducting climate-related scenario analysis • Monitoring progress against climate-related corporate targets • Assessing climate-related risks and opportunities • Managing climate-related risks and opportunities	CEO • More frequently than quarterly	As part of the Executive Leadership Team, the Executive Vice-President and CFO is the highest-level management position with direct responsibility for climate-related issues. In addition to overseeing the Finance function, the CFO, working with the Senior Director, Sustainability, oversees CN's Sustainability team, and reports directly to the President and CEO and the Board. With climate-related risks and opportunities impacting the business, the Sustainability function needs to have direct responsibility for ensuring CN proactively identifies climate-related risks and opportunities, and for ensuring CN establishes the right policies and programs to meet regulatory compliance obligations, corporate targets, and effectively mitigate potential risks. For example, in 2022, the CFO and the Senior Director, Sustainability, continued to play an important role in ensuring the Company took a strategic approach to understand the impact of changing customer behaviour around the demand for thermal coal and its impact on our business. They also ensured the development of strategies to mitigate these risks and to capitalize on longer-term opportunities by pursuing cleaner market for sustainable products and technologies.
Chief Operating Officer (COO)	• Implementing a climate transition plan • Monitoring progress against climate-related corporate targets • Assessing climate-related risks and opportunities • Managing climate-related risks and opportunities	CEO • More frequently than quarterly	As part of the Executive Leadership Team, the Executive Vice-President and COO reports directly to the President and CEO, and the Board on climate-related risks, which include fuel efficiency, winter readiness plans, and rail network resiliency and safety. The COO's mandate is to drive operational and service excellence and enable the Company to run a safe, fluid, reliable, and efficient railroad. With approximately 87% of our Scope 1 GHG emissions generated from fuel consumption from rail operations, this mandate includes providing executive management oversight on the fuel efficiency strategy to meet relevant targets and oversight on implementation of innovative rail technologies. For example, in 2022, CN spent $2.75 billion in our capital program, of which $0.4 billion was spent on equipment capital expenditures including the acquisition of 57 efficient high-horsepower locomotives, 800 high-capacity boxcars and 500 high-efficiency hopper cars to handle the larger crop sizes expected in the coming years. Our investments also allow us to respond to shifts in demand, such as in the clean energy sector while remaining energy efficient.
Decarbonization Committee	• Assessing climate-related risks and opportunities • Managing climate-related risks and opportunities	Critical matters are reported to the GSS Committee of the Board • As important matters arise	The mandate of CN's Decarbonization Steering Committee is to provide strategic support and decisions regarding CN's decarbonization investments and projects, developed at the cross-functional working group level, comprising of subject matter experts who work to realize the projects. The committee includes the COO, the Chief Information and Technology Officer, the Vice-President, Financial Planning, and the Assistant Vice-President of Procurement. CN's Senior Director, Sustainability, chairs the monthly meetings and reports directly to the CFO. Critical matters are reported to the GSS Committee of the Board.

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Management Responsibility (continued)

Position or committee	Climate-related responsibilities of this position	Reporting line • Frequency of reporting to the Board	Explanation of oversight
Sustainability committee	• Assessing climate-related risks and opportunities • Managing climate-related risks and opportunities	Critical matters are reported to the GSS Committee of the Board • As important matters arise	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 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, Human Resources, Legal, Procurement, and Sales and Marketing. CN's Senior Director, Sustainability chairs the meetings and reports directly to the CFO. Critical matters are reported to the GSS Committee of the Board.

Employee Incentives

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

CN embeds climate and sustainability metrics into executive compensation. The performance goals of the COO, CFO, and Senior Director, Sustainability include 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 the Company's long-term science-based target to reduce GHG emission intensity for Scope 1 and 2 (tCO_2e/gross ton miles) by 43% by 2030, based on 2019 levels. 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 in the Senior Director, Sustainability's performance goals.

CN's approach to compensation continues to be driven by our goal to deliver sustainable value creation, while ensuring that target compensation supports the attraction and retention of talent. Compensation programs are designed to encourage appropriate behaviors and include appropriate risk mitigation mechanisms. In addition, compensation best practices adopted by CN include industry benchmarking and pay positioning as well as pay equity reviews.

CN offers a competitive compensation portfolio that consists of base salary, employee share investment plan, short-term and long-term incentives (applicable to certain employees only), benefits, retirement plans and other non-monetary elements.

CN's AIBP is aligned with the long-term strategic vision of CN and our ESG priorities, and supports employee engagement on safety and strategic initiatives. Specifically, the attainment of CN's fuel efficiency targets drives progress towards our medium and long-term targets and focuses the business on reducing operating expenses, as fuel is a major expense for rail. The attainment of CN's fuel efficiency goal, among other goals, is incorporated into the short-term incentive plan for senior management and executives.

Long-term incentives aim to align management interests with shareholder value growth and reward the achievement of sustained financial performance and the creation of shareholder value. CN is committed to long-term value creation through strong financial performance, shareholder distributions, a strong balance sheet, sound capital investment and Delivering Responsibly. Our business strategy of Powering Sustainable Growth rests on our sustainability foundation, moving our customers' goods safely and efficiently, doing so in a manner that minimizes our impact on the environment.

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Employee Incentives (continued)

Entitled to incentive	Type of incentive • Incentive(s) • Performance Indicator(s) • Incentive plan(s) incentive is linked to	Further details of incentive(s)
Chief Financial Officer • Chief Operating Officer	Monetary award • Bonus: % of salary • Energy efficiency improvement • Both Short-Term and Long-Term Incentive Plan	CN's 2022 AIBP for executives, including for CN's Executive Vice President and CFO and Executive Vice President and COO, were entirely based on CN's performance against pre-set goals for three corporate components: 70% financial, 20% strategic and 10% safety. The corporate strategic component, which accounted for 20% of the annual incentive, consisted of three quantitative measures which includes fuel efficiency and carries a 6.67% weighting of the overall corporate strategic component bonus target. CN's fuel efficiency target is measured through improvement of locomotive fuel efficiency (US gallons of locomotive fuel consumed per 1,000 gross ton miles (GTMs)), which is directly correlated to GHG emissions intensity and a key contributor towards the achievement of CN's 2030 science-based climate target. Additionally, CN's fuel efficiency target is in line with the Canadian rail industry medium-term emission intensity reduction target of 6% by 2022 from a 2017 baseline. For 2022, CN's locomotive fuel efficiency results, although an improvement versus the prior year, were below target. After considering the results of all three of CN's corporate strategic performance against the established corporate strategic targets, the Board confirmed a payout of 95.8% of target for the corporate strategic component. No changes were made to the Long-Term Incentive plan in 2022. Changes were made in 2020 to align performance factors with shareholder returns by increasing the Relative TSR weighting in PSUs to 40% and extending the vesting period for stock options from four to five years.
Senior Director, Sustainability	Monetary award • Bonus: % of salary • Energy efficiency improvement • Both Short-Term and Long-Term Incentive Plan	As a member of CN's Senior Management team, the Senior Director, Sustainability, has the attainment of fuel efficiency goals, among other goals like employee engagement and customer centricity, incorporated into his short-term incentive plan as he is a senior management employee. CN's fuel efficiency target is measured through improvement of locomotive fuel efficiency (US gallons of locomotive fuel consumed per 1,000 GTMs) which is directly correlated to GHGs emissions intensity and a key contributor towards the achievement of CN's 2030 science-based climate target. Additionally, CN's fuel efficiency target is in line with the Canadian rail industry medium-term emission intensity reduction target of 6% by 2022 from a 2017 baseline. For 2022, CN's locomotive fuel efficiency results, although an improvement versus the prior year, were below target. After considering the results of all three of CN's corporate strategic performance against the established corporate strategic targets, the Board confirmed a payout of 95.8% of target for the corporate strategic component. No changes were made to the Long-Term Incentive plan in 2022. Changes were made in 2020 to align performance factors with shareholder returns by increasing the Relative total shareholder return (TSR) weighting in performance share units (PSUs) to 40% and extending the vesting period for stock options from four to five years.

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Employee Incentives (continued)

Entitled to incentive	Type of incentive • Incentive(s) • Performance Indicator(s) • Incentive plan(s) incentive is linked to	Further details of incentive(s)
Management group	Monetary award • Bonus: % of salary • Progress towards a climate-related target • Short-Term Incentive Plan	Management is responsible for upstream and operations cost control, including energy efficiency, and is educated on energy management best practices through our EcoConnexions employee engagement program. Management at 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, which is also reflected by the inclusion of emissions and energy efficiency strategy performance indicators in the relevant employees' annual performance objectives. For example: • The Fuel Management team's performance score is tied to the Company's Canadian rail industry emission intensity reduction target of 6% by 2022 from a 2017 baseline. • The Facility Management team's performance score is tied to the year-over-year target of reducing our overall energy spend by 2%. • 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 individual performance goals tied to annual compensation and bonus rewards as well as to employee recognition programs such as the CN's People Awards for Excellence. In addition, the AIBP was amended in 2021 to include fuel efficiency as an individual component for all executives and senior management employees.
All employees	Non-monetary reward • Internal team/employee of the month/quarter/year recognition • Energy efficiency improvement • Not part of an existing incentive plan	All employees are responsible for upstream and operations cost control, which includes energy efficiency, and are educated on energy management best practices through our long standing 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 our EcoConnexions employee engagement program, other internal communications, and on social media.

IN THIS SECTION

RISKS AND OPPORTUNITIES

Domestic intermodal train travelling near Blue River, British Columbia.

C2 | RISKS AND OPPORTUNITIES

Definitions

C2.1 - C2.1a
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	1	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.

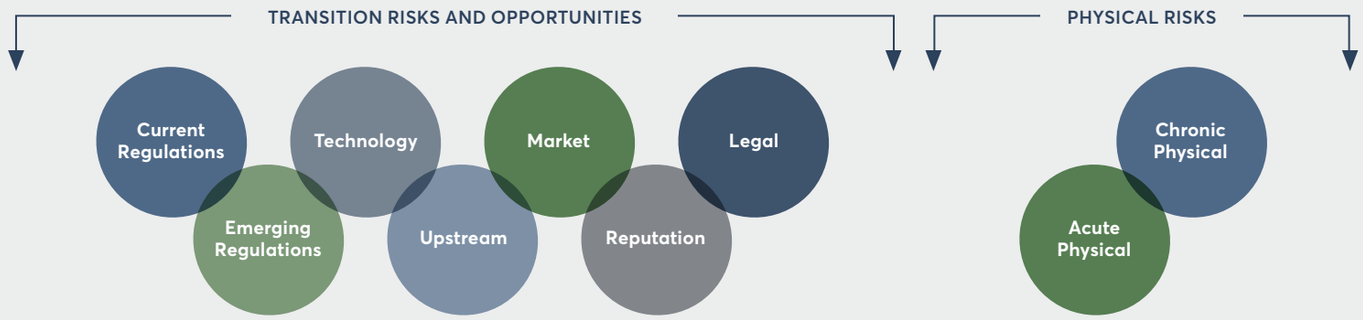
C2.1b
Our definition of substantive financial or strategic impact on our business

There are a number of factors that CN considers when defining a substantive financial or strategic impact on our business. CN uses a multi-disciplinary company-wide risk management process is used to assess short-, medium-, and long-term climate-related risks and opportunities. 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 maximum impact value that is greater than 2% on EBIT or is otherwise perceived as significant and could result in irreparable damage to CN's reputation and/or assets. Enterprise-level risks, such as climate change, are as a whole captured on CN's enterprise risk heat map which includes enterprise-level risks that are associated with a financial impact as low as $75 million and/or having undesirable outcomes related to strategic objectives.

CLIMATE-RELATED RISKS AND OPPORTUNITIES

Risks are categorized as transition or physical risks. Transition risks result from a global transition to a low-carbon and climate-resilient economy, and physical risks result from extreme weather events and increasing average global mean temperatures.



C2 | RISKS AND OPPORTUNITIES

Management Processes

C2.2

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

MULTI-DISCIPLINARY RISK MANAGEMENT PROCESS

Our identification and assessment of risk is based on the Chartered Professional Accountants of Canada's *A Framework for Board Oversight of Enterprise Risk*. The risk assessment covers internal and external trends impacting our business. Our approach covers four broad categories of risk: strategic, operational, reporting and external. In our assessments, we take a precautionary approach when considering the likelihood and severity of possible impacts from environmental and social risks.

At CN, the Board is entrusted with the responsibility to oversee that management identifies and evaluates the significant business risks that the Company is exposed to and implements processes and programs to manage these risks. It performs this oversight through strategic overviews of significant risks and issues, and business updates with the President and CEO, and executives. The overview includes risks related to climate change.

In 2022, we applied the double materiality principles to our materiality assessment and identified actual and potential, negative and positive impacts across our value chain based on the identified relevant sustainability topics. Using CN's ERM framework, CN's assessment found that climate change was one of the top topics that could impact CN and that CN impacted.

PROCESS FOR DETERMINING FINANCIAL OR STRATEGIC IMPACT

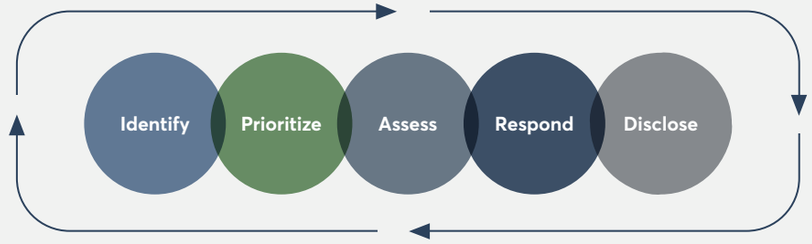
Climate change is integrated into our risk assessment processes, which consider both physical risks, including increased frequency of temperature extremes, flooding and sea level rise, fires, hurricanes, and tornadoes, as well as transition risks, including legal, policy and market impacts.

At a company level, we use 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 CN's 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 maximum impact value that is greater than 2% on EBIT or is otherwise perceived as significant and could result in irreparable damage to our reputation and/or assets. In addition, 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 2022, climate-related disclosures were included as part of our Annual Report, Management Information Circular, Delivering Responsibly Sustainability Report, Data Supplement, Investor Fact Book, TCFD Report and on our website.

RISK MANAGEMENT PROCESS



At a company level, we use 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 CN's business strategy.

C2 | RISKS AND OPPORTUNITIES

Management Processes (continued)

The following risk management processes are used to assess short-, medium-, and long-term climate-related risks and opportunities:

Value chain stage	Description of process and response
Direct operations	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. **Physical Risks / Opportunities:** From a physical risk perspective, more extreme weather and related events present risks to our network operations and infrastructure. For example, extreme heat can lead to rail misalignments and track buckling due to thermal rail expansion. Extreme cold can result in broken rails, frozen switches, and high rates of wheel replacements due to track freezing. In both cases, it has the potential to disrupt operations. Further, flash floods can result in land- and mud-slides and cause overflows, damaging the support structures and tracks. Temperature extremes can also impact our sites and networks in the U.S., making our operations vulnerable to increases in tornado occurrences and intensity. For example, we identified and assessed the risk associated with extreme cold. Due to its detrimental effects on steel, severe cold negatively impacts freight volumes moved by rail no matter the practices to strengthen the network. At -25°C and below, long compressed air brake systems on trains also become more vulnerable to malfunction. During winter 2022-23, there were multiple days of extreme cold snaps. In December 2022, CN's mainline was disrupted due to a storm which resulted in more than 36 hours of blowing snow. On December 24, 2022, CN halted all traffic on the CN Kingston subdivision to restore the track to a safe and usable state as quickly as possible with crews working around the clock in very difficult winter conditions. In response to periods of extreme weather, a significant portion of CN's investments in 2022 was dedicated to track maintenance to support safe and efficient operations, including the replacement of rail and ties, bridge improvements, crossing protection upgrades and maintenance, as well as other general track maintenance. Across Western Canada, the projects in the 2022-2023 Winter Plan year included: 191 miles of rail to be replaced, approximately 425,000 ties to be replaced, and close to 130 road crossing surfaces to be rebuilt. **Transition Risks / Opportunities:** From a transition risk perspective, we identified and assessed the risk that the increasing price of carbon and enhanced emissions reporting regulations will yield increased direct costs based on a climate-related scenario analysis CN conducted. Given that we operate across Canada and the U.S. and conduct activities in rail, trucking and marine transportation, we are subject to several provincial, state and federal climate-related regulations. These carbon pricing mechanisms have a direct impact on our operational costs, as well as the flow-through cost to our customers. Our process included the carbon price impacts from the Quebec and Nova Scotia GHG cap-and-trade systems, which includes GHG reporting and verification obligations, the carbon taxes in British Columbia and Alberta as well as the federal backstop levy that came into effect in April 2019. We also assessed our exposure to New Brunswick's decision to revert to the Canadian Government's Federal Fuel Charge (Federal Fuel Charge) which applies effective July 1, 2023. Prior to that, New Brunswick enacted their own carbon tax rate on locomotive diesel (light diesel oil), which increased from the current 13.41 cents per litre to 17.38 cents per litre, further impacting operating costs for the period of April 2020 to June 2023. In addition, we are exposed to the Federal Fuel Charge which increases by $15 per tonne yearly from 2023 to 2030, which was also included in our assessment for British Columbia, New Brunswick and Northwest Territories carbon tax requirements. From a response perspective, we put in place risk management strategies, allocating resources to meet our compliance objectives, establishing a Climate Action Plan, and actively working with our suppliers to test and explore the use of sustainable renewable blends. Where relevant, we transfer carbon taxes on locomotive diesel through surcharges for our customers.

