



## Welcome to your CDP Climate Change Questionnaire 2019

### C0. Introduction

#### C0.1

**(C0.1) Give a general description and introduction to your organization.**

Based in Jacksonville, Florida, CSX Corporation (CSX) -- along with its subsidiaries -- is a premier transportation company. It provides rail-based transportation services including traditional rail service, rail-to-truck transloading services, and the transport of intermodal containers and trailers. CSX's principal operating subsidiary, CSX Transportation, Inc. (CSXT), provides an important link to the transportation supply chain through its approximately 21,000 route mile network, which serves major population centers in 23 states east of the Mississippi River, the District of Columbia, and the Canadian provinces of Ontario and Quebec. CSXT has access to more than 70 ocean, river, and lake port terminals along the Atlantic and Gulf Coasts, the Mississippi River, the Great Lakes, and the St. Lawrence Seaway. The company's intermodal business links customers to railroads via trucks and terminals. CSX also serves thousands of production and distribution facilities through track connections to approximately 230 short-line and regional railroads.

In addition to CSXT, the company's major subsidiaries include CSX Intermodal Terminals, Inc., Total Distribution Services, Inc. (TDSI), TRANSFLO Terminal Services, Inc., and CSX Technology, Inc. CSX Intermodal Terminals owns and operates a system of intermodal terminals, predominantly in the eastern United States, and performs drayage services (the pickup and delivery of intermodal shipments) for certain CSX customers and trucking dispatch operations. TDSI serves the automotive industry with a network of world-class vehicle distribution centers and storage locations. TRANSFLO connects non-rail served customers to the many benefits of rail by transferring products between rail and trucks. CSX Technology and other subsidiaries provide support services for the company. CSX's other holdings include a CSXT group responsible for the company's real estate sales, leasing, acquisition and management and development activities.

The primary reporting company for purposes of the CDP is CSXT, which is the principal operating subsidiary of CSX. To increase transparency, CSX has included all major subsidiaries in its greenhouse gas inventory and CDP response since 2012; this includes CSX Intermodal Terminals, TDSI, CSX Technology, and TRANSFLO, in addition to CSXT.



## C0.2

**(C0.2) State the start and end date of the year for which you are reporting data.**

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1, 2018	December 31, 2018	Yes	3 years

## C0.3

**(C0.3) Select the countries/regions for which you will be supplying data.**

- Canada
- United States of America

## C0.4

**(C0.4) Select the currency used for all financial information disclosed throughout your response.**

- USD

## C0.5

**(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.**

- Operational control

## C-TO0.7/C-TS0.7

**(C-TO0.7/C-TS0.7) For which transport modes will you be providing data?**



Rail

## C1. Governance

### C1.1

**(C1.1) Is there board-level oversight of climate-related issues within your organization?**

Yes

#### C1.1a

**(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.**

Position of individual(s)	Please explain
Board-level committee	The 10-member Board of Directors is composed of a diverse group of business professionals with responsibility for climate-related issues. The Board oversees decisions made by management to support the company's long-term growth both financially and administratively. The Audit Committee of the Board has oversight responsibility for environmental matters, including carbon emissions. The Audit Committee of the Board has responsibility for risk oversight and evaluation, including risks associated with energy and environmental policy. All business risks, including climate-related, are presented to the Board for consideration. The committees are provided input from those departments most competent in the risk under consideration. The PSH&E department consists of environmental professionals reporting up to the Executive Vice President and Chief Legal Officer, whose scope of responsibility includes communication with the Board on issues related to their purview.

#### C1.1b

**(C1.1b) Provide further details on the board's oversight of climate-related issues.**



Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	<ul style="list-style-type: none"> <li>Reviewing and guiding strategy</li> <li>Reviewing and guiding major plans of action</li> <li>Reviewing and guiding risk management policies</li> <li>Reviewing and guiding annual budgets</li> <li>Reviewing and guiding business plans</li> <li>Monitoring implementation and performance of objectives</li> <li>Overseeing major capital expenditures, acquisitions and divestitures</li> <li>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</li> </ul>	<p>CSX corporate governance practices are led by the Executive Team and Board of Directors, who understand the opportunities and challenges across the business and help make decisions that support the company’s long-term growth and success. The Board of Director’s overall strategy is focused on execution of the key tenets of precision scheduled railroading (PSR). The Audit Committee of the Board of Directors has responsibility for risk oversight and evaluation, including risks associated with energy and environmental policy. The Audit Committee reports to the full 10-member Board. At a company level, CSX uses a business risk management process to define risks and opportunities as strategic, external, or compliance based. Business leaders are engaged in the identification and assessment of risk in addition to the communication of the various types of risk to the executive leadership and the Board of Directors. Business risk factors are identified and described in the company’s Annual Report, and these factors influence the strategic planning process. Environmental risks and opportunities include those associated with new technologies, availability of fuel sources, reputational risks and opportunities, anticipated regulatory changes, and potential shifts in our customers’ businesses as a result of climate change. CSX revised the company’s Environmental Policy in January 2018 to better manage environmental impact and provide a framework for future sustainability initiatives. The CSX Environmental Policy is carried out at every level of the Company. CSX also has a company-wide Sustainability Statement that lays out its commitment to environmental initiatives. Both the Environmental Policy and the Sustainability Statement are referenced in the Corporate Sustainability Responsibility (CSR) Report, available on CSX’s website. CSX intends to publish a full CSR Report every few years moving forward; 2018 data are provided in a supplement to the 2016 CSR Report. CSX’s Environment Management System (EMS) promotes, measures, tracks, and improves sustainability across operations. It provides a clear, actionable plan for actively managing and minimizing the environmental impact of</p>



		<p>approximately 11 million square feet of facilities and more than 2500 locomotives. The EMS incorporates major elements of ISO 14001 and is certified under the requirements of the American Chemistry Council (ACC) Responsible Care® management system. It also voluntarily incorporates the U.S. EPA National Enforcement Investigations Center’s Compliance-Focused Environmental Management System and other industry-specific standards. CSX regularly reviews and updates the system and employs a third-party reviewer to verify the effectiveness of existing programs. The Board is monitoring implementation of these aforementioned programs with key leaders in each responsible department with the goal in mind to reduce overall risk and implement PSR within the Company.</p>
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## C1.2

**(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.**

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Other C-Suite Officer, please specify Executive VP & Chief Legal Officer	Both assessing and managing climate-related risks and opportunities	Quarterly

