DELIVERING RESPONSIBLY

2019
Task Force on Climate–related Disclosure Report

Introduction

Delivering Responsibly is at the heart of how CN is building for a sustainable future. Our 2019 Task Force on Climate-related Financial Disclosure Report outlines our commitment to support the transition to a low-carbon economy.

CHANTALE DESPRÉS
CN Sustainability Director

Transparency regarding climate–related risks and opportunities is critical to maintaining the trust of our stakeholders and allows our investors to better understand the implications of climate change on our business.

Our approach to sustainability disclosure aligns with international standards, including the United Nations Global Compact (UNGC), the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), the United Nations Sustainable Development Goals (SDGs), the World Bank Mobility Goals and the Task Force on Climate–related Financial Disclosure (TCFD).

This 2019 Task Force on Climate–related Financial Disclosure Report provides a comprehensive view into how we understand and manage the risks and opportunities associated with climate change in four sections: **Governance, Risk Management, Strategy, and Metrics & Targets**. This disclosure reflects CN's ongoing journey in climate change disclosures since 2009 through the CDP and is aligned with our 2020 CDP report.

GOVERNANCE

STRATEGY

RISK MANAGEMENT

METRICS & TARGETS

OUR BUSINESS AT A GLANCE

CN is a North American transportation company. Our 20,000-mile rail network spans Canada and Mid-America, connecting ports on three coasts: the Atlantic, the Pacific and the Gulf of Mexico. We offer fully integrated rail and other transportation services, including intermodal, trucking, freight forwarding, warehousing and distribution. Our freight revenues are derived from seven commodity groups representing a diversified and balanced portfolio of goods transported between a wide range of origins and destinations.

2019 HIGHLIGHTS

$250B VALUE OF GOODS HANDLED	**>300M** TONNES OF CARGO MOVED
483B GROSS TON MILES (GTMs)	**$3.9B** CAPITAL INVESTMENTS
~47,000 TONNES OF CARBON EMISSIONS AVOIDED	**~90%** WASTE DIVERTED FROM LANDFILL AND INSTEAD SENT FOR REUSE OR RECYCLING

READ MORE

2018 Sustainability Report

2018 Sustainability Report (Online)

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2020 CDP Report

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Environmental Benefits of Shipping by Rail

Rail has a tremendous potential to reduce the environmental impact of transportation. As a mover of the economy, CN is committed to playing a key role in the transition to a lower-carbon economy.

PICTURED:
Lucerne, BC
Photo by CN Employee Tim Stevens

Providing Low-carbon Transportation Solutions

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

Collaborating for More Efficient Supply Chains

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

Supporting Growth in Sustainable Products and Markets

Every year, we handle over 300 million tons of cargo from the food we eat, the wood to build our homes, the cars we drive, the appliances that make our lives easier, and the energy to power our activities. Many of these goods are being transformed into more sustainable products, and we are moving them in a sustainable way. We also continue to strengthen our position within cleaner energy markets such as wood pellets, wood chips, wind turbine components, solar panels, and biofuels.

An Efficient and Environmentally Friendly Way to Move Goods

75%
MOVING FREIGHT BY RAIL INSTEAD OF TRUCK REDUCES GHG EMISSIONS BY 75%[1]

4–5 times
TRAINS, ON AVERAGE, ARE FOUR TO FIVE TIMES MORE FUEL EFFICIENT THAN TRUCKS[1]

479 miles
ONE TRAIN CAN MOVE ON AVERAGE A TON OF FREIGHT 479 MILES ON A SINGLE GALLON OF FUEL[1]

300+ trucks
ONE SINGLE FREIGHT TRAIN CAN REPLACE OVER 300 BIG TRUCKS[2]

90%
TIER 4 LOCOMOTIVES REDUCE PARTICULATE EMISSIONS BY AS MUCH AS 90%[2]

(1) The Association of American Railroads (2) The Railway Association of Canada

Governance

CN's governance around climate-related risks and opportunities.

Board-level Oversight

The role of the Board is to supervise the management of CN's business and affairs, with the objective of increasing shareholder value. 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 one of its enterprise risks as our business is exposed to transition and physical risks and opportunities. As such, CN's Board supervises CN's management of climate-related risks and opportunities. All Board directors receive regular updates on the company's climate change and fuel efficiency strategies and performance towards targets as part of the briefing materials provided before each Board meeting, approximately ten times per year. In addition, Board members receive CN's sustainability report, which includes specific information on the company's carbon management strategy and performance.

The Audit Committee of the Board of Directors has responsibility for monitoring our risk management and internal controls approach, which includes climate-related risks. Specifically, the Audit Committee reviews risk management policies and provides oversight of our compliance with applicable legal and regulatory requirements.

In 2019, the Audit Committee reviewed the results of our Enterprise Risk Management (ERM) program and made the decision to approve the identification of 19 net risks, which included climate change physical risks. Specifically, they approved our climate risk mitigation controls, MD&A disclosure, initiatives to integrate climate risk management activities into the 2020–2022 business plan, as well as other climate-related disclosure commitments such as our support for the Task Force on Climate-related Financial Disclosure recommendations.