C2 | RISKS AND OPPORTUNITIES

Management Processes (continued)

Value chain stage	Description of process and response
Upstream	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 ESG disclosure events. **Physical Risks / Opportunities:** From a physical risk perspective, we identified and assessed the volatility of fuel prices due to changes in the economy or supply disruptions. CN is susceptible to the volatility of fuel prices due to changes in the economy or supply disruptions. Rapid rises in fuel prices, such as those experienced in 2022, or fuel supply disruptions can occur due to refinery disruptions, production quota restrictions, climate, as well as labor and political instability such as the ongoing Russia-Ukraine conflict. Increases in fuel prices or supply disruptions may materially adversely affect the Company's results for operations, financial position or liquidity. For example, in 2022, CN's average fuel price increased by $2.14 per US gallon, a 65% increase, when compared to CN's average fuel price in 2021. In response, we manage 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 our fuel tanks are maintained at required levels, which allow uninterrupted access to several days of inventory. **Transition Risks / Opportunities:** From a transition risk perspective, we identified and assessed the risks associated with government incentives encouraging the use of alternative sources of energy, such as the Canadian Clean Fuel Regulation and other existing renewable and clean fuel standards in jurisdictions where we operate. For CN, new mandates and emerging regulations could result in increased costs for research and development as well as lower emissions transportation technologies. Renewable fuels present an immediate opportunity to further reduce our locomotive emissions but could impact our procurement costs as well as operations where high blends of renewable fuels cannot be used in our trains based on supplier specifications. In response, 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 GHG targets. In 2021 we announced a partnership with Progress Rail and Chevron REG to test high-level renewable fuel blends including both biodiesel and renewable diesel in support of our sustainability goals. Trials and qualifications of up to 100% bio-based diesel fuel, important steps in reducing GHG emissions from CN's existing locomotive fleet, have continued to progress in 2022.
Downstream	The processes for downstream climate-related risks and opportunities, which typically refer to the impacts on our customers, 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. **Transition Risks / Opportunities:** From a transition risk perspective, in alignment with our climate risk process, CN has undertaken qualitative and quantitative climate change scenario analysis to explore climate vulnerabilities to enhance our resilience to climate-related risks. Through these assessments, we consider climate-related risks that could impact the markets we serve and our customers. Specifically, we assess the extent to which climate-related physical and transition risks could affect our customers, making it difficult for them to produce products in a cost-competitive manner that would, in turn, impact the markets we serve. Through our assessments, we have identified certain commodities moved by CN could be adversely affected should consumer preferences for cleaner energy grow, including with respect to petroleum, chemicals, and utility coal markets in Canada. For example, according to the Canada Energy Regulator, thermal coal is expected to contract by ~90% in Canada over the next 30 years, consistent with the recent Government of Canada's pledge to end the mining and use of thermal coal by 2030, as stated in the Canadian Emissions Reduction Plan, which could in turn drive the retirement of coal-fired generation capacity. A decline in coal production could impact our overall coal freight revenues, which in 2022 made up approximately 5.65% of our total freight revenue, representing $937 million. Note the $937 million coal freight revenue comprises both thermal and metallurgical coal.

C2 | RISKS AND OPPORTUNITIES

Management Processes (continued)

C2.2a
Risk types considered in climate-related risk assessments

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

Risk type	Description of process
Current regulation	We use enterprise and operational risk management processes to identify, prioritize, and assess risks, including climate-related and other emissions-related risks that have the potential to affect business strategy. Specifically, we monitor the potential impact of current federal, state and provincial climate-related regulations in Canada and the U.S. as they may affect our revenues, costs, and operational process requirements as well as our customers. We monitor the escalating price on carbon emissions as it could materially increase direct costs related to fuel purchases and indirect expenses related to purchased goods, materials, and electricity required to operate our business. CN may not be able to offset such impacts through, for example, higher freight rates. For example, in 2022, we were impacted by the Quebec and Nova Scotia GHG cap-and-trade systems, which includes GHG reporting and verification obligations. We were required to pay carbon taxes in British Columbia and Alberta. In 2022, we were also exposed to the New Brunswick carbon tax rate on locomotive diesel (light diesel oil), which increased from 13.41 cents per litre to 17.38 cents per litre, in 2023 will revert to the Federal Fuel Charge. In addition, we were exposed to the Federal Fuel Charge that increases by $15 per tonne yearly from 2023 to 2030, which aligns with the British Columbia, New Brunswick and Northwest Territories carbon tax requirements. We have dedicated resources in relevant departments to support our ongoing commitments including climate-science targets and net-zero ambition, which are supported by our Climate Action Plan. For example, members of our fuel procurement department in collaboration with the Senior Director, Sustainability and Senior 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. In 2022, we continued to report on our imports of locomotive and miscellaneous fuels into the province of Quebec and Nova Scotia. We furthermore engaged an external consultant to complete the third-party verification of our report in addition to a screening of current and emerging climate legislation with the potential to impact CN for both Canada and the U.S.
Emerging regulation	We use 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 like the regulations under the new British Columbia's Low Carbon Fuels Act, which was passed in Spring 2022, and will set new regulations for fuel suppliers with respect to meeting carbon intensity reduction targets. Further, the British Columbia government is considering amendments to strengthen the Low Carbon Fuels Standard (LCFS) including expanding to marine and aviation. Additionally, in the CleanBC Roadmap to 2030 (released in October 2021), the government also indicated intent to strengthen the LCFS by potentially increasing the carbon intensity reduction requirement for gas and diesel to 30% from 20%. As fuel is one of the CN's higher operating expenses, CN has voluntarily taken initiative to reduce our GHG emissions through the use of lower-carbon fuels. In 2021, we announced an innovative partnership with Progress Rail and Chevron REG to test the use of high-level renewable biofuel blends in rail operations. These types of fuels present an immediate opportunity to further reduce our GHG emissions and help us meet our ambitious science-based emission targets. The main objective of this pilot project is to evaluate the feasibility and impacts of using biofuels in our locomotives, including in cold weather. Additionally, 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 2022, the use of renewable fuels in our fleet saved 138,442 tonnes of carbon.
Technology	Technology is monitored as a transition risk driver in our enterprise and operational risk management processes. We assess policies and regulations from a technology risk lens like the release of the US National Blueprint for Transportation Decarbonization: A Joint Strategy to Transform Transportation which created a government approach to decarbonizing the transportation sector by 2050. The blueprint has specific strategies focused on the rail sector which include developing technology pathways and setting efficiency and zero-emissions vehicle targets which will impact CN once the rail sector targets are set. In Canada, the RAC released a plan, Rail Pathways Initiative: Developing a Rail Decarbonization Roadmap for Canada, outlining how the rail sector can contribute meaningfully to meeting Canada's GHG reduction target based on emerging low-carbon technologies to further improve fuel efficiency and decarbonize their operations. CN continues to explore and invest in innovative technologies like equipping our locomotives with energy management and data telemetry systems as well as distributed power functionality to help us maximize locomotive operating effectiveness and efficiency. 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. We also assess the risks of not transitioning to lower-emissions technologies especially driven by new mandates and regulations and are partnering with other Canadian companies to explore more diverse energy products. For example, in 2022, we announced the signing of a MOU with Keyera Corporation (Keyera) to evaluate the creation of a specialized clean energy terminal in Alberta's Industrial Heartland. The new infrastructure would aggregate conventional and clean energy from multiple sources to support transportation of Alberta's diverse energy products and further strengthen the development of Canada's green energy future. The cost for these types of lower emission technologies will be an important risk exposure to meet new mandates and regulations such as the Clean Fuel Regulation and other existing renewable and clean fuel standards. The anticipated efficiencies and emission reductions from the technology are expected to be important and help open the door to new alternatives beyond the diesel-powered locomotives used today.

C2 | RISKS AND OPPORTUNITIES

Management Processes (continued)

Risk type	Description of process
Legal	CN's operations are subject to numerous federal, provincial, state, municipal and local environmental laws and regulations in Canada and the U.S. concerning, among other things, emissions into the air; discharges into waters; the generation, handling, storage, transportation, treatment and disposal of waste, hazardous substances and other materials; decommissioning of underground and aboveground storage tanks; and soil and groundwater contamination. A risk of environmental liability is inherent in railroad and related transportation operations; real estate ownership, operation or control; and other commercial activities of the Company with respect to both current and past operations. As a result, CN incurs significant operating and capital costs, on an ongoing basis, associated with environmental regulatory compliance and clean-up requirements in our railroad operations and relating to our past and present ownership, operation, or control of real property. Climate change legislation and regulation could also affect CN's customers; making it difficult for CN's customers to produce products in a cost-competitive manner due to increased energy costs; and increased legal costs related to defending and resolving legal claims and other litigation related to climate change. While CN is continually focused on efficiency improvements and reducing our carbon footprint, cap-and-trade systems, carbon taxes, or other controls on emissions of greenhouse gases imposed by various government bodies could increase the Company's capital and operating costs. As such, legal risks to CN are always included in the risk assessment. 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.
Market	In alignment with our climate risk process, CN has undertaken qualitative and quantitative climate change scenario analysis to explore climate vulnerabilities to enhance our resilience to climate-related risks. Through these assessments, we consider climate-related risks that could impact the markets we serve and our customers. Specifically, we assess the extent to which climate-related physical and transition risks could affect our customers, making it difficult for them 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 should consumer preferences for cleaner energy grow, including with respect to petroleum, chemicals, and utility coal markets in Canada. For example, according to the Canada Energy Regulator, thermal coal is expected to contract by ~90% in Canada over the next 30 years, consistent with the recent Government of Canada's pledge to end the mining and use of thermal coal by 2030, as stated in the Canadian Emissions Reduction Plan, which could in turn drive the retirement of coal-fired generation capacity. A decline in coal production could impact our overall coal freight revenues. In 2022, coal made up approximately 5.65% of our total freight revenue, representing $937 million. Note the $937 million coal freight revenue comprises both thermal and metallurgical coal.
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 approach 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-related risks could expose us to potential reputational risk. Over the past few years, there has been an increase in investor interest on ESG factors, which includes responding to and mitigating climate risks. For example, following a shareholder proposal requesting a climate action plan and a non-binding advisory vote on the plan. As such, we had our first inaugural vote on CN's Climate Action Plan in April 2021. The last vote was in April 2023 with 96.5% in support of our Climate Action Plan. This vote complements our long-standing and robust climate change plans and disclosures, as well as our public reporting on climate change in alignment with the TCFD recommendations covering governance, strategy and year-over-year GHG emission performance. In 2021, we assessed the increasing scrutiny on climate-related commitments, and strengthened our industry-leading approved science-based target and made formal net-zero commitments under the "Business Ambition for 1.5°C" and UN "Race to Zero" Campaign. We also continued to strengthen the transparency and credibility of the information we publish publicly on climate-related issues, including concerning governance, risks, opportunities and performance. In 2022, climate-related disclosures were included in our Annual Report, Delivering Responsibly Sustainability Report, Data Supplement, Investor Fact Book, TCFD Report and on our website. Our Delivering Responsibly website provides online access to our complete reporting suite including the most recent Sustainability Report and Data Supplement, TCFD Report and CDP Response, as well as an archive of past reports.

C2 | RISKS AND OPPORTUNITIES

Management Processes (continued)

Risk type	Description of process
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. On December 24, 2022, CN halted all traffic on the CN Kingston subdivision to restore the track to a safe and usable state as quickly as possible with crews working around the clock in very difficult winter conditions. 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 areas. To respond to the physical impacts of climate change, we have several programs in place, 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. 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.
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. Climate change has the potential physical risks of increasing the frequency of adverse weather events, which can disrupt the Company's operations and damage our infrastructure or properties. As an example, there is a direct relationship between the relative frequency and intensity of extreme cold temperatures during a given period and rail network productivity. 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, challenging winter operating conditions persisted during February 2022 and adversely impacted the movement of all types of traffic. During the 2021-22 crop year, CN moved 36% less bulk and processed grain products via carload when compared to the three-year average largely due to the drought.

C2 | RISKS AND OPPORTUNITIES

Risk Disclosure

C2.3 - C2.3a

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

RISK 1: Current regulations | **DRIVER:** Carbon pricing mechanisms | **VALUE CHAIN:** Direct operations

Company-specific description	Additional details	Potential financial impact explanation	Response and explanation of cost calculation
CN operates across Canada and the U.S. and conduct activities in rail, trucking, and marine transportation. CN is subject to several provincial, state, and federal climate-related regulations as approximately 87% of CN's Scope 1 emissions in 2022 are from our rail operations in Canada and the U.S. and could be impacted by carbon pricing mechanisms. In evaluating the risk associated with carbon pricing regulations, which could increase CN's direct costs, we multiplied the carbon price by the forecasted locomotive emission volumes, taking into consideration fuel efficiency gains in line with CN's climate target, to determine the financial exposure to carbon pricing. Specifically, CN used a climate transition scenario from the International Energy Agency (IEA), the Bank of Canada, and a time horizon from 2019 to 2030, which acted as our base year and target year respectively. We determined that a long-term time horizon to 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 targets. The Sustainable Development Scenario (SDS) outlines a major transformation of the global energy system to achieve universal access to energy, to reduce the severe health impacts of air pollution and to tackle climate change. The Nationally Determined Contributions (NDCs) outlines a scenario where, beginning in 2020, countries act according to their pledges under the Paris Agreement. They reduce global warming, but their actions are not enough to limit warming to an additional 2°C above preindustrial levels by 2100. Carbon pricing has a direct impact on our operational costs. Through CN's scenario analysis, CN could incur a potential maximum carbon price impact of approximately $750 million by 2030 under the SDS where CN does not have a science-based target. CN has several risk mitigation strategies to limit our exposure to carbon pricing mechanisms. For example, as part of our Climate Action Plan, our strategy to reduce our Scope 1 emissions intensity includes a focus on fleet renewal and cleaner fuels. CN's fleet renewal approach will focus on acquiring cleaner, more fuel-efficient equipment to enable us to decouple our business growth from GHG emissions. CN's cleaner fuels approach presents an opportunity for us to further reduce our emissions by testing and exploring the greater use of sustainable fuel blends, beyond regulated amounts, in our locomotives.	**Time Horizon** Long-term **Likelihood** Likely **Magnitude of Impact** Medium–high **Primary Potential Financial Impact** Increased direct costs **Potential Cost of Impact** Approximately $450–750 million **Cost to Manage this Risk** Approximately $1.2 billion	The stated financial impact figure of our exposure to carbon price mechanisms was informed by a detailed climate scenario analysis CN completed in 2021. The climate scenario analysis was conducted for 1.8°C and 3.5°C warming scenarios to provide relevant insights. 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 modeled the Bank of Canada's NDCs, 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 SDS leading to below 2°C and a prorated Bank of Canada's NDC scenario for our U.S. operations leading to 3.5°C. For the assessment, we modeled two different scenarios, one in which CN's projections and assumptions are consistent with our climate science-based target and another scenario in which CN does not have a science-based target specific to each of the 1.8°C and 3.5°C warming scenarios. Using our 2019 GHG baseline and estimated future emissions to 2030, we multiplied those emissions by the respective carbon pricing scenarios as forecasted by the IEA and Bank of Canada for Canada and the U.S. The reported minimum potential financial impact aligns with the IEA's SDS. In 2030, under this scenario, CN is exposed to a carbon price financial impact of approximately $450 million where CN meets our science-based target. Conversely in 2030, under this scenario, CN is exposed to a carbon price financial impact of approximately $750 million where no science-based target exists. This estimation makes several high-level assumptions and is not meant to indicate a forecast of true costs to CN but presents the range of potential financial impacts to the company.	**Response Explanation:** While climate-related regulation, particularly carbon pricing mechanisms, could expose us to increased direct operating costs from federal, provincial/state carbon taxes, cap-and-trade purchases of credits for the use of fossil fuels, fuel distributor prices, and third-party services for GHG reporting and verification, we believe our decarbonization efforts including our Climate Action Plan provide a clear strategy and approach to reduce our Scope 1 emissions from rail operations. **Case Study:** Our science-based target informs our low-carbon transition plan and business strategy. To achieve our science-based target, we are focused on five key strategic areas: fleet renewal, innovative technology, big data, operating practices, and cleaner fuels. In 2022, our fleet renewal approach included receiving the first 10 units out of a multi-year modernization program, where existing locomotives from the CN fleet are upgraded with the latest technology, extending their life and enhancing fuel efficiency. Additionally, we continue to purchase the most fuel-efficient high-horsepower locomotives and grain hopper cars currently available. CN is also actively working with our fuel suppliers and locomotive manufactures and is focused on testing and exploring the greater use of sustainable renewable fuel blends, beyond regulated amounts, in our locomotives to achieve our target. These activities build on prior decarbonization efforts where in 2021 we announced a partnership with Progress Rail and Chevron REG to test high-level renewable fuel blends including both biodiesel and renewable diesel in support of our sustainability goals. **Cost Calculation:** The cost to manage this risk is approximately $1.2 billion based on CN's capital program spend on equipment from 2020 to 2022. Specifically, to achieve our 2030 science-based target, cleaner, more fuel-efficient equipment will enable us to decouple our business growth from GHG emissions. As such, we continue to purchase the most fuel-efficient high-horsepower locomotives currently available with the acquisition of 41 units in 2020, 69 units in 2021 and 53 units in 2022. Additionally, included in the cost calculation is CN's spend on acquiring high-efficiency hopper cars from 2020 to 2022. During this time frame, CN acquired 2,440 high-efficiency grain hopper cars.

C2 | RISKS AND OPPORTUNITIES

Risk Disclosure (continued)

RISK 2: Market | **DRIVER:** Changing customer behavior | **VALUE CHAIN:** Direct operations

Company-specific description	Additional details	Potential financial impact explanation	Response and explanation of cost calculation
CN is engaged in the rail and transportation business through a network of 18,600 route miles of track and transports more than 300 million tons of cargo, serving exporters, importers, retailers, farmers and manufacturers. Increasing consumer preference for cleaner energy sources to limit the impacts of climate change, further accelerated by government commitments to clean energy, could affect commodities moved by CN, like coal as an example. CN's coal commodity group consists of thermal grades of bituminous coal, metallurgical coal and petroleum coke which accounted for approximately 5% of CN's total freight revenues for the year ended December 31, 2022. In evaluating the risk associated with changing customer behaviour, we conducted a scenario analysis using the IEA's SDS and the Stated Policy Scenario (STEPS) to determine the financial impact of reduced coal production on our business using a time horizon of 2030 for the short term and 2050 for the long term. We determined that 2030 and 2050 were key timeframes of interest as they align with Canada's 2030 GHG reduction target and net-zero by 2050 commitments. The SDS outlines a major transformation of the global energy system and is aligned with an end-of-century warming below 1.8°C. The STEPS reflects current policy settings based on a sector-by-sector assessment of the specific policies that are in place, as well as those announced by governments around the world, and is aligned with an end-of-century warming around 2.6°C. We evaluated scenarios of increasing clean energy policies and investment as well as a business as usual to obtain a range of potential impacts. Under the SDS, CN's thermal coal volumes and revenues would fall drastically representing a decline of approximately $430 million by 2050 when compared to the 2019 base year. Under the conservative STEPS scenario, CN thermal coal volumes and revenues decrease by approximately $365 million reduction in revenue by 2050. CN has several risk mitigation strategies to reduce this changing customer behaviour risk, including deriving our freight revenues from a diversified commodity group which includes revenue related to providing low-carbon freight revenue. Revenue from our truck-competitive business accounted for 61% of CN's total revenue in 2022.	**Time Horizon** Medium-term **Likelihood** About as likely as not **Magnitude of Impact** Medium–high **Primary Potential Financial Impact** Decreased revenues due to reduced demand for products and services **Potential Cost of Impact** Approximately $365–430 million **Cost to Manage this Risk** Approximately $4.2 million	The stated financial impact of our exposure to changing customer behaviour was informed by a detailed climate scenario analysis CN completed in 2022 The climate scenario analysis was conducted for 1.8°C and 2.6°C warming scenarios to provide relevant insights from a temperature impact as well as a policy impact. We calculated the historical proportion of North American thermal coal production transported by CN and assumed this proportion remained constant until 2050. We then used this proportion to map the IEA World Energy Model (WEM) coal forecasts to tons of thermal coal transported by CN. A time-horizon of 2030 was selected for the short term and 2050 for the long term. Given the flows of movement of coal across the U.S.-Canada border, we analyzed CN's operations in North America as a whole. Under the conservative STEPS scenario, which considers only stated policies to date, tons of thermal coal are expected to decrease by 52% between 2019 and 2030 and by 80% between 2019 and 2050. Assuming CN maintains our same share of the contracting thermal coal market, this translates to an 80% reduction of tons of thermal coal transported by CN in 2050. As such, in 2050, CN would face approximately $365 million in reduced revenue which represents the minimum reported financial impact. Under the SDS, which has a more ambitious decarbonization policy, thermal coal volumes would decrease by 75% by 2030 and 94% by 2050. Assuming CN maintains our same share of the contracting thermal coal market, CN's thermal coal volumes and revenues fall by 94%. As such in 2050, CN would face approximately $430 million in reduced revenue which represents the reported maximum potential financial impact CN could face under this scenario. This estimation makes several high-level assumptions and is not meant to indicate a forecast of true costs to CN but presents the range of potential financial impacts to the company.	**Response Explanation:** While changing customer behaviour could impact CN's future revenues, the results of the market analysis have informed and reinforced our strategy to maintain a diversified portfolio of goods transported, continue to position the environmental benefits of shipping by rail and grow opportunities in new and sustainable products and markets. In 2022, we continued to play a key role in this transition by moving cleaner energy products including transporting methanol, solar panels, and wind turbines, strengthening North America's position in cleaner energy markets. Additionally, we provide shipments to meet the growing demand for a more sustainable renewable fuel solution for residential, institutional, or industrial heating. We leverage our network reach into the lithium-rich regions of North America to offer supply chain solutions for concentrate products. Finally, we extend our reach through additional EV automotive distribution centres. **Case Study:** CN's freight revenues represent a diversified and balanced portfolio of goods transported between a wide range of origins and destinations which better positions us to face economic fluctuations and act on potential growth opportunities while playing a role in the low-carbon economy transition through the transportation of low-carbon products. In 2022, in pursuit of enhancing access to clean energy products, CN signed an MOU with Keyera to evaluate the creation of a specialized clean energy terminal in Alberta's Industrial Heartland. The new infrastructure would aggregate conventional and clean energy from multiple sources to support transportation of Alberta's diverse energy products and further strengthen the development of Canada's green energy future. The proposed first-class facility would create a safe and efficient solution for industrial players to connect and transport a range of specialized low-cost sustainable energy products to key markets domestically and globally. **Cost Calculation:** The cost to manage this risk is approximately $4.2 million based on CN's 2022 expenses associated with managing our relationships and engagement with current and potential customers, CN's EcoConnexions Partnership program, which celebrates our customers and supply chain partners working to reduce their emissions, as well as internal resources supporting the development of new revenue streams, advertising, and consultant expenses.

