



Climate Action Plan

April 2021



Sustainability is at the heart of how CN operates

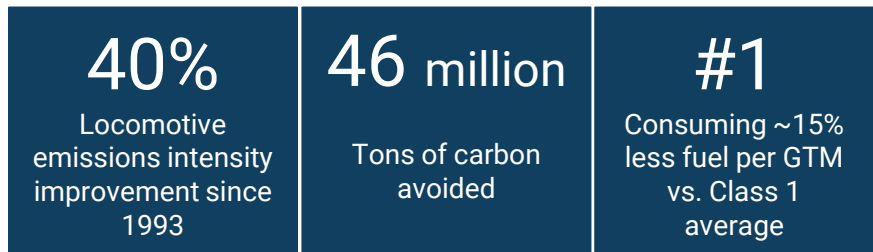
We call it Delivering Responsibly. Five Principles anchor our commitment:



Capitalizing on a strong track record of fuel efficiency

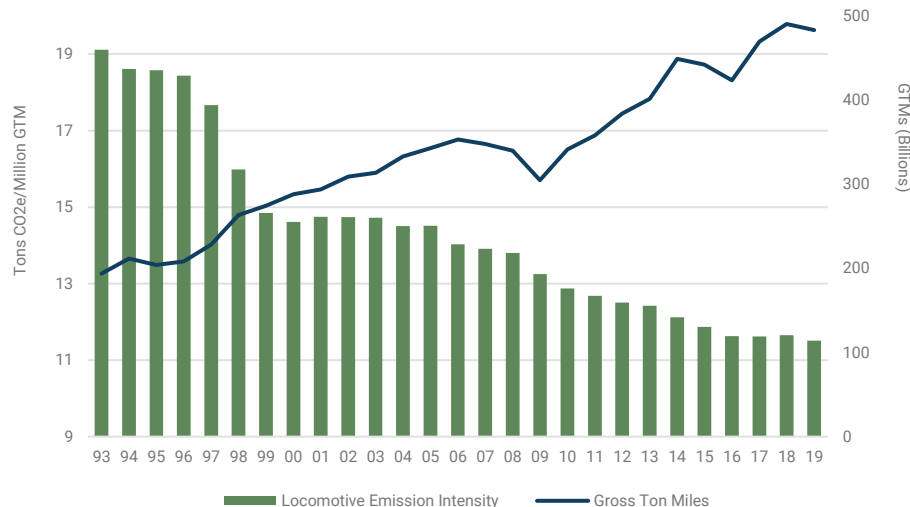
We recognize the importance of mitigating and adapting our business to changing climate conditions

- CN has been making a positive contribution in the fight against climate change by offering carbon-efficient transportation solutions to our customers
- Since 1993, we have reduced our rail locomotive greenhouse gas (“GHG”) emissions intensity by 40%, avoiding 46 million tons of carbon dioxide equivalents (tCO₂ e), and we continue to lead the North American rail industry, consuming approximately 15% less fuel per gross ton-mile than the industry average



Decoupling Growth from Carbon Emissions

CARBON EMISSION INTENSITY vs GROSS TON MILES (GTM)
(Tons CO₂e/Million GTM vs. Traffic Billion GTM)