The Environment, Safety and Security (ESS) Committee of the Board of Directors has responsibility for overseeing the development and implementation of environmental policies, assessing practices, and reviewing the business plan to ascertain whether environmental issues are adequately taken into consideration. Every quarter, the Environment, Safety and Security (ESS) Committee of the Board of Directors meets to review performance on environmental compliance, strategies, risks, and performance.

In 2019, the ESS Committee continued its responsibility of overseeing the development and implementation of environmental policies, assessing practices and reviewing the business plan to ensure environmental issues were adequately taken into consideration.

CN's corporate headquarters in Montreal, QC.

READ MORE
2018 Sustainability Report, Pages 56–61

PICTURED:

JJ RUEST
President and Chief Executive Officer

ROB REILLY
Executive Vice–President and Chief Operating Officer

GHISLAIN HOULE
Executive Vice–President and Chief Financial Officer

JANET DRYSDALE
Vice–President, Financial Planning

Executive Leadership

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

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 85% of our direct greenhouse gas emissions generated from fuel consumption during rail operations, this mandate includes providing executive management oversight on the fuel efficiency strategy to meet related targets, oversight on our investments in innovative rail technologies. For example, in 2019 CN spent $0.9 billion on the acquisition of 154 efficient high–horsepower locomotives, as well as fuel conservation practices, such as locomotive shutdowns in yards, streamlined railcar handling, train pacing, coasting and braking strategies.

The COO's Employee Performance Scorecard (EPS) includes 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 (tCO_2e/million tonne kilometres) by 29% by 2030, based on 2015 levels.

In parallel, the Chief Financial Officer (CFO), working with the Vice–President Financial Planning, provides executive management oversight on our carbon strategies. With climate–related risks and opportunities impacting the business, the Financial Planning and Sustainability function needs to have direct responsibility for ensuring CN proactively identifies climate–related risks and opportunities, and for ensuring the company establishes the right policies and programs to meet regulatory compliance obligations, corporate targets, and effectively mitigate potential risks.

For example, in 2019, the CFO and the Vice–President Financial Planning continued to play an important role in ensuring the company took a strategic approach to understand the impact of carbon pricing and emerging clean fuel regulations in Canada on our business. They also ensured the development of strategies to mitigate these risks and to capitalize on longer–term opportunities by supporting the use of renewable fuels and by collaborating with Transport Canada on a study of the freight rail sector electrification.

The Employee Performance Scorecards (EPS) of the CFO and Vice–President Financial Planning include improvements in CN's fuel efficiency, in line with the Canadian rail industry medium–term emission intensity reduction target and the company's long–term science–based target. 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 Vice–President Financial Planning's EPS.

Sustainability Committee

The mandate of CN's Sustainability Committee is to monitor, assess, propose, and initiate mitigation measures for sustainability risks and opportunities, including climate–related matters.

The committee comprises Director– and Senior Management–level representatives from relevant Business Units and Corporate Functions that have oversight over or can influence critical levers in managing CN's environmental or social impact. These include, but are not limited to, Operations, Facilities Management, Fuel Management, Procurement, and Sales and Marketing. CN's Director of Sustainability chairs the quarterly meetings and reports directly to the Vice–President Financial Planning. Critical matters are reported up to the Board as part of the quarterly reports by the CFO and COO.

Management

Management, like all employees at CN, are responsible for upstream and operations cost control, including energy efficiency, and are 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 their EPS objectives.

For example:

- The Fuel Management team performance score is tied to the company's Canadian rail industry emission intensity reduction target of 6% by 2022 from a 2017 baseline and we engage with our suppliers to obtain key information on and optimize our fuel blends in alignment with the Canadian Renewable Fuel Standard and impending Clean Fuel Standard.
- The Facility Management team 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 employee recognition as well as the individual's annual compensation and bonus reward.

Employees

Our EcoConnexions engagement program, launched in 2011, provides our 25,000 employees with practical knowledge and tools to reduce energy consumption, minimize waste and improve good housekeeping practices in our yards. Launched in 2012, our EcoConnexions *From the Ground Up* reforestation program promotes the greening of communities and First Nations situated adjacent to our network. Working with our partners, Tree Canada and America in Bloom, we have planted over two million trees—offsetting carbon emissions, improving air quality and the landscape for future generations to enjoy.

Strategy

CN's actual and potential impacts of climate-related risks and opportunities on our business, strategy and financial planning.

Climate-related Risks and Opportunities

Climate–related risks and opportunities directly influence our strategy.

For example:

- We position the environmental benefits of rail with our customers to promote growth in our intermodal and carload business.
- We actively engage with our locomotive manufacturers as well as our fuel suppliers.
- We strategically focus on investing in new technologies to drive even greater efficiency.
- We seek operational and building efficiencies and invest in energy–efficient data centers and recycling programs.

Tables 1 and 2 on pages 8–11 outline key climate–related risks and opportunities with potential impact to our business over the short (1–2 years), medium (2–3 years) and long term (3–15 years). 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.