C2 | RISKS AND OPPORTUNITIES

Risk Disclosure (continued)

RISK 3: Acute physical | **DRIVER:** Extreme cold | **VALUE CHAIN:** Direct operations

Company-specific description	Additional details	Potential financial impact explanation	Response and explanation of cost calculation
As a North American freight transportation company, CN's success is dependent on our ability to operate the railroad efficiently. Severe weather events, such as extreme cold and flooding, could disrupt operations and service for the railroad, affect the performance of locomotives and rolling stock, and disrupt operations for both CN and our customers. These types of business interruptions could result in increased direct costs to our operations, increased potential liabilities, and lower revenues. For example, extreme cold, defined as -25°C and below, can result in broken rails, frozen switches, and high rates of wheel replacements due to track freezing and has the potential to disrupt operations. CN conducted a physical risk assessment to better understand the potential physical risks CN faces due to extreme cold temperatures, on our rail network in Canada which acted as a proxy for the impact of extreme cold on our rail network in U.S. The analysis used the Representative Concentration Pathways (RCPs) 2.6 and 4.5 scenarios, using data from the World Climate Research Programme, Climate Atlas, and Climate Explorer by calculating the total number of cold days impacting our Canadian rail network between 2020 and 2030. CN determined a time horizon of 2020 to 2030 was relevant. RCP 2.6 is a stringent scenario with carbon dioxide emissions declining to zero by 2100, starting in 2020. RCP 4.5 is an intermediate scenario where emissions peak around 2040, then decline. In RCP 4.5, carbon dioxide emissions start declining by 2045 to reach roughly half of the levels of 2050 by 2100 with associated warming resulting in physical climate impacts. In RCP 2.6, the analysis found the number of extreme cold days that could impact CN's network by 2030 would decrease by 26% from 2020. In RCP 4.5, the number of extreme cold days that could impact CN's network by 2030 would decrease by 44% from 2020. CN has experienced significant weather challenges which resulted in financial and operational impacts. In 2021, a weather-related physical event impacted CN's operations due to a major precipitation event in British Columbia and Western Canada which shut down CN's mainline network due to flooding, washouts, and mudslides. The event led to a three-week shut down between November 14, 2021, and December 4, 2021, in which CN experienced 58 outages over a 150-mile stretch.	**Time Horizon** Short-term **Likelihood** Virtually certain **Magnitude of Impact** High **Primary Potential Financial Impact** Increased direct costs **Potential Cost of Impact** Approximately $120–130 million **Cost to Manage this Risk** Approximately $1.6 billion	The stated financial impact of our exposure to extreme cold physical risks was informed by CN's prior financial impacts experienced during the 2021 British Columbia floods as a proxy for similar climate-related events. In late 2021, CN was impacted by large flooding events throughout British Columbia and Western Canada which shut down CN's mainline for 20 days between mid-November and December. In addition to the flooding in British Columbia, CN was prevented from moving the backed-up traffic in December 2021 due to a cold snap mid-December to the end of December which caused further delays. In turn, as a result of difficult operating conditions and network outages, CN could not move product worth approximately $120 million to $130 million of revenue which represent the minimum potential financial impact and the maximum financial impact disclosed. In addition to the flooding impacts CN experienced in 2021, the results of our climate-related physical risk assessment underscored that in either scenario analyzed, CN's business would be impacted by climate change in jurisdictions where CN has already experienced impacts. For example, extreme cold days, on average, are most pronounced on our operations in Alberta, Manitoba, Saskatchewan, and British Columbia. CN used the $120 million to $130 million as an estimate of the monetary impact of a similar magnitude of event due to severe or acute weather circumstances for one region of our network. It is important to note that these events are unpredictable and, as such, the impacts to our network are variable based on the length and severity of the weather event. The figures provided are not representative of the total annual cost of climate-related physical risks and instead provide a range of potential impacts.	**Response Explanation:** To manage the risk of extreme cold, CN has made significant changes in our operational planning model to deliver consistent results and improved network resiliency as well as continuing to invest capital in our network. CN has implemented other measures to maximize efficiency and car utilization such as acquiring new locomotives and rolling stock, investing in network infrastructure, and expanding our crew base. **Case Study:** The extreme cold 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 as well as adapting and right sizing the fleet. The analysis has helped us better understand exposure and plan network resilience measures. During the 2022-2023 winter, CN had 1,950 high- and mid-horsepower locomotives available to ensure having the locomotive fleet required to operate through the network and move the traffic offered for shipment by customers. In 2022, to support customer demand for shipping, CN acquired 800 new high-capacity boxcars, and 500 high-efficiency hopper cars to increase capacity and productivity. These actions were the result of sustained capital investment through the years totaling more than $15 billion from 2018-2022. **Cost Calculation:** CN will continue to innovate and find ways to improve our ability to deal with extreme cold and other severe weather events through strategic actions. In 2022, CN invested approximately $1.6 billion from our capital program to track maintenance in support of safe and efficient operations, including the replacement of rail and ties, bridge improvements, crossing protection upgrades and maintenance. Specific projects in 2022 included replacing 191 miles of rail and approximately 425,000 ties as well as rebuilding close to 130 road crossing surfaces.

C2 | RISKS AND OPPORTUNITIES

Opportunities Disclosure

C2.4 - C2.4a

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

OPPORTUNITY 1: Resource efficiency | **DRIVER:** Use of more efficient modes of transport | **VALUE CHAIN:** Upstream

Company-specific description	Additional details	Potential financial impact explanation	Response and explanation of cost calculation
With 87% of our Scope 1 GHG emissions generated from rail operations, we see important cost saving opportunities from improving rail fuel and carbon efficiency in line with the Paris Agreement, anchored by our approved science-based target and net-zero commitment under the "Business Ambition for 1.5°C" and UN "Race to Zero" Campaign. Since 1993, we have reduced our rail locomotive GHG intensity by 45%, avoiding over 54 million tonnes of CO_2e, and we remain a leader in the North American rail industry, consuming approximately 15% less locomotive fuel per gross ton mile than the industry average. Cleaner, more fuel-efficient equipment enables us to decouple our business growth from GHG emissions. Reducing our rail carbon footprint is driven by focusing on five key strategic areas: fleet renewal, innovative technologies, big data, operating practices, and cleaner fuels. These areas help identify important strategic opportunities to improve our fuel and carbon efficiency and save costs. In 2022, CN's annual locomotive fuel savings, from these initiatives, amounted to $25 million. Opportunities to deliver locomotive fuel savings, which can reduce CN's direct costs, is furthered by acquiring the most fuel efficient high-horsepower locomotives available, leveraging big data, and investing in innovative technologies. For example, our in-house built Horsepower Tonnage Analyzer that instructs crews on how to optimize a locomotive's horsepower-to-tonnage enabled us to achieve an all-time record fuel efficiency of 0.867 U.S. gallons of locomotive fuel consumed per 1,000 GTMs in 2022, which was a 2% improvement from our 2021 efficiency.	**Time Horizon** Short-term **Likelihood** Virtually certain **Magnitude of Impact** Medium **Primary Potential Financial Impact** Reduced direct costs **Potential Financial Impact Figure** Approximately $25 million **Cost to Realize Opportunity** Approximately $400 million	By focusing our efforts on ensuring we deliver carbon efficiencies and fuel savings, we can enable the reduction of operating costs, while observing emission savings. In 2022, the direct cost savings due to the use of more efficient modes of transportation from our fuel efficiency efforts amounted to $25 million in fuel savings which represents the potential impact figure noted in our response. To determine the impact of the fuel efficiency efforts on annual fuel volumes, the actual amount of diesel fuel consumed in 2022 was compared to the estimated amount of diesel fuel that would have been required based on 2021 locomotive fuel efficiency performance and using 2022 GTMs. **Details on Inputs to Financial Impact Figure:** In 2021, locomotive fuel efficiency performance was 0.884 U.S. gallons of locomotive fuel consumed per 1,000 GTMs. In 2022, CN moved 463,710 million GTMs. Using 2021 locomotive fuel efficiency performance, moving the 2022 GTMs would have required approximately 409.9 million U.S. gallons of fuel (0.884 x 463,710,000,000 ÷ 1000 = 409,900,000). In 2022, approximately 402.2 million U.S. gallons of fuel were actually consumed. Hence, the improvement in locomotive fuel efficiency in 2022 in comparison to 2021 saved approximately 7.7 millions U.S. gallons of fuel (402,200,000 – 409,900,000 = -7,700,000). Then, to determine the financial impact, the annual fuel savings were multiplied by the average price of fuel for the previous year. **Details on Calculation of Financial Impact Figure:** In 2021, the average fuel price was $3.28 per U.S. gallon. Hence, the cost savings in 2022 were approximately $25,000,000 (-7,700,000 x 3.28 = -$25,000,000).	**Strategy to Realize Opportunity:** Our strategy to reduce our rail carbon footprint and achieve fuel efficiency savings requires taking actions that are informed by our low-carbon transition plan as well as our business strategy and focus on five key strategic areas: fleet renewal, innovative technologies, big data, operating practices, and cleaner fuels. These actions are driven from our Climate Action Plan which outlines how CN plays a key role in the transition to a low-carbon economy. Additionally, CN embeds climate metrics into executive compensation. The performance goals of the COO, CFO, and Senior Director, Sustainability include 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 the Company's long-term science-based target to reduce Scope 1 and 2 GHG emission intensity (tCO_2e/gross ton mile) by 43% by 2030, based on 2019 levels. **Case Study:** CN's fleet renewal approach focuses on to purchasing the most fuel-efficient high-horsepower locomotives currently available with the acquisition of 69 units in 2021 and 53 units in 2022. In 2022, we also received the first 10 units out of a multiyear modernization program, where existing locomotives from the CN fleet are upgraded with the latest technology, extending their life and enhancing fuel efficiency. Cleaner, more fuel-efficient equipment enables us to decouple our business growth from GHG emissions and can lead to gains in CN's fuel efficiency. Finally, cleaner fuels present an important opportunity for us to further reduce our emissions. 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. Trials and qualifications of up to 100% bio-based diesel fuel, important steps in reducing GHG emissions from CN's existing locomotive fleet, have continued to progress in 2022. **Cost to Realize Opportunity:** The cost to realize the rail fuel efficiency opportunities is calculated based on equipment acquisitions, upgrades, and fuel-efficient operations, which change annually. In 2022, we invested $400 million in equipment.

C2 | RISKS AND OPPORTUNITIES

Opportunities Disclosure (continued)

OPPORTUNITY 2: Products and services | **DRIVER:** Development and/or expansion of low emission goods and services | **VALUE CHAIN:** Direct operations

Company-specific description	Additional details	Potential financial impact explanation	Response and explanation of cost calculation
Increasing demand by our customers for low-carbon freight transportation goods and services presents opportunities for us to increase revenues from shipping heavy freight by rail over long distances versus other more carbon-intensive modes such as transport trucks. Rail has tremendous potential to reduce the environmental impact of transportation services and we are actively 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. Shipping heavy freight by rail can reduce GHG emissions by up to 75% when compared to trucks. The greater use of combined modes helps lower transportation emissions by allowing each mode to be used for the portion of the trip to which it is best suited. Our strategy to further reduce our Scope 1 and 2 emissions will help us maintain our position as a key enabler of supply chain decarbonization over the long-term. Specifically, positioning rail as the most environmentally sound way to move freight over land could present opportunities to grow revenue within our intermodal and carload segments. For example, revenues from our truck-competitive business segment reached approximately $10.4 billion which accounted for 61% of our total revenues in 2022. CN's intermodal revenue also increased by 19% in 2022 as compared to 2021. These revenues could continue to increase as we grow our market share of truck-competitive business by better positioning the environmental benefits of rail with our customers and continue to decouple carbon emissions intensity from volume growth. For example, we are further stimulating intermodal growth by leveraging our competitive capabilities on the Gulf Coast and our Equipment Management Program (EMP) partnership. The EMP is a domestic interline service that provides extensive coverage throughout North America which enables shippers to reach new markets. We are seeing further densification on our eastern network with the addition of a second intermodal unit train out of the Port of Halifax to key consumer markets in Montreal, Toronto, Detroit, and Chicago. We are investing in our inland terminals in the Greater Toronto Area and in the Chicagoland region to promote gateway growth. We are also deploying advanced technologies to improve decision-making, capacity, productivity, and service levels at key intermodal terminals.	**Time Horizon** Medium-term **Likelihood** More likely than not **Magnitude of Impact** Medium–high **Primary Potential Financial Impact** Increased revenues resulting from increased demand for products and services **Potential Financial Impact Figure** Approximately $10.4 billion **Cost to Realize Opportunity** Approximately $7.15 billion	The potential financial impact related to providing low-carbon freight transportation goods and services is between $1 and up to approximately $10.4 billion. The range was estimated by determining our truck-competitive business revenue last year which accounted for 61% of CN's total revenue in 2022. In 2022, the revenue related to providing low-carbon freight transportation goods and services was approximately $10.4 billion. Note, we cannot specifically quantify the financial amount of that opportunity due to restrictions governing public disclosure of sensitive forward-looking financial information.	**Strategy to Realize Opportunity:** With our three-coast network that spans North America, CN is helping our customers in connecting North America to the world. To grow our reach for carload customers, CN is expanding our network of transload facilities across North America. In Western Canada, CN is investing in infrastructure and equipment to grow our capacity and increase our share of new industrial production while also responding to shifting demands in commodities. In Eastern Canada and the U.S., CN aims to further densify our network through gateway growth and providing customers with cost-advantageous intermodal routes. Additionally, our Climate Action Plan includes actively engaging with existing and potential customers to position the environmental benefits that rail offers for long-haul shipments of freight over other modes of transport. **Cost to Realize Opportunity:** The cost to realize the opportunity was calculated based on CN's investment in our strategic initiatives to increase capacity and equipment investment from 2018 to 2022. Between 2018 and 2022, we invested approximately $7.15 billion on strategic initiatives to increase capacity, enable growth, and improve our network resiliency including line capacity upgrades and information technology initiatives. Over that period, this included, approximately $4.5 billion on strategic initiatives, to increase capacity, enable growth and improve network resiliency, including line capacity upgrades and information technology initiatives, and approximately $2.6 billion on equipment to increase our share of new industrial production in Western Canada and respond to shifts in demand, such as in the clean energy sector. This investment has resulted in CN adding more than 380 new high-horsepower locomotives, approximately 1,551 high-efficiency hopper cars, and 500 new centrebeam cars. We also continued to provide customers with transparent information on their GHG emissions from transportation of goods. For example, CN provides customers with visibility into their estimated GHG emissions and emissions savings using rail transportation through a carbon calculator. These insights into the environmental benefits of shipping via CN's network empowers customers to make data driven decisions that support their climate objectives.