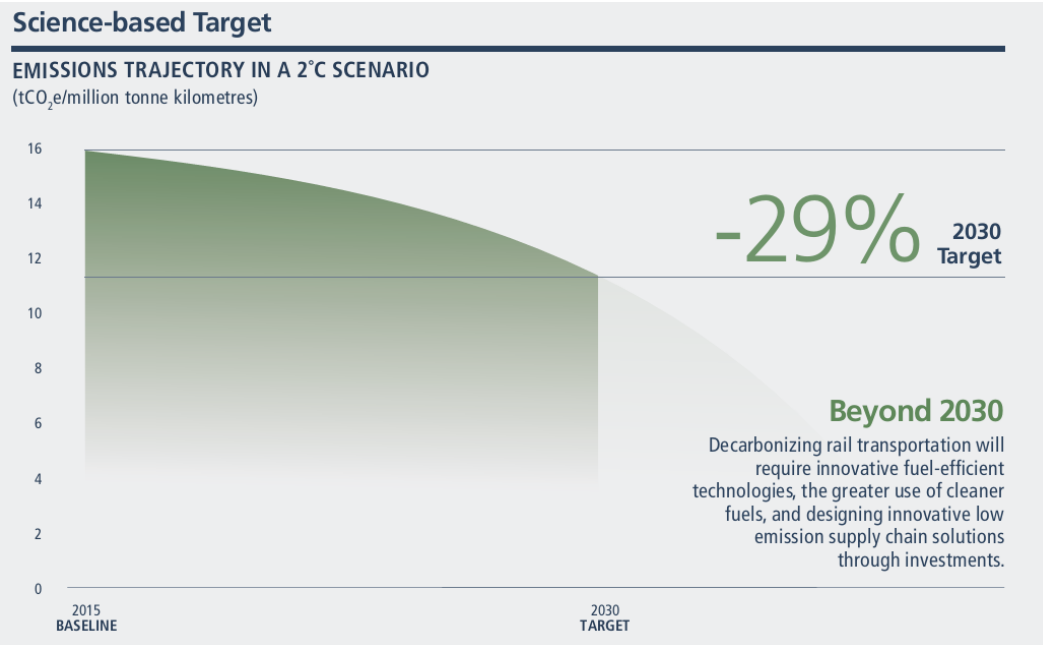


Committed to reduce emissions

In 2017, CN became the first railroad in North America to set an approved science-based target

- As we prepare for the future, we are committed to reduce emissions and improve our carbon intensity consistent with stabilizing global temperatures
- In 2017, CN became the first railroad in North America to set an approved science-based target by committing to reduce our GHG emission intensity (tCO₂e/million revenue tonne kilometres) by 29% by 2030 based on 2015 levels
- In 2020 we achieved a reduction of 6.8% of CO₂ emissions in intensity compared to our 2015 base year, progressing 23% towards our 2030 target

To ensure consistency with the most recent climate science and best practices that apply a well below 2-degree scenario, we have resubmitted our target. We expect to issue our new and increased level of ambition target in Q2 of 2021



Advancing our carbon reduction initiatives

With ~85% of our emissions generated from rail operations, we focus on five key strategic areas to improve our rail efficiency

At CN, we believe 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. We believe the best way to reduce our carbon footprint is by continuously improving our rail efficiency. Our target informs our low-carbon transition plan and business strategy.

To achieve our science-based target to reduce our GHG emission intensity by 29% by 2030 based on 2015 levels, we are focused on five key strategic areas:



1. Fleet Renewal

Investing
in and
Upgrading
Our Fleets

Investing in and Upgrading Our fleets:

- Cleaner, more fuel-efficient equipment enables us to decouple our business growth from GHG emissions
- We continue to purchase more fuel efficient locomotives and in 2020, acquired 41 new high-horsepower units

As we look to **2030 and beyond**, CN recognizes the need for new **locomotive propulsion technology** to meet the deep decarbonisation required to achieve net zero emissions by 2050.

We also recognize the **importance of collaborating** with governments, supply chain partners, universities, cleantech, fuel producers and locomotive/engine manufacturers in achieving an effective transition to a lower carbon future



New fuel efficient locomotive
Photo taken by CN employee Darren Doss

2. Innovative Technology

Increasing
Fuel-Efficient
Technologies

Increasing Fuel-Efficient Technologies:

We equip our locomotives with innovative technologies to maximize locomotive operating effectiveness and efficiency, improving train handling, braking performance, and overall fuel efficiency, and therefore, carbon efficiency

- **Locomotive Energy Management System** – Regulates the speed of a train by controlling the locomotive throttle and dynamic brake, and computes the most efficient manner to handle the train
- **Locomotive Data Telemetry System** – Collects data to drive improved locomotive and train performance, including fuel conservation
- **Distributed Power (DP)** – Allows for the remote-control operation of a locomotive in conjunction with the locomotive unit(s) at the head end of a train. DP technology improves braking performance, train handling and fuel efficiency. **Horsepower Tonnage Analyser (HPTA)** – CN's in house built HPTA gives crews instructions and real-time monitoring to ensure they only use the power needed, by optimizing a locomotive's horsepower-to-tonnage ratio



3. Big Data

Leveraging the Use of Big Data

Leveraging the Use of Big Data:

- 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
- For example, through our locomotive telemetry systems, we collect large amounts of data to improve performance and fuel conservation. In addition, HPTA uses the data from the systems to optimize a locomotive's horsepower-to-tonnage ratio, further minimizing fuel consumption



4. Operating Practices

Enhancing Operating Practices:

- CN pioneered **Precision Scheduled Railroading (“PSR”)**, an operating model to ship more freight in a tight, reliable and efficient operation. This highly disciplined approach to asset utilization is being enhanced by the deployment of incremental operating technology. **Digital Scheduled Railroading (“DSR”)** layers advanced technology and automation onto every aspect of our operations
- Our **Fuel Management Excellence (“FMX”)** program provides information to track performance in real time and enables focused on-the-job training on practices that promote fuel conservation
- We educate our train crews and rail traffic controllers on best practices – from locomotive shutdowns in our yards to streamlined railcar handling, train pacing, coasting and braking strategies
- Our locomotive engineers receive real-time information on train characteristics, performance and terrain, through an **Energy Management System (“EMS”)**, which computes the most efficient train settings and regulates speed
- Capitalizing on our locomotive systems and advanced data analytics, and DSR initiatives, will help us identify additional opportunities for fuel conservation operating practices in the coming years