## C1.2a

**(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).**

The scope of responsibility of the Senior Director of Public Safety, Health, and Environment (PSH&E) includes environmental policy, performance, management, associated risks, and communicating with the Executive Vice President and Chief Legal Officer (EVP/CLO) on these issues. The EVP/CLO has ultimate responsibility for the PSH&E department, which consists of environmental professionals competent in their area of expertise. The EVP/CLO’s responsibilities include the company’s legal affairs, government relations, risk management, environmental, audit functions, and communication with the Board on issues related to their purview. The Audit Committee of the Board has oversight responsibility for environmental matters, including carbon emissions. The Audit Committee of the Board has responsibility for risk oversight and evaluation, including risks associated



with energy and environmental policy. All business risks, including climate-related, are presented to the Board and risk committees for consideration. The committees are provided input from those departments most competent in the risk under consideration. As the company has transitioned major leadership roles over the past couple of years to reflect an evolving business strategy, including CEO and president and new members on the Board of Directors, solid governance is important for ensuring consistent high performance. CSX corporate governance practices are led by the Executive Team and Board of Directors, who understand the opportunities and challenges across the business and help make decisions that support the company's long-term growth and success. The Board of Director's overall strategy is focused on execution of the key tenets of precision scheduled railroading (PSR). PSR is a philosophy for running an efficient railroad based on five guiding principles including: improving customer service, controlling costs, optimizing asset utilization, operating safely, and valuing and developing employees. The company's approach to risk management focuses on activities that the company controls, as well as those outside the company's control. Throughout 2018, CSX identified and reviewed risk factors that could have a material effect on the company, including cybersecurity, workforce engagement and transformation, disruptive innovation, transporting hazardous materials, and environmental law and regulation. These and many other identified risks are routinely communicated to and reviewed by senior company managers within CSX, along with CSX's Board of Directors. The Audit Committee monitors the risk management process. At a company level, CSX uses a business risk management process to define risks and opportunities as strategic, external, or compliance based. Business leaders are engaged in the identification and assessment of risk in addition to the communication of the various types of risk to the executive leadership and the Board of Directors. Business risk factors are identified and described in the company's Annual Report, and these factors influence the strategic planning process. Environmental risks and opportunities include those associated with new technologies, availability of fuel sources, reputational risks and opportunities, anticipated regulatory changes, and potential shifts in customers' businesses as a result of climate change. CSX applies an internal methodology to evaluate potential scenarios where climate change and other types of disruption may impact operations and safety, and that information is used to plan for business continuity. As part of that process, both short-and long-term impacts are considered, and action is taken. For example, scenarios analyzing the likelihood and extent of flooding along the Gulf Coast are used to inform decisions in regard to hardening tracks and raising critical equipment off the ground. The potential for hurricane-induced wind damage is considered when implementing strategies to reinforce/harden infrastructure in the Jacksonville, Florida area. Also, CSX conducts business risk analyses to assess how climate change may impact the location of sensitive customer operations.

### **C1.3**

**(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?**

Yes



## C1.3a

**(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).**

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**Who is entitled to benefit from these incentives?**

Chief Operating Officer (COO)

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Energy reduction and efficiency targets are incentivized.

Award is based on meeting corporate goals of locomotive productivity and active fleet management, which include optimizing the fleet for best fuel and network efficiency. Progress toward these corporate goals contributes to advancement of CSX's carbon dioxide (CO<sub>2</sub>) emission intensity reduction target of 6% to 8% by 2020. Locomotive fuel accounts for approximately 92% of CSX's Scope 1 and 2 greenhouse gas (GHG) emissions; therefore, fuel efficiency targets are directly correlated to emissions intensity reductions.

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**Who is entitled to benefit from these incentives?**

Business unit manager

**Types of incentives**

Monetary reward



**Activity incentivized**

Emissions reduction target

**Comment**

Energy reduction and efficiency targets are incentivized.

Business unit managers' annual performance goals are linked to optimizing fleet performance. Since locomotive fuel use represents approximately 92% of the company's Scope 1 and Scope 2 GHG emissions, fuel efficiency targets are directly related to emission intensity reductions.

**Who is entitled to benefit from these incentives?**

Process operation manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Energy reduction and efficiency targets are incentivized.

Process operations managers' annual performance goals are linked to optimizing fleet performance. Since locomotive fuel use represents approximately 92% of the company's Scope 1 and Scope 2 GHG emissions, fuel efficiency targets are directly related to emission intensity reductions.





## C2. Risks and opportunities

### C2.1

**(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.**

	From (years)	To (years)	Comment
Short-term	0	3	Planning for capital expenditures is typically for a 3-year horizon
Medium-term	3	10	Planning for significant investments such as locating, constructing, or consolidating rail facilities and infrastructure
Long-term	10	30	Strategic planning based upon growth and technology projections

### C2.2

**(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.**

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

### C2.2a

**(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.**

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	Climate-related risks, such as those resulting from an increase in intensity and/or frequency of severe weather, could result in significant business interruptions. CSX applies an internal methodology to evaluate potential scenarios where climate change and other types of disruption may impact operations and safety,



			and that information is used to plan for business continuity. As part of that process, both short-and long-term impacts are considered, and action is taken.
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## C2.2b

### (C2.2b) Provide further details on your organization’s process(es) for identifying and assessing climate-related risks.

At a company level, CSX uses a business risk management process to identify, prioritize, and assess risks, including climate-related risks, that have the potential to affect business strategy. For each identified risk (unmitigated and mitigated), a ranking is provided ranging from Severe (worst-case) to Limited based on financial, operational, and reputational impacts; the likelihood of occurring; and the speed with which the impact will occur. Business leaders are assigned ownership and responsibility for identifying, assessing, and communicating risks to the executive leadership and the Board of Directors. Business risk factors are identified and assessed throughout the year and described in the company’s Annual Report. CSX business leaders identify and assess climate-related risks by taking a long-term view and focusing on how the potential effects of climate change could affect infrastructure and ability to operate the business. At an asset level, for example, risks to specific regions or facilities, CSX operations and facility managers are responsible for identifying risks and communicating risk mitigation solutions to appropriate CSX planning departments to be evaluated based upon urgency, risk severity, and business risk tolerance. Potential risk mitigation costs are estimated and compared to competing project needs to obtain an Authorization for Expenditure (AFE). When describing business risk impacts, CSX considers a substantive financial impact to be a significant impact on the company’s Annual Plan and Strategic Plan achievement. In the case of costs that exceed the company’s regular forecasts, CSX often provides its shareholders with an estimate of the financial impact a weather-related event may have had on the company. For example, following the recovery from Hurricane Florence, CSX estimated that the event had a \$0.02 impact on the company’s earnings per share for the fourth quarter of 2018. CSX spent more than \$470 million responding to/recovering from the effects of Hurricanes Katrina (2005), Isaac (2012), and Sandy (2012), and more recently, Hurricanes Matthew (2016 - \$25 million), Irma (2017 - \$27 million), and Florence (2018 - \$16 million).