Climate-related Scenario Analysis

CN uses qualitative and quantitative climate–related scenario analysis to inform its strategy. Our climate scenario analysis is based on our Scope 1 and 2 direct GHG emissions related to all aspects of our business and was conducted using a 15–year time horizon from 2015 to 2030. The time horizon of 2030 is relevant as it aligns with Canada's GHG 2030 reduction target as well as the expected time required to apply less GHG intensive fuels for our rail locomotives.

The scenario analysis considered business growth projections in line with forecasts developed by CN's Finance department, taking into consideration CN's business mix, as well as relevant market and economic factors.

We applied assumptions on potential efficiency gains through the use of existing and emerging fuel efficiency technologies. In addition, we incorporated growing emissions reductions resulting from increasingly stringent regulations on life–cycle emissions from fuels.

The analysis enabled us, in collaboration with the Science–Based Targets Initiative (SBTi), to set a 2–degree target to reduce our GHG emission intensity by 29% by 2030 based on 2015 levels.

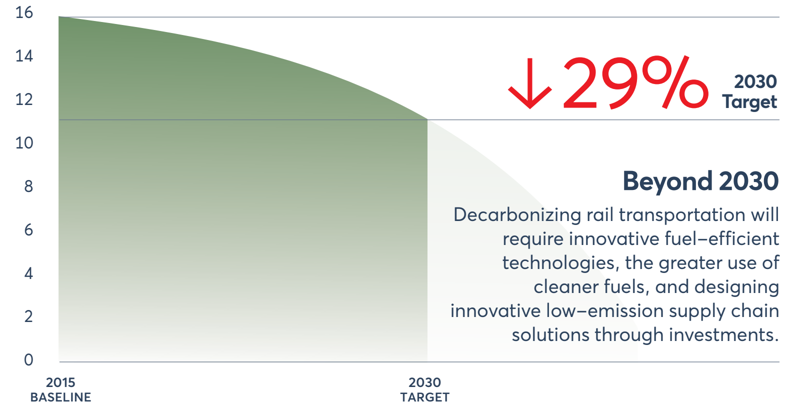
READ MORE

2020 CDP report, Section 2

Our Science-based Target

EMISSIONS TRAJECTORY IN A 2°C SCENARIO

(tCO_2e/million tonne kilometres)



Beyond 2030

Decarbonizing rail transportation will require innovative fuel–efficient technologies, the greater use of cleaner fuels, and designing innovative low–emission supply chain solutions through investments.

ACTION AREAS

Our Strategy
Advancing Our Carbon Positive Initiatives

To achieve our target, we recognize we will need to make transformational changes in our business and strategy. As such, the target informs our low-carbon transition plan and business strategy to accelerate reductions by focusing on five key areas:

Investing in and Upgrading Our Fleets

Increasing Fuel-efficient Technologies

Leveraging the Use of Big Data

Enhancing Operating Practices

Expanding the Use of Cleaner Fuels

Fleet Renewal: Cleaner, more fuel–efficient equipment enables us to decouple growth from GHG emissions. Already, we are investing in locomotives, new–generation railcars, hybrid and electric vehicles. For example, in 2019, we acquired 154 high–horsepower locomotives and equipped our fleet with systems and technologies to maximize operating efficiency and reduce emissions.

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

Big Data: Through our locomotive telemetry systems, we are collecting data to improve performance and fuel conservation. In addition, our in–house built Horsepower Tonnage Analyzer uses the data from the systems to optimize a locomotive's horsepower–to–tonnage ratio.

Operating Practices: Building on our foundational Precision Scheduled Railroading model, we are focused on providing on–the–job training on practices to optimize fuel efficiency. Providing information to track performance in real time to enable fuel conservation through notch limiting, idling reduction and horsepower optimization.

Cleaner Fuels: Driven by regulatory requirements, the growth of clean fuels presents an opportunity for us to further reduce our emissions. Specifically, we are focused on testing and exploring the greater use of renewable fuel blends in our locomotives to meet efficiency objectives and compliance obligations.

Looking to the Future: The Next Power Generation

Collaborating with governments and industry, we are looking to the future now. Discussions on the prospects of electrification and hydrogen power trains are underway. The rail industry in Canada has been actively working with the Government of Canada since 1995 to address the impacts of its activities on the environment, and recently, we participated in a study examining the opportunities and challenges of electrifying rail operations across the country.