C2 | RISKS AND OPPORTUNITIES

Opportunities Disclosure (continued)

OPPORTUNITY 3: Markets | **DRIVER:** Access to new markets | **VALUE CHAIN:** Direct operations

Company-specific description	Additional details	Potential financial impact explanation	Response and explanation of cost calculation
For CN, increasing growth in the cleaner energy market presents opportunities to grow our revenues through access to this new and emerging market. 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. In addition, the impact of Russia-Ukraine conflict had a profound effect on global energy markets and the economic disruption has amplified calls for an accelerated energy transition. There are opportunities to deliver cleaner energy alternatives which are partly being driven by new customer innovations in methanol, solar panels and turbines, which is strengthening North America's position in cleaner energy markets across Canada, the U.S. and export to Asia. Additionally, recent funding announcement and regulations, in Canada and the U.S., are creating incentives to accelerate the adoption of clean technologies to expand the use of low-carbon intensity fuels throughout the economy. CN is a key player in serving these rapidly developing markets in North America through our network and connected infrastructure. Leveraging global market predictions, like BP's Energy Outlook, there is a significant opportunity for CN to increase our revenues in these markets. 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. For example, although the base is smaller, CN's clean energy revenues continued to grow year over year. As such, based on global market predictions, our "Clean Energy" compound annual growth rate (CAGR) could increase by about 7% out to 2036, from a 2019 baseline. This would imply a growth of revenues from clean energy from approximately $400 million in 2022 to approximately $780 million by 2036. In 2022, CN's clean energy share of our energy portfolio was approximately 9%.	**Primary Potential Financial Impact** Increased revenues through access to new and emerging markets **Time Horizon** Long-term **Likelihood** More likely than not **Magnitude of Impact** Medium **Potential Financial Impact Figure** Approximately $780 million **Cost to Realize Opportunity** Approximately $4.2 million	Using the global market predictions which imply that CN's "Clean Energy" CAGR could increase by about 7% out to 2036 from a 2019 baseline, we have estimated the financial impact of the clean energy market within an approximate range of $1 to $780 million by 2036. The potential financial impact range reflects the possible 2036 clean energy revenue of approximately $780 million based on the estimated CAGR of the clean energy market of approximately 7% out to 2036 from a 2019 baseline, using the global market predictions. We ensure CN will continue to play a key role in energy transition by moving cleaner energy products including transporting methanol, solar panels, and wind turbines. Additionally, we provide shipments to meet the growing demand for a more sustainable renewable fuel solution for residential, institutional, or industrial heating. Note, we cannot specifically quantify the financial amount of that opportunity due to restrictions governing public disclosure of sensitive forward-looking financial information.	**Strategy to Realize Opportunity:** 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. We are working closely with our customers to further develop new clean energy market opportunities. This includes proactively marketing 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. As part of our annual Climate Action Plan, 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. **Case Study:** CN is a key player in the rapidly developing renewable fuels market in North America. CN plays an important role transporting seed to oilseed crush plants, transporting vegetable oil and other feedstocks to refineries, and shipping renewable fuels to end markets. Canola oil and soybean oil are both going to be important sources of feedstock to support the dramatic expansion in renewable fuels production in North America. The new canola crush plant announcements in Western Canada and soybean crush projects in the U.S. coming online and being expanded and added are due in large part to renewable fuels taking off. CN's tri-coastal network also gives customers the opportunity to move feedstock and finished products east, west, and south. For example, CN connects with Canada's first stand-alone renewable diesel refinery, located in Prince George, which will be operational in 2023. **Cost to Realize Opportunity:** The cost to realize the opportunity is approximately $4.2 million based on CN's 2022 general expenses associated with managing our relationships and engagement with current and potential customers, CN's EcoConnexions Partnership program, which celebrates our customers and supply chain partners working to reduce their emissions, as well as internal resources supporting the development of new revenue streams, advertising, and consultant expenses.

IN THIS SECTION

BUSINESS STRATEGY

Signals outside
Williams, Iowa

C3 | BUSINESS STRATEGY

Low-Carbon Transition Plan

C3.1

Our business strategy includes a low-carbon transition plan that aligns with a 1.5°C world

ANNUAL GENERAL MEETING RESOLUTION

We have developed a low-carbon transition plan, which is part of CN's Climate Action Plan.

CN supports the Paris Agreement and was amongst the leading companies globally to enable shareholders to vote on the Company's Climate Action Plan. On an annual basis, we obtain feedback on our Climate Action Plan from shareholder votes at our annual general meetings.

The first non-binding vote took place at our AGM of Shareholders in April 2021. The last vote took place in April 2023 with 96.5% in support of the Climate Action Plan.

Our Climate Action Plan includes annual disclosure of our GHG emissions aligned to the TCFD recommendations, a science-based 2030 emission intensity reduction target, and annual progress update. The plan has been outlined and disclosed for the third year in a row in our 2023 Management Information Circular, available on CN's website at www.cn.ca.

KEY INITIATIVES

With 87% of our Scope 1 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, our target informs our low-carbon transition plan and business strategy. To achieve our science-based target to reduce our Scope 1 GHG emission intensity by 43% by 2030 based on 2019 levels, we are focused on five key strategic areas:

Fleet Renewal: Cleaner, more fuel-efficient equipment enables us to decouple our business growth from GHG emissions. We continue to purchase the most fuel-efficient high-horsepower locomotives currently available with the acquisition of 69 units in 2021 and 53 units in 2022. In 2022, we also received the first 10 units out of a multi-year modernization program, where existing locomotives from the CN fleet are upgraded with the latest technology, extending their life and enhancing fuel efficiency.

Innovative Technology: 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.

Big Data: Through our locomotive telemetry systems, we collect large amounts of data to improve performance and fuel conservation. In addition, Horsepower Tonnage Analyzer 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: CN has a proven operating model that provides safety, efficiency and customer service benefits. In 2022, CN's recommitment to a disciplined scheduled operating plan, with a focus on velocity, helped to increase network fluidity, reducing unplanned train stops across the network and driving related gains in fuel efficiency. In parallel, CN continues to leverage real-time information on train operations, enabling on-the-job guidance on practices that promote fuel conservation. Capitalizing on our locomotive telemetry systems and advanced data analytics will help us identify additional opportunities for fuel conservation operating practices in the coming years.

Cleaner Fuels: In the medium term, the Canadian Clean Fuel Standard and other renewable and clean fuel standards in jurisdictions where CN operates, will continue to present an important opportunity for us to further reduce our emissions. 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. In 2021 we announced a partnership with Progress Rail and Chevron REG to test high-level renewable fuel blends including both biodiesel and renewable diesel in support of our sustainability goals. Trials and qualifications of up to 100% bio-based diesel fuel, important steps in reducing GHG emissions from CN's existing locomotive fleet, have continued to progress in 2022. The program will allow CN and Progress Rail to better understand the long-term durability and operational impacts of renewable fuels on locomotives, especially in cold weather, and plan needed modifications to leverage their usage over the next decade.

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. The extent of our ability to fully deploy and implement new technologies, as well as to obtain and use sufficient volumes of sustainable renewable fuels, will require collaboration between locomotive manufacturers and fuel producers. This ecosystem of collaboration is a key area of focus and potential risk.

C3 | BUSINESS STRATEGY

Scenario Analysis

C3.2 - 3.2a

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

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

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions and analytical choices
Transition Scenarios IEA SDS	Company-wide	1.6°C – 2°C	CN conducted a climate scenario analysis using the IEA SDS to help evaluate potential risks and business impacts aligned with our risk process focused on a transition risk scenario analysis. The SDS assumes global warming is limited to 1.8°C and assumes a major transformation of the global energy system to achieve universal access to energy, to reduce the severe health impacts of air pollution and to tackle climate change. We used the SDS as well as the NDCs which is aligned to a 3.5°C warming scenario by the end of the century. These two scenarios were leveraged to assess the financial impact of carbon prices in North America up to 2030 related to our locomotive fuel emissions, which represents approximately 87% of our Scope 1 emissions, and were chosen as they explore a best-case/low emissions scenario (IEA SDS) and a scenario (NDCs) that is likely considering announced climate mitigation strategies. **Parameters:** The SDS reflects a surge in clean energy policies and investment and is consistent with limiting the global temperature to 1.8°C, which aligns with our 2030 science-based target. The Bank of Canada's NDCs reflects countries, beginning in 2020, acting according to their pledges under the Paris Agreement. The countries reduce global warming, but their actions are not enough to limit warming to an additional 2°C above pre-industrial levels by 2100. **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 NDCs, which is aligned to a 3.5°C warming scenario by the end of the century. For the U.S., we analyzed the IEA SDS leading to below 1.8°C and a prorated Bank of Canada's NDC scenario for our U.S. operations leading to 3.5°C. **Analytical Choices:** To conduct the carbon price analysis, we multiplied the carbon price by the forecasted locomotive emission volumes to determine the financial exposure to the 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. 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.
Physical Climate Scenarios RCP 2.6	Company-wide	3.1 °C – 4 °C	CN conducted a quantitative climate scenario analysis focused on physical risks from the impact of extreme cold temperatures on our rail network in Canada. The analysis was conducted for RCPs 2.6 scenario, using data from the World Climate Research Programme, Climate Atlas, and Climate Explorer by calculating the total number of cold days impacting our Canadian rail network between 2020 and 2030. The physical risk analysis focused on the impact of extreme cold temperatures on our rail network in Canada, taking into consideration a long-time horizon from 2026 to 2030, and was used as a proxy for the impact of extreme cold on our U.S. network. We determined that a long-term time horizon until 2030 was relevant for our business as it aligns with our science-based target and the Government of Canada's 2030 GHG reduction targets. The long-term time horizon was also selected to better understand exposure and plan network resilience measures. **Parameters:** The RCP 2.6 scenario was identified as the best-case, low-emissions scenario where end of century warming would remain below 2°C. Under the RCP 2.6 scenario, carbon emissions decline to zero by 2100, starting in 2020 and requires methane emissions to go to approximately half the levels of 2020 and sulphur dioxide emissions decline to approximately 10% of those of 1980 to 1990. **Assumptions:** The physical risk analysis was conducted for RCP 4.5 scenarios, using data from the World Climate Research Programme. Under these scenarios, the RCPs describe four different 21st century pathways of green GHG emissions and atmospheric concentrations, air pollutant emissions and land use, adopted by the Intergovernmental Panel on Climate Change (IPCC). Additionally, using CN's extreme cold resiliency strategy and the GIS latitude and longitude coordinates across our Canadian rail network at 498 sub-stations, cold temperature ranges were assessed. **Analytical Choices:** To conduct the analysis, we calculated the total number of cold days (below -25°C) impacting CN's Canadian rail network between 2020 and 2030. 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, and the GIS latitude and longitude coordinates across our Canadian rail network at 498 sub-stations. Extreme cold days, on average, are most pronounced on our operations in Alberta, Manitoba, Saskatchewan, and British Columbia.

C3 | BUSINESS STRATEGY

Scenario Analysis (continued)

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions and analytical choices
Physical Climate Scenarios IEA STEPS (previously IEA NPS)	Business activity	1.6°C – 2°C	CN conducted a climate analysis using the IEA STEPS and SDS to help evaluate potential risks and business impacts aligned with our risk process focused on a transition risk scenario analysis. As stated above, the SDS outlines a major transformation of the global energy system and is considered the low-emission scenario. The STEPS reflects current policy setting based on a sector-by-sector assessment of the specific policies that are in place, as well as those that have been announced by governments around the world. **Parameters:** The SDS reflects a surge in clean energy policies and investment and is consistent with limiting the global temperature to 1.8°C, which aligns with our 2030 science-based target. The STEPS is considered a likely scenario as it reflects announced climate mitigation strategies around the world with end of century warming around 2.6°C. These two scenarios were leveraged to determine the financial impact of reduced thermal coal production on our business using a short-term time frame of 2030 and 2050 for the long-term. **Assumptions:** To determine the potential impact of thermal coal production on our business, we used a scenario focused on increasing clean energy policies and investment as well as business as usual scenario to obtain a range of impacts. In our evaluation, we assumed the historical proportion of North American thermal coal transported by CN remained constant until 2050. **Analytical Choices:** In conducting the transition risk scenario analysis, we calculated the historical proportion of North American thermal coal production transported by CN and assumed this proportion remained constant until 2050. We then used this proportion to map the IEA WEM coal forecasts to tons of thermal coal transported by CN. A time-horizon of 2030 was selected for the short-term and 2050 for the long-term. We determined that 2030 and 2050 were key timeframes of interest as they align with the Government of Canada's 2030 GHG reduction target and net-zero by 2050 commitments. Given the flows of movement of coal across the U.S.-Canada border, we analyzed CN's operations in North America as a whole.

C3 | BUSINESS STRATEGY

Scenario Analysis (continued)

C3.2b

Focal questions and results we seek to address by using climate-related scenario analysis

Risk	Focal questions	Results of climate-related scenario analysis with respect to focal questions
Carbon pricing	• What could be the financial impact of the increase in carbon pricing on our operations in North America relating specifically to our locomotive fuel emissions, which represent approximately 87% of our Scope 1 emissions? • How would the impact of this risk vary between a low-emission scenario in alignment with the well-below 2°C Paris Agreement goals using the IEA SDS scenario versus a business-as-usual, high-emission scenario over the long-term to 2030 using Canada's NDCs, which is aligned to a 3.5°C warming scenario?	CN's carbon pricing analysis found that in a below 1.8°C scenario, CN could be exposed to a financial impact of approximately $750 million by 2030, where no science-based target exists versus approximately $450 million where CN meets our science-based target. Conversely, in a 3.5°C scenario, CN could be exposed to a financial impact of approximately $350 million by 2030, where no science-based target exists, versus $200 million where CN meets our science-based target. The results of the carbon pricing scenario analysis have informed and reinforced our commitment to achieving our science-based target and climate strategy. 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 Regulation and are testing high-level renewable fuel blends. We have ongoing projects and investments in technologies like a freight battery-electric locomotive which could reduce locomotive fuel consumption and emissions by up to 30%. Additionally, this technology will help open the door to new alternatives beyond the diesel-powered locomotives used today.
Extreme cold temperatures	• What would be the strategic impact of the gradual increase of extreme cold days on our rail network and operations, including with respect to railroad fluidity interruptions and delays in business operations, taking into consideration capital expenditures and operating expenditures as well as revenue? • What factors related to railroad efficiency would be most impacted (operations, maintenance, and replacement of damaged infrastructure, locomotive performance, revenue/services)? • How does this impact vary between a low-emissions versus a high emissions scenario over a 2026-2030 time-horizon using the RCP2.6 and RCP4.5 scenarios from the World Climate Research Programme, Climate Atlas, and Climate Explorer by calculating the total number of cold days impacting our Canadian rail network between 2020 and 2030?	The extreme cold 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. We also learned that extreme cold days, on average, could be most pronounced on our operations in Alberta, Manitoba, Saskatchewan, and British Columbia. 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 as CN's success is dependent on our ability to operate our railroad efficiently.
Changing consumer behaviour and impact on thermal coal	• What will be the impact of decreasing thermal coal production in North America as a result of changing policies and consumer preferences on our freight revenue streams? • How would the impact of this risk vary over 2030- and 2050-time horizons and between a lower emissions scenario using the IEA SDS scenario which is aligned with the well-below 2°C Paris Agreement goals versus a higher emissions scenario using the IEA STEPS scenario which is aligned with an increase of 2°C by 2050?	CN's thermal coal climate transition risk analysis predicted by 2050, the SDS and STEPS scenario result in a decrease of 80% and 94% respectively compared to 2019 levels. The transition scenario analysis found that under the SDS, CN's thermal coal volumes and revenues would fall representing a decline of approximately $430 million by 2050 when compared to 2019. Under the STEPS, CN thermal coal volumes and revenues decrease by approximately $365 million reduction in revenue by 2050. Changing commodity markets are part of an ongoing discussion at CN. CN has mitigated our exposure to policy changes for a single commodity by having a diversified product mix in our freight services. For example, CN already transports EV automotives, lithium, wind turbines, and wood pellets, all of which are expected to expand under North American government climate-related policies. By observing and seizing upcoming opportunities related to the energy transition, CN lowers our revenue at risk from ambitious decarbonization policies on commodities such as thermal coal.

C3 | BUSINESS STRATEGY

Business Strategy

C3.3

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

Business area	Description of influence
Products and services	**Influence on Strategy in the Time Horizon:** 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. We are actively working with many of our customers to help them reduce their transportation supply chain GHG emissions. Shipping heavy freight by rail can reduce GHG emissions by up to 75% when compared to trucks. The greater use of combined modes helps lower transportation emissions by allowing each mode to be used for the portion of the trip to which it is best suited. Our strategy to further reduce our Scope 1 and 2 emissions will help CN maintain our position as a key enabler of supply chain decarbonization over the long term. In turn, these activities will contribute to reducing the Scope 3 emissions of our customers. Specifically, increases in carbon pricing in North America, coupled with growing pressures on our customers to reduce their supply chain emissions presents opportunities for our business. With approximately 87% of our Scope 1 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, to achieve our 43% science-based reduction target we are focused on five key strategic areas: fleet renewals, leveraging innovative technologies, big data analytics, operating practices, and cleaner fuels. In addition, we are positioning ourselves within the cleaner energy markets by transporting sustainable products such as wood pellets, wood chips, wind turbine components, solar panels, and biofuels. **Key Strategic Decisions:** In 2022, the most substantial strategic decisions influenced by this opportunity included investments in the growth of our intermodal and carload business which are part of our $2.75 billion capital program. This investment includes continued spend on long sidings and double tracks as well as the acquisition of 57 new locomotives, 800 high-capacity boxcars and 500 high-efficiency hopper cars to handle the larger crop sizes expected in coming years. Our investments also allow us to increase our share of new industrial production in Western Canada and respond to shifts in demand, such as in the clean energy sector.
Supply chain and/or value chain	**Influence on Strategy in the Time Horizon:** 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. In the medium term, Canada's Clean Fuel Standard, and other existing renewable and clean fuel standards in jurisdictions where CN operates, will also present an important opportunity to further reduce our emissions. Additionally, an escalating price on carbon emissions could materially increase direct costs related to fuel purchases and indirect expenses related to purchased goods, materials, and electricity required to operate our business. Government incentives encouraging the use of alternative sources of energy also could affect some of our customers and the markets for certain commodities we carry in an unpredictable manner that could alter our traffic patterns. CN may not be able to offset such impacts through, for example, higher freight rates. Climate change legislation and regulation could also affect CN's customers; make it difficult for CN's customers to produce products in a cost-competitive manner due to increased energy costs; and increase legal costs related to defending and resolving legal claims and other litigation related to climate change. **Key Strategic Decisions:** As part of our low-carbon transition plan, we made the strategic decision to engage with 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. CN is building important partnerships on the journey toward decarbonization. For example, we are working with Progress Rail and Chevron REG to test high-level fuel blends, including both biodiesel and renewable diesel. This program will allow us to better understand the long-term durability and operational impacts of renewable fuels on our locomotives, especially in cold weather, and plan needed locomotive modifications to leverage higher blends of renewable fuels as they become available over the next decade. In 2022, the use of renewable fuels in our fleet saved 138,442 tonnes of carbon.

