



Delivering Responsibly

2018 SUSTAINABILITY REPORT

DELIVERING RESPONSIBLY

Together into Our Next Century

We are raising our game to deliver for a sustainable future, to make a meaningful difference for our people, our customers and the many communities where we operate.



PICTURED (ABOVE):
New GE Tier 4
high-efficiency locomotive
Fitzwilliam, BC.

Photo by CN Employee, Tim Stevens

PICTURED (COVER):
Dayna Dubyk, Hostler, with
Danny Clements, Assistant Manager,
MacMillan Yard, Diesel Shop, Vaughan, ON.

Contents

Introduction

- 01 Message from the Chair
- 02 Milestones in CN's History
- 04 Awards and Recognition
- 05 Message from the President and CEO
- 06 Our Business At-a-glance
- 07 Moving the Sustainable Economy
- 09 Environmental Benefits of Shipping by Rail
- 10 Our Sustainability Commitments
- 11 Supporting the Global Goals

- 12 Environment
- 26 Safety
- 36 People
- 46 Community
- 54 Governance

Appendix

- 62 Performance Data Summary
- 64 About this Report
- 65 Contact

Introduction

Message from the Chair

Milestones in CN's History

Awards and Recognition

Message from the President and CEO

Our Business At-a-glance

Moving the Sustainable Economy

Environmental Benefits of Shipping by Rail

Our Sustainability Commitments

Supporting the Global Goals

Environment

Safety

People

Community

Governance

Appendix

Strengthening Our Performance

On behalf of CN's Board of Directors, I am pleased to report another year of solid financial and non-financial performance, underpinned by a strong foundation of environmental, social and governance (ESG) sustainable performance.

Adhering to the Highest Standards

We continue our commitment to being a responsible corporate citizen in every aspect of our business. In 2018, the Globe and Mail placed CN first in the industrials group and third overall among Canadian publicly traded companies for the quality of our governance practices. CN also ranked as one of the Best 50 Corporate Citizens in Canada by Corporate Knights and took Best in Sector – Industrials honours in IR Magazine's global ranking of investor relations excellence.

We made great strides improving diversity within the Company and on the Board, where 38% of our directors are women. In October 2018, CN became the first transportation company in Canada to receive the Progressive Aboriginal Relations Bronze Level certification for our commitment to work with Aboriginal communities and businesses. We were also selected as one of Canada's Best Diversity Employers by the Globe and Mail.

We continued to play a key role in the transition to a low carbon economy providing our customers with a safe, efficient and environmentally friendly way to move goods. In 2018, for the tenth year in a row, CN earned a place on CDP's exclusive A List for our carbon disclosures.

Earning a Place Amongst the World's Best

It makes me very proud to see investors recognize CN's sustainability ESG performance as amongst the world's best. We are consistently listed on the Dow Jones Sustainability World Index, the FTSE4Good Index, the Global Challenges Index, and the Jantzi Social Index, among others.

Given our strong performance, and our commitment to drive continuous improvement, we are confident that CN is well positioned for the future.

Robert Pace
Chair of the Board



ROBERT PACE
Chair of the Board

Looking Back on 100 Years of Progress

2019 is a momentous year for CN, marking our 100th anniversary.

Reflecting on the past 100 years, I am proud of our legacy of leadership. From the start, in 1919, CN played an important role in nation building. Our story is one of growth, resilience and adaptation that has led us to become an iconic brand, synonymous with innovation, operational excellence and sustainability.

Introduction

Message from the Chair

Milestones in CN's History **1** 2

Awards and Recognition

Message from the President and CEO

Our Business At-a-glance

Moving the Sustainable Economy

Environmental Benefits of Shipping by Rail

Our Sustainability Commitments

Supporting the Global Goals

Environment

Safety

People

Community

Governance

Appendix



Milestones in CN's History

From the start, in 1919, CN played an important role in nation building. Today we continue to be deeply committed to building safer, stronger, more resilient communities and economies.



1919

JUNE 6: CREATION OF CANADIAN NATIONAL RAILWAYS

Parliament passed legislation to create Canadian National Railways, consolidating several railroads.

1928

CN OPERATES TRAVELLING SCHOOL RAILWAY CARS

Children of all origins (Aboriginals, Canadians, immigrants) living in isolated communities attended school in railway cars operated by CN.

1929

CN LAUNCHES FIRST PASSENGER DIESEL-ELECTRIC LOCOMOTIVE

Inaugurated during a passenger run from Montreal to Toronto, locomotive 9000 ushers in a new era of rail transportation.

1939–45

CN PLAYS AN IMPORTANT ROLE IN THE WAR EFFORT

CN locomotives haul millions of tons of freight and hundreds of thousands of troops during WWII.

1948

CN EXPANDS THE USE OF DIESEL-ELECTRIC LOCOMOTIVES

CN integrates cleaner burning diesel power into its freight service, improving fuel and carbon efficiency.

1954

CN INTRODUCES CONTINUOUS WELDED RAIL IN CANADA

With fewer joints, continuous welded rail reduced wear and tear on equipment, improved track maintenance and safety.

1960

APRIL 25: END OF THE ERA OF STEAM

Last scheduled CN steam locomotive arrives in Winnipeg, MB, stepping aside for a cleaner, more efficient way of moving goods.

ABOVE: Photos courtesy of Canada Science and Technology Museum





Introduction

- Message from the Chair
- Milestones in CN's History** 1 2
- Awards and Recognition
- Message from the President and CEO
- Our Business At-a-glance
- Moving the Sustainable Economy
- Environmental Benefits of Shipping by Rail
- Our Sustainability Commitments
- Supporting the Global Goals

Environment

Safety

People

Community

Governance

Appendix



1993

CN ACQUIRES SERVICE RELIABILITY STRATEGY TECHNOLOGY

The rail industry's most advanced shipment management software improved service to customers.

1998

CN BEGINS PRECISION SCHEDULED RAILROADING

Under this model, fewer railcars and locomotives are needed to ship the same amount of freight, leading to improved efficiency and a reduction in fuel used.

2007

CN PARTNERS WITH PORT OF PRINCE RUPERT

Exclusively served by CN and the closest port to Asia, this port offers direct, efficient service to the U.S. Midwest.

2009

CN LEVERAGES INNOVATIVE RAIL TECHNOLOGIES

Technologies such as Trip Optimizer, Automatic Engine Stop/Start devices (AESS), and data telemetry systems lead to fuel and carbon efficiency as well as improved train handling.

2011

CREATION OF CN'S ECOCONNEXIONS PROGRAM(S)

EcoConnexions supports CN's environmental values with key stakeholders through initiatives focused on energy conservation, waste reduction and good housekeeping practices.

2014

CN DEVELOPS TWO STATE-OF-THE-ART TRAINING FACILITIES

These facilities deliver our enhanced railroader training program focused on instilling and reinforcing a strong safety culture.

2019

JUNE 6: CN CELEBRATES 100 YEARS OF PROGRESS

Today, CN is a company built on a proud history and Delivering Responsibly is at the heart of how we are building for a sustainable future.

Introduction

Message from the Chair

Milestones in CN's History

Awards and Recognition

Message from the President and CEO

Our Business At-a-glance

Moving the Sustainable Economy

Environmental Benefits of Shipping by Rail

Our Sustainability Commitments

Supporting the Global Goals

Environment

Safety

People

Community

Governance

Appendix

Awards and Recognition



Member of the World Index (2012–2018)



Sustainability Yearbook Bronze Class distinction (2017–2018)



Climate Change Action Leader Climate A List and Supplier Climate A List (2018)



Employer Brand Research Award – Top 5 (2017)



Member of the 30% Club since 2017



Global Top 50 Silver Award (2018) and Best in Sector – Canadian Industrials (2013–2018)



Listed member (2009–2018)



Listed member (2010–2018)



Listed member (2009–2018)



Listed member (2014–2018)



One of the Best 50 Corporate Citizens in Canada (2009–2018)



Progressive Aboriginal Relations (PAR) Program – Bronze Level Certification (2018)



One of Canada's Top 100 Employers (2014–2017)



Exceptional workplace diversity and inclusiveness programs (2017–2018)



Outstanding commitment to employment equity (2017)



RecruitMilitary Most Valuable Employer (2017)



Canadian Museum of Nature Nature Inspiration Awards Large Business (2018)



Ranked 1st in industrials and 3rd overall among Canadian publicly traded companies for quality of governance practices (2018)

ORGANIZATION	AWARD/RECOGNITION	RECOGNIZED FOR
Alberta Business Awards of Distinction	Indigenous Relations – Best Practices Award of Distinction	Excellence in Aboriginal Relations
American Chemistry Council	2017–2018 TransCAER® National Achievement Award	Assisting communities prepare for dangerous goods incidents
Call2Recycle	2018 Leader in the Industry	Reclaiming and recycling batteries and cellphones
Canada's Top Employers	Montreal's Top Employers	Offering exceptional places to work
EcoVadis	2018 EcoVadis CSR Rating – Silver	Among the top 30% performers evaluated by EcoVadis
Employee Assistance Society of North America (EASNA)	Corporate Award of Excellence – Canada	Innovation and impact of CN's Employee and Family Assistance Program
Euronext Vigeo Eiris	2017–2018 Euronext Vigeo – World 120 Index	Achieving advanced Environmental, Social and Governance performances
Fiat Chrysler Automobiles (FCA)	Innovative Logistics Partner of the Year	Leading rail initiator in pioneering a new real-time tracking technology
Forbes	2018 Forbes Global 2000 – World's Best Employers	Ranked 188 on the list of the world's best employers
Innovatio	2018 Innovatio winner – Diversity, large law department	Showing leadership by becoming more efficient, innovative and creative
Interbrand Canada	One of the 150 most iconic in Canada	One of the most iconic 150 companies, organizations and institutions in Canada
Military Friendly®	2017 Military Friendly® Employer	Creating sustainable and meaningful benefit for the military community
Women Corporate Directors (WCD) Foundation	WCD Visionary Award	Leadership and governance of a public company

Introduction

Message
from the Chair

Milestones in
CN's History

Awards
and Recognition

**Message from the
President and CEO**

Our Business
At-a-glance

Moving the
Sustainable Economy

Environmental Benefits
of Shipping by Rail

Our Sustainability
Commitments

Supporting
the Global Goals

Environment

Safety

People

Community

Governance

Appendix

Building for a Sustainable Future

Delivering Responsibly is at the heart of how CN is building for a sustainable future today and for the next 100 years. CN's 2018 Delivering Responsibly report outlines our environmental, social and governance (ESG) performance and our commitment to continue on this journey.

Supporting the Transition to a Low Carbon Future

Scheduled Railroading was pioneered by CN and remains the foundation of our operating model to drive safety, efficiency and service. It has enabled us to reduce our locomotive emission intensity by 39% and avoid 45 million tons of carbon over the last 25 years. As we work to reduce our carbon intensity by 29% by 2030 compared to 2015 levels, consistent with a 2-degree pathway, innovation and technology will play an important role.

Focusing on Safety as a Core Value

In recent years, we increased our capital investments to record levels to ensure we have the infrastructure and equipment needed to improve the safety and resiliency of our network. We remain committed to investing significantly in training, coaching and employee engagement initiatives to strengthen our safety culture. Safety is a core value for all at CN, and here too we are leveraging recent advances in technology. We are deploying advanced operating technologies to enhance our ability to predict maintenance requirements, improving safety and increasing reliability.

Embracing Diversity

We believe our employees are our single greatest asset. As we bring on new railroaders, we are embracing diversity to help us attract and retain qualified talent and to foster innovation. Meanwhile, our EcoConnexions program continues to engage employees, communities and customers to help us achieve our goals to reduce emissions, conserve resources and increase biodiversity. Since its launch in 2012, through its EcoConnexions programs, CN has planted more than two million trees.

As I reflect on our accomplishments, I am sincerely grateful to our dedicated team of railroaders for their continued support. As we look to the next century, we are raising our game to deliver for a sustainable future, leading the industry to make a meaningful difference for our people, our customers and the many communities where we operate.

JJ Ruest
President and CEO



JJ RUEST
President and Chief Executive Officer

Looking Ahead to Our Next 100 Years

CN is positioning advanced technologies as our next strategic driver of value. We are working as ONE TEAM to drive a business-led, technology-enabled mindset that considers all facets of our operations, from track inspection to capacity planning to resiliency.

As we deploy key projects, our new cutting-edge systems will improve inspection reliability, provide rich data analytics, generate predictive models, and drive capacity, efficiency and safety.

Introduction

Message from the Chair

Milestones in CN's History

Awards and Recognition

Message from the President and CEO

Our Business At-a-glance

Moving the Sustainable Economy

Environmental Benefits of Shipping by Rail

Our Sustainability Commitments

Supporting the Global Goals

Environment

Safety

People

Community

Governance

Appendix

Our Business At-a-glance

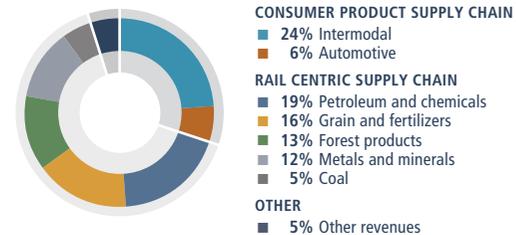
CN is a leading North American transportation and logistics company, and our 20,000-mile network spans Canada and Mid-America, connecting ports on three coasts.

We offer fully integrated rail and other transportation services, including intermodal, trucking, freight forwarding, warehousing and distribution. Serving exporters, importers, retailers and manufacturers, we move raw materials, intermediate goods and finished products to market, fostering the prosperity of the markets we serve.



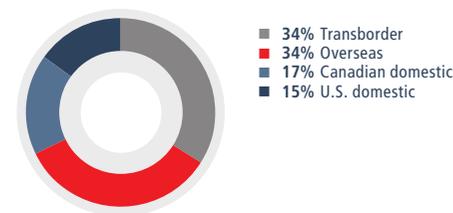
Balanced and Diverse Portfolio

2018 REVENUES BY COMMODITY GROUP (% of total revenues)



Broad Geographic Exposure

2018 REVENUES BY GEOGRAPHIC FLOW (% of freight revenues)



2018 Key Statistics

ROUTE MILES	PORTS SERVED	VALUE OF GOODS HANDLED
20,000	9 ports	\$250B+
CAPITAL INVESTMENTS	REVENUES	EMPLOYEES (as at December 31)
\$3.5B	\$14.3B	25,720

Introduction

Message from the Chair

Milestones in CN's History

Awards and Recognition

Message from the President and CEO

Our Business At-a-glance

Moving the Sustainable Economy

Environmental Benefits of Shipping by Rail

Our Sustainability Commitments

Supporting the Global Goals

Environment

Safety

People

Community

Governance

Appendix

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.

Introduction

Message
from the Chair

Milestones in
CN's History

Awards
and Recognition

Message from the
President and CEO

Our Business
At-a-glance

Moving the Sustainable Economy

Environmental Benefits
of Shipping by Rail

Our Sustainability
Commitments

Supporting
the Global Goals

Environment

Safety

People

Community

Governance

Appendix

ONE TEAM

Working Together to Deliver Clean Energy to the World

As a mover of the clean economy, we are proud of the relationship we have with Pinnacle Renewable Energy enabling the international transportation of cleaner energy products from wood pellets to many producers and users of renewable electricity around the world.

Today, Pinnacle has grown into one of the world's leading producers and distributors of industrial wood pellets used by utilities in the U.K., Asia and Europe as a source of renewable energy. Pinnacle's Canadian mills are all situated on our rail lines, which we believe is vital for sustainability – providing an efficient, environmentally friendly mode of transportation for shipping the wood pellets to their terminals on the British Columbia coast.