TABLE 1: Climate-related Risks

RISK	DESCRIPTION	TYPE	POTENTIAL IMPACT TO BUSINESS	STRATEGIC PLANNING, RISK MITIGATION AND OPPORTUNITIES	METRICS
The risk that an increased severity and frequency of extreme weather events yields increased direct costs.	Extreme temperatures present a risk to our network 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. Further, flash floods can result in landslides and mudslides and cause overflows, damaging the support structures and tracks. Temperature extremes can also impact our operations in the U.S. Tornado Belt, making us vulnerable to delays and outages due to increases in tornado occurrences and intensity.	**Physical:** Acute & Chronic **Risk level:** High	May result in loss of revenue due to extreme weather events affecting customer activities. May result in higher cost associated with ensuring asset availability, or to address damage to assets. **Time horizon:** Short, medium and long term **Potential financial impact figure:** \$75–100 million **Cost of Management:** \$100 million	We have several programs in place to respond to the physical impacts of climate change, including extreme weather readiness plans, an emergency response planning program, inspection programs and strategies to deploy non–rail modes of transport. For example, 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 equipment and repair crews. As part of our financial planning process, we track the potential impact of climate–related events on our operating costs on an annual time horizon and we allocate the necessary funds through departmental operating budgets.	• Number of past, current, and projected weather events • Capital expenditure for climate–related events • Operational expenditure for climate–related events
The risk that the decline in demand for products currently representing a significant percentage of CN's commodity portfolio due to changes to consumer behaviours and climate change regulations will yield decreased revenues.	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. For example, policies and use of renewable energies are expected to spark the decline of coal in North America. In Canada, thermal coal is expected to contract by 10% over the next ten years, a trend that is driven primarily by regulations to phase out traditional coal–fired power plants by 2030.	**Transition:** Market, Policy & Legal, and Technology **Risk level:** Medium—High	May result in the loss of rail freight revenues by 5% if consumer preference was to impact our thermal coal customers to the extent that all coal shipments ceased. **Time horizon:** Medium term **Potential financial impact figure:** \$400–700 million **Cost of management:** \$0.5 million	CN revenues are derived from the movement of a diversified and balanced portfolio of goods, including petroleum and chemicals, grain and fertilizers, coal, metals and minerals, forest products, intermodal, and automotive. This commodity and geographic diversity better positions us to face implications from changing regulations. For example, in 2019, no individual commodity group accounted for more than 25% of total revenues. Furthermore, we engage with customers to promote the environmental benefits of rail to increase our market share in other commodity groups.	• Market demand and supply projections • Emissions regulations with potential impact on customer revenues

TABLE 1: Climate-related Risks (cont.)

RISK	DESCRIPTION	TYPE	POTENTIAL IMPACT TO BUSINESS	STRATEGIC PLANNING, RISK MITIGATION AND OPPORTUNITIES	METRICS
The risk that mandates on and regulations of services yield increased direct costs to transition to lower emissions technology.	With approximately 85% of our GHG emissions generated from rail operations, new mandates and regulations, such as the Canadian Fuel Standard that is proposed to come into effect in 2021, require us to continuously review our fleet and invest in new technology	**Transition:** Market, Policy & Legal, and Technology **Risk level:** Medium—High	May require increased investment in cleaner, more fuel-efficient rail and non-rail equipment to decouple growth from GHG emissions. **Time horizon:** Medium term **Potential financial impact figure:** \$500–1,000 million **Cost of management:** \$4.6 million	We continuously improve our rail efficiency to decouple growth from carbon emissions, making us one of the most fuel-efficient railroads in North America. In addition to the capital intensive renewal of our fleet, investing in Tier 4 locomotives, new-generation railcars, hybrid and electric vehicles, the installation of fuel-efficient technologies and big data management analytics capabilities are helping us further reduce our carbon footprint and are part of our low-carbon transition plan in alignment with our science-based target reduction of 29% GHG emission intensity by 2030. Building on our foundational Precision Scheduled Railroading model, we are also focused on providing on-the-job training on practices to optimize fuel efficiency. Providing information to track performance in real time to enable fuel conservation through notch limiting, idling reduction and horsepower optimization. We furthermore develop strategies to capitalize on longer-term opportunities by supporting the use of renewable fuels and by collaborating with Transport Canada on a study of the freight rail sector electrification.	• Fleet emissions intensity • Fleet fuel efficiency • Fleet air emissions intensity • Emissions regulations • Low-carbon research investment spent • % of MWh from renewable vs non-renewable sources • Renewable fuel energy consumption in MWh • # of vehicles with electric drive-train • % of fleet equipped with smart system

TABLE 2: Climate-related Opportunities

OPPORTUNITY	DESCRIPTION	TYPE	POTENTIAL IMPACT TO BUSINESS	STRATEGIC PLANNING, TO REALIZE THE OPPORTUNITIES	METRICS
The opportunity to increase revenues resulting from increased demand for low emission goods and services.	The movement towards carbon pricing in North America coupled with the growing pressures on CN customers to reduce their supply chain carbon emissions present important opportunities for us to position the environmental benefits of rail. Shipping freight by rail instead of trucks can reduce GHG emissions by up to 75%. 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.	**Transition:** Market **Opportunity level:** Medium—High	May promote growth within our intermodal and carload business segments. **Time horizon:** Medium term **Potential financial impact figure:** Up to \$9.1 billion, based on our truck–competitive business revenue, which accounted for 57% of the revenue in 2019. **Cost to realize opportunity:** \$3,900 million	We actively engage with customers to position the environmental benefits of rail. We also invest significantly in the growth of our intermodal business, which includes both infrastructure and equipment investments. Specifically, in 2019, we invested in our inland terminals to accommodate greater demand in key consumer markets, such as the new \$250–million logistics hub in Milton, Southern Ontario. In November 2019 we opened Canada's first privately operated intermodal terminal in Regina, SK, exclusively served by CN. CN is working with other Class I railroads to enable new intermodal service offering to convert long–haul trucks to interline rail services. For example, in 2019, CN and CSX announced a new intermodal service offering. Finally, in 2019, we closed two acquisitions strengthening our intermodal business, including TransX and H&R Transport Intermodal division.	• Market demand and supply projections • Intermodal commodities growth projections • Emissions regulations with potential impact on customer revenues • Fleet (rail and truck) emissions intensity • Fleet (rail and truck) fuel efficiency

TABLE 3: Climate-related Opportunities (cont.)