## C2.2c

### (C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	At a company level, CSX uses a business risk management process to identify, prioritize, and assess risks, including climate-related risks, that have the potential to affect business strategy. Legislation passed by Congress, new



		<p>regulations issued by federal agencies, or executive orders issued by the President of the United States can significantly affect the revenues, costs, and profitability of the company's business. Therefore, the potential impact of current regulations is monitored, included in the risk assessment process, and reported in the Annual Report. In particular, the EPA has issued various regulations and may issue additional regulations targeting emissions, including rules and standards governing emissions from certain stationary sources and from vehicles. Additionally, lack of clarity and predictability regarding the scope of federal jurisdiction over water bodies under the Clean Water Act and the Waters of the United States (WOTUS) rule could impede operations and construction projects. Culturally, it is extremely important for CSX to adhere to a zero-tolerance approach for intentional noncompliance or negligence resulting in noncompliance. If CSX violates any current regulations, including climate-related regulations, the possibility of fines or other sanctions to be imposed could result in financial burdens, jeopardize its license to operate, and damage its reputation with shareholders, employees, customers, regulatory agencies, and the public.</p> <p>CSX currently has all the necessary regulatory permits and plans to be compliant with applicable federal, state, and local laws. The company has a team of environmental personnel dedicated to maintaining compliance with the permits and laws by conducting inspections, collecting samples, submitting reports, and making notifications. CSX is continually improving its environmental compliance by adjusting permits and plans to reflect changes in railroad operations.</p>
Emerging regulation	Relevant, always included	<p>At a company level, CSX uses a business risk management process to identify, prioritize, and assess risks, including risks from emerging climate-related regulations, that have the potential to affect business strategy. Legislation passed by Congress, new regulations issued by federal agencies, or executive orders issued by the President of the United States can significantly affect the revenues, costs, and profitability of the company's business. Therefore, the potential impact of emerging regulations is monitored, included in the risk assessment process, and reported in the Annual Report. For example, climate change and other emissions-related laws and regulations proposed at the federal, state, local, and provincial levels that target emissions reductions from mobile sources could increase CSX's costs for fuel and affect future investment in new locomotives. Emerging climate-related regulations not only directly impact CSX fuel costs and locomotive technology but can influence the commodity mix transported by CSX. For example, as emerging regulations increasingly focus on coal as a fuel source, demand for the transportation of coal will likely decrease. Coal continues to be a strategically important business commodity and the potential decrease in coal revenues is a financial risk routinely assessed.</p>
Technology	Relevant, always included	<p>CSX relies on information technology in all aspects of its business. The performance and reliability of the company's technology systems are critical to its ability to operate safely and effectively. The Audit Committee of the Board of</p>



		<p>Directors has responsibility for risk oversight and evaluation, including risks associated with energy, environmental policy, and cybersecurity. The Audit Committee reports to the full 10-member Board. Climate-related impacts, such as hurricanes and flooding, can potentially cause damage to the CSX technology infrastructure and result in service interruption, train accident, or other operational difficulties. Such events could result in decreased revenues and increased capital, insurance, or operating costs. A disruption or compromise of the company's information technology systems, even for short periods of time, could have a material adverse effect. Protecting technology assets from impacts of climate-related events is relevant and always included and assessed in the CSX business risk management process.</p>
Legal	Relevant, always included	<p>Legal risks to the company, including legal actions resulting from climate-related events, are always included in the risk assessment process. CSX is subject to wide-ranging federal, state, provincial, and local environmental laws and regulations concerning, among other things, discharges to air, land, and water; handling, storage, use, generation, transportation, and disposal of waste and other materials; clean-up of hazardous material and petroleum releases, and the health and safety of employees. If the company violates or fails to comply with these laws and regulations, CSX could be fined or otherwise sanctioned by regulators. CSX is subject to various claims and lawsuits related to disputes over commercial practices, labor, and unemployment matters; occupational and personal injury claims; property damage; and environmental and other matters. The company may experience material judgments or incur significant costs to defend existing and future lawsuits. Although the company maintains insurance to cover some of these types of claims and establishes reserves when appropriate, final amounts determined to be due on any outstanding matters may exceed the company's insurance coverage or differ materially from the recorded reserves.</p>
Market	Relevant, always included	<p>The potential impact of climate-related issues on market conditions is always included in the risk assessment process. Fluctuations in market conditions can have significant impacts on CSX revenues. For example, the impact of coal market changes continued through 2018. Although full-year coal volume was slightly higher in 2018 as compared to 2017 (887,000 carloads of coal in 2018 vs. 855,000 in 2017), volumes in both years were a significant decline from 2015 (1.063 million carloads of coal delivered in 2015). This decline represents a loss of approximately \$500 million in revenue, pushing losses in CSX's coal revenue since 2011 to more than \$2 billion. Another example of market adjustment with a connection to climate change, production of natural gas in the United States has increased significantly, which has resulted in lower natural gas prices. As a result of sustained low natural gas prices, many coal-fired power plants have been displaced by natural gas-fired power generation facilities. If natural gas prices remain low, additional coal-fired plants could be displaced, which would likely further reduce CSX domestic coal volumes and revenues. These market changes and business risks are closely monitored.</p>



Reputation	Relevant, always included	Climate-related events have the potential to negatively impact CSX’s reputation with shareholders, customers, the public, regulatory agencies, and employees. Therefore, the potential impact of climate-related events is monitored, included in the risk assessment process, and reported in the Annual Report. The Audit Committee’s primary function is to assist the Board of Directors by addressing the Company’s compliance with legal and regulatory requirements. For example, extreme weather-related risks such as floods and washouts resulting in derailments or other service interruptions can receive negative publicity and risk CSX being labeled a risky mode of transportation. Conversely, “green” messaging can win customers and motivate investors when CSX is perceived as an “environmentally friendly” mode of transportation. In 2018, CSX earned a spot on the Dow Jones Sustainability Index for the 8th consecutive year, demonstrating a public commitment to building a positive and accountable reputation. This top sustainability honor is in recognition of high performance in environmental management and corporate governance, among other areas.
Acute physical	Relevant, always included	Acute physical events are always included in the risk assessment process. CSX’s rail network encompasses approximately 21,000 route miles of track across 23 states, the District of Columbia, and two Canadian provinces. As such, weather-related impacts on the company’s operations are a regular part of business and are incorporated into the company’s operational and financial planning. However, extremes in the number or intensity of hurricanes or weather events in the United States can negatively affect CSX’s operations and business by impacting safe operating speeds, causing service interruption, or increasing track repair and recovery cost – any of which would reduce CSX’s productivity and service capacity. CSX invests heavily in its network to fortify it against the impact of extreme weather events, including changes in temperature such as the extreme record setting low-temperatures in the northern regions of CSX’s territory during the first quarter of 2014. CSX has invested more than \$11 billion in its infrastructure over the past five years.
Chronic physical	Relevant, always included	An example of a chronic physical change resulting from climate-related impacts is the rising sea levels and associated flooding along coastal areas. Since the CSX operating network includes potentially vulnerable bridges, trackage, facilities, and customers along these coastal routes, assessing chronic physical climate-related risks is relevant and always included in the risk assessment process. To mitigate chronic physical risks associated with extreme weather, especially given that the increasing frequency of major storm events is requiring a shift to thinking about the potential impacts of 100-year storms on a much more frequent basis, CSX has established comprehensive business continuity plans designed to ensure the continuity of train operations in the face of extreme weather events. CSX invested significant capital in backup systems and redundancy for data centers to manage risk. CSX’s operations and public safety departments play critical roles in weather event preparedness, from performing preventative maintenance to limit