"The relationship between Pinnacle and CN is not only crucial to our two companies, it is an integral piece of the international supply chain for many producers and users of renewable electricity around the world. These customers depend on Canadian wood pellet fuel supply being delivered on time to their generating plants," says Vaughan Bassett, Senior Vice-President Sales and Logistics, Pinnacle Renewable Energy.

Just last year, Pinnacle opened its seventh wood pellet plant on our rail lines – its first in Alberta. Shipping pellets from this newest plant to the Prince Rupert terminal by unit train instead of truck saves approximately 570 tonnes of CO₂ emissions.



PICTURED:
Kelly Levis, CN Vice-President,
Industrial Products (fourth from left),
and other invited guests cut the ribbon
at the official opening of Pinnacle's
new wood pellet plant.



Introduction

Message from the Chair

Milestones in CN's History

Awards and Recognition

Message from the President and CEO

Our Business At-a-glance

Moving the Sustainable Economy

Environmental Benefits of Shipping by Rail

Our Sustainability Commitments

Supporting the Global Goals

Environment

Safety

People

Community

Governance

Appendix

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

Introduction

- Message from the Chair
- Milestones in CN's History
- Awards and Recognition
- Message from the President and CEO
- Our Business At-a-glance
- Moving the Sustainable Economy
- Environmental Benefits of Shipping by Rail
- Our Sustainability Commitments**
- Supporting the Global Goals

Environment

Safety

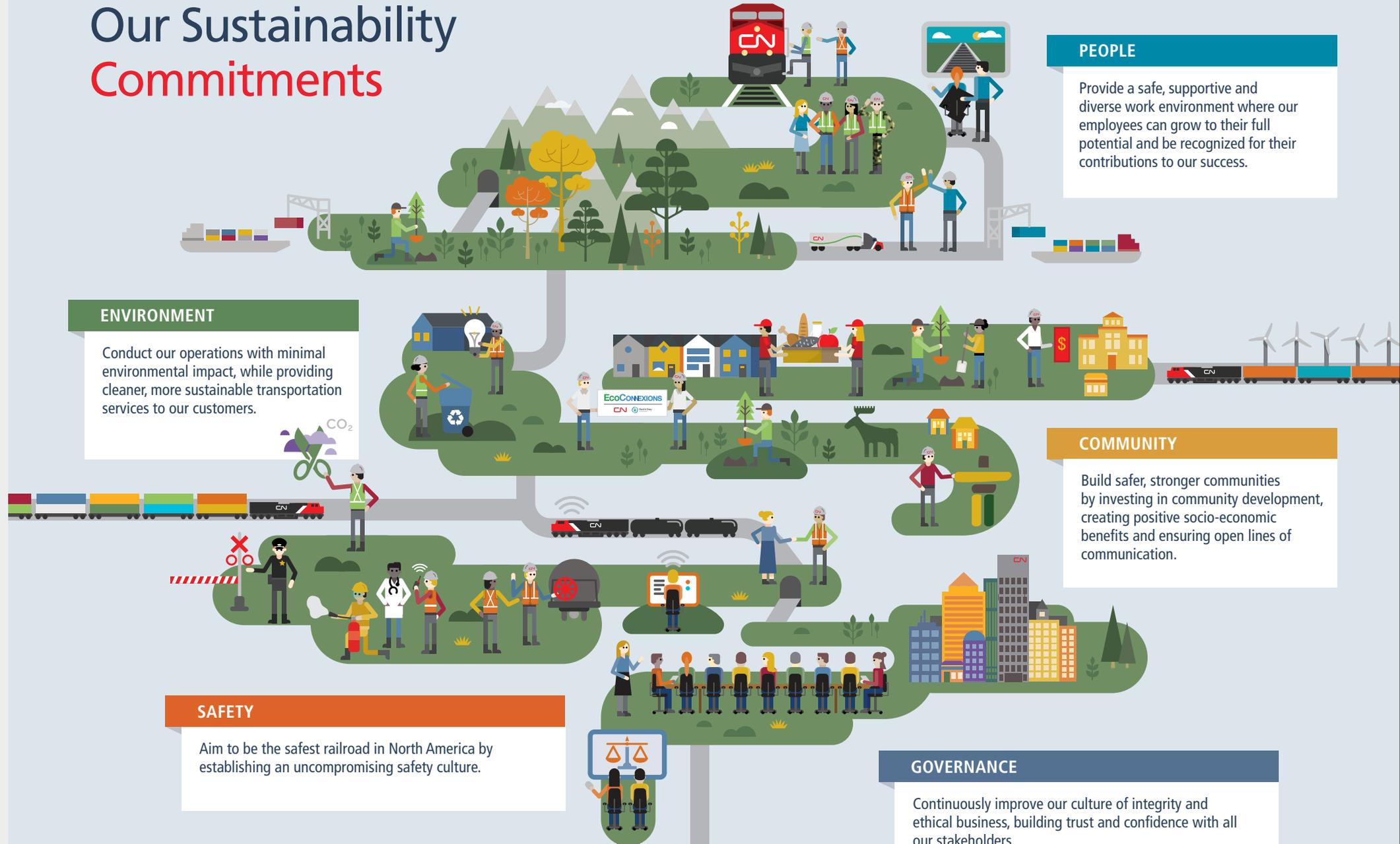
People

Community

Governance

Appendix

Our Sustainability Commitments



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.

Introduction

Message from the Chair

Milestones in CN's History

Awards and Recognition

Message from the President and CEO

Our Business At-a-glance

Moving the Sustainable Economy

Environmental Benefits of Shipping by Rail

Our Sustainability Commitments

Supporting the Global Goals

Environment

Safety

People

Community

Governance

Appendix

Supporting the Global Goals

The 2030 Sustainable Development Goals (SDGs), a shared blueprint for peace and prosperity, are integrated into the World Bank's Sustainable Mobility for All and Canada's Sustainable Development Strategy, and provide a unique opportunity to create a better world. We are inspired by our proud history of nation building and committed to making a difference.



JANET DRYSDALE
Vice-President, Financial Planning



ENVIRONMENT

Our Ambition

Invest in efficient, low carbon and climate resilient rail transportation infrastructure and technology and engage for deeper decarbonization.

2018 Highlights

- Purchased 200 new, fuel-efficient, high-horsepower locomotives equipped with GE Transportation's GoLINC™ Platform, Trip Optimizer™ System, and Distributed Power LOCOTROL eXpanded Architecture.
- Set an ambitious climate science target to reduce GHG emission intensity (tCO₂e/million tonne kilometres) by 29% by 2030, based on 2015 levels, in support of keeping global temperature increase to below 2°C.



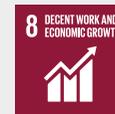
SAFETY

Our Ambition

Build, maintain and operate safe, efficient and resilient rail infrastructure across North America supported by innovative technology.

2018 Highlights

- Invested \$1.6 billion towards track and railway infrastructure. We also replaced 2.1 million rail ties and more than 600 miles of rail to maintain a safe and resilient rail network.
- Advanced technologies and innovation for early detection in train safety by introducing a 3D tie rating technology system, new machine vision detectors and Automated Railcar Inspection Portals.



PEOPLE

Our Ambition

Invest in transportation education skills development while providing a safe, secure and inclusive working environment for all employees.

2018 Highlights

- Provided approximately two million hours of training in rail and supply chain transportation skills.
- Successfully ran targeted recruitment campaigns promoting opportunities for women in non-traditional roles and other designated groups. We also built and strengthened our strategic partnerships with Aboriginal organizations.



COMMUNITY

Our Ambition

Collaborate with stakeholders to support the development of inclusive, safe, sustainable and disaster resilient cities.

2018 Highlights

- Invested a record \$3.5 billion towards infrastructure and equipment to better serve our customers and communities safely and efficiently, while reducing congestion on overburdened public transportation infrastructure.
- Through our EcoConnexions From the Ground Up program we planted over two million trees since 2012, protecting ecosystem health and minimizing our impact.



GOVERNANCE

Our Ambition

Develop strategies to attract, retain and provide opportunities for women in leadership roles in the rail transportation sector.

2018 Highlights

- As members of the Canadian Chapter of the 30% Club, we exceeded our target of 30%, with 38% women on our Board of Directors in 2018.
- Worked to increase the number of women among our executive officers and senior managers by focusing on training, development and mentorship opportunities. In 2018, 7 of CN's 30 executive officers were women, or 23%.

CONNECTING TO THE WORLD BANK'S SUSTAINABLE MOBILITY FOR ALL GOALS

GREEN

SAFETY

UNIVERSAL ACCESS

SAFETY

UNIVERSAL ACCESS

Introduction

Environment

- Overview
- Carbon and Energy Efficiency
- Conservation of Resources
- Biodiversity and Land Management

Safety

People

Community

Governance

Appendix



Environment

PICTURED:
Intermodal Train, Hinton, AB
Photo by CN Employee
Tim Stevens



STELLA KARNIS
Senior Manager, Environmental Affairs

Acting on the Global Goals



We are making a positive contribution in the fight against climate change by offering carbon-efficient

transportation solutions. Over the past 25 years we have reduced our rail locomotive GHG emissions intensity by 39% and we continue to lead the North American rail industry, consuming approximately 15% less fuel per gross ton-mile than the industry average. Last year alone, our customers avoided 8 million tonnes of CO₂ by shipping by rail instead of truck.

We have set a science-based target to further reduce our carbon intensity at a pace consistent with the objective of stabilizing global temperatures.

Protecting Our Environment for Generations to Come

For us, an environmentally sustainable future means thinking and acting in the interest of generations to come. We are working to build a strong environmental legacy of leadership, by means of carbon-efficient operations, conserving resources and protecting and restoring natural ecosystems.

Our goal is to conduct our operations with minimal environmental impact, while providing cleaner, more sustainable transportation services to our customers.

Carbon and Energy Efficiency

In support of keeping global temperature increase below 2 degrees Celsius compared to pre-industrial temperatures, we set an ambitious climate science target to reduce our GHG emission intensity (tCO₂e/million tonne kilometres) by 29% by 2030, based on 2015 levels. We aim to achieve our target through our Fuel Management Excellence program, innovative technologies, increased use of renewable fuels and enhanced train handling and operating practices.

In 2018 we achieved an emission intensity reduction of 2%, in line with our projected target pathway. CN's strategies have consistently earned us a place on the CDP Climate Change A list, which recognizes companies acting on climate change.

Conservation of Resources

We are committed to advancing circular economy principles in all aspects of our operations. Working collaboratively across our value chain, we are finding innovative ways to optimize the use of resources

and divert waste from landfills. Each year, by engaging employees, customers and suppliers, we continue to divert approximately 90% of our waste from landfills through our reduce-reuse-recycle-renew programs.

Biodiversity and Land Management

Our operations and network pass through a rich and diverse array of natural ecosystems across North America. Protecting biodiversity and managing this land is an important part of our environmental management approach. Our EcoConnexions program contributes to biodiversity by supporting mass reforestation in the communities and First Nations situated along our rail lines. As of 2018, we have assisted 268 community groups in establishing green spaces, engaging municipalities, customers, suppliers and partners to plant more than two million trees across North America.



FURTHER READING ONLINE

- + [2019 Carbon Disclosure Project Report](#)
- + [EcoConnexions section of our website](#)

Carbon and Energy Efficiency

Improving Our Overall Performance

We recognize the importance of mitigating and adapting our business to changing climate conditions. Our strategies support keeping global temperature increase below 2 degrees Celsius, covering both our rail and non-rail carbon footprint.

Reducing Our Rail Carbon Footprint

With approximately 85% of our GHG emissions generated from rail operations, we believe the best way to reduce our carbon footprint is by continuously improving our rail efficiency. Over the years, this focus has resulted in significant progress decoupling growth from carbon emissions, making us one of the most fuel-efficient railroads in North America.

Operating More Efficiently

Our operating model, Precision Scheduled Railroading, allows us to use fewer railcars and locomotives to ship more freight in a tight, reliable and efficient operation. We continue to purchase new locomotives that meet stricter regulatory emission standards while being more fuel efficient. In 2018, we purchased 200 new high-horsepower locomotives. Routing protocols and collaborations with ports and terminal operators are helping to minimize dwell times and further drive fuel efficiency.

Leveraging New Technologies

The installation of fuel-efficient technologies and big data management analytics capabilities are helping us further reduce our carbon footprint. Our new locomotive technologies, equipped with GE Transportation's

GoLINC™ Platform, Energy Management System, data telemetry systems, and Distributed Power LOCOTROL eXpanded Architecture, are helping us maximize locomotive operating effectiveness and efficiency. With significant investments in big data management analytics, we expect to see even greater efficiency gains.

Introducing Renewable Fuels

The growth of the renewable fuel market has presented an important opportunity for us to further reduce our emissions by using biodiesel blends in our locomotive fleet. In 2018, the use of renewable fuels in our fleet saved almost 100,000 tonnes of carbon. In the coming years, we look forward to working with our suppliers to explore the greater use of renewable fuels.



45 million

TONS OF CARBON AVOIDED THROUGH FUEL EFFICIENCY GAINS SINCE 1993



Improving Fuel Conservation

“Through on-the-job training, we are working closely with our train crews and rail traffic controllers on best practices for fuel conservation – from locomotive shutdowns in our yards to streamlined railcar handling, train pacing, coasting and braking strategies.

In addition, our locomotive engineers receive real-time information on train characteristics, performance and terrain, through an Energy Management System (EMS), which helps to compute the most efficient train settings and regulate speed. Our in-house built Horsepower Tonnage Analyzer (HPTA) also instructs crews on how to optimize a locomotive’s horsepower-to-tonnage ratio.”

CARLO PAGANO
Director, Mechanical Engineering and Technology

OUR COMMITMENTS

Collaborating to Reduce Rail Sector Emissions Progress Towards Our Mid-term Goals

We've had a long-term commitment, since 1995, collaborating with the Government of Canada through the Railway Association of Canada (RAC) to reduce locomotive emissions.

Over the past 25 years, we have reduced our locomotive emission intensity by 39%, avoiding over 45 million tons of carbon, while achieving record growth in the volume of freight we move.

Through the recent renewal of a long-standing Memorandum of Understanding (MOU) with Transport Canada, we've committed to a 6% intensity-based reduction in GHG emissions, measured against a 2017 baseline and over a five-year period ending in 2022. We have also proactively set a target to reduce our Criteria Air Contaminants intensity by 6% over the same period.

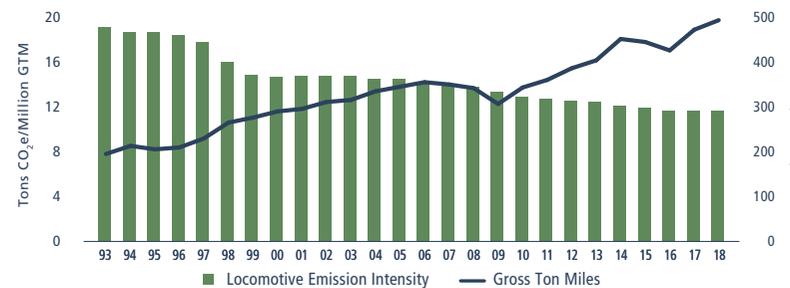
The MOU supports the Government of Canada's commitments under the Pan-Canadian Framework for Clean Growth and Climate Change, and its

vision for green and innovative transportation. It also includes developing a comprehensive pathway for aligning government and industry efforts to reduce emissions produced by the railway sector, identifying opportunities to advance clean technology, clean fuels, and innovation in the sector through research, policy or programs.