OPPORTUNITY	DESCRIPTION	TYPE	POTENTIAL IMPACT TO BUSINESS	STRATEGIC PLANNING, TO REALIZE THE OPPORTUNITIES	METRICS
The opportunity to increase revenues through access to new and emerging markets.	Concerns over price volatility, potential scarcity of non–renewable fuels, and environmental concerns have led to the rapidly growing adoption of renewable and alternative sources of energy. Assuming government policies evolve at a similar speed as in the past, renewables share is expected to triple to ~13% of global energy generation by 2036. For example, although the base is smaller, CN's clean energy revenues have been growing faster than fossil fuel revenues in the period from 2009 to 2019.	**Transition:** Market **Opportunity level:** Medium—High	May promote growth of our clean energy commodity segment. **Time horizon:** Long term **Potential financial impact figure:** $750–1,000 million **Cost to realize opportunity:** $0.5 million	We are working closely with our customers to further develop these business 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 wind turbines. Due to their size, unique shape and weight, CN transports wind turbines as a dimensional load using specialized equipment for heavyweight and oversized products.	• Market demand and supply projections • Emissions regulations with potential impact on customer revenues
The opportunity to reduce direct cost by moving to more efficient buildings.	Opportunities exist from the increasing availability of government and utility company subsidies for the implementation of energy efficiency projects. The projects increase operational efficiency, reduce energy consumption, and contribute to lowering emissions and reducing capital and operating costs. Specific types of projects include Heating Ventilation and Cooling (HVAC) system upgrades, installation of more efficient air compressors and yard air lines to charge our train braking systems, and lighting upgrades.	**Transition:** Policy & Legal, and Technology **Opportunity level:** Low—Medium	May enable the reduction of Scope 2 emissions, while observing energy cost savings. **Time horizon:** Short term **Potential financial impact figure:** $0.3 million **Cost to realize opportunity:** $0.05 million	To maximize the opportunity, we continue to monitor funding opportunities from government and utility company subsidy programs that align with our procurement strategy. We actively submit project proposals and continue to collaborate with key utilities on identifying energy efficiency project opportunities. Specifically, in 2019, CN received subsidies from BC Hydro, Manitoba Hydro, Efficiency Nova Alberta, and Bluewater Power Distribution for energy efficiency projects implemented across our network.	• Emerging regulations • Scope 2 emissions • % of MWh from renewable vs non–renewable sources • Renewable fuel energy consumption in MWh • % of buildings with low–carbon energy products • Energy and GHG emissions savings from retrofit projects • Capital spent

Moving the Sustainable Economy

Our connections with our customers, supply chain partners and governments are enabling us to deliver sustainable and profitable business that drives economic prosperity in a low-carbon environment.

ENABLING OUR CUSTOMERS TO FEED THE WORLD

Thanks to our expansive network, we are playing a key role in supporting our customers to bring food to tables in North America and all over the world. Our Grain Plan is focused on supporting end–to–end supply chain reliability.

PROVIDING A NEW WAY TO MOVE BITUMEN

We made good headway with our environmentally safe CanaPux™ technology for transporting bitumen as a solid pellet that floats, and does not explode, leak or dissolve. Once at their destination, the bitumen pellets can be re–liquefied and the polymer recycled.

BRINGING ELECTRIC VEHICLES TO MARKET

As the global electric vehicle market grows, we are extending our reach through additional automotive distribution centres in major markets. The EV market has the potential to create high–end, knowledge–based jobs in North America, reduce emissions and improve urban air quality.

LEVERAGING OUR REACH TO POWER THE FUTURE

Our network reaches into the lithium–rich regions of North America to offer supply chain solutions for concentrate producers. Lithium–ion batteries are broadly applied, from home electronics, to EVs, and even energy storage systems for solar and wind energy.

DELIVERING CLEANER ENERGY ALTERNATIVES

Thanks to the innovation of our customers, we are moving cleaner energy alternatives, including methanol, solar panels and wind turbines. To strengthen North America's positioning in cleaner energy markets we are moving products across Canada and the U.S. and export to Asia.

CONNECTING THE WORLD TO BIOFUELS

Shipments of engineered wood sidings, wood chips and wood pellets from North American plants are in growing demand for customers looking for a more sustainable renewable fuel solution for residential, institutional, or industrial heating.

MOVING SCRAP FOR REUSE AND RECYCLING

Items within this industry are recycled repetitively without degradation or loss of its properties. CN has been moving scrap metal for customers for many years and we also recycle ferrous and non–ferrous scrap metal, largely from our shops and yards including rail, railcars, and locomotive parts.