C3 | BUSINESS STRATEGY

Business Strategy (continued)

Business area	Description of influence
Investment in R&D	**Influence on Strategy in the Time Horizon:** CN proactively pursues an ambitious innovation strategy using technology, analytics and automation to increase safety and efficiency as well as deliver a reliable, lower-carbon, seamless service to our customers. CN is well positioned to drive the next wave of change by applying technology and new ways of working to unlock further operational excellence and customer service. Some of these initiatives include using advanced digital technologies, big data, artificial intelligence and predictive analytics for better planning, efficiency, and safety; more accurate, consistent, and relevant information provided to all stakeholders (e.g., customers, employees, communities); automating manual processes to improve efficiency and safety; and collaborating on the transition to a lower-carbon economy. Additionally, the use of cleaner fuels have a significant medium- and long-term influence on our R&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 which has led us to strategically invest in new technologies to drive even greater efficiency. In the medium term, Canada's Clean Fuel Standard, presents an important opportunity for to further reduce our emissions. 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 targets. **Key Strategic Decisions:** We made the strategic decision to engage with our suppliers to explore the use of renewable and alternative fuels as an important part of how we meet our regulatory obligations and efficiency objectives in line with our science-based target. In 2022, the use of renewable fuels in our fleet saved 138,442 tonnes of carbon. CN is building important partnerships on the journey toward decarbonization. For example, partnering with Google Cloud to deliver new customer experiences and modernize CN's technology infrastructure. Additionally, we are working with Progress Rail and Chevron Renewable Energy Group to test high-level fuel blends, including both biodiesel and renewable diesel.
Operations	**Influence on Strategy in the Time Horizon:** CN's objective is to deliver sustainable, profitable growth by providing superior customer service, growing faster than the economy, pricing ahead of rail inflation, and continuously improving operating efficiency. Regulatory risks and opportunities like the increase of fuel efficiency, use of renewable fuels, and carbon pricing, also influence our short- and medium-term operations strategy. As part of the our Climate Action Plan and to comply with our environmental policy, we are focused on five key strategic areas: fleet renewal focused on cleaner, more fuel-efficient equipment to enable us to decouple our business growth from GHG emissions; innovative technology such as energy management and data telemetry systems as well as distributed power functionality; big data to collect large amounts of data to improve performance and fuel conservation; operating practices such as CN's recommitment to a disciplined scheduled operating plan, with a focus on velocity, to drive related gains in fuel efficiency; and cleaner fuels to further reduce our emissions. CN combines our 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 CN, and managing them in accordance with our environmental policy, which is overseen by the GSS Committee. Certain risk mitigation strategies, such as periodic audits, employee training programs and emergency plans and procedures, are in place to minimize CN's potential environmental risks. **Key Strategic Decisions:** The most strategic decisions dealing with rail fuel efficiency are included in our capital and operational spending. In 2022, CN's focus on scheduled railroading resulted in improvements in car velocity, through dwell and fuel efficiency, as well as a decrease in train length and train weight, despite negative impacts from the harsh winter in the first quarter of 2022. In addition, CN's fuel initiatives allowed it to achieve a new record for fuel efficiency of 0.867 U.S. gallon/1,000 GTMs.

C3 | BUSINESS STRATEGY

Financial Planning

C3.4

Climate-related risks and opportunities influence our financial planning

REVENUES

As part of our financial planning processes, we assess the revenues and growth projections from individual commodity groups, which include impacts of climate-related risks and opportunities. CN's freight revenues are derived from seven commodity groups representing a diversified and balanced portfolio of goods transported between a wide range of origins and destinations. CN's product and geographic diversity better positions the Company to face market fluctuations. Specifically, as part of CN's climate risk process, the Company reviewed the potential impact of changing consumer behaviour for low-carbon products like thermal coal, which could be impacted by more aggressive climate policy changes and regulations.

CN ensures it mitigates any potential negative revenue impacts by continuing to play a key role in energy transition by moving cleaner energy products including transporting methanol, solar panels, and wind turbines as well as providing shipments of wood chips and wood pellets to meet the growing demand for a more sustainable renewable fuel solution for residential, institutional, or industrial heating. 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.

DIRECT COSTS

We track the potential impact of climate-related events on our operating costs on an annual time horizon. To achieve our decarbonization targets, CN will need to continue to improve the fuel efficiency of our fleets, increase our use of sustainable renewable fuels and test innovative propulsion technologies while working collaboratively to bring low-carbon alternatives to market. Collaboration with suppliers, customers, supply chain partners, innovators and regulators is critical for CN to deliver on our climate commitments and to help drive economic prosperity in a low-carbon environment. Specifically, fuels procurement has a direct impact on our costs as CN's operating expenses for the year ended December 31, 2022, amounted to $10.267 billion compared to $8.861 billion in 2021. The increase of $1.406 billion, or 16%, was mainly as a result of higher fuel prices.

CAPITAL EXPENDITURES

We allocate a significant budget to our capital program. CN's success is dependent on our ability to operate our railroad efficiently. In 2022, CN spent approximately $2.75 billion in our capital program, of which $1.6 billion was invested to maintain the safety and integrity of CN's network, particularly track infrastructure. CN's capital spending also included $0.75 billion for strategic initiatives to increase capacity, enable growth and improve network resiliency, including line capacity upgrades and information technology initiatives, and $0.40 billion on equipment, including the acquisition of 500 new grain hopper cars. 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 CN and our 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 CN's results of operations, financial condition or liquidity. To help mitigate some of the risks associated with severe weather, CN prepares a Winter Plan on an annual basis which sets out the actions we are taking to improve our operation, increase our resiliency and enhance our recovery capabilities during periods when winter impacts our ability to operate the railway at normal levels. The plan is shaped by four thematic objectives including a focus on improving resiliency across the network.

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. A significant portion of CN's investments in 2022 was dedicated to track maintenance to support safe and efficient operations, including the replacement of rail and ties, bridge improvements, crossing protection upgrades and maintenance, as well as other general track maintenance. Across Western Canada, the projects for 2022 included: 191 miles of rail to be replaced; approximately 425,000 ties to be replaced; close to 130 road crossing surfaces to be rebuilt; and over $1.1 billion of capital investment. CN has invested approximately $4.7 billion over the past five years.

ACCESS TO CAPITAL

CN's access to long-term funds in the capital markets depends on our credit ratings and market conditions. In March 2021, CN backed our commitment to a sustainable future by announcing the largest sustainability-linked loan (SLL) in Canadian history. The $2.5 billion SLL ties our cost of capital to our environmental improvement targets, which include GHG emission reductions and increased fuel efficiency.

C3 | BUSINESS STRATEGY

Financial Planning (continued)

C3.5 – 3.5a

Our spending/revenue that is aligned with the transition to a 1.5°C world.

LOW-CARBON SPENDING/REVENUE

CN has been making a positive contribution in the fight against climate change by offering carbon-efficient transportation solutions to our customers. Moving long haul freight by train instead of truck can reduce GHG emissions by up to 75%. We recognize that rail has a tremendous potential to reduce the environmental impact of transportation services and we are actively 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 emissions by allowing each mode to be used for the portion of the trip to which it is best suited. It also helps reduce road traffic congestion, accidents, and the burden on transportation infrastructure.

The revenue related to providing low-carbon freight transportation goods and services is $10.4 billion, which we calculated based on our truck-competitive business segment. CN's truck-competitive business segment accounted for 61% of CN's total revenue in 2022. We ensure CN will continue to play a key role in energy transition by moving cleaner energy products including transporting methanol, solar panels, and wind turbines as well as providing shipments of wood chips and wood pellets to meet the growing demand for a more sustainable renewable fuel solution for residential, institutional, or industrial heating.

We are committed to reduce emissions and improve our GHG emissions intensity consistent with stabilizing global temperatures. In 2021, we announced our commitment to setting a target in line with a 1.5°C scenario and to net-zero carbon emissions. We were the first North American railroad to formally commit to setting a net-zero target by joining the Business Ambition for 1.5°C and the United Nations' Race To Zero campaign.

Note, we cannot specifically quantify the percentage of financial revenue or revenue aligned with a 1.5°C world in 2025 or 2030 due to restrictions governing public disclosure of sensitive forward-looking financial information.

IN THIS SECTION

TARGETS AND PERFORMANCE

The Salmon River trestle bridge near Drummond, New Brunswick, is CN's longest in Atlantic Canada. Photo by CN employee, **Eric Ouellette**

C4 | TARGETS AND PERFORMANCE

Emissions Targets

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

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

Target reference number • Year target was set • Target coverage • Scope(s) • Percentage of total base year emissions in selected Scopes (or Scope 3 category) covered by this intensity figure	Base year • Intensity figure that year for all selected Scopes	Target year • Target reduction from base year • Intensity figure in target year for all selected Scopes • Percentage change anticipated in absolute Scope 1 and 2 emissions • Is this a science-based target? • Target ambition	Target status in reporting year • Intensity figure in reporting year for all selected Scopes • Percentage achieved relative to base year	Explanation, including target coverage and the plan for achieving, including emissions reduction initiatives
Int1 • 2021 • Company-wide • Scope 1 and 2 (location-based) • 100%	2019 • 11.61 tCO_2e/million gross ton miles	2030 • 43% • 6.6 tCO_2e/million gross ton miles • -22.5% • Yes, approved • Well-below 2°C aligned	Revised • 10.69 tCO_2e/million gross ton miles • 18.3%	In 2021, the Science Based Targets initiative (SBTi) approved our 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 tonne miles by 2030 from a 2019 base year. The target replaces CN's previous target (GHG emissions intensity (tonnes CO_2e/ million tonne kilometres) reduction of 29% by 2030, based on 2015 levels, covering total (100%) Scope 1 and 2 emissions. In 2021, CN announced a commitment to setting a target in line with a 1.5°C scenario and to net-zero carbon emissions. CN was the first North American railroad to formally commit to setting a net-zero target by joining the Business Ambition for 1.5°C and the United Nations' Race To Zero campaign. **Plan for Achieving Target and Progress Made:** To achieve our 43% science-based reduction target, we are focused on locomotive carbon efficiencies from renewing our fleet, implementing innovative technologies, optimizing the use of big data, promoting best practice initiatives for fuel and energy conservation, and increasing renewable fuel blends. In 2022, we reduced our GHG emission intensity for Scope 1 and 2 by 2.1% from 2021, realizing an 18.3% progress towards our 2030 target. 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. The extent of our ability to fully deploy and implement new technologies, as well as to obtain and use sufficient volumes of sustainable renewable fuels will require collaboration between locomotive manufacturers and fuel producers. This ecosystem of collaboration is a key area of focus for CN. As an example of progress in this space, in 2021 we announced a partnership with Progress Rail and Chevron Renewable Energy Group (REG) to test high-level renewable fuel blends including both biodiesel and renewable diesel. Trials and qualifications of up to 100% biobased diesel fuel, important steps in reducing GHG emissions from CN's existing locomotive fleet, have continued to progress in 2022. The program will allow CN and Progress Rail to better understand the long-term durability and operational impacts of renewable fuels on locomotives, especially in cold weather, and plan needed modifications to leverage their usage over the next decade.

C4 | TARGETS AND PERFORMANCE

Emissions Targets (continued)

Target reference number • Year target was set • Target coverage • Scope(s) • Percentage of total base year emissions in selected Scopes (or Scope 3 category) covered by this intensity figure	Base year • Intensity figure that year for all selected Scopes	Target year • Target reduction from base year • Intensity figure in target year for all selected Scopes • Percentage change anticipated in absolute Scope 1 and 2 emissions • Is this a science-based target? • Target ambition	Target status in reporting year • Intensity figure in reporting year for all selected Scopes • Percentage achieved relative to base year	Explanation, including target coverage and the plan for achieving, including emissions reduction initiatives
Int2 • 2021 • Company-wide • Scope 3: Fuel- and energy-related activities (not included in Scopes 1 or 2) • 69%	2019 • 3.61 tCO_2e/million gross ton miles	2030 • 40.3% • 2.16 tCO_2e/million gross ton miles • -18.3% • Yes, approved • Well-below 2°C aligned	Underway • 3.04 tCO_2e/million gross ton miles • 39.5%	In 2021, the Science Based Targets initiative (SBTi) also approved our new Scope 3 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 has committed to reducing its well-to-wheels emissions. Specifically, we have committed to reduce Scope 3 GHG emissions from fuel- and energy-related activities by 39.5% per gross tonne mile by 2030 from a 2019 base year. In the year we set the target (2021), this target covered 69% of total Scope 3 emissions, all other inputs to Scope 3 are excluded, namely capital goods, purchased goods and services, upstream transportation and distribution, and waste generated in operations. **Plan for Achieving Target and Progress Made:** To achieve our 40% science-based target, we are mainly focused on locomotive carbon efficiencies from renewing our fleet, implementing innovative technologies, optimizing the use of big data, promoting best practice initiatives for fuel and energy conservation, and increasing renewable fuel blends. As our Scope 3 target covers emissions from fuel- and energy-related activities, these initiatives taken to reduce Scope 1 emissions from running locomotives will cascade to reducing the volume of fuel purchased. In 2022, we reduced our Scope 3 GHG emission intensity for fuel- and energy-related activities by 4.3% from 2020, realizing a 39.5% progress towards the 2030 target, which is based on 2019 levels.

C4 | TARGETS AND PERFORMANCE

Emissions Targets (continued)

Target reference number • Year target was set • Target coverage • Scope(s) • Percentage of total base year emissions in selected Scopes (or Scope 3 category) covered by this intensity figure	Base year • Intensity figure that year for all selected Scopes	Target year • Target reduction from base year • Intensity figure in target year for all selected Scopes • Percentage change anticipated in absolute Scope 1 and 2 emissions • Is this a science-based target? • Target ambition	Target status in reporting year • Intensity figure in reporting year for all selected Scopes • Percentage achieved relative to base year	Explanation, including target coverage and the plan for achieving, including emissions reduction initiatives
Int3 • 2019 • Business division (rail) • Scope 1 • 100%	2017 • 14.06 kg CO_2e/1,000 revenue tonne km	2022 • 6% • 13.2 kg CO_2e/1,000 revenue km • -4.1% • No, but we are reporting another target, which is science-based • N/A	Achieved • 12.97 kg CO_2e/1,000 revenue tonne km • 129.2%	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. This covers 100% of our locomotive emissions. Refer to page 3 of the RAC MOU at www.railcan.ca/wp-content/uploads/2019/07/TC-RAC-MOU-2018-22.pdf. Emission targets will be measured against 2017 carrier-class emissions intensity levels as reported in the *2017 Locomotive Emissions Monitoring Report* (www.railcan.ca/wp-content/uploads/2019/12/2017_LEM_Report-1.pdf). **Key Emissions Reduction Initiatives:** In 2021, CN achieved its 6% intensity-based reduction target by 2022 based on 2017 levels. To achieve this target, we focused on locomotive carbon efficiencies from renewing our fleet, implementing innovative technologies, optimizing the use of big data, promoting best practice initiatives for fuel, and energy conservation.

C4 | TARGETS AND PERFORMANCE

Emissions Targets (continued)

C4.2 - C4.2c

Other climate-related targets, including methane reduction targets and our net-zero target

Target reference number • Year target was set • Target coverage • Target type • Metric	Base year • Percentage in base year	Target year • Percentage in target year • Percentage in reporting year	% of target achieved relative to base year • Target status in reporting year • Is this target part of an emissions target? • Is this target part of an overarching initiative?	Explanation including target coverage, exclusions, and actions which contributed most to achieving this target
Low 1 • 2020 • Company-wide • Consumption • Renewable energy source(s)	2020 • 1.23%	2022 • 2% • 3.08%	240.3% • Achieved • Int01, Int02 • Renewable fuel	The renewable fuel market presents another opportunity to reduce our emissions, and we have set a short-term year-on-year rolling target of 2% sustainable renewable fuel consumption for our Canadian locomotive fleet. It does not include our U.S. operations. The existing Renewable Fuel Standard regulation in Canada requires an average of 2% renewable blends in all diesel produced or imported into Canada. In 2021, both Ontario and Manitoba implemented Clean Fuel Standard regulations, in addition to the existing Clean Fuel Standard in place since 2008 in British Columbia. These existing standards across provinces in Canada where CN operates mandate higher percentage blends of renewable fuels in diesel, with 4%, 3.5% and 4% blends required respectively in the jurisdictions mentioned above. These regulations have also contributed to the growth of use of renewable fuels in our fleet. **Key Emissions Reduction Initiatives:** The actions that contributed to achieving this target included engaging with our major fuel suppliers to source sustainable renewable fuel for our locomotives including both biodiesel and renewable diesel. The actions that contributed to achieving this target included engaging with our major fuel suppliers to source sustainable renewable fuel for our locomotives including both biodiesel and renewable diesel. CN is building important partnerships on the journey toward decarbonization. For example, we are working with Progress Rail and Chevron REG to test high-level fuel blends, including both biodiesel and renewable diesel. This program will allow us to better understand the long-term durability and operational impacts of renewable fuels on our locomotives, especially in cold weather, and plan needed locomotive modifications to leverage higher blends of renewable fuels as they become available over the next decade.

C4 | TARGETS AND PERFORMANCE

Emissions Targets (continued)

NET ZERO TARGET

In 2021, CN was the first North American railroad to formally commit to setting a net-zero target by joining the Business Ambition for 1.5°C and the United Nations' Race To Zero campaign. Consistent with SBTi's Net Zero Standard, this target will cover at least 95% of Scope 1 and 2 emissions and 90% of Scope 3 emissions.

Planned Milestones and/or Near-Term Investments for Neutralization: To achieve our near-term Scope 1 and 2 target we are focused on five key strategic areas: fleet renewal, innovative technologies, big data analytics, operating practices and cleaner fuels. Over the long-term, we specifically recognize the need to focus on alternative, net-zero forms of propulsion. We are working with our OEM partners to support the development of such options. For example, in 2021 CN acquired our first battery-electric freight locomotive. We also recognize the importance of collaborating with governments, supply chain partners, universities, cleantech, and fuel producers an effective transition to a low-carbon future. We are actively engaging with other rail companies, directly and through associations such as the Association of American Railroads ("AAR") and the Railway Association of Canada ("RAC"), as well as with diverse fuel suppliers and customers.

For Scope 3, as part of our Climate Action Plan, we are engaging with key suppliers on their climate programs. Specifically, our engagement targets our suppliers of major and critical categories, including fuel suppliers, locomotive Original Equipment Manufacturers (OEM), and rail car manufacturers through the request for proposal (RFP) process. The key supplier requirements we assess relate to their carbon commitments, existence of climate science targets, as well as emissions performance. Several mechanisms are in place to monitor climate-related information, including through the RFP process, annual ESG screening as part of the Ecovadis process, annual supplier engagement meetings, and first party verifications. As we move toward net-zero, CN anticipates engagement with our suppliers will continue to be a key pillar of our action plan. Details of our plans and progress to meet our targets are updated annually via the Climate Action Plan Report in CN's Management Information Circular.

Planned Actions to Mitigate Emissions Beyond Our Value Chain: We recognize that nature-based solutions have the potential to play a major role in addressing the twin and interlinked environmental crises humanity faces of climate change and nature loss. Trees can absorb air pollutants and offset carbon emissions. By planting trees, we are contributing to cleaner air and increased quality of life in the communities where we operate. Two million trees can absorb more than 96 million pounds of carbon dioxide a year, and can produce oxygen daily for up to 8 million people. We have a long-term goal of 3 million trees by 2030. Our progress against this goal is 77%.

In 2022, we planted 114,000 trees, for a total of 2.4 million trees since 2012. This includes our EcoConnexions Partnership program that collaborates with companies to reduce their emissions and drive sustainable business practices, as well as our EcoConnexions From the Ground Up and reforestation program helping communities establish green spaces and tree plantings. CN will evaluate opportunities to advance beyond value chain mitigation. However, consistent with SBTI's Net Zero Standard, CN's first priority will be to advance progress against our own science-based targets.