Rail accounts for about 4% of Canada's transportation GHG emissions. By context, rail moves nearly 70% of intercity ground freight each year and is one of the least GHG intensive modes of transportation. CN shares the government's belief that rail can play an important role in the fight against climate change.

Decoupling Growth from Carbon Emissions

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



SINCE 1993:

39%

REDUCTION IN LOCOMOTIVE GHG INTENSITY

45 million

TONS OF CARBON AVOIDED

while achieving record growth in the volume of freight we move.



PICTURED: Clearwater, BC
Photo by CN employee, Ryan Harris

Introduction

Environment

Overview

Carbon and Energy Efficiency

Conservation of Resources

Biodiversity and Land Management

Safety

People

Community

Governance

Appendix

Low Carbon Transition Plan Mitigating and Adapting to Climate Risks and Opportunities

We support the Taskforce on Climate-related Financial Disclosures' recommendations. Through our climate transition plan, we are working to mitigate and adapt to climate risks and opportunities.

Governance: The Environment, Safety and Security Committee of the Board has the highest level of responsibility for climate-related issues, with executive oversight from our Chief Operating Officer and Vice-President of Financial Planning, who has direct oversight for sustainability at CN.

Strategy: We have developed a low carbon transition plan to meet our 2-degree climate science target. To achieve our 29% reduction target, we will be mainly focused on locomotive carbon efficiencies from installing fuel-efficient technologies, promoting better fuel conservation and increasing renewable fuel blends.

Risk Management: Climate change is integrated into our risk assessment processes, which considers both physical and transition risks and opportunities, including temperature extremes, flooding, hurricanes, and tornadoes, as well as legal, policy and market impacts.

Long-term Science-based Target: As we prepare for the future, we are committed to reduce air emissions and improve our carbon intensity consistent with stabilizing global temperatures. Two years ago, we were the first railroad in North America to set a climate science target of 29% reduction by 2030 based on 2015.



FURTHER READING ONLINE

[+ 2019 Carbon Disclosure Project Report](#)

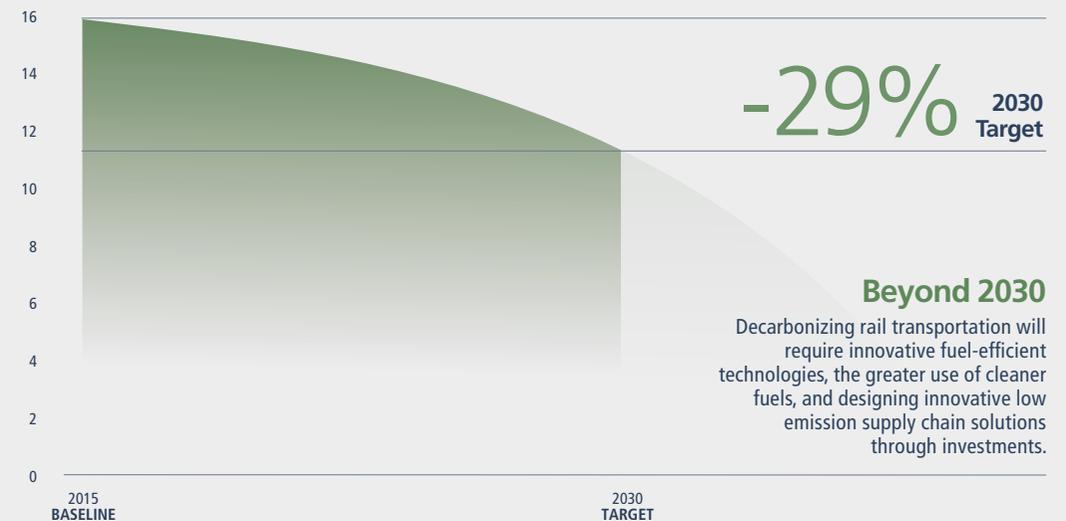
Our Strategic Focus Areas



Science-based Target

EMISSIONS TRAJECTORY IN A 2°C SCENARIO

(tCO₂e/million tonne kilometres)



ACTION AREAS

Our Strategy Advancing Our Carbon Positive Initiatives

Innovations in fuel-efficient locomotives, rail technology, and data analytics, combined with enhanced operating practices and cleaner fuels will help us realize further emissions reductions.

Investing in and Upgrading Our Fleets

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

Increasing Fuel-efficient Technologies

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

Leveraging the Use of Big Data

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.

Enhancing Operating Practices

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.

Expanding the Use of Cleaner Fuels

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.

Reducing Our Non-rail Carbon Footprint

Efficiency is in our DNA and we extend our mindset of rail operational efficiencies to our non-rail operations, enabling further carbon reductions in our ground and vessel fleets, buildings and yards.

The carbon footprint of our non-rail operations comprises approximately 15% of our total (Scope 1 and 2) emissions. By building on our leading rail fuel efficiency programs, we have been implementing best practice initiatives, including new equipment and technologies, to further reduce energy consumption.

Upgrading Our Ground Fleet

Our non-rail ground fleet, comprising intermodal equipment, trucking, On Company Service (OCS) vehicles and CNTL trucks, makes up approximately 11% of our Scope 1 and 2 emissions. Over the past few years, we have been focused on improving fuel efficiency, while exploring options to make the shift towards higher use of renewable fuels.

We have also started exploring electric vehicles in our OCS fleet, and have recently announced an innovative pilot project to use electric trucks for our intermodal services. Our teams also continued to be trained on fuel-efficient techniques, from aerodynamic components of trucks to innovative routing optimization initiatives.

Retrofitting Yards and Buildings

Our \$5-million CN EcoFund combined with government and utility incentives and subsidies has enabled us to secure the necessary funding to drive energy-efficient upgrades in our buildings and yards. We have invested in retrofits to boilers, air compressors, HVAC systems, and LED lighting, enabling us to improve our carbon efficiency and save costs. Since 2011, we achieved 33% reductions in electricity at key yards, avoiding more than 86,000 tonnes of carbon.

Meeting Strict Requirements for Our Vessel Fleet

Our marine services extend beyond where track and trucks stop, offering marine shipping in regions like the Great Lakes and Alaska. Our shipping fleets offer 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.

33%



REDUCTION IN CARBON EMISSIONS AT KEY FACILITIES SINCE 2011



Lowering Energy Use in Our Facilities

EcoChampion Hamid Kazmi, Energy Manager with CN’s Facility Management Group in Thornton Yard, BC, works with facilities managers and utilities across our network to reduce CN’s energy costs and usage. He examines energy consumption patterns at each facility, then identifies and helps implement measures for improvement.

To date, in BC alone, these projects have saved about 6.4 million kilowatt-hours of electricity, eliminating an estimated 82 tonnes of GHG emissions and \$500,000 in energy costs per year.

“I’m very proud of the work we’re doing not only to improve CN’s bottom line and change the culture in the company, but also to do our part in the fight against climate change,” says Hamid.

HAMID KAZMI
Energy Manager, Facility Management Group
Thornton Yard, BC

Introduction

Environment

Overview

Carbon and Energy Efficiency

Conservation of Resources

Biodiversity and Land Management

Safety

People

Community

Governance

Appendix



PICTURED:
Prototype of CN's new custom-built, Class 8, electric truck. Delivery is expected in the summer of 2020.

Sustainable Mobility: Piloting the Use of Electric Trucks

As part of our sustainability strategy to reduce emissions through innovation, we recently launched a pilot project to use electric trucks. Working with Lion Electric Co., we committed to eight zero-emission electric trucks to be deployed in cities across our network, such as Vancouver, Greater Toronto, Montreal and Hamilton.

They will be tested for various tasks such as urban delivery, container shuttle service to port operations and cross-town service. The trucks are custom-built, produce no noise pollution and are estimated to remove 100 tonnes of GHG from the road annually. By using the zero-emission trucks in different settings, we want to identify where these trucks can make the most impact on how we service our customers and reduce emissions.

The project is also spurring innovation and creating jobs in nearby communities. "We are very pleased to support CN in its commitment to sustainable mobility," says Patrick Gervais, VP Marketing and Communications at The Lion Electric Co. "By purchasing zero-emission trucks from Lion, CN is also promoting local innovation and jobs. Lion Electric will have 200 employees by the end of 2019 and more than 1,000 within the next 10 years thanks to agreements like this one."

100 tonnes

OF CARBON AVOIDED PER YEAR ESTIMATED THROUGH THE USE OF NEW ELECTRIC TRUCKS

Conservation of Resources

Shifting to More Circular Systems

Optimizing material use enables us to play our part in the circular economy. It means doing more with less, maximizing the value of materials while in use, and then recovering and regenerating products and materials at the end of their life.

We work 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.

Sourcing Sustainable Materials

We are committed to sourcing more environmentally friendly products and services, working together with our suppliers to consider better alternatives across the entire product life cycle. For example, we've introduced innovative biodegradable degreasers at our maintenance centres, worked with suppliers to advance the use of renewable energy in our rail and non-rail fleet, and collaborated on packaging optimization such as boomerang boxes, pallets and bulk packaging.

Extending Resource Life

We continue to explore opportunities to extend the useful life of our assets through reuse and recycling programs. For example, we have reuse programs in place for used oil, concrete ties and engine coolants. We also reuse wastewater from treatment plants to wash locomotives.

A pilot project was successfully implemented with our primary supplier of locomotive lead acid batteries, where we continue to re-qualify and put them back into service.

Diverting Waste

Our employees are engaged through our EcoConnexions program to explore innovative solutions to divert materials from landfills through reuse and recycling programs. Through increased awareness and sharing of best practices, we have successfully deployed programs to recycle paper, cardboard, batteries, electronic waste, scrap metals, rail, railcars, and rail ties. In 2018, we diverted approximately 90% of our operational waste from landfills.



WASTE DIVERTED FROM LANDFILL IN 2018 AND SENT INSTEAD FOR REUSE OR RECYCLING



Recycling Rail Assets – Steel Scrap Material

“We work with various partners to extend the life of our rail assets, including steel rail tracks, locomotives, railcars, and concrete rail ties, enabling us to significantly improve resource productivity.”

Our Asset Sales Team plays an active role in ensuring we find sustainable and economic solutions to recycle our rail assets. In 2018, they successfully found a scrapper company that met our standards to dismantle and recover the steel from out-of-use equipment at our Conneaut Docks. The multi-faceted benefits included the diversion of 3,000 gross tons of scrap from landfill, a safe site and enhanced land value, and revenue generated from the sale of the scrap metal.”

JOSÉE CHAMBERLAND
Agent, Asset Sales, Montreal

Introduction

Environment

Overview

Carbon and Energy Efficiency

Conservation of Resources

Biodiversity and Land Management

Safety

People

Community

Governance

Appendix

SPOTLIGHT

EcoConnexions Engaging Employees to Take Action

Launched in 2011, in partnership with Earth Day Canada, our EcoConnexions program encourages employees to work collaboratively to reduce energy consumption, minimize waste and improve housekeeping practices.



Conserving Energy at Joffre Yard: After CN's Energy Management Information System detected high power usage at Joffre Yard in Quebec, Samuel Letendre, Electrician Lead Hand, found that installing a new air compressor would save \$20,000 per year in electricity.

Reusing Concrete Ties: When a building at MacMillan Yard, Toronto, was demolished, instead of reselling the concrete on a secondary market, the team decided to reuse the 19,300 metric tonnes to build a new car park.

Minimizing Waste with Bulk Purchasing: Mike Singelyn, Senior Manager Materials and Facilities, Southern Region, works with vendors to supply track maintenance materials with less packaging. Purchasing loose rail anchors in bulk by gondola car saves \$130,000 annually and eliminates 270,000 plastic bags.

Improving Housekeeping: All seven mechanical car shops in Western Canada took up the "Golden Hammer" challenge, launched in 2017 by Gerry Harder, Mechanical Regional Officer in Edmonton, AB, to drive housekeeping, safety and efficiency improvements.

Since 2011 our employees have achieved:

- 33% carbon reduction at key yards (86,000 tonnes)
- 200,000 tonnes of waste diversion from landfill
- 1,500+ housekeeping projects leading to cleaner, more efficient and safer work environments
- approximately \$50 million in cost savings



Minimizing Waste with Bulk Purchasing



Reusing Concrete Ties



Conserving Energy at Joffre Yard



Improving Housekeeping

EcoCONEXIONS



Introduction

Environment

Overview

Carbon and Energy Efficiency

Conservation of Resources

Biodiversity and Land Management

Safety

People

Community

Governance

Appendix

Contributing to the Circular Economy

Many of the capital assets we use to run the railroad are inherently sustainable. Most of our steel rail tracks, locomotives, railcars, ballasts, and rail ties have lifespans beyond 25 years and we further extend their useful life through reuse and recycling programs. Through innovative solutions we can play an important role, at each stage of our value chain, for greater resource efficiency and circularity.

We are collaborating with industry partners and suppliers to shift mindsets towards material stewardship, focusing on the protection and renewal of resources.

INDUSTRIAL SYMBIOSIS

Rather than sending our used ties to landfill, we collect, chip and ship them to some of our customers, like Kruger. Providing a mutually beneficial input for use as biomass to power their cogeneration plants.

REUSING MATERIALS

Locomotive lead acid batteries are re-qualified and put back into service. We also repair and reuse concrete ties. Used oil, engine coolants and wastewater are also reused.

Material Stewardship

MAXIMIZING THE LIFE OF MATERIALS

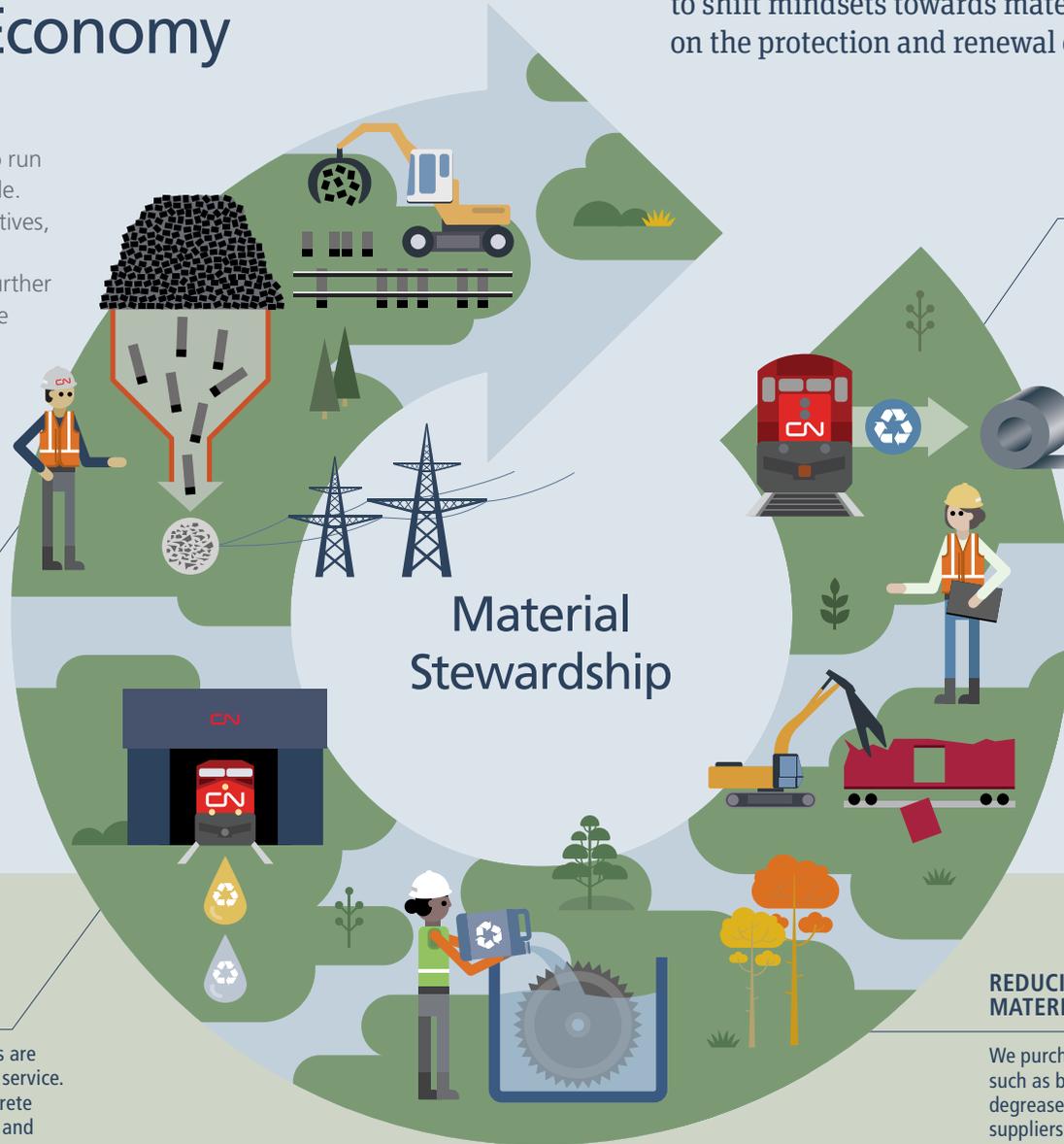
Both locomotives and steel rail tracks are reused from the main lines to our secondary lines and then at our yards and finally sold to be recycled into new steel products.