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Risk Management

CN's approach to identify, assess and manage climate-related risks.

At a company level, CN uses enterprise and operational risk management processes to identify, prioritize, assess, respond to, and disclose risks, including climate–related risks that have the potential to affect business strategy.

For each risk (inherent or residual), a ranking is provided ranging from high to low, based on financial, operational, environmental, and reputational impacts (worst–case) and the associated likelihood of occurring. Current and planned mitigation activities are captured and assigned ownership at the appropriate level. For example, ownership for enterprise–level risks resides at the executive level. We regularly report on our risks internally, highlighting substantive risks/ opportunities that have the potential financial impact that is greater than 1% of revenue or is otherwise perceived as significant and could result in irreparable damage to CN's reputation and/or assets.

In response to increasing public and investor concerns over climate change, we have been strengthening the transparency and credibility of the information we publish publicly on climate–related issues, including concerning governance, risks, opportunities and performance. In 2019, climate–related disclosures were included as part of our 2019 Annual Report, Delivering Responsibly Sustainability Report, Investor Fact Book, and on our website.

The processes for climate–related risks and opportunities, which typically refer to the impacts on our supply chain, existing and emerging regulations, technology, market, reputation, legal, and both chronic and acute physical 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.

CLIMATE–RELATED RISKS

An important part of the TCFD's recommendations is the consistent categorization of climate-related risks and opportunities and the resulting financial impacts. Following these recommendations, CN identified the types of transitional and physical risks that are most pertinent to our business.

READ MORE

2020 CDP Report, Section 2

Metrics & Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.

As we prepare for the future, we are committed to improving our carbon intensity consistent with stabilizing global temperatures.

In 2016, CN was the first freight railroad to obtain approval from the SBTi for a 2–degree science–based target to reduce our GHG emission intensity by 29% by 2030 based on 2015 levels. Through the recent renewal of a long–standing Memorandum of Understanding with Transport Canada, we have furthermore committed to reduce our locomotive GHG emissions by 6% by 2022 based on 2017 levels.

In addition, we are aligned with the Renewable Fuel Standard, which aims to reduce GHG emissions through the increased use of lower–carbon fuels and energy sources. Specifically, we have set a year–on–year rolling target of 2% renewable fuel consumption of our Canadian rail fleet. Aligned with the proposed Federal Clean Fuel Standard and other existing Clean Fuel Standards in jurisdictions where CN operates, the renewable fuel market will continue to present an important opportunity for us to further reduce our emissions in the medium term by using biodiesel blends in our locomotive fleet. In the coming years, we look forward to working with our suppliers to explore the greater use of renewable fuels.

In addition, CN will continue to lead in efficiency by piloting the use of electric trucks. Working with Lion Electric Co., we aim to deploy eight innovative, zero–emission electric trucks in cities across our network.

TABLE 3: Our Targets

TARGET	DESCRIPTION	TYPE	TIME FRAME	PROGRESS UPDATE
Science–based Carbon ↓ 29%	Reduce our Scope 1 and 2 GHG emission intensity (tCO_2e/million tonne kilometres) by 29% by 2030 based on 2015 levels.	Intensity	**2030**	In 2019, total Scope 1 and 2 emissions combined were 5,801,578 tonnes of CO_2e, a decrease of 163,597 tonnes of CO_2e, or 2.7%, when compared to the year 2018. On a tonne–km basis, it was approximately 8.1% less emission intensity than our base year of 2015.(2)
Mid–term Carbon ↓ 6%	Reduce our Scope 1 and 2 GHG emission intensity (tCO_2e/million tonne kilometres) by 6% by 2022 based on 2017 levels.	Intensity	**2022**	In 2019, total Scope 1 locomotive emissions were 4,962,923 tonnes of CO_2e, a decrease of 132,460 tonnes of CO_2e, or 2.6%, when compared to the year 2018. On a kg–RTK basis, it was approximately 0.04% less emission intensity than our base year of 2017.
Renewable Fuels ↑ 2%	Achieve a year–on–year rolling target of 2% renewable fuel consumption of our Canadian rail fleet.	Absolute	**Annual**	We are continuously monitoring this target as we work to assess the impacts of increasing renewable fuel blend rates in our locomotive diesel fuel supply to determine impacts on locomotive fuel efficiency as well as impacts on fuel costs.

(1) Tables 1 and 2, on pages 8–11 outline key metrics used by CN to assess climate–related risks and opportunities in line with the company's strategy and risk management process.
(2) In alignment with guidelines from the Science Based Target Initiative (SBTi) that recommend a recalculation of targets to reflect significant operational changes that compromise relevance and consistency of the existing target, CN is excluding statistics related to TransX operations from this year's progress reporting. CN acquired TransX, a transportation and logistics company, in 2018. The acquisition closed in 2019 and TransX continues to operate independently.