		<p>service disruptions for customers, to forming relationships with first responders and sharing resources with communities in need. CSX also continues to evolve its weather response plans, tailoring an approach specific to each area of the network and maintaining response teams to deploy when critical conditions arise. Changes in extreme temperatures can negatively affect CSX's operations and infrastructure by creating a harsher work environment for employees, increasing rail maintenance costs, and impacting service by decreasing the velocity of operations during extreme temperature events. Most CSX employees work outdoors. For example, track workers are responsible for inspecting and maintaining the 21,000-mile network in all weather conditions. Carmen build, inspect, and repair railcars. Utility workers are responsible for servicing and cleaning locomotives. Dock workers must maintain pier facilities, and staff at intermodal facilities must manage the movement of freight containers between truck and rail across intermodal facilities that may span hundreds of acres. Given the varied job duties at CSX requiring outside work on a year-round basis regardless of the weather, worker safety and productivity are impacted by extreme temperatures.</p>
Upstream	Relevant, always included	<p>Disruption of the supply chain could negatively affect operating efficiency and increase costs. The capital-intensive nature and sophistication of core rail equipment (including rolling stock equipment, locomotives, rail, and ties) limits the number of railroad equipment suppliers. If any of the current manufacturers stop production or experience a supply shortage, CSXT could experience a significant cost increase or material shortage. Climate-related events, such as extreme weather conditions, could potentially disrupt the supply chain and impact CSX operations. Therefore, the potential impact of supply chain disruptions is monitored, included in the risk assessment process, and reported in the Annual Report.</p>
Downstream	Not relevant, explanation provided	<p>CSX provides freight haul transportation services and therefore does not provide downstream distribution of products. Downstream climate-related risks are not relevant to this business.</p>

## C2.2d

### (C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

At a company level, CSX uses a business risk management (BRM) process to define risks and opportunities as strategic, external, or compliance based. Key business leaders own each process and report to an Executive Risk Committee. The Executive Risk Committee is responsible for elevating discussion of BRM risk to the executive team. Strategic risks and opportunities are defined as those risks and opportunities that have the potential to impede or enhance CSX's ability to achieve long-term business objectives. Business risk factors are identified, discussed during Board meetings, and

described in the company's Annual Report. These risk factors influence the strategic planning process. A component of the strategic plan is to prioritize and schedule capital expenditures (CAPEX) to address those business risk factors related to infrastructure and/or the locomotive fleet. Other strategic considerations include preparing customer marketing plans and asset utilization planning for those commodities impacted by climate change, for example an anticipated downturn in coal shipments.

Risks and opportunities at the asset level are impacted in scope by geography. Most pertinent to asset level risk and opportunity identification are physical parameters such as localized changes in weather or storm frequency. To mitigate the physical risk of extreme weather, CSX has established comprehensive business continuity plans that are designed to ensure the continuity of train operations during extreme weather events and are adaptable across the company's 21,000-mile network. CSX is constantly reinvesting in infrastructure; in 2018 alone, CSX invested approximately \$1.75 billion. Approximately half of those funds will be used to sustain core infrastructure. Risks and opportunities are prioritized according to potential impact (ranging from limited to severe), likelihood of occurring (ranging from remote to expected), and velocity (or the speed at which the potential risk is approaching). Highest priority risks are defined as those with potentially severe impact that are expected to occur. In comparison, lower-level risks are those with limited potential impact and a remote likelihood of occurring. Highest priority opportunities are defined as those with potentially significant financial, regulatory, or operational impact that are classified as likely to occur. An example of planning for a climate-related transition risk is the anticipated decreased demand for coal as the planet moves toward less carbon-intensive fuel sources. With the decline in coal demand, coal locomotives and rail car assets have been mothballed and certain rail lines dedicated to coal business are being considered for sale. An example of how the process has been applied to a physical climate-related risk is the CAPEX planning pertaining to infrastructure improvements necessary for increased frequency and magnitude of flooding. This includes upgrading railroad bridges, improving track drainage, and burying utilities underground.

## C2.3

**(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?**

Yes

## C2.3a

**(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.**

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**Identifier**

Risk 1

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type**

Physical risk

**Primary climate-related risk driver**

Acute: Increased severity of extreme weather events such as cyclones and floods

**Type of financial impact**

Increased capital costs (e.g., damage to facilities)

**Company- specific description**

Physical risks from severe weather or other natural occurrences could result in significant business interruptions and expenditures exceeding available insurance coverage. External factors such as severe weather and other natural occurrences, including floods, fires, hurricanes, and earthquakes have the potential to affect the company's operations, damage the company's rail network, displace its workforce, increase fuel costs, and cause significant business interruptions. CSX's rail network encompasses approximately 21,000 route miles of track across 23 states, the District of Columbia, and two Canadian provinces. While weather-related impacts on the company's operations are a regular part of business and are assessed in the company's operational and financial forecasts, in the case of extreme temperatures or precipitation, costs associated with individual events may exceed the forecasts. Any increase in the number or intensity of hurricanes or extreme weather events can negatively affect CSX's operations and business by impacting safe operating speeds, causing service interruption, or increasing track repair and recovery cost. In 2016, Hurricane Matthew damaged 2,600 miles of track across four states (FL, GA, SC, NC).

**Time horizon**

Current

**Likelihood**

About as likely as not





**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

538,000,000

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

In the case of costs that exceed the company's regular forecasts, CSX often provides its shareholders with an estimate of the financial impact a weather-related event may have had on the company. For example, following the recovery from Hurricane Florence, CSX estimated that the event had a \$0.02 impact on the company's earnings per share for the fourth quarter of 2018. These financial impacts result from multiple expense types, including, labor and materials to repair infrastructure, loss of business, environmental clean-up and disposal, service disruptions and reroutes. CSX spent more than \$470 million responding to/recovering from the effects of Hurricanes Katrina (2005), Isaac (2012), and Sandy (2012), and more recently, Hurricanes Matthew (2016 - \$25 million), Irma (2017 - \$27 million), and Florence (2018 - \$16 million). In October 2018, Hurricane Michael added to the list, but this financial impact has not been included in this figure.

**Management method**

To mitigate physical risks associated with extreme weather, CSX established business continuity plans to ensure continuity of train operations. CSX has invested significant capital in backup systems and redundancy for data centers to manage risk and moved train control signal wiring underground to better protect against weather-related interruption. CSX's operations and public safety departments play critical roles in weather event preparedness, from performing preventative maintenance to limit service disruptions, to forming relationships with first responders and sharing resources with communities in need. As a storm approaches, CSX implements thorough well-honed hurricane preparedness plans with specific and escalating actions. For instance, during Hurricane Florence in the 3rd quarter of 2018, service disruptions were minimized by



moving excess railcars to a safe location ahead of the storm, rerouting trains to non-impacted tracks, and pre-positioning essential staff to safe/accessible locations to support business continuity and initiate immediate recovery. Weather-related impacts on CSX's operations are a regular part of business and are incorporated into operational and financial forecasts. That said, in the case of extreme weather events, costs may exceed the CSX's regular forecast. CSX invests more than half of its annual capital spend, 1.75B in 2018, to maintain and upgrade infrastructure. Costs associated with managing climate-related issues is estimated to be 14%.