RECYCLING

Railcars are reused until they reach the end of their life when they are then dismantled and sent for recycling. We also recycle concrete ties for sub-grading in our yards.

REDUCING MATERIALS AT SOURCE

We purchase innovative products such as bio-renewable cleaners and degreasers, and collaborate with suppliers on recycled packaging and optimization through bulk purchasing.



Introduction

Environment

- Overview
- Carbon and Energy Efficiency
- Conservation of Resources
- Biodiversity and Land Management

Safety

People

Community

Governance

Appendix



PICTURED:
CN's wood chipper facility at Garneau Yard, where legacy rail ties are processed into rail tie chips and sent to Kruger to generate energy at their plants.

Turning Used Rail Ties into Energy

Our partnership with Kruger, a North American leader in paper and paperboard recycling and a long-standing CN customer, has enabled us to ensure used rail ties are transformed into renewable energy and diverted from landfills.

To ensure safe and efficient operations across our network, every year we replace roughly two million rail ties. Looking for an alternative to discarding the old wood rail ties, we turned to our customers, including Kruger, who use the wood waste for power generation.

Our legacy rail ties are collected, sorted and shipped by rail car to our Garneau, Quebec, yard for chipping. The rail tie chips are then sent to Kruger, who uses the wood waste to power its biomass cogeneration plants in Trois-Rivières and Brompton, Quebec.

“Diverting old rail ties from landfill to Kruger’s mills is a win-win-win for the environment, CN and Kruger,” says Paul de Blois, Vice-President, Recycling at Kruger.

In 2017 alone, the partnership diverted over 692,000 of CN’s rail ties and generated approximately 171 GWh of clean energy at Kruger facilities.

97%
OF OUR SCRAP RAIL TIES ARE NOW RECOVERED

Biodiversity and Land Management

Preserving Habitat and Ecosystems

Protecting biodiversity and managing the lands near our rail network is essential to operating a responsible railroad. Our goal is to minimize environmental disturbance, while incorporating positive enhancements.

Our network passes through a wide range of habitats, including national parks, forests, prairies and wetlands, which provide essential ecosystem and social benefits. We are committed to improving the environment where we operate and conducting our activities and operations in a way that minimizes our disturbance of these ecosystems.

Proactively Assessing Impacts

Before starting construction projects, we conduct environmental and social impact assessments to understand potential ecosystem and biodiversity risks and identify mitigation measures. We work with key stakeholders to identify opportunities to apply the mitigation hierarchy – avoidance, minimization, restoration and compensation where appropriate.



“Tree Canada is excited to continue our partnership with CN. Through the EcoConnexions From the Ground Up program, CN is creating a lasting legacy of sustainability for present and future generations, providing funding and much-needed awareness to the value of trees to our health, well-being and the environment.”

DANIELLE ST-AUBIN
Chief Executive Officer, Tree Canada

Our systematic approach ensures that we consider the specific environmental and regulatory context, and the needs of local communities.

Partnering to Preserve Ecosystems

We continue to develop partnerships to protect and restore ecosystems across our network. Our EcoConnexions *From the Ground Up* and reforestation program enables us to work directly with the communities we serve, sponsoring mass plantings in strategic locations adjacent to our main lines. We also invest in ecosystem preservation and restoration projects. For example, in 2018, we launched a pilot project to explore using old concrete rail ties to enhance marine life on the coast of British Columbia.

Responding to Incidents Promptly

We focus on preventative maintenance, spill prevention and emergency preparedness to reduce incidents and limit potential impacts. Our emergency response plans ensure that any spills or releases are attended to promptly. We investigate incidents and complete a comprehensive environmental clean-up and remediation of affected areas.



Enhancing Marine Life in Prince Rupert

“Building on our partnership with the Port of Prince Rupert, in 2018, we began a two-year pilot project exploring the use of old concrete rail ties to enhance marine life on the BC coast by creating artificial reefs.

In the project, triangular and square reef structures were created and placed at both shallow and deep depths. The designs and locations were studied to determine which were most successful in promoting an abundance and diversity of marine organisms, such as fish, sea stars, crabs and mollusks.

This successful initiative opens up a new avenue for recycling old concrete rail ties used in locations across BC.”

MIKE LINDER
Environmental Specialist

Value of Trees

Creating a Lasting Legacy

CN is creating a living legacy of sustainability for present and future generations, providing funding and awareness to the value of trees and green spaces for our well-being as well as the environment.

We strive to be a good neighbour and planting trees is one way we can give back to the communities along our rail lines. We work with our partners and local organizations to have a lasting impact and improve the national landscape for future generations to enjoy.

▶ IMPROVING AIR QUALITY AND OFFSETTING CARBON

Even though rail is one of the most environmentally friendly ways to move goods, we must still work to minimize the impact of our operations. Planting trees improves air quality and offsets carbon emissions. In this way, we are contributing to cleaner air and increased quality of life in the communities where we operate.

▶ SUPPORTING HEALTHY SOILS AND BIODIVERSITY

We also plant trees to help restore and protect the ecosystems along our network. In some areas, they help rehabilitate agricultural land or provide wind barriers and soil mitigation. They also provide food and shelter to an abundance of wildlife, enabling us to support and enhance biodiversity.

▶ CREATING RESILIENT AND SUSTAINABLE COMMUNITIES

Trees selected for the plantings have been carefully chosen to thrive in their regions, so they will be part of the community for years to come. In cities, urban forests can reduce heating and cooling costs for homes and buildings, lessen water runoff, prevent soil erosion, and help mitigate climate change.



Transforming Our Communities

Our EcoConnexions *From the Ground Up* and reforestation program promotes the greening of communities and First Nations situated along our rail network.

Working together with our partners, Tree Canada and America in Bloom, we have assisted community groups to establish green spaces, tree plantings and mass reforestation projects in a sustainable, environmentally responsible manner. In 2014, EcoConnexions was expanded to recognize our customers and supply chain partners for their sustainability practices, and we are now planting trees in honour of their efforts.

Through these programs, we've since helped 268 community groups establish green spaces, tree plantings and mass reforestation projects.

In total, since 2012, our EcoConnexions programs have planted more than two million trees – making us one of the leading private non-forestry company tree planters in Canada.



Our Results

2,000,000

TREES PLANTED ACROSS NORTH AMERICA SINCE 2012

Leading

PRIVATE NON-FORESTRY TREE PLANTER IN CANADA

Our Partners



Introduction

Environment

Overview

Carbon and Energy Efficiency

Conservation of Resources

Biodiversity and Land Management

Safety

People

Community

Governance

Appendix

ONE TEAM

Growing Sustainably with Our Customers and Supply Chain Partners

Our EcoConnexions Partnership Program celebrates companies that pledge to work to reduce their emissions, increase energy efficiency, and drive sustainable business practices throughout the supply chain.

Last year, we recognized 40 customers and supply chain partners for their sustainability leadership at a ceremony in Vancouver, BC. We planted 100,000 trees in Canada and the U.S. in recognition of the work they do in their individual businesses and across their supply chains.

“We take pride in our social responsibility programs at COSCO SHIPPING Lines, and are pleased to be recognized as an EcoConnexions Partner,” says Dave Bedwell, Executive Vice-President at COSCO Canada.

Through this program, CN has planted over 500,000 trees since 2014 to help rehabilitate agricultural land or to provide wind barriers and soil mitigation.



PICTURED:
EcoConnexions
Partnership Program
2018 Award Ceremony,
Vancouver, BC.

Introduction

Environment

Safety

Overview

Safety Culture and Management

Workplace Health and Safety

Operational Safety

People

Community

Governance

Appendix



Safety

PICTURED:
New mobile platform and devices for car mechanics and train crews provide on-site digital access to rules and operational and safety documentation.



ROB REILLY
Executive Vice-President and Chief Operating Officer

Acting on the Global Goals



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Our relentless focus on safety performance is driven by continued investments in

infrastructure improvements and innovative technologies.

In 2018, we invested a record \$3.5 billion to restore fluidity to the network and handle growing traffic volumes. The year saw the largest number of infrastructure projects in CN's history.

Driven to Keep Safe for the Next 100 Years

Nothing is more important to CN than running a safe railroad. We strive to safeguard our employees, assets, customers' goods, neighbouring communities and the environment – always.

No matter the job, what we all want most in our railroad is to keep each other, our customers' goods and our communities safe. We also believe innovation has an important role to play in the rail industry's future, and we continue to invest significantly, pioneering industry-leading technologies to make that happen.

Safety Culture and Management

Just as critical as how we are investing in safety is how we are living it. Over the past year, we focused our safety management system programs and tools on helping our employees stay safe. We made important strides in instilling a strong safety culture, working together as a team through safety summits and other employee engagement initiatives. Our focus is unwavering to stay engaged, accountable and to make safety a core value in everything we do.

Workplace Health and Safety

Safety risk assessments are an integral part of our jobs, supported by clearly defined rules, procedures and evaluation processes.

Working together as one team through over 100 joint union-management teams, we have deployed numerous preventive safety management programs, including refreshing fatigue management programs.

Operational Safety

Our significant investments in infrastructure and technology, combined with a structured community engagement program, are helping keep the public safe and continuously improve our performance.

Over the past few years, we introduced innovative technologies, including a 3D tie rating technology system, unmanned aerial vehicles, automated railcar inspection protocols, and predictive data analytics. We also continued to invest in an ongoing community engagement program to share information on crossing safety, corridor risk assessments, proximity guidelines, dangerous goods traffic and emergency response training.



FURTHER READING ONLINE

- + [2019 Leadership in Safety](#)
- + [Safety Policy](#)
- + [Safety section of our website](#)

Safety Culture and Management

Making Safety a First Instinct

Inside CN, we have come a long way in the last 100 years in improving our safe work practices and creating a strong safety culture. Today, safety is a core value which we believe is key to outstanding railroading.

We are providing the leadership, training and resources necessary to achieve our strong safety culture, ensuring employees have the necessary tools and training to work safely.

Looking Out for Each Other

Since 2014, we have successfully implemented our peer-to-peer engagement strategy “Looking Out for Each Other,” urging employees to work together to be vigilant about safety and to speak up if they spot an unsafe situation. “Looking Out for Each Other” is an integral part of our safety culture, embedded in the training curriculum of all new hires.

To highlight employees’ safety efforts, we recently launched our “Looking Out for Each Other” Recognition Program. Every quarter, we reward

50 employees across the company who have gone above and beyond to address a safety hazard or to intervene for safer work practices.

Training to Instill a Safety Mindset

Extensive training to develop highly skilled, safety conscious and confident railroaders continues to be provided through our two state-of-the-art training centres in Winnipeg, MB, and Homewood, IL. Over the past few years, we also introduced a “boot camp” program to allow recent graduates to get additional field training. In 2018, our campuses trained over 10,700 students, and welcomed nearly 100 customers to free safety-focused classes.

Engaging through Safety Summits

Our safety summits engage employees and promote effective two-way communications and the sharing of best practices. Last year, we created a new format for new hires, including a half day of classroom instruction on recognizing potential hazards and reducing risk on the job, combined with field training.



100

CUSTOMERS PARTICIPATED IN SAFETY-FOCUSED CLASSES
AT CN'S TRAINING CAMPUSES



New Safety Summits Combine Theory and Practice

“Thanks to employee feedback, our ‘Looking Out for Each Other’ Safety Summits for transportation employees got a re-boot in 2018. New hire conductors now receive a half day of classroom instruction on recognizing potential hazards and reducing risks on the job, and then go out for a few hours of field training.

We also launched a new tool called SLAM: Stop. Look. Assess. Manage. This job assessment worksheet is completed prior to major tasks, such as switching, entraining or detraining. It lists potential hazards and what preventive actions to take.

In 2018, we held 63 Safety Summits across our network, as part of our continuing journey to engage employees in safety, communications and sharing of best practices.”

TOM BROWN
Assistant Vice-President, Safety

Introduction**Environment****Safety**

Overview

Safety Culture and Management

Workplace Health and Safety

Operational Safety

People**Community****Governance****Appendix****ONE TEAM****Creating a Just Culture Focused on Learning, Not Blaming**

In our continuing journey to build a true safety culture, CN is adopting a best-practice approach to improve safety in the workplace. Moving beyond compliance, we have been progressively shifting from strict performance monitoring to a more inclusive focus on learning, coaching and training – a Just Culture.

Fairness is at the core of creating a Just Culture environment. There is a focus on what led to a particular outcome and the decisions that were made. We ask questions like: Were the risks understood? Is more coaching or training required? Do our procedures or practices need to be adjusted? The emphasis is on learning, so employees feel safe to bring up bad news or report near misses and incidents.

The approach is expected to promote a more open dialogue with employees in a climate of trust, by focusing on the root causes of near misses or accidents and finding constructive solutions.

PICTURED:

François Oligny, Conductor,
with Vito Errico, Trainmaster, at
Southwark Yard, St. Lambert, QC.

Workplace Health and Safety

Focusing on Prevention

Ensuring a healthy and safe work environment is all about putting safety at the centre of our day-to-day operations. Our programs are designed to minimize risk, reduce injuries and accidents, and engage employees at all levels of the organization.

Safety processes, including our risk assessments, safe work programs, and inspections and audits, ensure we focus on the top causes of accidents and injuries.

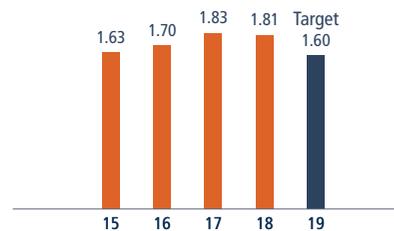
Assessing Risks

Through our Safety Management System (SMS), we continue to focus on top causes of accidents and how to prevent them through risk assessments and safety audit improvement plans.