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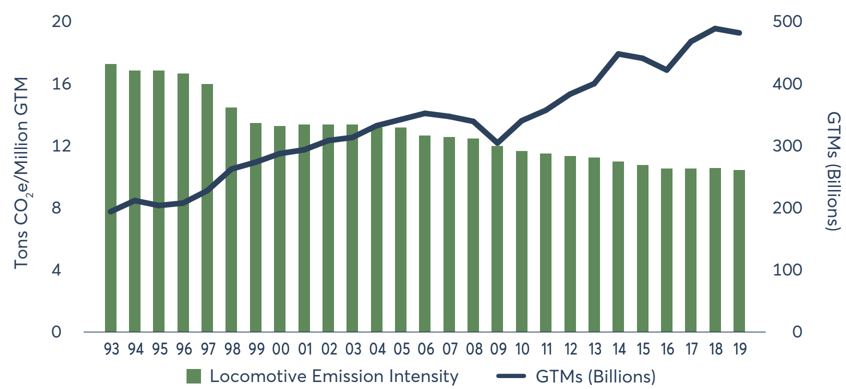
Measuring Our Performance

Decoupling Growth from Carbon Emissions

Since 1993, we have reduced our locomotive emission intensity by 40%, avoiding 46 million tons of carbon, and we continue to lead the North American rail industry, consuming approximately 15% less fuel per gross ton-mile. With approximately 85% of our GHG emissions generated from rail operations, we will need to continue to decouple our growth from GHG emissions to achieve our science-based target and limit and reduce our absolute direct and indirect emissions.

CARBON EMISSION INTENSITY VS GROSS TON MILES (GTMS)

(Tons CO_2e/Million GTM vs. Traffic Billion GTM)



SINCE 1993:

↓ 40%

REDUCTION IN LOCOMOTIVE GHG INTENSITY

↓ 46 million

TONS OF CARBON AVOIDED WHILE ACHIEVING RECORD GROWTH IN THE VOLUME OF FREIGHT WE MOVE

TABLE 4: Emissions Data Table

For a comprehensive summary of the environmental metrics related to CN's operations please see our Delivering Responsibility 2019 Data Supplement. For emissions methodology, please see our CDP Climate Change Response.

DATA	MEASUREMENT	2019	2018	2017	2016	GRI	SASB
Total GHG emissions (Scopes 1 and 2)[a]	Metric tonnes of CO_2e	**5,934,095**	5,965,175	5,671,982	5,221,152	–	110a.1
Direct GHG emissions (Scope 1)[b]	Metric tonnes of CO_2e	**5,771,894**	5,776,183	5,499,641	5,032,309	305–1	110a.1
Rail locomotives[c]	Metric tonnes of CO_2e	**4,962,923**	5,095,382	4,865,352	4,405,606	305–1	110a.1
Intermodal CNTL trucks	Metric tonnes of CO_2e	**140,760**	149,620	149,669	140,804	305–1	110a.1
Intermodal TransX trucks	Metric tonnes of CO_2e	**132,518**	N/A	N/A	N/A	305–1	110a.1
Marine vessel fleet	Metric tonnes of CO_2e	**191,557**	192,860	187,093	204,067	305–1	110a.1
On Company Service fleet	Metric tonnes of CO_2e	**95,552**	95,664	90,211	86,273	305–1	110a.1
Intermodal equipment	Metric tonnes of CO_2e	**60,834**	62,323	57,185	45,581	305–1	110a.1
Miscellaneous fuel emissions	Metric tonnes of CO_2e	**187,749**	180,334	150,130	149,978	305–1	110a.1
Indirect GHG emissions (Scope 2)[d]	Metric tonnes of CO_2e	**162,202**	188,992	172,341	188,843	305–2	–
Other indirect GHG emissions (Scope 3)[e]	Metric tonnes of CO_2e	**2,298,649**	2,488,659	2,768,395	2,740,942	305–3	–
GHG emission intensity[f]							
Total GHG emissions (by rail freight revenue)	Metric tonnes of CO_2e per thousand dollars of rail freight revenue	**0.42**	0.44	0.46	0.46	305–4	–
Total GHG emissions (by employee)	Metric tonnes of CO_2e per full–time employee	**222**	235	246	234	305–4	–
Impact of service							
Rail emission intensity[g]	Metric tonnes of CO_2e per million GTMs	**10.28**	10.39	10.37	10.40	–	110a.1
CNTL truck emission intensity[h]	Metric tonnes of CO_2e per thousand kilometres travelled	**1.21**	1.21	1.23	1.22	–	110a.1
TransX truck emission intensity[h]	Metric tonnes of CO_2e per thousand kilometres travelled	**1.31**	N/A	N/A	N/A	–	110a.1
Marine vessel emission intensity	Metric tonnes of CO_2e per million net ton miles	**16.63**	16.20	16.37	16.90	–	110a.1
Target							
Measure (GHG emission intensity)[i]	Metric tonnes of CO_2e per million revenue tonne kilometres	**15.61**	15.62	15.56	15.71	–	110a.1