**Cost of management**

244,000,000

**Comment**

CSX also continues to evolve its weather response plans, tailoring an approach specific to each area of the network and maintaining response teams to deploy when critical conditions arise. When hurricanes occur on the East Coast of the U.S., the core leadership team and key decision makers in Jacksonville are positioned to respond to CSX's operational needs and protect assets. The company has an Employee Disaster Relief Fund to provide short-term financial assistance to CSX employees and their dependents during times of dire need. In addition to financial assistance for employees, CSX often uses its logistics expertise, resources, and relationships with non-profit partners to support community relief efforts following weather-related events. During Hurricane Matthew, CSX helped two humanitarian organizations move a 1,500-foot relief train carrying 40-foot containers filled with 1,000 tons of supplies, including 11.8 million meals to support affected communities.

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**Identifier**

Risk 2

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type**

Transition risk

**Primary climate-related risk driver**

Technology: Costs to transition to lower emissions technology



**Type of financial impact**

Costs to adopt/deploy new practices and processes

**Company- specific description**

The freight rail industry uses diesel-powered locomotives to haul freight. A typical locomotive service life is 30 to 50 years and costs approximately \$3 million each. The CSX active locomotive fleet consists of over 2,500 diesel-powered locomotives. Additionally, the infrastructure to fuel these diesel locomotives, such as diesel storage tanks and locomotive fueling platforms, exists across the entire CSX network. Since diesel fuel combustion represents approximately 92% of the CSX Scope 1 GHG emissions and diesel fuel usage is a major operating cost, a move away from diesel fuel to a lower carbon option, for example liquefied natural gas (LNG), would significantly impact GHG emissions and fuel expense. However, the investment needed to make this change in assets, practices, and processes is potentially huge. To retrofit the entire CSX fleet to use a non-diesel, lower carbon source of energy, coupled with establishing an infrastructure to switch from diesel fuel delivery systems to a non-diesel fuel delivery system across the entire CSX network, represents a significant and expensive change. The rail industry is researching the use of LNG to fuel locomotives. According to rail industry studies thus far, a locomotive can be retrofitted to use LNG, a "tender car" to carry the fuel is possible, and a viable, safe, fueling network including fueling facilities can be built. The Energy Information Administration (EIA) projects that LNG will play an increasing role in powering freight locomotives in coming years. Continued growth in domestic natural gas production and substantially lower natural gas prices compared to crude oil prices could result in significant cost savings for locomotives that use LNG as a fuel source. The EIA projects diesel fuel will cost up to three times more than LNG through 2020. An added benefit of using LNG is the reduction in GHG emissions as compared to diesel, helping transition to a lower-carbon footprint.

**Time horizon**

Long-term

**Likelihood**

Unlikely

**Magnitude of impact**

High

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**



**Potential financial impact figure – minimum (currency)**

2,500,000,000

**Potential financial impact figure – maximum (currency)**

5,000,000,000

**Explanation of financial impact figure**

To estimate the financial impact of switching from a diesel to LNG fueling option, some of the factors to be considered include the cost of purchasing LNG tenders, costs of converting the entire diesel fueling network to LNG, and costs with training employees on the proper handling of LNG. An estimate for many of these transition costs is not available at this time, however, the cost to purchase a new LNG tender is approximately \$1 million. Using a CSX active locomotive fleet count of 2,500 locomotives, and assuming a cost of \$1 million per LNG tender, the cost to fortify the fleet would cost approximately \$2.5 billion (2,500 locomotives X \$1 million per LNG tender). As a general approximation, additionally, it may cost 2 times this amount to change over the infrastructure and processes.

**Management method**

CSX continues to evaluate ways to improve locomotive fuel efficiency and implement initiatives/technologies. CSX has invested more than \$2.8 billion over the past decade in fuel-saving locomotive technologies and plans to continue to invest millions more in the next five years in technologies to further improve fuel efficiency and reduce environmental impact. For example, use of the Trip Optimizer tool has increased fuel efficiency by 10%. In addition, CSX is further improving efficiencies by implementing precision scheduled railroading which includes running longer direct route trains, efficient idling technology; such as, Automatic Engine Start Stop, which automatically shuts down locomotives when not in use, shutting down trailing units, and employee training and education. These programs are part of CSX's overall effort to operate as efficiently as possible. CSX is also working to improve capacity and efficiency to reduce both emissions and fuel costs through extensive efforts in capacity improvements. Completion of the Virginia Avenue Tunnel in Washington, DC – which was completed in Fall 2018 – now provides for the efficient movement of double-stacked freight in an area of the East Coast with significant traffic congestion, reducing emissions of pollutants in a heavily populated region. Capital spend in 2018 was \$1.75 billion. CSX devotes approximately 14% of annual capital expenditure to strategic projects, including climate-related issues.

**Cost of management**

244,000,000



**Comment**

Capital spend in 2018 was \$1.75 billion. Costs associated with managing climate-related issues is estimated to be 14%.

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**Identifier**

Risk 3

**Where in the value chain does the risk driver occur?**

Customer

**Risk type**

Transition risk

**Primary climate-related risk driver**

Market: Uncertainty in market signals

**Type of financial impact**

Reduced demand for goods and/or services due to shift in consumer preferences

**Company- specific description**

Global economic conditions could negatively affect demand for commodities and other freight. A decline or disruption in general domestic and global economic conditions that affects demand for the commodities and products CSX transports, including import and export volume, could reduce revenues or have other adverse effects on the company's cost structure and profitability. For example, if climate change negatively affects the U.S. agricultural industry yield, commodity pricing could increase, resulting in lower revenue for CSX. Domestic coal-fired energy generation is expected to continue to decrease as utility providers face regulatory pressures along with depressed domestic demand and volatility in the global market. The impact of the coal market changes continued through 2018. Although full-year coal volume was slightly higher in 2018 as compared to 2017 (887,000 carloads of coal in 2018 vs. 855,000 in 2017), volumes in both years were a significant decline from 2015 (1.063 million carloads of coal delivered in 2015). This decline represents a loss of approximately \$500 million in revenue, pushing losses in CSX's coal revenue since 2011 to more than \$2 billion. Further, abundant, relatively low-cost natural gas prices have allowed natural gas fired units to serve base load, while coal is increasingly being dispatched to serve intermediate load. Additionally, changes to trade agreements or policies could result in reduced import and export volumes due to increased tariffs and lower consumer demand. If the company experiences



significant declines in demand for its transportation services with respect to one or more commodities and products, the company may experience reduced revenue and increased operating costs, be forced to make workforce adjustments, and face pressure on other related activities. Collectively, this could have a material adverse effect on the company's financial condition, operations, and liquidity.

**Time horizon**

Short-term

**Likelihood**

About as likely as not

**Magnitude of impact**

High

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

2,205,000,000

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

CSX generated \$12.25 billion of revenue in 2018 from three primary lines of business: merchandise, coal, and intermodal. The sector that is primarily at risk from changing customer behavior due to climate change is coal. The coal business accounted for 18% of revenue and 14% of volume in 2018. The company moves domestic coal, coke, and iron ore to electricity-generating power plants, steel manufacturers, and industrial plants as well as export coal to deep-water port facilities. Roughly 33% of export coal and most of the domestic coal that the company transports is used for generating electricity. A shift away from coal as an acceptable energy source could potentially impact revenue. The potential financial impact figure was calculated by using 18% of total revenue in 2018.