We conduct risk assessments in a structured and systematic way prior to changes in operations and to address activities that may pose a significant risk.

FRA PERSONAL INJURY RATIO

Injuries per 200,000 person hours



While FRA injuries remained relatively stable, we recognize the need to achieve higher levels of safety performance. Our goal is to continue to improve and look out for each other.

These enable our people to understand the potential safety hazards of their job to prevent or minimize the risk of an injury or accident. Today, over 200 risk assessments have been posted on our safety and regulatory website.

Embedding Preventive Programs

Our 103 joint union-management Health and Safety Committees are engaging our entire workforce on safety initiatives. They review safety issues or incidents at a local level to better understand trends and connect with our people in the field to get ideas on where to improve.

By teaching risk assessments and providing assistance in developing preventive programs, our Health and Safety Committees are helping us address top causes of accidents and injuries. Our workplace health and safety programs are diverse, including fatigue management, ergonomics, and health and wellness.

Conducting Safety Audits

We complete three levels of safety audits. Integrated safety audits assess compliance with our SMS as well as operating rules and safety culture. We also conduct regional and functional audits on operating rules compliance and equipment inspection requirements, and local audits of rule compliance tests and observations of operational activities, policies and procedures.



Leveraging the Science of Fatigue Management

“Running a railroad 24/7 is necessary to keep the North American economy moving. Managing fatigue for employees working shifts in such an environment is critically important to safety.”

Since 2017, we have been working with the Teamsters Canada Rail Conference (TCRC) on an innovative pilot program to address fatigue for train operations employees in Western Canada. The joint union-management task force designed daily call windows in which Conductors could be expected to be called to work, as well as a scheduling model providing a three-month view of their shifts. Some of our employees are also participating in a study by wearing a REDIband™ – a device for tracking sleep patterns.”

BRAD BUTTERWICK
General Manager, Edmonton, AB

Introduction

Environment

Safety

Overview

Safety Culture and Management

Workplace Health and Safety

Operational Safety

People

Community

Governance

Appendix

SPOTLIGHT

Encouraging Dialogue and Leading by Example

The Health and Safety Committees at MacMillan Yard, Brampton Intermodal Terminal and Edmonton Garage were recognized as CN's top three committees for their outstanding work to improve safety at a local level.

At Edmonton Garage, the committee emphasizes behaviour-based safety, buy-in and leading by example. They improved safety by replacing the shop floor and installing new sidewalks, parking blocks and an insulated C-Can container to house tools and parts.

The MacMillan Yard committee has been working to make the workplace safer by cleaning up one area of the yard per month so that tripping hazards are continuously removed. Good housekeeping, communication and having everyone play an active role in Looking Out for Each Other is key to their safety success.

In September 2017, the Brampton Intermodal Terminal team marked one full year without a reportable accident, with a total of 553,164 hours worked. This three-time top committee, which represents some 345 employees, says the secret to its success lies in its commitment to solving problems together. They strive to maintain an environment where employees feel safe to voice their concerns.



103

JOINT UNION-MANAGEMENT HEALTH AND SAFETY COMMITTEES ACROSS THE SYSTEM



Brampton Intermodal Terminal



MacMillan Yard



Edmonton Garage

Introduction

Environment

Safety

Overview

Safety Culture and Management

Workplace Health and Safety

Operational Safety

People

Community

Governance

Appendix



PICTURED:
Our health and wellness program, CN Traction, supports good health habits and active living. At the CN Claude Mongeau National Training Centre in Winnipeg, new conductor trainees learn the importance of stretching as a work habit to prevent injuries on the job. Trainees take turns leading the group in a set of rigorous exercises each morning.

Operational Safety

Investing in Infrastructure and Technology

Our long-term safety improvements are driven by continual investments in infrastructure and innovative technology to operate a safe and efficient rail network.

Every year, we make significant investments to run a safe and fluid operation, while working closely with our customers and communities on safety. Our wide range of industry-leading technologies are helping take safety to the next level.

Building and Maintaining Resilient Infrastructure

Last year, we invested \$1.6 billion towards track and railway infrastructure. We also replaced 2.1 million rail ties and more than 600 miles of rail, as part of both general track maintenance and work on bridges. Since 2012, we've invested \$683 million in capital spending to repair, upgrade or replace bridges. Certified bridge inspectors perform more than 8,500 inspections a year, which we have now supplemented with the use of our unmanned aerial vehicles.

\$1.6B



INVESTED TO SUPPORT OUR SAFETY AGENDA including track infrastructure, bridge repairs, branch line upgrades and other general track maintenance.

Advancing with Technology

As part of our capital program, we are leveraging recent advances in technology to help achieve our goal of being the safest railroad in North America.

Track monitoring was taken to a new level last year with the introduction of our new 3D tie rating technology system. Our new machine vision detectors and automated railcar inspection portals, combined with autonomous track inspection cars, are powerful advancement in early detection in train safety.

Leveraging Predictive Data Analytics

We are also investing in predictive data analytics for our Engineering and Mechanical teams. This initiative involves using data from our industry-leading network of detectors and inspection technologies to enhance safety. For instance, Mechanical Analytics for Rail Safety (MARS) is used to prevent railcar failures, while Engineering Reliability and Analytics (ERA) helps to assess track health.



PUBLIC GRADE CROSSINGS

Extensive engagement with provincial, federal and state officials is underway to identify and eliminate crossing and trespassing hazards. Working with communities and railroad authorities is our priority as we strive to meet Transport Canada's new Grade Crossing Regulations and Standards. This includes mandatory requirements for crossing surfaces, road geometry, sightlines, warning systems and other elements that improve safety.



POSITIVE TRAIN CONTROL

Positive Train Control (PTC) implementation progressed ahead of schedule in 2018. By year-end, we had installed 1,662 radio towers, trained 5,614 employees and completed PTC hardware installation on all 586 required locomotives and 35 required track segments.

SPOTLIGHT

Developing Innovative Technologies for Safety and Efficiency

We are leveraging recent advances in technology in order to improve safety and enhance operational efficiency. Technology has an important role to play in the rail industry's future, and CN wants to be a pioneer in making that happen.

Autonomous Track Inspection Program (ATIP):

This consists of railcars in regular train service that have been specially equipped with the latest sensors and artificial intelligence technology to move towards fully automated track inspections. ATIP will allow for more frequent and higher quality inspections to enable more accurate preventative maintenance, supporting our safety agenda.

Automated Inspection Portals (AIP): We're modernizing the railcar inspection process by coupling high-resolution imaging hardware with powerful machine learning software. With AIP, inspections will be more frequent and of better quality, especially on difficult parts of the railcar, leading to a safer and more reliable railway.

Handheld On-site Technology: With the introduction of mobile devices, conductors, locomotive engineers and car mechanics now have digital access to all operational and safety documentation, making it easier to navigate and access rules, improving data quality and helping to pinpoint areas for repair.

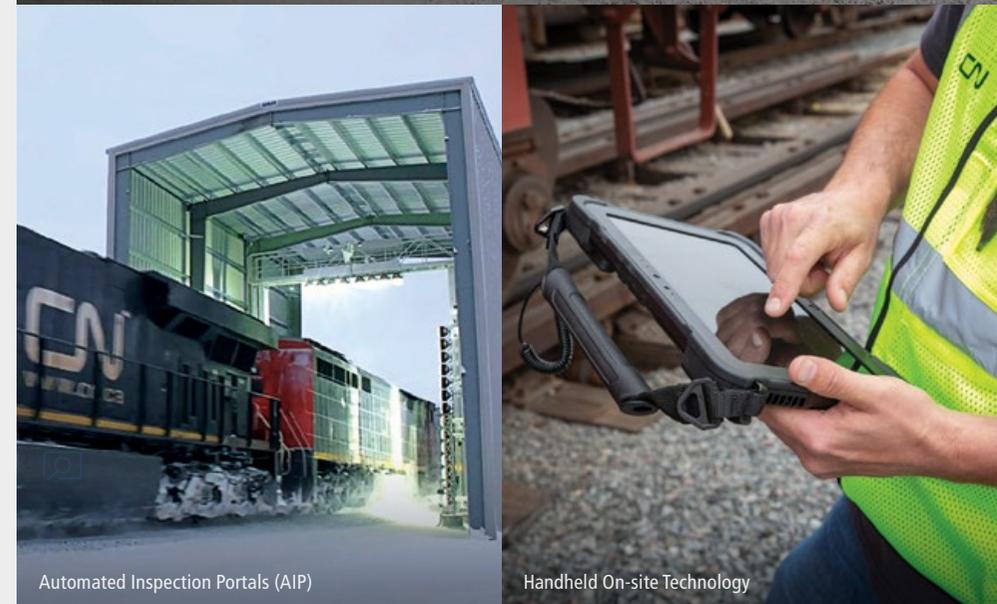


WATCH MORE ONLINE

- + [Autonomous Track Inspection Program Video](#)
- + [Automated Inspection Portals Video](#)



Autonomous Track Inspection Program (ATIP)



Automated Inspection Portals (AIP)



Handheld On-site Technology

Introduction

Environment

Safety

Overview

Safety Culture and Management

Workplace Health and Safety

Operational Safety

People

Community

Governance

Appendix

Reinventing Train Inspection

CN's new Automated Inspection Portals (AIPs) feature ultra-high-definition panoramic cameras and infrared lighting that capture a 360° view of a train as it travels through the portal. These real-time inspections can then assist in identifying a railcar needing repair.

This new technology also presents opportunities to reduce disruptions and enhance network safety and security. In 2018, we built four AIPs in Winnipeg and we plan to install three more across our network in 2019.



PICTURED:
One of four Automated Inspection Portals built in 2018 in Winnipeg, MB.

Introduction

Environment

Safety

People

Overview

Talent Recruitment
and Diversity

Employee Development

Employee Engagement
and Innovation

Community

Governance

Appendix



People

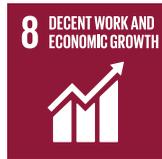
PICTURED:

One of CN's newly hired conductors, Alysia Davis, with her trainer, Joseph Brooks, Superintendent, Transportation, at Harrison Yard, Memphis, TN.



DOROTHEA KLEIN
Senior Vice-President and Chief Human Resources Officer

Acting on the Global Goals



Aligning our human capital strategies to business objectives has been an important priority for us over

the past year. Through our innovative People Dashboard, we are enabling our managers with data to assist in supporting our collective efforts to engage and retain our employees while ensuring we make timely decisions to drive business results.

Last year, our senior leaders had real-time workforce metrics through the People Dashboard giving them insights into diversity hires, promotions and internal representation.

Being an Employer of Choice for the Next Generation of Railroaders

Our success over the past century could not have been achieved without the support and dedication of our people. As we prepare for the next generation of railroaders, our focus is to attract diverse people, onboard them successfully, develop the best railroaders with the right skills and engage our employees.

We believe our employees are our single greatest asset. As we bring on new railroaders, we are embracing diversity to help us attract and retain qualified talent, and foster innovation by bringing the best solutions to the table.

Talent Recruitment and Diversity

Our Diversity and Inclusion Plan is an integral part of our talent acquisition strategy, which includes a focus on increasing the representation of designated groups within our workforce.

Last year, we successfully ran targeted recruitment campaigns promoting opportunities for women in non-traditional roles and other designated groups. We also built and strengthened our strategic partnerships with Aboriginal organizations, and increased our visibility on social media. By the end of 2018, 44% of Canadian applicants self-identified as being diverse.

Employee Development

Every year we invest significantly preparing our employees to be highly skilled, safety conscious and confident in their work environment. Last year, we continued to leverage our state-of-the-art training facilities to provide technical training and leadership development for our current and future railroaders.

These programs and initiatives provide a solid platform for the assessment and development of our talent pool. In 2018, approximately two million hours of training were provided to our people.

Employee Engagement and Innovation

We are committed to engaging our employees to be connected to our business – whether it is through collaborations with our unions, innovation challenges, or health and wellness campaigns. Last year, our management engagement survey helped us to gain insights on our goal to be an employer of choice.



FURTHER READING ONLINE

- + [Career section of our website](#)
- + [Aboriginal Relations section of our website](#)

Talent Recruitment and Diversity

Ensuring a Diverse Pipeline of Applicants

Having a workforce with unique talents that reflects the diversity of our customers and communities where we operate is a key contributor to our success. We are focused on hiring diverse and qualified candidates – encouraging collaboration and creative thinking.

We continue to build a diverse pipeline of applicants through targeted recruitment campaigns, strategic partnerships and strengthened outreach.

Targeting Our Recruitment

Last year, our targeted recruitment campaigns enabled us to promote opportunities for women in non-traditional roles and build stronger relationships with Aboriginal People.

We also strengthened our technology platforms by implementing a new talent acquisition module as part of our My 360 Human Resources (HR) information system. The module provides CN recruiters and HR managers access to candidates who self-identified as part of a designated group and the representation of diverse candidates for CN positions.

Developing Strategic Partnerships

Strengthening relationships with our various Recruitment Partners, we have been able to increase the visibility of CN as an equal opportunity employer. Specifically, in 2018, we teamed up with the Prince George Nechako Aboriginal Employment Training Association (PGNAETA) and the British Columbia Institute of Technology (BCIT) to train future Aboriginal railway workers through a pre-employment training program. We were especially

proud last year to have hired 7 out of the 10 Aboriginal graduates in our various rail operation roles. To date, 66% of program participants are of diverse backgrounds.

Strengthening Our Outreach

Through social media, we have strengthened our visibility of CN as an employment equity employer. We regularly post available jobs, sponsorships, employee testimonials and diversity-specific events on our Facebook and LinkedIn pages.

In 2018, we promoted the following diversity awareness campaigns across our network: International Women's Day, Black History Month, Asian Heritage Month, Hispanic Heritage Month, National Indigenous Peoples Day and Month, and National Native American History Month.



36%

OF ALL NEW CN EMPLOYEES HIRED IN 2018 IN CANADA CAME FROM DIVERSE BACKGROUNDS



Implementing Our Diversity and Inclusion Plan

“We recognize the importance of creating a diverse and inclusive work environment at all levels of our organization that respects the contribution and uniqueness of every individual.

Our commitment is anchored by our Diversity and Inclusion Plan, which is focused on increasing the representation of designated groups within our workforce and developing a more inclusive workplace. Our Plan includes strategies on sourcing (including scholarships and internships), selection, hiring, training and development, and it touches everyone including the Board, our employees and external candidates. We also cover communication measures to sensitize, recognize and build awareness on diversity and inclusion in the workplace.”

CORRINE KOSTYSHYN
Director, Talent Acquisition

ONE TEAM

Strengthening Partnerships to Increase Opportunities for Aboriginal People

Over the past few years, our CN Aboriginal Affairs and Talent Acquisition teams have worked closely together to increase our visibility within Aboriginal communities to promote CN employment opportunities.

We were invited by First Nation leaders to hold individual career planning and career fair events. These opportunities have led to further discussions on post-secondary training partnerships and future invitations to work with Aboriginal People in promoting CN as a long-term employer.

We also provide sensitivity training on diversity and inclusion as part of our hiring, onboarding and development programs.

Our management employees receive training on Aboriginal culture, beliefs and history through our Practical Approaches to Aboriginal Community Engagement eLearning program. This course is also now mandatory for all new employees attending training at the CN Winnipeg Campus. As of 2018, more than 2,600 employees had completed the Aboriginal cultural awareness training since it was launched in January 2015.



PICTURED:
Charles Brown, Car Mechanic
Watson Island Repair Track
Prince Rupert, BC.