5. Cleaner Fuels

Expanding
the Use of
Cleaner
Fuels

Expanding the Use of Cleaner Fuels:

- Driven by regulatory requirements, the growth of the renewable fuel market presents an immediate opportunity to further reduce our emissions by using sustainable renewable fuel blends
- We have set a short-term year-on-year rolling target of 2% sustainable renewable fuel consumption for our Canadian locomotive fleet. In the medium-term, the proposed Canadian Federal Clean Fuel Standard and other existing Renewable and Clean Fuel Standards in jurisdictions where CN operates, will present an opportunity for us to further reduce our emissions
- Achieving our target is dependent in part on the availability of sufficient volumes of cost competitive sustainable renewable fuels in the years to come. The extent of our ability to obtain and use sufficient volumes of sustainable renewable fuels will require collaboration between locomotive manufacturers and fuel producers. This ecosystem of collaboration will be key to enabling our success



Reducing our non-rail ground fleet carbon footprint

The carbon footprint of our non-rail ground operations comprises approximately 11% of our GHG emissions

Upgrading our non-rail ground fleet:

- Over the past few years, we have been focused on improving fuel efficiency, while also increasing the use of sustainable renewable fuels, for our non-rail ground fleet, comprising intermodal equipment, trucking, On Company Service (“OCS”) vehicles and CNTL trucks
- We have purchased electric vehicles in our OCS fleet, and announced an innovative pilot project to use 50 electric trucks for our intermodal services through a partnership with Lion Electric Co.
- We train our teams on fuel-efficient techniques, from aerodynamic components of trucks to innovative routing optimization initiatives. In 2020, CN installed a new driver-centric fleet management system to improve hours of service management, enable a paperless work flow, and to drive further gains with respect to accident prevention and fuel efficiency



Reducing the carbon footprint of our vessels and yards

The carbon footprint of our vessel and yard operations comprises approximately 4% of our GHG emissions



Meeting Strict Requirements for Our Vessel Fleet

- Our marine services fleet offers safe, and highly fuel-efficient fleet transportation services and are continually upgraded to meet strict emission requirements
- Ship operators are also trained on fuel conservation practices, including strict speed protocols and operating parameters resulting in further carbon emission reductions



Retrofitting Yards and Buildings

- Our \$5-million annual CN EcoFund, combined with government and utility incentives and subsidies, has enabled us to drive energy-efficient upgrades in our buildings and yards
- We continue to invest in retrofits to boilers, air compressors, HVAC systems, and LED lighting, enabling us to improve our carbon efficiency and save costs

Climate change is integrated into our risk processes

We consider both physical and transition risks, including temperature extremes, flooding, hurricanes, and tornadoes, as well as legal, policy and market impacts

The Audit Committee of the Board of Directors has the responsibility for monitoring our risk management and internal controls approach, which includes climate related risks



The Audit Committee reviews risk management policies and provides oversight of our compliance with applicable legal and regulatory requirements. In 2020, the Audit Committee reviewed the results of our Enterprise Risk Management program ("ERM") and made the decision to approve the identification of the Company's net risks, which included the identification of climate change physical risks. Specifically, they approved our climate risk mitigation controls and initiatives to integrate climate risk management activities into the business plan



Awards and Recognition

Member of
**Dow Jones
Sustainability Indices**

Powered by the S&P Global CSA

Member of the World Index
(2012-2020)

Sustainability Yearbook
Member 2021

S&P Global

Sustainability Yearbook
(2014-2021), Bronze
Class distinction (2018)



Member of the 30% Club
since 2017



Climate Change Action
Leader Climate A List and
Supplier Climate A List
(2020)



Most Sustainable
Corporations in the World



One of the Best 50 Corporate
Citizens in Canada
(2009-2020)



Listed member
(2010-2020)



Listed member
(2009-2020)



Euronext Vigeo Index: World 120
(2017-2020)



FTSE4Good

Listed member
(2009-2020)



Listed member
(2014-2020)



One of Canada's Top
100 Employers
(2014-2021)



Canadian Council for
Aboriginal Business

Bronze level certification
(2018)



Exceptional workplace
diversity and
inclusiveness programs
(2017-2020)



Listed member
(2015-2020)



(2018-2020)



Responder
(2017-2020)

Transparent reporting is part of our commitment to be open about our business and to communicate our progress with focus, clarity and comparability



SUSTAINABILITY REPORT



DATA SUPPLEMENT



TCFD REPORT



CDP RESPONSE

Additional details concerning CN's Climate Change Strategy can be found in our CDP and TCFD reports available on our website:

<https://www.cn.ca/en/investors/reports-and-archives/>