C4 | TARGETS AND PERFORMANCE

Emissions Reduction Initiatives

C4.3 - C4.3a
Emissions reduction initiatives active within the reporting year

Stage of development	Number of initiatives	Total estimated annual CO_2e savings in metric tonnes CO_2e
Under investigation	0	0
To be implemented	6	350,000
Implementation commenced	0	0
Implemented	7	321,581
Not to be implemented	0	0

C4.3b
Initiatives implemented in the reporting year

Initiative category	Initiative type • Estimated annual CO_2e savings (metric tonnes CO_2e)	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 • 321,581	Scope 1 • Voluntary	$25 million • $146.7 million	4 - 10 years • >30 years	The estimated emissions savings relate to Scope 1 emissions covering our rail locomotives. In 2022, we continued to implement projects related to our rail locomotive emissions and energy efficiency strategy, which represent approximately 87% of our direct GHG 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. In 2022, CN's recommitment to a disciplined scheduled operating plan, with a focus on velocity, helped to increase network fluidity, reducing unplanned train stops across the network and driving related gains in fuel efficiency These initiatives will help us achieve our science-based emissions intensity reduction target of 43% in 2030, based on 2019 levels.
Energy efficiency in buildings	Various projects including HVAC, lighting and air compressor upgrades • 687	Scope 2 (location-based) • Voluntary	$413,000 • $7.6 million	4 - 10 years • 11 - 15 years	We continue to work to reduce our Scope 2 emissions from electricity consumption at our buildings and yards. We continuously 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. In addition, through our EcoConnexions employee engagement program, our employees receive training on energy efficiency practices at our yard facilities.

C4 | TARGETS AND PERFORMANCE

Emissions Reduction Initiatives (continued)

C4.3c
Methods driving investment in emissions reduction activities

COMPLIANCE WITH REGULATORY REQUIREMENTS/STANDARDS

Through the U.S. EPA and Environment Canada Locomotive Emission Standards, we continue to follow through on our 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. In 2022, CN spent approximately $2.75 billion in its capital program, of which $1.60 billion were invested to maintain the safety and integrity of its network, particularly track infrastructure. CN's capital spending also included $0.75 billion for strategic initiatives to increase capacity, enable growth and improve network resiliency, including line capacity upgrades and information technology initiatives, and $0.40 billion on equipment, including the acquisition of 500 new grain hopper cars and 57 new locomotives.

EMPLOYEE ENGAGEMENT

Our employees are integral to our ability to reduce energy consumption. Our EcoConnexions employee engagement program focuses on embedding environmental sustainability into our corporate culture through targeted initiatives to reduce energy consumption, minimize waste and improve housekeeping practices at our yards and offices. Since 2011, CN employees have initiated actions that have reduced energy consumption by 30% and avoided 171,000 metric tonnes of CO_2 emissions at key yards and facilities, diverted 260,000 tonnes of operational waste from municipal landfills, and completed over 1,500 projects to improve housekeeping and create cleaner, more efficient and safer workplaces and communities.

DEDICATED BUDGET FOR ENERGY EFFICIENCY

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

CN's AIBP is aligned with the long-term strategic vision of CN and our ESG priorities, and supports employee engagement on safety and strategic initiatives. Specifically, the attainment of CN's fuel efficiency targets drives progress towards our medium- and long-term targets and focuses the business on reducing operating expenses, as fuel is a major expense for rail. The attainments of CN's fuel efficiency goal, among other goals, is incorporated into the short-term incentive plan for senior management and executives. 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_2e for freight transportation by rail that could have been moved by truck.

CARBON LIFECYCLE CALCULATION

Life cycle stage(s) covered by the low-carbon product/service: Use-stage

Functional unit used: Hauling an 81.6 tonne (average weight of a railcar) railcar for 1,000 kilometres by rail compared to trucking.

Reference product/service: Moving product with average long-haul truck with an average 6 miles per gallon fuel efficiency.

Estimated avoided emissions compared to reference product/service: 5.2 metric tonnes of CO_2e

To calculate avoided emissions including any assumptions, we applied an attributional approach to our LCA and calculated the difference in combustion emissions between transporting by rail using CN's current fuel efficiency performance and movement by heavy truck using industry average fuel efficiency numbers.

We used the following global warming potential factors from the IPCC 6th assessment report: (CO_2: 1, CH_4: 27.9, N_2O: 273) and the emission factors in the Environment Canada's Inventory Report for Rail 2,724.8 and for trucking 2,965.6 measured in CO_2e (g/L).

Based on the fuel efficiency for both modes of transportation as well as an assumed payload per truck, we were able to estimate the combustion GHG intensity measured in grams of CO_2e per tonne km and calculate the avoided emissions for a defined distance and load weight.

61% of our revenue was associated with low-carbon products and services in the reporting year.

IN THIS SECTION

EMISSIONS METHODOLOGY

Rockingham Yard in Halifax, Nova Scotia, was recently renamed Pace Yard in honour of **Robert Pace**, CN's Chair Emeritus of the Board of Directors and native Haligonian.

C5 | EMISSIONS METHODOLOGY

Base Year Emissions

C5.2
Base year and base year emissions (Scope 1, 2 and 3)

Scope	Category	Base year start	Base year end	Base year emissions (metric tonnes CO_2e)
Scope 1	–	January 1, 2019	December 31, 2019	5,771,270
Scope 2	Location-based	January 1, 2019	December 31, 2019	164,641
Scope 2	Market-based	N/A	N/A	N/A
Scope 3	Purchased goods and services	January 1, 2019	December 31, 2019	384,934
Scope 3	Capital goods	January 1, 2019	December 31, 2019	445,895
Scope 3	Fuel-and-energy-related activities (not included in Scope 1 or 2)	January 1, 2019	December 31, 2019	1,845,296
Scope 3	Upstream transportation and distribution	January 1, 2019	December 31, 2019	56,373
Scope 3	Waste generated in operations	January 1, 2019	December 31, 2019	46,225

Emissions Methodology

C5.3
Protocol used to calculate Scope 1 and 2 emissions

We use the:

- *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)*
- *ISO 14064-1*
- *The Greenhouse Gas Protocol: Scope 2 Guidance*
- *The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard*

IN THIS SECTION

A CN unit train being loaded with grain in Davidson, Saskatchewan – starting its journey to market.

EMISSIONS DATA

C6 | EMISSIONS DATA

Scope 1 Emissions Data

C6.1
Gross global Scope 1 emissions

Year	Gross global Scope 1 emissions (metric tonnes CO_2e)
Reporting year	5,040,996

Scope 2 Emissions Reporting

C6.2
Gross global Scope 2 emissions

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

Scope 2 Emissions Data

C6.3 - C6.4
Gross global Scope 2 emissions in metric tonnes CO_2e

Year	Scope 2, location-based	Scope 2, market-based (if applicable)	Start date	End date
Reporting year	140,543	156,241	N/A	N/A

Our Scope 2 calculations use 2021 eGRID emission factors for the location-based approach, and 2020 residual mix factors for the market-based approach. As the residual mix factors are updated CN will update our market-based figure.

C6 | EMISSIONS DATA

Scope 3 Emissions Data

C6.5

Our organization's gross global Scope 3 emissions (no exclusions)

RELEVANT AND CALCULATED SCOPE 3 EMISSIONS

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

Scope 3 category	Metric tonnes CO_2e	Emissions calculation methodology	Explanation
Purchased goods and services	164,214	Emissions for purchased services were calculated following an environmental economic input-output methodology using data from the World Input-Output Database 2016. Emission factors on a tCO_2e per $ basis were calculated by economic sector. The sector-appropriate emission factor was then applied against the 2022 expenditures for that sector to calculate total emissions.	Volumes of capital goods by type of material as well as dollars spent on purchased services were obtained directly from supplier invoice data in our SAP system based on the year the goods were received
Capital goods	376,522	Emissions for capital goods were calculated using volumes of key capital goods by type of material applied against applicable emission factors from the Greet 2021 and ICE 3.0 models	Volumes of capital goods by type of material were obtained directly from supplier invoice data in our SAP system based on the year the goods were received by CN.
Fuel- and energy-related activities (not included in Scope 1 or 2)	1,472,139	Upstream emissions from the production of fuels used to operate our locomotives, HDV, marine and LDV fleets were calculated using the GHGenius version 5.02g calculation tool	Litres and gallons of fuel purchased by jurisdiction were obtained from supplier invoice data in our SAP system.
Upstream transportation and distribution	47,000	Emissions were calculated following an environmental economic input-output methodology using data from the World Input-Output Database.	Emissions were calculated by economic sector using emission factors on a tCO_2e per $ basis. The sector-appropriate emission factor was then applied against the 2022 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	35,437	Emissions were estimated using standard emission factors multiplied by activity level formulas.	Emissions were calculated by using tonnes of waste generated by disposal method which were obtained directly from our waste management service providers. Emission factors were obtained from various sources including *Canada's National Inventory Report, 1990-2019, 2006 IPCC Guidelines for National Greenhouse Gas Inventories Metal Industry Emissions*, and the Ecoinvent database V3.

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 2020 and 2021 reporting years.
Employee commuting	Employees travel to and from work using road transport (car or bus) or commuter train or subway. In 2021, 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	In alignment with the Corporate Value Chain Accounting Reporting Standard, emissions from operations of pension fund investments are considered optional.

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 – 125,106 metric tonnes CO_2e – relates to volumes of renewable fuel consumed by our locomotives, HDV, and LDV fleets.

C6 | EMISSIONS DATA

Emissions Intensities

C6.10
Gross global combined Scope 1 and 2 emissions

Intensity figure	Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tonnes CO_2e)	Metric denominator • Metric denominator: Unit total	Scope 2 figure used	Percentage change from previous year • Direction of change	Reason for change
0.00030289	5,181,539	Unit total revenue • 17,107,000,000	Location-based	-16.7% • Decreased	On a unit total revenue basis, our emission 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, trucking and vessel fleet fuel efficiencies through new equipment and operational improvements and behaviours.

C-TS6.15
Intensity (activity-based) metrics for our emissions from transport activities in Scope 1

Activity	Intensity figure	Metric numerator: emissions in metric tonnes CO_2e	Metric denominator = t.km unit total • Percentage change from previous year	Explanation
HDV	0.00007511	167,370	2,228,000,000 • -5.4%	The reported intensity figure covers 100% of the Scope 1 emissions from our truck fleet. Our HDV fleet- CNTL and TransX trucks, makes up roughly 3% of our Scope 1 and 2 emissions. Over the past few years, we have been focused on improving the fuel efficiency of these fleets while also increasing our use of renewable fuels. Overall, our truck emission intensity in 2022 decreased versus 2021 due to improvement in operational efficiencies. Our teams continue to be trained on fuel efficiency, from the use of aerodynamic components on trucks to innovative routing optimization initiatives. In 2021, we installed a new driver-centric fleet management system to improve hours of service management, enable a paperless workflow, and to drive further gains with respect to accident prevention and fuel efficiency.
Rail	0.00001291	4,392,493	340,304,000,000 • -1.1%	The reported intensity figure covers 100% of our Scope 1 rail transport emissions. Overall, in 2022 our rail emissions intensity on a tonne-km basis decreased and we achieved an all-time record fuel efficiency of 0.867 U.S. gallons of locomotive fuel consumed per 1,000 gross tonne miles. 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. Through our locomotive telemetry systems, we collect large amounts of data to improve performance and fuel conservation. In addition, Horsepower Tonnage Analyzer uses the data from the systems to optimize a locomotive's horsepower-to-tonnage ratio, further minimizing fuel consumption. We continue to purchase the most fuel-efficient high-horsepower locomotives currently available with the acquisition of 69 units in 2021 and 57 units in 2022. In 2022, we also received the first 10 units out of a multiyear modernization program, where existing locomotives from the CN fleet are upgraded with the latest technology, extending their life and enhancing fuel efficiency.
Marine	0.00001720	154,558	13,188,000,000 • 12.3%	The reported intensity figure covers 100% of the Scope 1 emissions from our Great Lakes fleet. Overall, our marine emissions intensity in 2022 increased versus 2021 due to a methodological change which reflected higher emissions from heavy fuel oil and a change to how we operate the fleet.
All	0.00001325	4,714,421	355,720,000,000 • -0.95%	The reported figure covers 100% of the Scope 1 emissions from our freight transportation fleets. In 2022, our overall freight transportation fleet emission intensity decreased versus 2021 due to locomotive fuel efficiency improvements and greater use of biofuels.

IN THIS SECTION

EMISSIONS BREAKDOWN

CN network on Kaien Island near the Port of Prince Rupert in British Columbia.

C7 | EMISSIONS BREAKDOWN

Scope 1 Breakdown: GHGs

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

Greenhouse gas	Scope 1 emissions (metric tonnes in CO_2e)	GWP reference
CO_2	4,597,975	*IPCC Sixth Assessment Report* (AR6 – 100 year)
CH_4	7,449	*IPCC Sixth Assessment Report* (AR6 – 100 year)
N_20	435,572	*IPCC Sixth Assessment Report* (AR6 – 100 year)

Scope 1 Breakdown: Country

C7.2
Scope 1 emissions by country/region

Country/region	Scope 1 emissions (metric tonnes CO_2e)
Canada	3,511,439
U.S.	1,529,557

Scope 1 Breakdown: Business Breakdown

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

Activity	Scope 1 emissions (metric tonnes CO_2e)
Locomotives	4,392,493
Intermodal trucks	167,370
Marine fleet	154,558
On Company Service fleet	70,829
Miscellaneous fuel consumption	178,065
Intermodal equipment	77,680

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_2e)	Comment
Transport services activities	4,970,168	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.

C7 | EMISSIONS BREAKDOWN

Scope 2 Breakdown: Country

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

Country/region	Scope 2, location-based (metric tonnes CO_2e)	Scope 2, market-based (metric tonnes CO_2e)
Canada	45,465	45,465
U.S.	95,078	110,776

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 tonnes CO_2e)
Western	38,313
Eastern	7,152
Southern	95,078

Scope 1 and 2 Breakdown: Subsidiary

C7.6 - C7.6a
Gross global Scope 1 and 2 emissions breakdowns by subsidiary

Subsidiary name • Primary activity	Scope 1 (metric tonnes CO_2e)	Scope 2, location-based, (metric tonnes CO_2e)	Comment
TransX • Intermodal transport	96,037	1,463	CN employs an operational control reporting boundary for GHG emissions. In 2019 CN acquired TransX; CN has reported TransX emissions separately to enable comparison with the historical information disclosed regarding our intermodal trucking fleet. We do not disaggregate emissions for other subsidiary components of our business.

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 tonnes CO_2e)	Scope 2, market-based, (metric tonnes CO_2e)	Comment
Transport services activities	140,543	156,241	Our Scope 2 emissions are related to the consumption of electricity in our buildings and yards, which are part of our service activities. Most of our offices are part of our industrial buildings and the electricity used for administrative purposes is not material compared to the electricity used for transportation activities.

C7 | EMISSIONS BREAKDOWN

Emissions Performance

C7.9 - C7.9b

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

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

Reason	Change in emissions (metric tonnes CO_2e)	Direction of change and emissions value percentage	Explanation
Change in renewable energy consumption	81,783	Decreased by 1.6%	We consider the growth of the renewable fuel market as an important opportunity to further reduce our emissions by using biomass-based fuel blends in our fleets. In 2022, the use of renewable fuels in our fleet saved approximately 138,442 tonnes of CO_2 equivalent, which is an important milestone as we continue to work with our suppliers to increase our use of renewable fuels. We engaged in renewable fuels testing for our locomotives in 2022 which led to increased volumes, we are also actively engaging our fuel suppliers on sourcing increased blends of renewable fuels in line with growing fuel regulations.
Other emissions reduction activities	321,581	Decreased by 6.1%	The carbon emissions from locomotives decreased due to continued implementation of projects in 2022 related to our rail locomotive emissions and energy efficiency strategy, which represent approximately 87% of our Scope 1 and 2 GHG emissions. 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. Through our locomotive telemetry systems, we collect large amounts of data to improve performance and fuel conservation. In addition, Horsepower Tonnage Analyzer uses the data from the systems to optimize a locomotive's horsepower-to-tonnage ratio, further minimizing fuel consumption. 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 321,581 tCO_2e 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 6.1% reduction in emissions [(321,581/ 5,263,322) * 100 = 6.1% decrease] compared to 2021 emissions.

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

IN THIS SECTION

ENERGY

Mixed freight train on Chicago's outer belt. CN has the fastest, most efficient rail route around congested Chicago, Illinois.

C8 | ENERGY

Energy Spend

C8.1 - C8.2
Percentage of total operational spend on energy-related activities

More than 20% but less than or equal to 25%.

Energy Consumption

C8.2 - C8.2a
Energy consumption totals for our energy-related activities

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

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)	499,912	18,434,646	18,934,558
Consumption of purchased or acquired electricity	N/A	164,610	369,176	533,786
Total energy consumption	N/A	664,522	18,803,822	19,468,344

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.

Fuel Consumption by Type

C8.2c
Fuel consumed by fuel type

Fuel type (Heating value is HHV)	Total MWh consumed by the organization	Comment
Other, please specify: Biomass	499,912	Biogasoline + Biodiesel
Oil	4,365	Furnace oil + stove oil
Gas	542,621	Natural gas
Other non-renewable fuels	17,887,660	Diesel locomotive + Diesel (others) + Propane (liquid) + Gasoline + Kerosene
Total fuel	18,934,558	All fuels listed above (and excluding feedstocks)

C8 | ENERGY

Fuel Consumption by Type (continued)

C8.2e
Electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor

We do not currently have any active purchases of low-carbon electricity, heat, steam or cooling that were accounted for a zero or net-zero emission factor in the market-based Scope 2 figure reported in C6.3. Residual emission factors are available for our US operations, and were applied to calculate CN's market-based figure.

C-TS8.2f
Energy from the grid

We do not currently have any transport movements that directly source energy from the grid. Since 2019, we have been extending our investments in battery-electric vehicles to our On Company Service fleet. In 2022, the average emission factor for our LDV fleet was 19 gCO_2e/kWh.

C8.2g
Non-fuel energy consumption by country

Country	Consumption of purchased electricity (MWh)	Total non-fuel energy consumption (MWh)
Canada	318,189	318,189
U.S.	215,596	215,596

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	1,153	463,710 million gross ton miles	402.2 million gallons of fuel	-1.9%	Overall, in 2022, our rail emissions intensity on a tonne-mile basis decreased and we again achieved an all-time record fuel efficiency of 0.867 U.S. gallons of locomotive fuel consumed per 1,000 gross tonne miles (1.153 GTM per U.S. gallon). 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.

IN THIS SECTION

ADDITIONAL METRICS

Train using distributed power (locomotive in the middle of the train to improve handling) between Chambord and Garneau in Quebec.