Employee Development

Building a Solid Team of Railroaders

Our ability to develop the best railroaders has been a key contributor to our success. Our focus is on building the capabilities of our leaders, while ensuring our teams are highly skilled, safety conscious and confident in their work environment.

Planning for the development needs of both new and existing employees is an ongoing priority for us. We offer training programs for various levels and are committed to keeping them current and relevant through innovative technological advancements.

Developing Strong Leaders

We are building the capabilities of our leaders and managers to develop their teams, create a performance-based culture and demonstrate strong leadership. Last year we launched an innovative Management Trainee Program – a unique two-year program offering hands-on experience in operations and leadership to prepare candidates for a future leadership position at CN.

Each trainee will gain exposure on our operations and business strategy, including working at our terminals and train yards. The graduates will be placed in a permanent management position. To date, 38 employees, of which 66% were diverse, are part of the program.

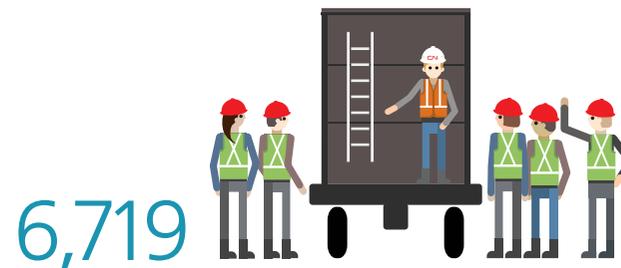
Preparing Railroaders to be Highly Skilled

Since 2014, CN's state-of-the-art Winnipeg Campus has been part of a revitalized company-wide training program aimed at preparing railroaders to be highly skilled, safety conscious and confident in their work environment.

The centralized and revamped curriculum ensures all employees receive the same training and experience a common understanding of CN's policies, procedures, rules and of how we run our business. In 2018, 6,719 employees were trained at the Winnipeg Campus.

Bringing Managers Closer to Operations

The Railroader Certification Program (RRCP) is part of a long-term initiative to bring managers closer to CN's core operations and to help them understand how CN meets its service commitments to customers. In 2018, CN maintained the Railroader Familiarization Program, which offers management employees the opportunity to acquire fundamental operations knowledge and hands-on experience.



EMPLOYEES TRAINED AT THE CN CLAUDE MONGEAU NATIONAL TRAINING CENTRE IN WINNIPEG IN 2018



My 360 Performance, Development and Training

“We recently launched a unique and integrated human resources information system on performance, development and learning. The platform gives employees access to a catalogue of courses aimed at helping their development. Online training courses are available on a number of categories relating to business, leadership and technical skills, enabling our people to develop their skills and gain knowledge in different areas.”

The Training Module gives all management employees access to more than 4,000 online courses and educational videos to enhance employees’ business and leadership skills. Moving forward, we will continue to improve the system and enhance our employee offerings.”

LAURENT CARON
Director, Human Resource Systems and Business Integration

SPOTLIGHT

Enhancing the Quality of Training and Creating a Supportive Environment

We are focused on providing the leadership, training and resources necessary to be a world-class transportation company, leveraging our state-of-the-art training facilities, modernized teaching, and on-the-job training through peer-to-peer coaching and mentoring.

Our training facilities in Winnipeg, MB, and Homewood, IL, provide technical training and leadership development designed to meet the learning needs of our current and future railroaders. The CN campuses provide ultra-modern indoor labs with simulators. Outdoor labs are equipped with dedicated rolling stock, track and wayside equipment, and field training equipment. Once hired, operational employees receive ongoing day-to-day peer-to-peer training with strong supervisory support.

Onboarding New Talent: As part of the onboarding process, Joshua Lappanen, a highly experienced Assistant Superintendent at Walker Yard, spent time with Jay McGee, a new conductor, teaching him the ropes of railroading and the importance of safety.

Refreshing Re-hires: As part of our re-hire initiative, Matt Leblanc returned to CN as a Conductor. After a two-week refresher course at our CN campus in Winnipeg, and field training at the Rona terminal, Matt was back on board.

Ongoing Peer-to-Peer Training: Samantha Head, a new Crew Dispatcher, appreciates the ongoing training and mentoring from supervisors and fellow colleagues in a supportive environment.

33%

INCREASE IN THE AVERAGE HOURS OF TRAINING PER EMPLOYEE SINCE 2015



Onboarding New Talent



Ongoing Peer-to-Peer Training

Refreshing Re-hires

Employee Engagement and Innovation

Creating a Sense of Teamwork

Engaging our employees is at the heart of our strategy to ensure a high-performing and resilient workforce. By encouraging innovation and recognizing their contributions, we want our people to feel valued, supported and empowered to be successful.

Together, we believe the more engaged and connected we are, the better we can thrive and make a difference.

Collaborating for an Engaging Workplace

We work collaboratively with our union partners, including the United Steelworkers, the Teamsters Canada Rail Conference and Unifor, to ensure long-term stability and improve work-life balance for our employees. We also seek feedback from our employees directly, such as through our 2018 Management Engagement Survey, and reach out to new hires through our onboarding surveys.

Spurring Innovation

Our innovative solutions have been instrumental in providing an environment where our employees feel empowered to learn from their colleagues, share experiences, and bring new ideas.



CN'S ANNUAL PRESIDENT'S AWARDS FOR EXCELLENCE RECOGNIZE OUTSTANDING ACHIEVEMENTS OF OUR PEOPLE

Specifically, last year our Activ8 customer experience challenge enabled us to engage more than 1,000 employees across the company, leading to a number of innovative ideas.

Fostering Health and Wellness

We are committed to supporting our people's health and wellness through our various programs. For instance, our CN Traction program aims to help employees develop good health habits and an active lifestyle. Our people's mental health is just as important as their physical health. In 2018, our Employee and Family Assistance Program continued to help employees and family members deal with personal and work-life issues.

Rewarding Employee Achievements

Last year, we continued to maintain our CN President's Awards for Excellence recognizing the outstanding achievements of our employees. Through the Awards, we underline achievements in operational excellence, service excellence, safety, sustainability, community and talent development.



Energizing Our Employees with the Power of Fitness

Derick Kulibaba, National Account Manager, P&C Sales, in Montreal, has a cure for the Monday doldrums. He leads a popular fitness class at CN's headquarters called Kulibox – a high-intensity boxing workout in an aerobics-class setting.

"The training is intense but you can see all types of people uniting for a common purpose. It's super motivating! I put on music and I don't hold back encouraging people, no matter their fitness level. Our mantra is 'you know who you are!'. I just love what I do and the energy is contagious!" says Derick.

This is just one example of the variety of means offered by CN's health and wellness program, CN Traction, to encourage employees to maintain a healthy lifestyle.





ONE TEAM

Engaging Employees on Innovation: Activ8 Customer Experience Challenge

CN's second Activ8 Challenge tapped into our employees' expertise and ideas to improve our customers' experience.

Using the Activ8 website or app, employees submit ideas, exchange comments and vote on their colleagues' submissions. In all, 1,087 employees across CN participated, generating 465 ideas, 1,691 comments and 5,052 votes online. Seventy top participants experienced innovation in action at the Activ8 Bootcamp in Montreal where they evaluated a set of short-listed ideas. After developing pitches for eight enhanced ideas, participants voted to select the top three.

"It was the experience of a lifetime and a lot of fun," says Derek Gaston, Supervisor, Truck Operations, Multimodal, in Montreal, QC. He and Jessica Levitt, Assistant Manager, Service Delivery, in Brampton, ON, were one of three teams chosen to pitch their ideas to CN's leadership team. Their group's winning idea, to introduce a mobile app for Intermodal truck drivers, will provide real-time visibility into the activities and processes that are happening at the terminal for a more predictable experience.

465 innovative ideas

FOR IMPROVING THE CUSTOMER EXPERIENCE WERE SUBMITTED THROUGH THE ACTIV8 WEBSITE AND APP

PICTURED:
Activ8 Customer Experience Challenge Bootcamp session in Montreal, QC.

Introduction

Environment

Safety

People

Community

Overview

Socio-economic Benefits

Community Investments

Stakeholder Outreach
and Engagement

Governance

Appendix



Community

PICTURED:

CN has been the title sponsor of CN Cycle for the Children's Hospital of Eastern Ontario (CHEO) since 2009. This year marked a record for oncology patients, bringing in more than \$1 million.

Photo courtesy of Brittany Gawley



FIONA MURRAY
Vice-President, Public and Government Affairs

Acting on the Global Goals



11 SUSTAINABLE CITIES
AND COMMUNITIES

As a good neighbour, we are committed to building positive relationships, being engaged, investing in community

development, creating positive economic benefits, and ensuring open, transparent lines of communication.

Our stakeholder outreach teams play an integral role in keeping us connected to regional issues, and identifying impactful community partnership programs that align with local needs to create real benefits. Our Aboriginal Affairs team works alongside Aboriginal communities to strengthen our ties, cultivate economic opportunities and set an example within our industry.

Partnering with Our Neighbours for the Next 100 Years

We strive to be a good neighbour, creating positive socio-economic benefits and investing to make communities stronger and safer, while engaging our stakeholders to build lasting relationships. Our goal is to get involved in local efforts, bring people together and create positive, lasting change through trust and integrity.

Over the past century, CN has been proud to be an important part of the many cities, towns and Aboriginal communities across our network.

Socio-economic Benefits

We are part of the very fabric of North America, contributing to economic prosperity, improving living standards and quality of life, and supporting the shift to a cleaner, more sustainable economy. In 2018, we invested a record \$3.5 billion towards infrastructure and equipment to better serve our customers and communities safely and efficiently, while reducing congestion and an overburdened public transportation infrastructure. We also contributed approximately \$3.5 billion in wages and benefits to our 25,720 employees, approximately \$7 billion in goods and services to suppliers; and \$2 billion in government taxes.

Community Investments

For us, giving back is a way of doing business that embodies our deep commitment to building stronger communities. In 2018, we invested \$13 million in sponsorships and donations to hundreds of non-profits, including \$1 million in grants to the charitable organizations our employees, retirees and their families choose to support through their volunteer efforts.

Our spirit of caring extends to the many communities where we have planted over two million trees since 2012, protecting ecosystem health and minimizing our impact.

Stakeholder Outreach and Engagement

We continue to strengthen our approach to building lasting relationships with our stakeholders. In 2018, we became the first transportation company to receive the Progressive Aboriginal Relations Bronze Level certification from the Canadian Council for Aboriginal Business for our commitment to working with Aboriginal communities and businesses. We also continue to provide information to first responders and civic leaders about dangerous commodities and help them train on how to safely and effectively respond to incidents.



FURTHER READING ONLINE

- + [CN in Your Community Report](#)
- + [Aboriginal Relations section of our website](#)
- + [Community section of our website](#)

Socio-economic Benefits

Creating Resilient Communities

CN moves the economy and enables trade, and as such, we play an important role in fostering the prosperity of the communities where we operate. We handle over 300 million tonnes of cargo annually, touching the lives of millions of people every day.

Being part of the rich fabric of the many communities we touch enables us to play a vital role in ensuring they are safer, stronger and more prosperous. Our goal is to leave communities and economies better for our being there.

Driving the Economy Forward

We are proud of the important contribution we make towards social and economic progress. We have long been moving the products that shape every day life, from grain and forest products to petroleum and chemicals to consumer goods and automobiles – touching the lives of millions of people. In 2018, we moved over \$250 billion worth of goods for our customers, including sustainable products that are contributing to a better world.



“CN supports important economic development opportunities for our city. Our strong partnership with CN is rooted in a shared understanding that the safety and well-being of our citizens is our top priority.”

MAYOR MAURIZIO BEVILACQUA
City of Vaughan

Enabling Prosperous Growth

Delivering our transportation services safely, efficiently, and responsibly is vital to the running of our railroad and the value we create for society. As a reflection of this commitment to our customers and communities, last year we invested a record \$3.5 billion in capital, including track infrastructure, rolling stock, technology and equipment like new locomotives. This investment will provide our customers with the capacity for continued efficient freight transportation services and increased North American and global competitiveness, while supporting resilient and safe infrastructure.

Enhancing Quality of Life

As a major employer of more than 25,000 people in North America, we are helping to improve living standards and the quality of life, while supporting the shift to a cleaner low carbon economy. In 2018, we continued to contribute to local communities through positive shareholder returns, supplier spending, and tax contributions to all levels of government.



Getting it Right for Farmers and Grain Customers

“We are focused on getting it right for farmers and our grain customers and enhancing Canada’s reputation as a reliable export partner.

To meet the anticipated volume of grain to be moved over the next year, we developed a comprehensive Canadian Grain Plan. It was based on extensive consultation with key stakeholders, and reflects the valuable feedback they have provided.

We believe that a collaborative approach to grain transportation will drive stronger results for the entire grain supply chain.”

DAVID PRZEDNOWEK
Director, Sales and Marketing
Grain

Creating Shared Value for a Better World

Customers

We nurture close relationships with our customers to help them grow their businesses and win in their markets

\$250B+

VALUE OF GOODS HANDLED

Suppliers

We source goods and services from over 20,000 suppliers, creating jobs and economic growth

\$7B

IN GOODS AND SERVICES

Shareholders

We create long-term value for our shareholders, distributing dividend payouts and share repurchases

\$3B

RETURNED TO SHAREHOLDERS

Employees

We attract, develop and reward our people to maintain a skilled and motivated workforce

\$3.5B

WAGES AND SALARIES PAID¹⁾

Communities

We invest directly in communities to make them better places to live, work and play

\$13M

COMMUNITY SPONSORSHIPS AND DONATIONS

Governments

We contribute to the Canadian and U.S. economies and prosperity through the various taxes we pay

\$2B

GOVERNMENT TAX PAYMENTS

*All figures as at December 31, 2018

1) Includes stock-based compensation, health and welfare and pension benefits

Community Investments

Promoting a Spirit of Caring

Giving back is a way of doing business, which symbolizes our deep commitment to building safer, stronger communities. This spirit of caring is shared by everyone at CN, from our officers and directors to our employees.

As good neighbours, we get involved with local efforts to bring people together and create positive, lasting change. The CN Stronger Communities Fund is our main vehicle for giving back to the communities through which we operate. Our partnerships focus on promoting safety and environmental sustainability, diversity, innovation, civic engagement as well as the CN Railroaders in the Community program.

Raising Safety Awareness

For more than 25 years, All Aboard for Safety has been our flagship community education program to help prevent accidents on or near railroad property. During our annual Rail Safety Week campaign, in partnership with Operation Lifesaver®, our CN Police officers and other employees conducted close to 200 activities at schools, community centres, railway stations and level crossings across Canada and the U.S.

Engaging in Environmental Stewardship

With a network that passes through a wide range of ecosystems, our environmental-conscious mindset extends beyond our operations to the communities we serve. Since 2012, we have planted more than two million trees in communities along our rail network – making CN the leading private non-forestry company tree planter in Canada. CN also supports

national and community-based organizations that support environmental stewardship, including Earth Day Canada and Tree Canada.

Encouraging Innovation and Civic Engagement

We are supporting innovation through transportation education, inspiring and helping today's youth to become tomorrow's railroaders and leaders. We provide trade apprenticeships, support college and university programs, and award scholarships and bursaries.

In 2018, CN created the company's first community board to guide CN's Stronger Communities Fund decisions and strengthen community partnerships in Edmonton. It aims to put funding decisions in the hands of local and business leaders who know their community best.



INVESTED IN COMMUNITIES IN SPONSORSHIPS AND DONATIONS



Reinforcing the Message of Rail Safety

“Safety always comes first at CN and particularly during Rail Safety Week. During the 2018 campaign, CN Police officers and other employees across CN’s network, in partnership with Operation Lifesaver®, conducted close to 200 safety initiatives, enforcement blitzes and community events at schools, community centres, railway stations and level crossings in Canada and the United States.