**Management method**

CSX continues to invest in a diversified portfolio, and now 82% of its business revenue is not related to coal (an all-time low). CSX is working to expand other offerings, such as intermodal, which is an important part of the business strategy and capitalizes on the environmental efficiency of long-haul rail shipments. As a conservative estimate, CSX devotes 14% of annual capital expenditure to strategic projects each year. Example projects include locomotive trip optimizer, automatic engine start stop, and XGate. Over the past six years, CSX has invested nearly \$1 billion in the intermodal market and the effort to convert intermodal freight from highway to rail. The intermodal business accounted for 16% of revenue and 45% of volume in 2018. Capital spend in 2018 was \$1.745 billion. Costs associated with managing climate-related issues is estimated to be 14%.

**Cost of management**

244,000,000

**Comment**

Capital spend in 2018 was \$1.75 billion. Costs associated with managing climate-related issues is estimated to be 14%.

**C2.4**

**(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

Yes

**C2.4a**

**(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.**

---

**Identifier**

Opp1



**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Markets

**Primary climate-related opportunity driver**

Access to new markets

**Type of financial impact**

Other, please specify

Support companies that move operations

**Company-specific description**

As climate changes, businesses may look to relocate to different parts of the United States. For example, companies may move sensitive manufacturing facilities farther inland to reduce risks associated with rising sea levels. In addition, as climate changes begin to impact growing seasons, agricultural centers may shift, and companies may have to adjust how they move their products to market. This represents an opportunity for CSX because with a 21,000-mile network throughout the entire East Coast of the United States and access to 70 ocean, lake, and river ports, CSX is well positioned to help companies adjust to a need to move facilities or modify how they move product to market.

The company's intermodal business links customers to railroads via trucks and terminals. CSXT also serves thousands of production and distribution facilities through track connections with other Class I railroads and approximately 230 short-line and regional railroads. The intermodal business accounted for 16 percent of revenue and 45 percent of volume in 2018. The intermodal business combines the superior economics of rail transportation with the short-haul flexibility of trucks and offers a cost advantage over long-haul trucking. Through a network of more than 40 terminals, the intermodal business serves all major markets east of the Mississippi River and transports mainly manufactured consumer goods in containers, providing customers with truck-like service for longer shipments.

**Time horizon**

Short-term

**Likelihood**





Very likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

1

**Potential financial impact figure – maximum (currency)**

1,960,000,000

**Explanation of financial impact figure**

CSX expects to be able to support most customers that choose to relocate their business or warehouse operations from ports and coastlines to the interior U.S., resulting in a positive financial opportunity. CSX cannot specifically quantify the amount of that opportunity due to restrictions governing public disclosure of sensitive forward-looking financial information; therefore, CSX is estimating the opportunity to be more than \$1.00 and up to the \$1.96 billion. CSX made this range estimation using the intermodal business revenue which accounted for 16 percent of the \$12.25 billion in revenue in 2018.

**Strategy to realize opportunity**

CSX is well positioned to assist customers with potential facility relocations, expansions, or modifications with how they move product to market with no additional material investment. To support customer expansion, CSX is continuing its Select Sites certification program. This program reviews potential manufacturing and distribution sites from any sector that could easily utilize rail service and take advantage of the inherently environmentally friendly rail transportation network (instead of relying on trucks, since rail is four times more fuel efficient). There are currently 22 Select Site locations throughout CSX's geographic area listed on CSX's website, four of which have been recently sold. CSX Select Sites are the first, premium certified rail-served sites for industrial development and expansion. Select Sites certification provides certainty for companies seeking industrial property for manufacturing operations and allows for increased speed to market and reduce development risk. Select Site



certification criteria include size, access to rail services, proximity to highways, workforce availability, natural gas, electricity, water, and wastewater, environmental and geo-technical standards. CSX cannot quantify the amount of that opportunity due to restrictions governing public disclosure of sensitive forward-looking financial information; therefore, CSX is estimating the cost to realize the opportunity to be more than \$1.

**Cost to realize opportunity**

1

**Comment**

CSX expects to be able to support most customers that choose to relocate their business or warehouse operations from ports and coastlines to the interior U.S., resulting in a positive financial opportunity. CSX cannot quantify the amount of that opportunity due to restrictions governing public disclosure of sensitive forward-looking financial information; therefore, CSX is estimating the cost to realize the opportunity to be more than \$1.00.

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**Identifier**

Opp2

**Where in the value chain does the opportunity occur?**

Customer

**Opportunity type**

Markets

**Primary climate-related opportunity driver**

Access to new markets

**Type of financial impact**

Other, please specify

New products/business services

**Company-specific description**



Induced changes in the availability of natural resources, such as domestic natural gas, have created an opportunity for CSX to display agility in responding to new and evolving markets and geographies. Although low natural gas prices decreased demand for coal, the resulting shift in the energy market also represents a significant opportunity for CSX to support the development of other fuel sources.

The impact of low-cost natural gas on petrochemical production is driving major opportunities for CSX to serve fractionators and ethylene crackers, and CSX's extensive network and the efficient, environmentally friendly mode of transport offered by rail means CSX is well-equipped to support the shipment of shale gas extraction materials (frac sand and pipe), as well as natural gas liquids and crude oil. Specifically, given CSX's proximity to the Marcellus-Utica shale region and to several East Coast refineries, CSX is playing a key role in supporting the expansion into new forms of energy. The ample resources, expert solutions, and seamless service provided by CSX are what make it possible to consistently provide customers with benefits related to cost savings, timely service, flexibility to adjust to market changes, and access to key markets. These benefits are possible due to CSX's 21,000-mile network and access to 70 ocean, lake, and river ports – collectively this network gives energy customers a competitive advantage and access to the areas in the United States where there is significant consumption of energy products.

Since natural gas is a primary component of a wide range of petrochemicals, and prices are currently at historical lows, chemical companies are investing in U.S. production capacity. CSX opportunities include components supporting shale gas extraction, as well as natural gas liquids and crude oil.

**Time horizon**

Short-term

**Likelihood**

Very likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate



**Potential financial impact figure (currency)**

129,000,000

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

CSX's chemical business generated revenues of \$2.339 billion in 2018 (19% of total revenue) – a 6% increase compared to \$2.210 billion in 2017. Although revenue in this sector is lower than 2014 and 2015, the low price of natural gas supports the global competitiveness of U.S. producers in the other chemical markets, and the core chemicals business is expected to continue to show moderate growth in the future. The potential financial impacts were calculated using the difference between chemical business revenue in 2018 compared to 2017.

**Strategy to realize opportunity**

CSX ships a variety of energy products, with a vital role in supporting domestic energy production to promote American energy independence. For example, CSX moves ethanol, crude oil, frac sand, natural gas, liquified petroleum gas, and coal. CSX has invested in its network to support these industries, including \$26 million on its River Line to support growth for all customers, including the chemical market. This represents an opportunity for CSX because with a 21,000-mile network throughout the entire East Coast of the United States and access to 70 ocean, lake, and river ports, CSX is well positioned to help companies adjust to a need to move facilities or modify how they move product to market. CSX invested \$1.745 billion in 2018. CSX's chemical market accounted for 19% of revenue for 2018 therefore its estimated that 19% of capital expenditure benefits the chemical market in the cost to realize this opportunity.