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: MWh renewable fuel energy/ million tonne km	1.87	Renewable fuel energy consumption in MWh	Tonne km (millions)	11%	Increase	The existing Renewable Fuel Standard regulation in Canada requires an average of 2% renewable blends in all diesel produced or imported into Canada. In 2021, both Ontario and Manitoba implemented Clean Fuel Standard regulations, in addition to the existing Clean Fuel Standard in place since 2008 in British Columbia. These existing standards across provinces in Canada where CN operates mandate higher percentage blends of renewable fuels in diesel, with 4%, 3.5% and 4% blends required respectively in the jurisdictions mentioned above. These newly implemented regulations have also contributed to the growth of use of renewable fuels in our fleet. In 2022, 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 138,442 tonnes CO_2e. 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 blend percentages to improve the quantification of the impact of renewable fuels on our emissions. In 2021 we announced a partnership with Progress Rail and Chevron REG to test high-level renewable fuel blends including both biodiesel and renewable diesel in support of our sustainability goals. Trials and qualifications of up to 100% bio-based diesel fuel, important steps in reducing GHG emissions from CN's existing locomotive fleet, have continued to progress in 2022. The program will allow CN and Progress Rail to better understand the long-term durability and operational impacts of renewable fuels on locomotives, especially in cold weather, and plan needed modifications to leverage their usage over the next decade.

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	Yearly purchase	Other please specify: New high-horsepower locomotives with reduced GHG and particulate matter emissions	57	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 2022, we acquired 57 new high-horsepower locomotives.
Heavy Duty Vehicles (HDV)	Use of renewable fuels in trucking fleet	Other please specify: Trucks using diesel blended with renewable fuels	2.2	Biodiesel % of total trucking fuel consumption	CN's owner operated CNTL trucking fleet and 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.

C9 | ADDITIONAL METRICS

Low-Carbon Investments

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

With approximately 87% of our direct 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. Operating an efficient railroad extends to our non-rail operations, enabling further carbon reductions in our ground and vessel fleets, buildings and yards. CN is also investing in developing the necessary technology to decarbonize these aspects of our business.

Activity	Technology area	Stage of development	Average % of total R&D investment over the last 3 years	Investment in the reporting year	Average % of total R&D investment planned for the next 5 years	Explanation of how R&D investment in this technology area is aligned with CN's climate commitments and/or climate transition plan
Rail	Control systems	Large-scale commercial deployment	7%	$3 million	8%	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.
Rail	Control systems	Applied research and development	1%	$200,000	1%	CN has renewed its investment in operations research partnering with Université de Montréal for development of mathematical models to potentially find new operational and fuel efficiencies. More optimal assignment and routing of locomotives, loading of intermodal trains to improve aerodynamics, and integrated planning can drive possible carbon emission reductions and are focus areas within this research. Some preliminary results have been produced and CN is reviewing model performance to evaluate their potential to drive business impact. The work was slowed by COVID-19 in 2020 and is now gaining momentum as researchers are more readily available.
Heavy Duty Vehicles (HDV)	Battery electric vehicle	Pilot demonstration	2%		3%	In 2020, we announced a Memorandum of Understanding (MOU) with Lion Electric to pilot zero-emission trucks for use at our intermodal terminals across our network, such as Vancouver, Greater Toronto, and Montreal. These zero-emission trucks will be tested for various tasks such as urban delivery, container shuttle service to port operations and cross-town service. The trucks are being 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 expected to spur innovation and create jobs in surrounding communities.
Rail	Alternative fuels	Pilot demonstration	2%		3%	CN is building important partnerships on the journey toward decarbonization. For example, we are working with Progress Rail and Chevron REG to test high-level fuel blends, including both biodiesel and renewable diesel. This program will allow us to better understand the long-term durability and operational impacts of renewable fuels on our locomotives, especially in cold weather, and plan needed locomotive modifications to leverage higher blends of renewable fuels as they become available over the next decade.
Rail	Electrification	Pilot demonstration	0%		5%	In 2021, we announced the purchase of Wabtec's FLXdrive battery-electric freight locomotive, the first 100% battery heavy-haul locomotive in support of our ambitious long-term goals. The anticipated efficiencies and emission reductions from the technology will be significant, reducing locomotive consist fuel consumption and emissions by up to 30%, and will help open the door to new alternatives beyond the diesel-powered locomotives used today. This new technology is a key component in achieving an effective transition to a lower-carbon future.
Light Duty Vehicles (LDV)	Battery electric vehicle	Small-scale commercial deployment	1%		1%	As part of our sustainability strategy to reduce emissions throughout our operations and promote energy efficiency at our yards, we continue to refine our strategies to deploy electric light-duty vehicles and install charging stations, including for employee use. We are reviewing the various needs of our employees across the system to ensure that our deployment process will cover basic requirements to avoid disruptions in our operations. We are also engaging with local utilities companies and charging station suppliers.

IN THIS SECTION

VERIFICATION

Grain terminal and loop track in Vegreville, Alberta welcomes a CN grain unit train.

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
Details of the 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	87%
Scope 2 location-based	Annual process	Complete	Limited assurance	ISAE 3410	100%
Scope 3 categories, including: Purchased goods and services • Capital goods • Fuel- and energy-related activities (not included in Scope 1 or 2) • Upstream transportation and distribution	Annual process	Complete	Limited assurance	ISAE 3410	100%

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 2022 Scope 1 emissions from locomotive fuel consumption included in our total Scope 1 emissions figure reported in C6.1 versus the corresponding figure for 2021. Emissions from locomotive fuel consumption account for approximately 87% 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 2022 location-based Scope 2 emissions from consumption of electricity in our buildings and yards in C6.3 versus the corresponding figure for 2021. 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 2022 Scope 3 emissions from locomotive fuel, purchased goods and services, capital goods and upstream transportation and distribution including in our total Scope 3 emissions reported in C6.5 versus the corresponding figure for 2021. Data verified accounted for 70% 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 2022 diesel locomotive fuel consumption in MWh reported in C8.2c. Fuel consumption for our locomotives' accounts for 87% 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 2022 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.

IN THIS SECTION

CARBON PRICING

Mixed freight train outside of Masonville, Iowa.
Photo by CN Employee, **Craig Williams**

C11 | CARBON PRICING

Carbon Pricing Systems

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 tonnes CO_2e	Details of ownership	Comments
Quebec Cap-and-Trade	4.36% • 0%	January 1, 2022 - December 31, 2022	736	219,539	Other, please specify: 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. In 2022, CN allocated allowances equivalent to 736 tonnes CO_2e associated with such imports.
Nova Scotia Cap-and-Trade	0.96% • 0%	January 1, 2022- December 31, 2022	0	48,290	Other, please specify: 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. In 2022, CN had zero fossil fuel imports in the province of Nova Scotia.

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
Canada federal fuel charge	January 1, 2022	December 31, 2022	59.49%	$88.7 million	Carbon tax obligations are tracked and paid monthly by Accounts Payable with support from the Taxation group.
British Columbia carbon tax	January 1, 2022	December 31, 2022	12.65%	$36.2 million	Carbon tax obligations are tracked and paid monthly by Accounts Payable with support from the Taxation group.
New Brunswick carbon tax	January 1, 2022	December 31, 2022	0.08%	$3.2 million	Carbon tax obligations are tracked and paid monthly by Accounts Payable with support from the Taxation group.

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.

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

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 $34.85 per metric ton as the minimum and $50 per metric ton as the maximum.

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

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

VARIANCE OF PRICE(S) USED

We review our internal price on carbon annually 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. The annual review considers changes to the pricing schemes as well as our operations.

We internalize the cost of carbon-based on current and projected carbon tax and cap-and-trade carbon pricing analysis. Canada's minimum carbon pollution price rose from $40 to $50 CAD/metric ton in 2022, and will rise by $15 each year going forward to $170/metric ton in 2030. CN also monitors allowance auctions where we are an obligated party under cap-and-trade, with the lowest average price for allowances in Quebec in 2022 being $34.85/metric ton.

IMPACT AND IMPLICATION

We have established an internal price on carbon as a strategic planning tool, considering that addressing climate change is a business cost and opportunity. We use the regulated price or a calculated cross-jurisdictional average as appropriate. 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 supports planning.

For example, the carbon price is applied by our Procurement group to inform decisions related to the purchase of fuel. The Taxation group apply the carbon price to ensure we meet our compliance obligations under Canadian regulatory requirements.

IN THIS SECTION

ENGAGEMENT

Jasper Rail Yard
in Jasper, Alberta.
Photo by CN Employee,
Tim Stevens

C12 | ENGAGEMENT

Supplier Engagement

C12.1 - 12.1a
Climate-related supplier engagement strategy

With 87% of our GHG emissions generated from the use of fuel in our rail operations, representing the main source of Scope 1 and 3 emissions and our second largest spend category, we see engagement of our fuel suppliers as an integral part of our Climate Action Plan. As such, we cover all our fuel suppliers, comprising 4% of suppliers managed by the Procurement function, through engagement. These fuel suppliers represent 45% of our procurement spend and 70% of our GHG emissions.

Type • 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	Impact of engagement, including measures of success
Innovation and collaboration (changing markets) • Collaborate with suppliers on innovative business models to source renewable energy	4%	45%	70%	**Nature of Engagement:** Driven by clean and renewable fuel regulatory requirements, we are engaging with our fuel suppliers to collect information on the type and percentage renewable blend composition of our fuel supply. Understanding the fuel composition and the associated GHG emissions is critical for us to ensure we comply with renewable fuel regulations in Canada and continue to work towards our climate science targets. **Measure of Success and Threshold:** Last year, we measured our success on this engagement by increasing the overall percentage of biodiesel fuel in our rail locomotives above a threshold of 1.15% – the amount achieved in 2020. We also measure success by participation of at least one major fuel supplier in our testing pilots with locomotive manufacturers on the use of sustainable renewable fuel blends, beyond regulated amounts, in our locomotives, to achieve our target. The regulated amounts of renewable fuel blends vary by jurisdiction across Canada but is generally at 2%. **Impact of Engagement:** In 2022, the impact of our engagement with suppliers was successful. Overall, we achieved a 3.01% percentage of biodiesel fuel in our locomotives. 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 138,442 tonnes CO_2e, while simultaneously improving our fuel efficiency by 1.9%. We also announced a partnership with Progress Rail (our locomotive manufacturer) and Chevron REG, our renewable fuel supplier, to test high-level renewable fuel blends including both biodiesel and renewable diesel in support of our sustainability goals. Trials and qualifications of up to 100% bio-based diesel fuel are underway, important steps into reduce GHG emissions from our existing locomotive fleet. This program will allow CN and Progress Rail to better understand the long-term durability and operational impacts of renewable fuels on existing locomotives, especially in cold weather and to plan needed modifications to fully leverage their usage over the next decade.

C12.2 - C12.2a
Climate-related requirements for suppliers as part of our purchasing process

As part of our Climate Action Plan to achieve our science-based target, we are engaging with key suppliers on their climate programs. Specifically, the scope of our engagement targets our suppliers of major and critical categories, including fuel suppliers, locomotive Original Equipment Manufacturers, as well as suppliers with whom we have significant annual spend, such as rail car and steel. The key supplier requirements we assess relate to our suppliers' carbon commitments, existence of climate science targets, as well as emissions performance.

Our supplier engagement on climate-related requirements starts from supplier evaluation and selection to our risk mitigation and improvement process. There are mechanisms in place to assess and monitor climate-related information, which include CN's request for proposal (RFP) process, annual ESG screening through the EcoVadis process, annual supplier performance reviews, and first party verifications.

In 2022, 79% suppliers fill the criteria for compliance, and 23% have complied with this climate-related requirement. Response to supplier non-compliance with this climate-related requirement is to retain and engage.

C12 | ENGAGEMENT

Customer Engagement

C12.1b
Climate-related customer engagement strategy

Type • Details of engagement	Percentage of customers by number	Percentage of customer-related Scope 3 emissions as disclosed 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) your products, goods, and/or services	100%	0%	As part of our active engagement with customers, we use both public forums and customized approaches to serve the needs of our customers. We continued to communicate our Climate Action Plan and our performance, which include through our sustainability reports, resulting sustainability ratings, as well as through a continuous education campaign to help our customers better understand the environmental benefits of shipping their goods by rail. Though all our sustainability reports are accessible to our customers, we also proactively engage with customers who reach out to learn more about our Climate Action Plan, as well as how we can support their objectives to achieve their carbon reduction commitments. This active engagement includes one-on-one meetings, sustainability performance reviews and discussions on how we can align our services with their climate-related objectives and in support of carbon saving strategies. We continued to promote our web-based carbon calculator – the first of its kind in the industry – which is a business tool that allows existing and potential customers to estimate the emissions from rail, marine and truck transportation. As the carbon calculator is publicly accessible, we assume all customers access and use this tool.	**Nature of Engagement:** We engage our customers committed to carbon management to educate them on the climate-related benefits of shipping their goods by rail for their business. **Measure of Success and Threshold:** We measure our success by looking at various metrics: the percentage increase in traffic, measured in Revenue Ton Miles (RTMs), from our truck-competitive business, with an exceedance threshold of 57% from the 2019 baseline percentage of our truck-competitive traffic, the number of requests for our carbon emissions web-based calculator as well as taking note of both recurring and first-time customer engagement, such as customer meetings and sustainability performance reviews. **Impact of Engagement:** Last year, we deemed our engagement with our customers on the environmental benefits of rail as successful primarily because we saw an increase in the occurrence of direct interactions with customers versus prior years. This includes occurrence of customer meetings and presentations and climate assessment questionnaires requested. We also received approximately 8,000 requests for carbon emissions calculations through our web calculator, a decrease of 11% versus the previous year. Consequently, engagement with customers via presentations or discussions on the environmental benefits of shipping by rail, number of responses to customer questionnaires, including during the RFP phase, increased by 21% versus 2021. Note: Traffic from our truck-competitive business stayed relatively stable from 58% in 2021 to 57% in 2022.
Collaboration and innovation • EcoConnexions Partnership Program	31%	0%	Launched in 2014, our 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. As part of this program, we engage with our top 200 customers to participate in the program, reaching 31% of our customers in 2022, where we have stronger relationships and opportunity to influence climate action.	**Nature of Engagement:** Each year, customers are invited to partake in the EcoConnexions partnership program and submissions are evaluated based on the following sustainability criteria: availability of policies or commitments, climate action plans and CDP reporting, responsible consumption including energy efficiency and waste reduction, and integrating modal shift. Based on the evaluation, we recognize customers based on their level of commitment, and in honor of this partnership, we dedicate the greening of communities across Canada and the U.S. to promote biodiversity and minimizing environmental impacts. **Measure of Success and Threshold:** We measure our success by our continued engagement with past participants as well as an increase in the number of customers participating in the program, with an exceedance threshold of 49 – the number of customers recognized in 2021. **Impact of Engagement:** Last year, there was an increase in participation to 63 total customer applications received. We held active discussions with 13 new applicants, sharing our alignment on advancing environmental initiatives, specifically climate action and carbon reporting, safeguarding natural resources, maximizing energy efficiency and opportunities to decrease emissions from transportation. Through our partnership on tree planting, we have also engaged with our customers to protect environmental ecosystems. Since the launch of the EcoConnexions partnership program in 2014, we have planted more than 800,000 trees in Canada and the U.S.

C12 | ENGAGEMENT

Public Policy Engagement

C12.3

Direct and indirect engagement in activities to influence policy makers on climate-related issue

CN engages directly with policy makers and indirectly through trade associations that could influence policy, law, or regulation that may impact the climate.

CN is recognized as a company that delivers responsibly, is a key part of the solution for customers, and is essential to the economy and the communities we serve. Over the year, we continued to deepen our sustainability agenda: moving customer goods safely and efficiently, ensuring environmental stewardship, attracting and developing the best diverse team of railroaders, and helping build safer and stronger communities, in each case while adhering to the highest ethical standards. CN regularly engages with all of our stakeholders, including with all levels of government, shareholders, employees, and community groups.

CN engages directly with policy makers, indirectly through trade associations that could influence policy, law, or regulation that may impact the climate and indirectly by funding organizations who could influence climate policies, laws or regulations. The GSS Committee of the Board oversees CN's strategic government advocacy, corporate memberships, and political contributions. The GSS receives an update annually that provides information on our lobbying activities, a detailed list of our corporate memberships, including industry associations and policy organizations, and a list of our corporate political contributions. CN prides ourselves on being a company that our stakeholders can count on to make the right choices and do the right thing.

Specifically, 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 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.

CN's Climate Action Plan, included in our Management Information Circular available on our website, is our public commitment to conduct our engagement activities in line with the goals of the Paris Agreement.

C12 | ENGAGEMENT

Public Policy Engagement (continued)

C12.3a

Policy, law, or regulation that may impact the climate that CN engages directly with policy makers

At CN, we have a responsibility to participate in public debate on certain public policy issues – specifically on issues that may have an impact on our legitimate business goals and matters that may affect the communities where we operate.

Category of legislation • Focus of legislation	Legislation specifics	Geographic coverage • Country/region	Corporate position	Details of engagement	Explanation of how this legislation is central to the achievement of CN's climate transition plan
Carbon pricing, taxes, and subsidies • Carbon tax	CN engages with government officials with regards to provincial and federal climate-related regulations on carbon pricing and emissions trading schemes. Our engagement with government includes the Quebec and Nova Scotia GHG cap-and-trade systems, which includes GHG reporting and verification obligation, British Columbia and Alberta carbon taxes, the Government of Canada Federal backstop levy that came into effect in April 2019, the Canadian Government's Federal Fuel Charge of $15 per tonne yearly from 2023 to 2030, which aligns with the British Columbia, New Brunswick, and Northwest Territories carbon tax requirements as well as the Clean Fuel Regulation enacted in 2022.	National • Canada	Support with no exceptions	CN participates in ongoing discussions with government from a regulatory lens as well as engaging with policy makers on carbon taxes and emissions trading schemes. The focus of the engagement is on moving the transportation sector forward in identifying practical solutions that contribute to fostering low-carbon economic growth while ensuring significant GHG emissions reductions as it relates to current and future policy development. CN engages with all levels of government as a participant on advisory councils, review boards and regulatory proceedings on a variety of public policy issues including Canada's carbon taxes and emissions trading schemes.	CN's Climate Action Plan is focused on reducing our rail carbon footprint which accounts for 87% of our Scope 1 GHG emissions. We believe the best way to reduce our carbon footprint is by continuously improving our rail efficiency. As such, we have set two 2030 GHG emissions intensity targets which are aligned to a well below 2-degree scenario and approved by the Science-Based Targets initiative. The targets commit us to reduce Scope 1 and 2 GHG emissions by 43% per gross ton mile by 2030 from a 2019 base year, and to reduce Scope 3 GHG emissions from fuel-and energy-related activities by 40% per gross ton mile by 2030 from a 2019 base year. Additionally, in 2021, we announced our commitment to setting a net-zero 2050 carbon emission target aligned to a 1.5-degree scenario. To achieve our science-based target, reducing our Scope 1 GHG emission intensity by 43% by 2030 based on 2019 levels, we are focused on five key strategic areas which are supported by the Government of Canada's carbon tax and emissions trading schemes. Specifically, the Canadian Federal Clean Fuel Regulation and other renewable and clean fuel standards in jurisdictions where CN operates, will continue to present an important opportunity for us to further reduce our emissions. The Clean Fuel Regulation provides incentives and opportunities for fuel suppliers and producers to increase the available of sustainable renewable fuels which are key to reducing our carbon emissions from our locomotives. 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.