CN employees share information about the importance of safety at crossings and of the deadly risks of trespassing on railway property. By reinforcing the message that rail safety is everyone’s responsibility, we hope to help eliminate crossing and trespassing accidents in our communities.”

STEVE COVEY
Chief Security Officer
and Chief of Police North America

ONE TEAM

EcoConnexions: Working Together to Green Communities

Our EcoConnexions From the Ground Up and Reforestation program was launched in 2012 to promote environmental sustainability through the greening of communities and First Nations situated along our rail network.

Working together with our partners, Tree Canada and America in Bloom, we have assisted community groups to establish green spaces, tree plantings and mass reforestation projects in a sustainable, environmentally responsible manner. In 2014, EcoConnexions was expanded to partner with and recognize our customers and supply chain partners for their sustainability practices, and we are now planting trees in honour of their efforts.

Through these EcoConnexions programs, we've collaborated with 268 communities and over two million trees have been planted – making CN one of the leading private non-forestry company tree planters in Canada.



EcoCONNEXIONS

From the Ground Up



TreeCanada



PICTURED:
EcoConnexions
tree-planting event
London, ON.

SPOTLIGHT

CN Railroaders in the Community: Employees Making a Difference

We are proud of our employees, retirees and their families who volunteer thousands of hours of personal time every year to encourage a spirit of caring and make their communities stronger and better places to live, work and play.

Our CN Railroaders in the Community program provides grants each year to the charitable organizations our railroaders choose to dedicate their volunteer efforts to make a difference in their communities.

Coaching Pre-teen Girls: Amanda Bureson, wife of CN Carman Matt Bureson, volunteers to coach Girls on the Run – a program to encourage girls to develop self-respect and healthy lifestyles through interactive lessons and running games.

Supporting Community Food Bank: CN retiree Eric Ecklunda, former field engineer, makes a difference at Operation Bootstrap – a non-profit that provides food, clothing and assistance for families, disabled people and the elderly.

Empowering Young Women: For over 17 years, Josette Fletcher, an Electronic Logging Device Lead, has volunteered with Sigma Gamma Rho Sorority, helping young women reach their dreams.

Promoting Amputee Sports: Dave Marchand lost both his legs after a bout with bacterial meningitis. Ever since, he has been assisting amputee support groups as part of the Alberta Amputee Sports Recreation Association.



\$1 million

Railroaders in the community



PROVIDED IN GRANTS THROUGH CN RAILROADERS IN 2018



Coaching Pre-teen Girls



Supporting Community Food Bank

Empowering Young Women

Promoting Amputee Sports

Stakeholder Outreach and Engagement

Strengthening Relationships and Trust

We are committed to building mutually beneficial and lasting relationships with all our stakeholders. Participating in open dialogue on issues of public interest is essential to building understanding and trust.

Through engagement, we are committed to understanding the issues, including any social, environmental, ethical and economic topics.

Investors: Our Investor Relations department actively engages with the broad investment community to provide public information on our company and to address concerns or questions. In addition to financial performance and market outlook information, this year our investor presentations included how we are leveraging technology to improve safety, efficiency and productivity, our long-term growth and network resiliency, and our sustainability commitment.

Customers: We continue to consult with our customers to identify improvement opportunities, especially on capacity, efficiency and accessibility. In 2018, we worked closely in consultation with our customers and Canadian farmers to develop a CN Grain Plan, which included commercial contracts with reciprocal incentives for over 90% of our fleet, and strategies to build four new export terminals and new grain elevators.

Governments: We engage all levels of government as a participant on advisory councils, on review boards and in regulatory proceedings. Over the past year we worked with the Transport Canada authorities and communities to ensure we meet the new Grade Crossing Regulations and Standards and advance our shared responsibility.

Specifically, any new grade crossings and existing crossings undergoing upgrades or modifications must meet the new regulations and standards.

Employees: We continue to engage our employees on regular two-way communications. This year, we conducted an employee engagement survey, which provided us with insights on how we can continuously improve our performance.

Communities: We engage communities on a broad range of topics, including on emergency response, and we regularly share information on proximity guidelines and dangerous goods traffic. We also provide training and expertise to community emergency personnel and first responders.

Aboriginal Peoples: We are committed to developing respectful and mutually beneficial relationships with all Aboriginal People, while maintaining service to our customers. In 2018, CN became the first transportation company to receive the Progressive Aboriginal Relations Bronze Level certification from the Canadian Council for Aboriginal Business for our commitment to working with Aboriginal communities and businesses.



CN Receives Progressive Aboriginal Relations Bronze Certification in 2018

“CN has demonstrated it places high value on the importance of positive relationships and partnerships with Aboriginal communities and businesses.

We welcome CN as our newest PAR Bronze Level member and, as a business operating across Canada, congratulate CN’s leadership and employees on their journey moving toward addressing the economic reconciliation that is supporting an Aboriginal business renaissance in Canada today.”

JP GLADU
President and Chief Executive Officer
of CCAB



Canadian Council for
Aboriginal Business

Introduction

Environment

Safety

People

Community

Overview

Socio-economic Benefits

Community Investments

Stakeholder Outreach
and Engagement

Governance

Appendix



PICTURED:
Celebrating National
Indigenous Peoples Day
at CN Headquarters,
Montreal, QC.

Engaging Aboriginal People



We are committed to proactively developing respectful and mutually beneficial relationships with all Aboriginal People by maintaining open dialogue, promoting opportunities to join our workforce, supporting initiatives and participating in Aboriginal People organizations, and seeking out and encouraging opportunities for business and procurement.

Examples of our activities have included:

- Working with the Indigenous consulting firm AMIK to develop a cultural awareness program for CN employees; since 2017, this training is mandatory for all new hires trained at the Claude Mongeau National Training Centre in Winnipeg. In total, more than 3,600 unionized, management employees and executives have received the training.
- Providing internship and employment opportunities to Aboriginal peoples.
- Encouraging business opportunities and partnerships with Aboriginal corporations and suppliers.
- Supporting organizations such as Level's Indigenous Youth Outreach Program, Indspire focused on instilling cultural pride, and the Marie-Vincent Foundation, which educates case workers in Aboriginal communities who treat child and adolescent victims of sexual abuse.
- Participating in Aboriginal events and national associations such as the Pulling Together Canoe Journey in British Columbia, the AFN Annual General Assembly and Indspire Educational Gathering, to name a few.
- Offering safety presentations and dangerous goods training to Aboriginal communities along our network.

SPOTLIGHT

Working with Communities to Enhance Emergency Preparedness

Our Corporate Services team plays an integral role in keeping CN connected to communities. Working with our Dangerous Goods team, CN Police and other colleagues, they deliver an ongoing community engagement program reaching municipal officials and local emergency responders along our North American rail network.



Dangerous Goods Training: Our Dangerous Goods team delivers Railroad Emergency Response courses and other training, using CN's 911 training car and trailers. The team also holds several training events, such as one-week CN-sponsored Tank Car Specialist training courses for firefighters and emergency response contractors.

TransCAER®: In 2018, CN participated in 388 TransCAER® events across the system, bringing critical training to over 6,500 participants who might face dangerous goods issues. Since 1988, we have taken part in nearly 5,000 TransCAER® events, reaching over 108,000 first responders. We also earned the prestigious TransCAER® National Achievement Award from the American Chemistry Council for the 10th consecutive year.

Corridor Risk Assessments: We perform risk assessments on all key routes. Several risk factors are considered, including the proximity of communities along its rights-of-way, environmentally sensitive areas, and response capabilities.

Sharing Information: We work with Transport Canada and the Federation of Canadian Municipalities to provide detailed historical dangerous goods information. We continue to work with industry partners, municipal leaders and governments to advance collaboration with communities on emergency response planning and better sharing of relevant information.

AskRail™: The AskRail mobile app lets emergency responders determine the contents of any railcar through a simple search, which helps them make more informed decisions about how to respond effectively to a rail emergency. The app has been downloaded by more than 3,300 emergency responders across CN's North American network.

6,500

FIRST RESPONDERS TRAINED AT 388 TRANSCAER® EVENTS HELD ACROSS THE SYSTEM IN 2018



Dangerous Goods Training



AskRail Mobile App

Introduction

Environment

Safety

People

Community

Governance

Overview

Ethics and Compliance

Sustainability Policies

Executive Compensation

Appendix



Governance

PICTURED:

Our governance policies and practices are overseen from our corporate headquarters in Montreal, QC.



SEAN FINN, Executive Vice-President, Corporate Services and Chief Legal Officer

Acting on the Global Goals



We believe diversity is a key attribute of a well-functioning board. As members of the Canadian Chapter of the 30%

Club, we made progress on our target, achieving 38% women on our Board of Directors in 2017.

We are now working to increase the number of women among our executive officers and senior managers by focusing on training, development and mentorship opportunities. In 2018, 7 of CN's 30 executive officers were women, or 23%.

Committing to the Highest Standards

We take great pride in the strong foundation of ethical conduct and integrity we have built over the last 100 years. We are committed to adhering to the highest standards of corporate governance, with an emphasis on engagement and transparency.

Ethics and Compliance

Our solid ethics program is based on our foundation of integrity and respect, guiding us to always do what's right. Last year, as in previous years, we reviewed our Code of Business Conduct (Code) to ensure it reflects our core values and remains consistent with industry trends and standards. All our management employees completed their annual attestations to the Code, with no material violations reported.

We also refreshed our training on select corporate policies, including conflicts of interest and harassment-free environment awareness, and integrated our *Doing the Right Thing* live training course into our onboarding program.

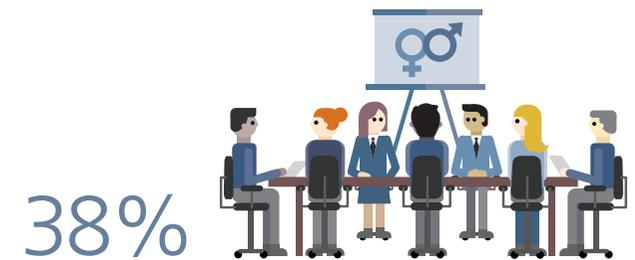
Sustainability Policies

Our approach to sustainability 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). These expectations are integrated into our five guiding principles, the Code, and corporate governance standards, policies and disclosures.

Executive Compensation

Our approach is driven by our goal to deliver sustainable and solid returns to shareholders. We exercise a disciplined approach by ensuring that target compensation supports the attraction and retention of executive talent.

Our short- and long-term incentive plans are structured to align realized pay and industry-leading returns, including safety. Beginning in 2019, all our senior management employees have safety as part of their compensation plan, in addition to aligned executive compensation.



38%
WOMEN ON THE BOARD OF DIRECTORS, EXCEEDING OUR COMMITMENTS TO THE CATALYST ACCORD AND THE CANADIAN CHAPTER OF THE 30% CLUB

Ethics and Compliance

Anchoring Our Business Practices

How we deliver success is just as important as what we achieve. As one of North America's leading railroads, we work diligently to bring integrity and excellence into everything we do.

Adherence to our high expectations of ethics and compliance continues to be our priority – ensuring our employees and others working on our behalf make the right decisions. Our foundation of ethics and integrity underpins our robust compliance systems and strong ethics program, further anchoring our responsible management philosophy.

Reinforcing Strict Compliance

We continue to take action at all levels to improve our compliance procedures and ensure their ongoing effectiveness in consideration of evolving best practices, changing circumstances and business needs. Every year, we implement tighter controls to maintain and build on our strong track record of compliance.

Maintaining a Strong Ethics Culture

Our approach to ethics is based on our values of integrity and respect, engaging our people to always do what is right. We regularly review our Code to ensure it adequately reflects our core values and remains consistent with industry trends and standards.



FURTHER READING ONLINE

- + [Code of Business Conduct](#)
- + [Governance section of our website](#)

Last year, all eligible employees certified their compliance to our Code.

We also continued to deploy an online training course on the Code to reflect the importance of protecting CN's reputation, understanding what *Doing the Right Thing* means and how to identify and avoid potential conflicts of interest. The training is also part of every new employee's onboarding program.

Making it Easy to Report on Issues

Requests, concerns, and disclosures of misconduct can be reported through a variety of channels defined in our Code. These include our Law Department, Human Resources Centre, CN Police, and Ombudsman, who plays an integral role in ensuring equitable resolutions of concerns. We also have a confidential general CN telephone hotline. In 2018, no material violations were reported.



100%
CODE OF BUSINESS CONDUCT COMPLIANCE ATTESTATIONS BY
MANAGEMENT EMPLOYEES



Working to Ensure Strong Governance Standards

"We recognize the importance of good governance.

As a Canadian reporting issuer with securities listed on the Toronto Stock Exchange (TSX) and the New York Stock Exchange (NYSE), we ensure our corporate governance practices comply with the highest standards and rules adopted by the Canadian Securities regulator, the U.S. Sarbanes-Oxley Act of 2002 and related rules of the U.S. Securities and Exchange Commission.

In 2018, we were proud to be recognized by the Globe and Mail's annual review of corporate governance practices in Canada, ranking 1st in the industrials group and in the top three of publicly traded Canadian companies."

CRISTINA CIRCELLI
Vice-President, Deputy Corporate Secretary
and General Counsel

Sustainability Policies

Guiding Our Decisions Every Day

Our policies are the foundation for our Delivering Responsibly strategy, culture and day-to-day operations. They set the expectations and provide direction on how we integrate social, economic and environmental considerations in our business.

In addition to complying with laws and regulations, we have established robust policies, processes and systems to ensure our operations are sustainable.

Adhering to International Standards

Our commitments and approach to sustainability align with international standards on sustainable development. We support the UN SDGs and the World Bank Mobility Goals, which guide how we can positively impact society.

To inform our sustainability disclosures, we align with the GRI Sustainability Standards, SASB, the Integrated Reporting International Council, the Greenhouse Gas Protocol, the TCFD, the Science Based Targets initiative, and the Carbon Disclosure Project.

While not a signatory to the UNGC, our approach to Delivering Responsibly takes into account the 10 UNGC principles in the areas of labour, environment, anti-corruption, and human rights. As a company operating in North America, we support and respect internationally proclaimed human rights, framed under the Universal Declaration of Human Rights, and the core labour standards set out by the International Labour Organization.

Communicating Our Corporate Policies

Our guiding principles, Code of Business Conduct and core beliefs anchor our commitment to Delivering Responsibly. To support our responsible management philosophy, we have a number of policies and guidelines that define the expectations of our employees, suppliers, vendors and contractors. These include policies on environment, anti-corruption, safety and a harassment-free work environment, among others that are the foundation for our sustainability strategy.

Monitoring Our Compliance

Our employees, consultants, suppliers or relevant others operating on our behalf are expected to comply with our corporate policies in their areas of responsibility. We monitor and investigate suspected policy violations in a confidential manner and will take disciplinary action, if necessary. In 2018, we did not identify any material policy violations.



Reinforcing a Respectful and Equitable Environment

“Inclusivity, diversity and tolerance are important principles at CN.

Any behaviour that could cause offence or humiliation or affect the dignity of a person is taken extremely seriously. Over the past two years, we strengthened our Harassment-Free Environment Policy in Canada and our Prohibited Harassment, Discrimination and Anti-Retaliation Policy in the U.S. We also refreshed our training and awareness on discrimination and harassment in the workplace, reinforcing the importance of treating everyone equitably and respectfully.