**Cost to realize opportunity**

331,550,000

**Comment**



**Identifier**

Opp3

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Resilience

**Primary climate-related opportunity driver**

Participation in renewable energy programs and adoption of energy-efficiency measures

**Type of financial impact**

Increased reliability of supply chain and ability to operate under various conditions

**Company-specific description**

Rail could gain a competitive edge over other less efficient modes of freight transportation as general environmental regulations increase in their scope. CSX has 21,000 route miles of freight rail over 23 states east of the Mississippi River, the District of Columbia and two Canadian provinces, and is positioned to accept greater traffic moving from highway to rail. Since rail is on average four times more fuel efficient than highway transport, CSX continues to support policies focused on partnering with customers to use train service for long haul and truck service for local delivery. In 2018, CSX's overall business strategy continued its focus on scheduled railroading which is an operating model focused on developing and strictly maintaining a scheduled service plan with an emphasis on optimizing assets which results in less idle time for locomotives, less locomotives operating, and longer trains., The results are more efficient fuel use and on-time product delivery. In the future, CSX expects to see continued fuel efficiency improvements and lower operating costs.

**Time horizon**

Short-term

**Likelihood**

Very likely

**Magnitude of impact**



High

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

6,525,042,928

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

Scheduled railroading is a significant departure from the traditional hub and spoke rail operating model. At its core, scheduled railroading is about relentlessly identifying and eliminating every unnecessary step. In January 2017 the announcement of a new Chief Executive Officer and change in leadership of CSX triggered large growth in the price per share for CSX stock. Stock prices skyrocketed by approximately \$12 (75%) per share from December 2016 to January 2017 when the change was announced. Stock prices continued to climb through 2017 ending at a growth of \$19 per share by December 2017. Growth has continued through 2018 ending at a growth of \$8 per share from December 2017 to December 2018. Potential financial impact was estimated using the number of shares of common stock outstanding and the \$8 per share growth in 2018.

**Strategy to realize opportunity**

Scheduled railroading is a philosophy for running an efficient railroad based on five guiding principles including: improving customer service, controlling costs, optimizing asset utilization, operating safely, and valuing and developing employees. Scheduled railroading effectiveness in large part consist of increasing fuel efficiencies. Since 92% of CSX's Scope 1 & 2 emissions are from diesel locomotive emissions, scheduled railroading in turn lowers emissions. Cost of management to change from the previous operating strategy in 2016 to the implemented scheduled railroading strategy in 2018 is a net zero cost since it is merely a realignment of the current capital expenditure budget.

CSX's commitment to the National Gateway is \$475 million of the \$850 million total cost. Over the past seven years, CSX invested more than \$1 billion to enhance its intermodal network. CSX invested \$1.745 billion in 2018, including approximately \$225 million for regulatory items,



including Positive Train Control. Of the 2018 capital investment, more than half was used to sustain core infrastructure, with the balance allocated to projects supporting profitable growth, efficiency initiatives, and service improvements.

**Cost to realize opportunity**

0

**Comment**

**C2.5**

**(C2.5) Describe where and how the identified risks and opportunities have impacted your business.**

	Impact	Description
Products and services	Impacted	<p>Rail could gain a competitive edge over other less efficient modes of freight transportation. CSX has 21,000 route miles of freight rail over 23 states east of the Mississippi River, the District of Columbia, and two Canadian provinces. Precision Schedule Railroading (PSR) focuses on optimizing asset utilization and scheduled-based trains, therefore resulting in less idle time for locomotives, less locomotives operating, and longer trains resulting in on-time product delivery.</p> <p>Additionally, since rail is on average four times more fuel efficient than highway transport, CSX continues to support policies focused on partnering with trucking customers to use train service for long haul and truck service for local delivery – the most fuel-efficient intermodal service. A typical intermodal freight train can carry the load of more than 280 trucks. This equates to a 75% reduction in transportation related carbon dioxide equivalent (CO2e) emissions when shippers switch from highway to rail. The impact for CSX customers is avoided emissions estimated to be more than 11 million metric tons CO2e annually. The basis for this calculation is the percentage of merchandise and intermodal freight transportation that could move by either highway or rail, and the EPA determination that rail is three to five times more fuel efficient than moving freight by highway. Any carbon-constraining regulation could cause customers to shift business to rail, yielding financial advantages for CSX. Magnitude of impact can be as high as 77% of revenue, which equates to the revenue from the merchandise and intermodal business lines in 2018.</p>



Supply chain and/or value chain	Impacted	Air pollution limits can directly affect both CSX's customers and the rail industry. Coal-fired energy generation is expected to continue to decrease in 2019 as utility providers face regulatory pressures along with depressed domestic demand and volatility in the global market. CSX is working to adjust its business plan to respond to the declining coal market, including streamlining the workforce, rerouting resources away from the Appalachian region, improving productivity related to the coal business, and investing in other offerings. In addition, climate change and other emissions-related laws and regulations have been proposed or adopted on the federal, state, local, and provincial levels. Regulations that target emissions reductions from mobile sources could increase CSX's costs for fuel and dictate further investment in new locomotives. CSX is advancing strategic investments, partnerships, and intermodal networks to reduce emissions and strengthen the customer base. CSX could see potential impacts of up to approximately 2.2 billion, which is 18% of total 2018 revenue.
Adaptation and mitigation activities	Impacted	An increase in the number/severity of hurricanes along the Atlantic Coast could result in significant business interruptions and expenditures. CSX operates outdoors, providing freight rail service across 23 states, the District of Columbia, and two Canadian provinces. Consequently, CSX employees, infrastructure, and equipment are susceptible to weather events. CSX spent more than \$470 million responding to/recovering from the effects of Hurricanes Katrina (2005), Isaac (2012), and Sandy (2012), and more recently, Hurricanes Matthew (2016 - \$25 million), Irma (2017 - \$27 million), and Florence (2018 - \$16 million). To mitigate risks associated with extreme weather, CSX established comprehensive business continuity plans designed to ensure the continuity of train operations and invested in infrastructure to improve resiliency. CSX also invested in IT recovery systems, and a pole line removal plan that places train control signal wiring underground to better protect against weather-related interruptions.
Investment in R&D	Impacted	CSX's Mechanical Operations group is focusing on using existing technologies to limit unnecessary train stops. Acoustic detectors and temperature trending logic continue to be used to proactively identify bearings in distress before they cause line of road events. Within Mechanical Operations, the Communications and Signals group is reviewing thermal imaging technology to identify abnormal braking conditions. Abnormal braking causes delays and less fuel-efficient locomotives. Past technologies have included research, testing, and implementing CSX Intermodal Terminals, Inc. XGate on a small scale before it was rolled out company wide. XGate is an innovative gate solution creating efficient terminal flow through expedited in-gate, out-gate, and on-terminal processing. This technology reduces the amount of truck idle time at the terminal, therefore reducing fuel consumption and emissions. This group also oversaw the testing, implementation, and rollout of Trip Optimizer. Trip Optimizer is an