(a) Our Scope 1 and 2 GHG emissions are consolidated based on an operational control approach.
(b) Our GHG Scope 1 emissions include rail and non–rail emissions. The GHG Protocol was applied. We measured carbon dioxide, methane and nitrous oxide using emission factors and global warming potentials from the Environment Canada National Inventory report and the International Panel on Climate Change Fifth Assessment reports, respectively.
(c) Rail locomotives emissions decreased 2.6% from 2018 due to a decrease in locomotive diesel consumption. Less locomotive diesel was consumed as a result of higher rail fuel efficiency and less GTMs travelled in 2019.
(d) Our GHG Scope 2 emissions comprise electricity emissions only. The GHG Protocol was used to calculate the Scope 2 GHG emissions, covering carbon dioxide, methane and nitrous oxide. Scope 2 emissions were calculated using a location–based method. We applied North American utility cost per MWh conversion factors and used emission factors from Environment Canada's National Inventory Report and the U.S. EPA eGRID database to convert MWh into tonnes of CO_2e.
(e) Our GHG Scope 3 emissions include emissions from diesel fuel production, purchased goods and services, capital goods, waste generated in operations and upstream transportation and distribution. In 2018, business travel emissions represented less than 2% of Scope 3 emissions. They were considered immaterial in the 2019 reporting year and excluded from our Scope 3 emissions estimate. Other categories of emissions were calculated using standard emission factors multiplied by activity levels or dollars of spend.
(f) Calculations for GHG emission intensity covers Scope 1 and 2 emissions only.
(g) Rail emission intensity is a measure of the tonnes of CO_2e generated by locomotives per million gross ton miles (GTM).
(h) The emissions intensity of the recently acquired TransX trucking fleet is reported separately to provide year–over–year comparability.
(i) GHG emissions are total Scope 1 and 2. Revenue tonne kilometers include rail, marine vessels and CNTL trucks. The recently acquired TransX trucks are not included in this metric to provide year–over–year comparability while CN investigates ways to consider acquisitions and divestitures in its science–based target.

Memberships & Commitments

CN participates in a range of climate-related and sustainability standards, voluntary initiatives and public commitments.

Member of the World Index (2012–2019)

Sustainability Yearbook (2019)

Climate Change A– (2019)

Committed to RAC's Memorandum of Understanding with the Federal Government to Reduce Locomotive Emissions

Contributing to the 2030 Sustainable Development Goals (SDGs)

Corporate Knights Global 100 (2020)

Listed member (2009–2019)

Listed member (2010–2019)

Listed member (2014–2019)

Reporting conformance to the GRI Standards: Core Option

Adopting the TCFD recommendations in our reporting

Reporting conformance to the SASB, Rail Transportation Standards

ABOUT CN: Canadian National Railway Company (CN) was incorporated in 1919 by special act of the Parliament of Canada with the appointment of its first Board of Directors by Order in Council in 1922. We were privatized in 1995, transformed from a Crown corporation into an investor–owned company. Headquartered in Montreal, Quebec, our stock trades on the Toronto Stock Exchange (CNR) and the New York Stock Exchange (CNI). Except where otherwise indicated, all financial information reflected in this document is expressed in Canadian dollars and determined on the basis of United States generally accepted accounting principles (GAAP). For more information, please refer to our Annual Information Form available on SEDAR at www.sedar.com or on our website at www.cn.ca.

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. 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 the actual results or performance of CN to be materially different from the outlook or any future results or performance 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, the duration and effects of the COVID–19 pandemic; general economic and business conditions particularly in the context of the COVID–19 pandemic; industry competition; inflation, currency and interest rate fluctuations; changes in fuel prices; legislative and/or regulatory developments; compliance with environmental laws and regulations; actions by regulators; increases in maintenance and operating costs; security threats, reliance on technology and related cybersecurity risk; trade restrictions or other changes to international trade arrangements; transportation of hazardous materials, various events that could disrupt operations, including illegal blockades of rail networks and natural events such as severe weather, droughts, fires, floods and earthquakes; climate change, labour negotiations and disruptions; environmental claims; uncertainties of investigations, proceedings or other types of claims and litigation; risks and liabilities arising from derailments; timing and completion of capital programs; and other risks detailed from time to time in reports filed by CN with securities regulators in Canada and the United States. Reference should be made to Management's Discussion and Analysis in CN's annual and interim reports, Annual Information Form and Form 40–F, filed with Canadian and U.S. securities regulators on SEDAR at www.sedar.com as well as on the U.S. Securities and Exchange Commission's website at www.sec.gov through EDGAR and available on CN's website at www.cn.ca/en/investor, for a description of major risk factors.

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 Reporting

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

SUSTAINABILITY REPORT

DATA SUPPLEMENT / GRI AND SASB INDEX

TCFD REPORT

CDP RESPONSE

Contact

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Our Sustainability Commitment

Delivering Responsibly is one of the pillars of What CN Stands For. It determines how we conduct our business every day and defines our contribution to building a more sustainable future. Five principles anchor our sustainability commitment:

ENVIRONMENT

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

SAFETY

Aim to be the safest railroad in North America by establishing an uncompromising safety culture.

PEOPLE

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

COMMUNITY

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

GOVERNANCE

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

PICTURED (COVER):
St-Tite, QC
Photo by CN Employee
Jean-François Dumont

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