We encourage disclosure of violations through mechanisms that include a confidential hotline, the Human Resource Centre, the Public Inquiry Line and our Ombudsman’s Office.”

OLIVIER CHOUC
Vice-President, Law

Introduction**Environment****Safety****People****Community****Governance**

Overview

Ethics and Compliance

Sustainability Policies

Executive Compensation

Appendix**ONE TEAM**

Living Our Commitments as a Team

In addition to complying with applicable laws and regulations, we have established company-wide policies that bring our sustainability commitments to life:

- Safety Policy
- Anti-corruption Policy
- Harassment-free Policies
- Human Rights Policy
- Employment Equity Policy
- Protection of Personal Information Policy
- Information Security Policy
- Workplace Violence Prevention Policy
- Environmental Policy
- Workplace Alcohol and Drug Prevention Policy

These policies define our standards for how we operate day-to-day and are everyone's responsibility. Through training, awareness and on-the-job coaching, we work with our employees and business partners to pursue the highest standards of sustainability in all our activities.

**FURTHER READING ONLINE**[+ Governance section of our website](#)

Executive Compensation Sets the Tone for Long-term Performance

Our disciplined approach to executive compensation enables us to focus on incentivizing long-term growth and value creation by aligning our pay strategy with industry-leading sustainable returns.

As defined in our executive compensation policy, we aim to attract and retain the most qualified people to serve on our Board and its committees, and within our executive and senior management team. Our aim is to incentivize long-term performance, align with sustainability objectives, and encourage the right actions.

Incentivizing Long-term Performance

Our executive compensation program is made up of a base salary, annual incentive bonus, long-term incentives, pension benefits, and executive pre-requisites for both corporate financial and individual performance objectives. A significant part of the remuneration is tied to key corporate objectives that play a pivotal role in driving our short- and long-term profitability and returns to shareholders.

Linking to Sustainability Objectives

The annual bonus is tied to environmental, social and governance (ESG) factors, specifically through our safety and stakeholder engagement performance expectations.

In 2018, the annual incentive bonus structure comprised 70% corporate financial performance, 10% safety performance, and 20% individual performance.

At the end of the year, our Board of Directors assessed our corporate safety performance as “does not meet,” in relation to our established safety target, resulting in no payout for the safety bonus component of executive compensation.

Mitigating Potential Risks

Our executive compensation program has been designed to encourage the right behaviours, mitigate risks, and align with our long-term shareholder results. For example, risk mitigation strategies include capped incentive payout opportunities with no minimum guaranteed payout, a clawback policy, and stock ownership guidelines. The CN Board of Directors also uses an independent executive compensation consultant.

10%

OF EXECUTIVE ANNUAL BONUS INCENTIVE TARGETS LINKED TO OUR SAFETY PERFORMANCE



Elevating Sustainability at the Board Level

“We, at the CN Board of Directors, have always taken great pride in our commitment to being a responsible and sustainable business, which touches every aspect of what we do, from governance and business ethics, to diversity, environment, stakeholder engagement and safety.”

Our sustainability performance has continued to earn us a place among the world’s best, including being consistently listed on the Dow Jones Sustainability World Index.

Last year, we elevated our expectations on safety. We tied 10% of the executive annual bonus target to our safety performance. We also supported an initiative to have all senior management employee compensation plans linked to safety.”

CN BOARD OF DIRECTORS

Performance Data Summary

The following data is a summary of performance. For detailed performance see our Data Supplement at www.cn.ca/delivering-responsibly.

Data	Measurement	2018	2017	2016	2015
ENVIRONMENT					
Emissions					
Total GHG emissions (Scope 1 and 2)^(a)	Metric tonnes of CO ₂ e	5,965,175	5,671,982	5,221,152	5,532,786
Direct GHG emissions (Scope 1) ^(b)	Metric tonnes of CO ₂ e	5,776,183	5,499,641	5,032,309	5,339,172
Indirect GHG emissions (Scope 2) ^(c)	Metric tonnes of CO ₂ e	188,992	172,341	188,843	193,613
Other indirect GHG emissions (Scope 3)^(d)	Metric tonnes of CO ₂ e	2,488,659	2,768,395	2,740,942	2,578,190
GHG emission intensity^(e)					
Total GHG emissions (by rail freight revenue)	Metric tonnes of CO ₂ e per thousand dollars of rail freight revenue	0.44	0.46	0.46	0.46
Total GHG emissions (by employee)	Metric tonnes of CO ₂ e per full-time employee	235	246	234	227
Total direct and indirect energy consumed within the organization^(f)	Megawatt hours	22,149,870	20,972,206	19,242,556	20,430,064
Total direct energy consumed	Megawatt hours	21,558,096	20,427,005	18,685,836	19,835,704
Total indirect energy consumed – electricity	Megawatt hours	591,775	545,201	556,720	594,360
Energy intensity^(g)	Megawatt hours per million CDN dollars of rail freight revenue	1.63	1.71	1.70	1.72
Nitrous oxide (NO_x)^(h)					
Canada	Kilotonnes	48.55	48.04	44.27	47.23
U.S.	Kilotonnes	19.37	19.24	16.99	18.00
Sulphur dioxide (SO_x)^(h)					
Canada	Kilotonnes	0.02	0.02	0.02	0.02
U.S.	Kilotonnes	0.01	0.01	0.01	0.01
Particulate matter^(h)					
Canada	Kilotonnes	1.00	0.99	0.91	0.97
U.S.	Kilotonnes	0.40	0.40	0.35	0.37
Total weight of waste generated⁽ⁱ⁾	Metric tonnes	340,291	313,251	400,744	395,292
Total hazardous waste generated	Metric tonnes	881	789	770	927
Total non-hazardous waste generated	Metric tonnes	339,410	312,462	399,974	394,365
Spend on site assessments and remediation	\$ million	34	23	29	91
SAFETY					
% of workforce represented in joint union–management H&S committees^(j)	%	95	95	96	95
Injury frequency rate – Federal Railroad Administration (FRA)	Ratio	1.81	1.83	1.70	1.63
Lost-time injury frequency rate – FRA	Ratio	1.30	1.35	1.19	1.21
Accidents – FRA	Per million train miles	2.02	1.83	1.42	2.06
Fatalities	Number	1	1	2	1

Data	Measurement	2018	2017	2016	2015
PEOPLE					
Total number of full-time employees (end of year)^(k)	Total number	25,720	23,945	22,249	23,066
Canada ^(l)	Total number	17,040	15,800	14,692	15,303
U.S. ^(l)	Total number	7,324	7,000	6,481	6,668
Female ^(l)	Total number	2,108	2,071	1,904	1,939
Male ^(l)	Total number	22,256	20,729	19,269	20,032
Permanent contract^(l)	Total number	24,254	22,702	21,107	21,889
% of CN employees covered by collective bargaining agreements	% of total employees	80%	79%	79%	79%
Total new employee hires	Total number	4,604	3,404	735	1,511
New employee hire rate	% of total employees	18%	14%	3%	7%
Total hours of training^(m)	Total number of hours	1,881,592	1,333,406	711,396	1,256,962
Females	% of total employees	9%	9%	9%	9%
Diversity in Canada⁽ⁿ⁾	% of total employees	17%	16%	15%	14%
Diversity in the U.S.^(o)	% of total employees	19%	18%	17%	17%
COMMUNITY AND ECONOMY					
Direct economic value generated (revenues)	\$ million	14,321	13,041	12,037	12,611
Operating costs	\$ million	8,828	7,798	7,005	7,456
Payments to providers of capital – dividends	\$ million	1,333	1,239	1,159	996
Payments to Canadian tax authorities	\$ million	831	657	728	620
Payments to U.S. tax authorities	\$ million	(55)	55	(75)	105
Community investment^(p)	\$ million	12.9	15.5	18.2	18.2

- (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) 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 CO₂e.
- (d) Our GHG Scope 3 emissions include emissions from diesel fuel production, purchased goods and services, capital goods, business travel, waste generated in operations and upstream transportation and distribution. Business travel emissions are provided by corporate travel service providers. Other categories of emissions were calculated using standard emission factors multiplied by activity levels or dollars of spend.
- (e) Calculations for GHG emission intensity covers Scope 1 and 2 emissions only.
- (f) Energy consumption relates to fuel and electricity consumed within the Company. Conversions to MWh from volumes of fuel were based on Natural Resource Canada conversion factors, and include renewable fuel volumes (biodiesel). Electricity MWh were estimated from utility invoice data using North American utility cost per MWh conversion factors.
- (g) Energy includes total direct and indirect energy, covering locomotive fuel, non-locomotive fuel, electricity, natural gas, and other fuels such as propane, gasoline, kerosene, stove oil, and furnace oil. The energy is used within the organization only.
- (h) Criteria Air Contaminant (CAC) emissions were calculated using Canadian emission factors published by the Railway Association of Canada (RAC). We measured nitrous oxide, sulphur dioxide, particulate matter, hydrocarbons, and carbon monoxide by applying the RAC emission factors by type of train service (freight, switching or passenger) to total fuel consumed for each type of service by country. The most recent 2016 emission factors were used to calculate 2018 emissions.
- (i) Total weight of waste generated includes our rail ties, scrap metal, locomotive lead acid batteries and day-to-day office and yard waste. Waste quantities are provided by our third-party waste disposal contractors. Where data was not available, estimations were made based on industry standards. Definitions of hazardous and non-hazardous waste are based on provincial and state regulations, which we assess on a case-by-case basis depending on the condition of the waste.
- (j) The workers in the U.S. included in the percentage are represented by a formal Peer Engagement Team, which includes both management and worker representatives and addresses, amongst other topics, H&S matters.
- (k) The total number of employees (end of year) is as reported in the 2018, 2017, and 2016 CN Annual Reports.
- (l) The breakdown of employee data covers CN employees only. The breakdown of employee data is not available for employees with fixed-term contracts or for CN wholly-owned subsidiaries.
- (m) The increase of training hours in 2018 is due to a higher level of hiring. The training hours do not contain on-the-job training such as qualifying trips for conductors.
- (n) The diversity % for Canada includes the following designated groups: visible minorities, persons with disabilities and Aboriginals.
- (o) The diversity % for the U.S. includes the group called Minority.
- (p) Community investment includes sponsorships, donations and activation fees as well as contributions through the CN Railroaders in the Community program.

About this Report

Our Approach and Scope

The scope of information covered in this report relates to our operations in Canada and the U.S., in the 2017 and 2018 calendar years, unless otherwise noted. We issue our report on a biennial basis. Previous reports can be accessed at www.cn.ca/en/investors/reports-and-archives.

Reporting Standards

This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core option. The GRI is an independent institution that provides a standard framework for sustainability reporting across companies and industries.

We also provide information to the CDP, the Dow Jones Sustainability Index (DJSI) and other organizations that assess our sustainability performance. An index of our conformance to the GRI Standards core reporting requirements and references to other relevant information sources can be found at www.cn.ca/delivering-responsibly.

External Assurance

We are dedicated to continuously improving our sustainability reporting and believe that independent assurance leads to quality and process improvements. In 2017–2018 our environmental data related to GHG emissions from Scope 1 (locomotive emissions), Scope 2 (electricity consumption) and Scope 3 (fuel production) were verified by PricewaterhouseCoopers



FURTHER READING ONLINE

- + [2019 Carbon Disclosure Project Report](#)
- + [2018 Data Supplement / GRI Index](#)
- + [Delivering Responsibly section of our website](#)

Our seventh Delivering Responsibly sustainability report is part of our commitment to be open about our business and to communicate our progress with focus, clarity and comparability.

to a limited level of assurance in accordance with the ISO 14064-3: 2006 Specification with guidance for the validation and verification of greenhouse gas assertions. The statements can be found at www.cn.ca/delivering-responsibly.

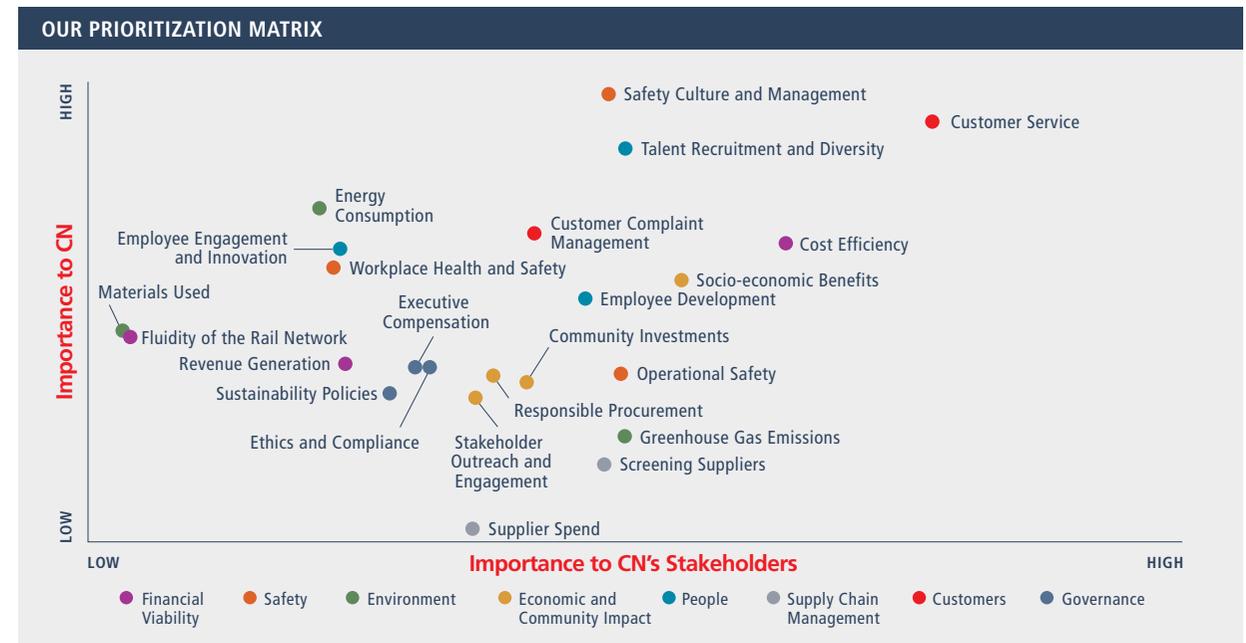
Identifying our Priorities

To inform the content of the report, we applied the principles of materiality and stakeholder inclusiveness to prioritize relevant topics.

In 2018, we received input from 205 stakeholders using an electronic survey to understand the sustainability topics

that most influence their decisions or perspectives of CN. Diverse groups were engaged, including employees, suppliers, governments, railway associations, customers, investors, unions, Aboriginal peoples, community groups, and NGOs. The selection and identification of stakeholders considered their geographic representation and their influence and interest in our business. We also engaged with our executive management to further inform the sustainability topics prioritization process.

The most important topics are plotted on our prioritization matrix and are covered in this report.



Introduction

Environment

Safety

People

Community

Governance

Appendix

Performance
Data Summary

About this Report

Contact

We welcome comments, questions and feedback on this report.

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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 effects of general economic and business conditions; changes in business strategies; 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 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.



“In 2019, we celebrate CN’s 100th anniversary and it is an opportunity to look back on how far we have come: from the merger of a collection of railroads in 1919 to life as a Crown corporation, to our privatization in 1995, to instilling economic vitality at the turn of the century and today as a leading scheduled railroad. As we look to the next century, we are raising our game to deliver for a sustainable future, to make a meaningful difference for our people, our customers and the many communities where we operate.”

Delivering Responsibly is at the heart of how CN is building for a sustainable future today and for the next 100 years.”

JJ RUEST
President and CEO

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