C12 | ENGAGEMENT

Public Policy Engagement (continued)

C12.3b

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

CN actively engages with the Railway Association of Canada (RAC) and American Association of Railroads (AAR) and publicly promotes their current positions on climate change. We have evaluated our engagement with these trade associations to ensure alignment with the goals of the Paris Agreement.

Trade association	Is our position on climate change consistent with theirs?	The trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position	Funding provided in the reporting year	How we have influenced, or are attempting to influence their position?
Railway Association of Canada (RAC)	Consistent	The RAC represents close to 60 freight and passenger railway companies. RAC's mission is to work with governments and communities to ensure that Canada's rail sector remains globally competitive, sustainable, and most importantly, safe. We are a long-standing full member of RAC and hold two seats on RAC's Board of Directors. Our Senior Director, Sustainability is a member 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. In April 2019, RAC announced that it has signed an 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. In March 2022, RAC published five policy recommendations around sustainability including energy efficiency, clean and renewable fuels, and funding for low-carbon and net-zero technology in the Canadian rail sector. In December 2022, the RAC released a plan, Rail Pathways Initiative: Developing a Rail Decarbonization Roadmap for Canada, outlining how the rail sector can contribute meaningfully to meeting Canada's GHG reduction target based on emerging low-carbon technologies to further improve fuel efficiency and decarbonize their operations. We supported policy recommendations by RAC to the Government of Canada with respect to the Canadian Clean Fuel Regulation, which included ensuring Environment and Climate Change Canada work with fuel suppliers to ensure that renewable fuel content disclosure is make available, and creating a robust funding program to support research, development and deployment of low-carbon and net-zero technology in the Canadian rail sector. Through the RAC, we have been actively working with the Government of Canada to address the impacts of rail activities on the environment. The RAC initiatives as noted above are consistent with CN's Climate Action Plan and approach to achieving our 2030 science-based targets which focus on five key strategic areas including fleet renewal, innovative technology, big data, operating practices, and cleaner fuels.	$2,861,032	Our funding relates to our long-standing membership of the RAC. The aim of our funding is to ensure CN's active engagement in initiatives such as the MOU with Transport Canada and the development of emissions targets. CN holds two seats on RAC's Board of Directors.
Association of American Railroads (AAR)	Consistent	Founded in 1934, the 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 U.S., Canada, and Mexico. 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 enhanced 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. The AAR recently released a series of policy proposals in March 2021 aimed at effectively combating climate change. We engage with the AAR as a member of the organization and support them in promoting cleaner, greener, efficient, and environmentally responsible transportation solutions. Our Senior Director, 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. The AAR positions as noted above are consistent with CN's Climate Action Plan and approach to achieving our 2030 science-based targets |which focus on five key strategic areas including fleet renewal, innovative technology, big data, operating practices, and cleaner fuels.	$4,249,298	The aim of our funding is to ensure CN's membership to the AAR which includes supporting them in promoting cleaner, greener, efficient, and environmentally responsible transportation solutions.

C12 | ENGAGEMENT

Communications

C12.4

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

Publication	Status	Page references	Content elements	Comments
Annual Report	Complete	VI, XIX, 5, 59, 67, 82	• Governance • Strategy • Risks and opportunities • Fuel efficiency • Other metrics	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 2022 Annual Report, available on our website www.cn.ca.
Management Information Circular	Complete	42–44	• Governance • Strategy • Risks and opportunities • Emissions figures • Emission targets • Fuel efficiency	We publish information on our Climate Action Plan in our 2023 Management Information Circular available on our website www.cn.ca which incorporates the TCFD four sections of Governance, Risk Management, Strategy and Metrics & Targets.
TCFD Report	Complete	1–21	• Governance • Strategy • Risks and opportunities • Emissions figures • 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 2021 TCFD report is available on our website www.cn.ca.
Data Supplement	Complete	2–8, 18, 20	• Emissions figures • Emission targets • Other metrics	Annually, we publish statistics related to our carbon inventory, emissions intensity, emissions targets and other energy and fuel efficiency metrics in our 2022 Data Supplement, available on our website www.cn.ca.
Sustainability Report	Underway	14–32	• Governance • Strategy • Risks and opportunities • Emissions figures • Emission targets • Other metrics	We publish a comprehensive overview of how we drive sustainability including progress around the SDGs, our climate change strategy, our carbon reductions, and low-carbon transition plan, as well as building resiliency and biodiversity. The 2020 Delivering Responsibly Report is available on our website www.cn.ca. CN's next Delivering Responsibly Report will be available in 2023.

C12 | ENGAGEMENT

External Memberships

C12.5

Collaborative frameworks, initiatives and/or commitments related to environmental issues for which CN is a signatory/member

SCIENCE-BASED TARGET INITIATIVE

In 2017, CN became the first railroad in North America, and was 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 2021. The new target, which was approved by the Science-Based Targets initiative in April 2021, commits CN to reducing Scope 1 and 2 GHG emissions by 43% per gross ton mile by 2030 from a 2019 base year. We also commit to reducing Scope 3 GHG emissions from fuel- and energy-related activities by 40% per gross ton mile by 2030 from a 2019 base year.

BUSINESS AMBITION FOR 1.5°C

CN has signed the Business Ambition for 1.5°C, thereby committing to set a long-term science-based target to reach net-zero value chain GHGs emissions by no later than 2050 and to set interim science-based targets across all relevant scopes and in line with the criteria and recommendations of the Science-Based Targets initiative.

UN GLOBAL COMPACT

In 2022, CN joined the United Nations Global Compact initiative, a voluntary platform for the development, implementation, and disclosure of responsible business practices. As part of our membership, CN commits to making the UN Global Compact and its principles part of the strategy, culture and day-to-day operations of our company, and to engaging in collaborative projects which advance the broader development goals of the United Nations, particularly the Sustainable Development Goals. CN is also required to submit an annual Communications on Progress that describes our company's efforts to implement the Ten Principles which will occur in 2023.

ENVIRONMENT AND CLIMATE CHANGE CANADA

In 2022, CN joined the Net-Zero Challenge (Challenge) facilitated by Environment and Climate Change Canada. The Challenge is a voluntary initiative that aims to encourage businesses to develop and implement credible and effective plans to transition their facilities and operations to net-zero emissions by 2050. For CN to remain in the Net-Zero Challenge, we must continue to meet the participation requirements as the Challenge Technical Guide.

TRANSPORT CANADA

Through the RAC, we have been actively working with the Government of Canada since 1995 to address the impacts of rail activities on the environment through a Memorandum of Understanding. The 2018 – 2022 Memorandum of Understanding supports the Government of Canada's commitments under the Pan-Canadian Framework on Clean Growth and Climate Change, and its vision for green and innovative transportation.

IN THIS SECTION

BIODIVERSITY

Southbound intermodal train on the CN Waukesha Subdivision in Vernon Marsh, Wisconsin.

C15 | BIODIVERSITY

Board and Executive Responsibility

C15.1

Board-level oversight and/or executive management-level responsibility for biodiversity-related matters

CN's commitment to the protection of land and biodiversity is firmly embedded in our environmental policy, operating practices, and culture, and is a key area of consideration in every decision we make across our business strategy and activities.

At the board level, our Governance, Sustainability and Safety Committee (GSS) is responsible to assist the Board in fulfilling its oversight responsibilities, in addition to the policies, practices and metrics relating to environmental, social, governance – which includes biodiversity-related issues. The GSS is responsible for monitoring performance against our biodiversity strategy and environmental performance goals.

Biodiversity strategy and performance areas at the GSS level include CN's environmental assessment and permitting standards, construction and environmental compliance, significant spills and restoration efforts, and vegetation management, in addition to our commitment to working with customers, Indigenous communities, and local municipalities to plant 3 million trees by 2030.

At the executive level, the President & CEO is the highest-level management position with direct responsibility for our environmental strategy and biodiversity commitments, as reflected in their annual review of CN's environmental policy and sustainability targets.

Further at the executive level, our Chief Operating Officer (COO) and executive leadership team are responsible for the approval of governance documents overseeing our Environmental Management System and Environmental Management Programs (EMP). Programs are designed to operationalize avoid, minimize, restore, and offset activities. To support adoption at the field level, required and fit-for-purpose training programs and activation resources are developed, deployed, and measured.

At the management level, teams are accountable for developing EMP Governance Documents and operationalizing project management plans aligned to risk management and mitigation processes, training requirements, and defined roles and responsibilities in driving compliance and reducing our impact on the environment, critically sensitive habitat, and threatened and endangered species / species at risk.

In addition, our Sustainability Committee is comprised of senior management-level representatives from relevant business units and corporate functions that have oversight and influence over critical responsibilities and decisions related to biodiversity.

Commitments and Initiatives

C15.2 & C15.5

Commitments, actions and initiatives related to biodiversity

We routinely assess impacts on biodiversity in both our upstream and downstream value chain. This forms part of our actions to progress our biodiversity-related commitments covering land/water management, education and awareness including:

- Adoption of the mitigation hierarchy approach
- Not exploring or developing in legally designated protected areas
- Respecting legally designated protected areas
- Avoiding negative impacts on threatened and protected species

We are taking actions to progress our biodiversity-related commitments including:

- Land/water management
- Species management
- Education and awareness
- Law and policy

We also invest in projects that generate broader benefits for nature and society by greening communities along our network as well as mass reforestation projects with a commitment of planting 3 million trees by 2030.

C15 | BIODIVERSITY

Assessment and Management Process

C15.3
Assessment of the impacts and dependencies of CN's value chain on biodiversity

CN assesses the impacts and dependencies of the company's value chain on biodiversity. Currently we do not assess CN's dependence on biodiversity, however, we plan to within the next two years.

Value chain covered	Tools and methods to assess impacts and/or dependencies on biodiversity	Description of how the tools and methods are implemented and provide an indication of the associated outcome(s)
Direct operations	BISI – Biodiversity Indicators for Site-based Impacts SBTN materiality tool	**Implementation Process:** In CN's Environmental Policy, CN's cross-functional teams work in partnership to "inventory and map critical habitat, threatened and endangered species / species at risk, wetlands, critical environmental receptors, Indigenous communities and local municipalities when completing capacity growth and construction activities or in relation to derailment response events and remedial sites across the network, for the purpose of identifying and assessing dependency- and impact-related biodiversity risks. While our process is a fit-for-purpose model based the geographical scope, varying environmental conditions, and the dynamic nature of our operations, our assessment methodology aligns to the Science-Based Targets for Nature materiality tool framework, working across all projects and events to Assess; Interpret & Prioritize; Measure, Set and Disclose; Act; and Track across relevant biodiversity risk and impact areas. Underscoring the process is our team approach. Using various team tools, including field investigations, geographical information systems, project screening tables, assessment and evaluation checklists, teams work to identify potential biodiversity risks, areas of exposure and ways to avoid, reduce, minimize, or offset those impacts with the goal of restoring all impacted areas. **Assessment Case Study:** An example of our approach can be found at the Milton Logistics Hub project presently under construction. Numerous mitigation measures were identified during the comprehensive environmental assessment to avoid, mitigate and/or offset impacts to the biological and community environment. These included construction hour restrictions to avoid nighttime work, measures to reduce emissions and dust, light impact mitigation and mitigating concerns associated with noise during construction and operations to the community near the facility. An extensive array of mitigation measures for the biological environment were agreed to and are currently being implemented including creation of wetlands, ecopassages for wildlife, turtle nesting area, fish habitat enhancement, just to name a few. Part of CN's role in project delivery is the post construction monitoring to verify the restoration or offsetting habitat or community mitigation measures are functioning as expected and undertaking repair work as required. This enables CN to verify our biodiversity initiatives are functional and helps further the design and delivery of future works with the learnings.

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Assessment and Management Process (continued)

C15.4 – C15.4a
Activities located in or near biodiversity-sensitive areas

Classification and Proximity • Country / Area	Name of the biodiversity-sensitive area • Activities could negatively effect biodiversity	Description of activities located in or near to the selected area, assessment mechanisms and mitigation measures implemented	Mitigation measures implemented within the selected area
UNESCO World Heritage Site Overlap **Key Biodiversity Area (KBAs)** Adjacent • Canada	**Milton Logistics Hub:** Western Chorus Frog, Monarch, Eastern Milksnake, Eastern Meadowlark, Bobolink, and Snapping Turtle **Jaleslie Siding:** Western Rattlesnake and Great Basin Gopher Snake **Glenn Valley:** White Sturgeon and Oregon Snail **Prince Rupert Trackage:** Northern Abalone and Pacific Salmon	**Activities Located Near Selected Areas:** Of the 176 project or site locations subjected to environmental assessments in 2022, four (4) projects related to capacity growth and construction were identified as (Key Biodiversity Areas) being in close proximity to threatened and endangered specific / species at risk. CN carried out assessments of the potential biodiversity and environmental impacts of the Jaleslie, Glenn Valley, and Prince Rupert Trackage projects on the overlapping and adjacent habitat associated with species at risk. This included field investigations to map and understand presence and areal extent of species at risk and work with design to either avoid or minimize those impacts. At the Milton Logistics Hub in 2022 we undertook construction of habitat restoration and offset habitat for fish, wetlands that can support Western Chorus Frog, turtle nesting for Snapping Turtle and monitoring of habitat creation associated with Monarch, Western Meadowlark and Bobolink. Habitat design work and assessment was ongoing for Western Chorus Frog. **Assessment and Mitigation Measures:** Assessment is completed by reviewing potential habitat using CN GIS, field investigations and review of government documents. Potential impacts from projects are determined based on results of the assessment and project design. Where impacts are deemed high, CN's Environment department works with internal teams to revise project scope, location, timing to reduce or avoid impacts. A mitigation measures plan is developed to ensure construction reduces impacts such as timing to avoid sensitive periods for birds and fish, avoiding construction in wetlands or watercourses and if necessary, developing offsets for unavoidable impacts such as wetland creation or fish habitat enhancement works.	• Site selection • Project design • Scheduling • Physical controls • Operational controls • Abatement controls • Restoration • Biodiversity offsets

C15.6
Biodiversity indicators used to monitor performance

At CN, we use various biodiversity indicators to monitor performance across our activities including: state and benefit indicators, pressure indicators, and response indicators.

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Communications

C15.7
Published information about CN's response to biodiversity-related issues other than in the CDP response

Publication	Disclosure	Content elements	Page references
2021 Annual Report	Regulatory	• Content of biodiversity-related policies or commitments • Impacts on biodiversity • Details on biodiversity indicators	13-32
2022 Annual Report	Regulatory	• Content of biodiversity-related policies or commitments • Impacts on biodiversity • Details on biodiversity indicators	11, 32
2020 Delivering Responsibly Report	Voluntary	• Details on biodiversity indicators	3
2022 Data Supplement	Voluntary	• Impacts on biodiversity • Details on biodiversity indicators	7, 8
Milton Project Specific Website	Voluntary	• Impacts on biodiversity • Details on biodiversity indicators • Website for CN's Milton Logistics Hub containing project information, construction updates and CN's progress on mitigating potential effects of the Milton Logistics Hub and is working to incorporate those conditions into the design of the Project.	www.cn.ca/en/about-cn/milton-logistics-hub

2023 TCFD INDEX

CN supports the recommendations from the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD), which are designed to encourage consistent and comparable reporting on climate-related risks and opportunities by companies to their stakeholders. We have been providing disclosure aligned to the TCFD recommendations annually since 2019. This disclosure reflects CN's long standing journey in climate change disclosures since 2009 through the CDP and is aligned with our 2023 CDP Response.

TCFD Category	TCFD Recommendation	Response / Location, Page and URL
Governance Disclose the organization's governance around climate-related issues and opportunities.	a) Describe the board's oversight of climate-related risks and opportunities.	2023 CDP Response, Board Oversight, p. 7–9 2023 Management Information Circular, p. 43, 85 2023 Corporate Governance Manual, Governance, Sustainability and Safety Committee, p. 11-13, 27-31, Say on Climate Action Plan, p. 43
	b) Describe the management's role in assessing and managing climate-related risks and opportunities.	2023 CDP Response, Management Responsibility, p. 10–13
Strategy Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's business, strategy and financial planning where such information is material.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	2023 CDP Response, Risks and Opportunities, p. 15–27 2022 Annual Report, p. 67
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	2023 CDP Response, Risks and Opportunities, p. 19–27, Low-Carbon Transition Plan, p. 29, Business Strategy, p. 33-34, Financial Planning, p. 35–36
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	2023 CDP Response, Scenario Analysis, p. 30–32
Risk Management Disclose how the organization identifies, assesses and manages climate-related risks.	a) Describe the organization's processes for identifying and assessing climate-related risks.	2023 CDP Response, Risks and Opportunities, p. 15–21
	b) Describe the organization's processes for managing climate-related risks.	2023 CDP Response, Risks and Opportunities, p. 15–21, Emissions Reduction Initiatives, p. 43–44, Carbon Pricing, p. 67–69, Engagement, p. 71–77
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	2023 CDP Response, Board Oversight, p. 7–9, Management Responsibility, p. 10–11, Management Processes, p. 15–21
Metrics and Targets Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	a) Disclose the metrics used by the organization to assess climate- related risks and opportunities in line with its strategy and risk management process.	2023 CDP Response, Employee Incentives, p. 11–13, Emissions Targets, p. 38–42, Emissions methodology, p. 47, Emissions Data, p. 49–52, Emissions Breakdown, p. 54–56, Energy, p. 58–59, Additional Metrics, p. 61–62, Carbon Pricing, p. 67–69 2022 Data Supplement / GRI and SASB Index, p. 3, 5–7
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks.	2023 CDP Response, Emissions Methodology, p. 47, Emissions Data, p. 49–51, Emissions Breakdown, p. 54–56 2022 Data Supplement / GRI and SASB Index, p. 3, 5–7
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	2023 CDP Response, Emissions Targets, p. 38–42 2022 Data Supplement / GRI and SASB Index, p. 3, 5–7 2022 Annual Report, p. 5

CONTACT

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PICTURED:
Above: CN signal outside of Oban, Saskatchewan.
On the Cover: CN international intermodal train travelling through Redpass, British Columbia. Photo by CN Employee, **Tim Stevens**

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. This forward-looking information also includes but is not limited to, statements relating to our environmental, social and governance (ESG) strategies and targets, including our climate goals and sustainability commitments. 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 include, but are not limited to, general economic and business conditions, including factors impacting global supply chains such as pandemics and geopolitical conflicts and tensions; 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; the availability of and cost competitiveness of renewable fuels and the development of new locomotive propulsion technology; 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.

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 governance standards. Five principles anchor our commitment:

ENVIRONMENT

Conduct our operations in a manner that seeks to minimize our 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 systems 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 socio–economic benefits and ensuring open dialogue with all stakeholders, including Indigenous peoples.

GOVERNANCE

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

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