		automated locomotive cruise control device that helps drivers achieve optimal fuel burn by automatically controlling locomotive speed and acceleration in real-time, reducing driver fluctuations for increased fuel efficiency. In 2018, CSX saved approximately 3.9 million gallons of fuel as a result of this program. The magnitude of impact is approximately \$12.4 million using the EIA price per gallon of diesel, \$3.18 per gallon in 2018.
Operations	Impacted	CSX applies an internal methodology to evaluate potential scenarios where climate change and other types of disruption may impact operations and safety, and that information is used to plan for business continuity. As part of that process, both short-and long-term impacts are considered, and action is taken. For example, along the Gulf Coast, scenarios analyzing the likelihood and extent of flooding are used to inform decisions to harden tracks and raise critical equipment off the ground. The potential for hurricane-induced wind damage is considered when implementing strategies aimed at reinforcing/hardening infrastructure in the Jacksonville, Florida area. CSX also conducts business risk analyses regarding how climate change may impact the location of sensitive customer operations. CSX spent more than \$470 million responding to/recovering from the effects of Hurricanes Katrina (2005), Isaac (2012), and Sandy (2012), and more recently, Hurricanes Matthew (2016 - \$25 million), Irma (2017 - \$27 million), and Florence (2018 - \$16 million). In October 2018, Hurricane Michael added to the list, but this financial impact has not been included in this figure. CSX considers this magnitude of impact to be on the low end.
Other, please specify	We have not identified any risks or opportunities	

## C2.6

**(C2.6) Describe where and how the identified risks and opportunities have been factored into your financial planning process.**

	Relevance	Description
Revenues	Impacted	The company generated \$12.25 billion of revenue in 2018 from three primary lines of business: merchandise, coal, and intermodal. The sector that is primarily affected by changing customer behavior due to climate change is coal. Coal revenue and volume have decreased significantly over the last five years. In 2018, the



		<p>coal business accounted for 18% of revenue and 14% of volume; in 2012, the coal business accounted for 27% of revenue and 20% of volume. CSX moves domestic coal, coke, and iron ore to electricity-generating power plants, steel manufacturers, and industrial plants as well as export coal to deep-water port facilities. Roughly 33% of export coal and most of the domestic coal that the company transports is used for generating electricity. A shift away from coal as an acceptable energy source could potentially impact revenue.</p>
Operating costs	Impacted	<p>The company is subject to jurisdiction of various regulatory agencies, including the EPA and other state, provincial, and federal regulatory agencies. New or modified rules or regulations by these agencies could increase the company's operating costs or reduce operating efficiencies and impact service performance. If the company experiences significant decline in demand for its transportation services with respect to one or more commodities and products, it may experience reduced revenue and increased operating costs. Climate change and other emissions-related laws and regulations have been proposed and, in some cases, adopted. These final and proposed laws and regulations take the form of restrictions, caps, taxes, or other controls on emissions and could largely affect the company's operations and financial results by increasing the company's fuel, capital, and other operating costs. This negatively affects operating and fuel efficiencies, making it difficult for the CSX's customers in the U.S. and Canada to produce products in a cost-competitive manner. Magnitude of impact can be as high as 61% of revenue, which equates to the revenue from the merchandise business line in 2018. The merchandise business line generates the most revenue for CSX compared to coal and intermodal.</p>
Capital expenditures / capital allocation	Impacted	<p>The company's capital investment includes purchased and self-constructed assets and property additions that substantially extend the service life or increase the utility of those assets. CSX is committed to maintaining and improving its existing infrastructure and expanding its network capacity for long-term growth. CSX is constantly reinvesting in infrastructure – in 2017 alone, CSX invested \$2.04 billion, and another \$1.745 billion in 2018. As part of operations, the company is subject to various environmental matters and may experience material judgments or incur significant costs to defend existing and future lawsuits. Capital expenditures are allocated by the company to prevent, reduce, control, and document environmental aspects, impacts, and hazards including the disposal, treatment, and clean-up required for any weather-related incidents.</p>
Acquisitions and divestments	Impacted	<p>As certain business lines are affected by climate-related impacts, rail lines and facilities dedicated to serving those business lines are divested. A recent example is the closing of rail yards dedicated to coal traffic and</p>



		subsequent sale of associated rail lines and related assets. The magnitude of impact is the difference in revenue due to coal from 2017 to 2018 which is approximately \$151 million.
Access to capital	Impacted	Due to the significant capital expenditures required to operate and maintain a safe and efficient railroad, CSX relies on capital markets for the issuance of long-term debt instruments as well as on bank financing. A significant deterioration of the company's financial condition could reduce credit ratings, limit or affect its access to external sources of capital, and increase the costs of short- and long-term debt financing. The magnitude of potential impact would equate to CSX's capital expenditure in 2018 which was \$1.745 billion.
Assets	Impacted	At an asset level, risks and opportunities are defined at the department level using a compliance-based approach. Risks and opportunities at the asset level are impacted in scope by geography. Most pertinent to asset level risk and opportunity identification are physical parameters such as localized changes in weather or storm frequency. To mitigate the physical risk of extreme weather, CSX has established comprehensive business continuity plans that are designed to ensure the continuity of train operations during extreme weather events and are adaptable across the company's 21,000-mile network. CSX is constantly reinvesting in infrastructure – in 2017 alone, CSX invested \$2.04 billion and another \$1.745 billion in 2018.
Liabilities	Not impacted	The Audit Committee of the Board of Directors is responsible for reviewing liabilities and maintaining reserves for environmental issues. Environmental reserves total \$80 million for 2018. The company is a party to various proceedings related to environmental issues, including administrative and judicial proceedings involving private parties and regulatory agencies. The company reviews its potential liability with respect to a multitude of factors.
Other	We have not identified any risks or opportunities	

## C3. Business Strategy

### C3.1

**(C3.1) Are climate-related issues integrated into your business strategy?**

Yes

#### C3.1a

**(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?**

Yes, qualitative and quantitative

### C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b

**(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.**

No, we do not have a low-carbon transition plan

#### C3.1c

**(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.**

CSX applies an internal methodology to evaluate potential scenarios where climate change and other types of disruption may impact operations and safety, and that information is used to plan for business continuity. As part of that process, both short- and long-term impacts are considered, and action is taken. For example, scenarios analyzing the likelihood and extent of flooding along the Gulf Coast are used to inform decisions to harden tracks and raise pertinent equipment off the ground. The potential for hurricane-induced wind damage is considered when implementing strategies to reinforce/harden infrastructure in the Jacksonville, Florida area. CSX also conducts business risk analyses regarding how climate change may impact the location of sensitive customer operations and helps customers avoid GHG emissions. A typical CSX freight train is approximately four times more fuel efficient than highway freight transportation. A typical train can carry the cargo load of 280 trucks. As a result of this efficiency, CSX enables



customers to avoid and/or reduce GHG emissions that would otherwise be generated from more carbon-intensive modes of transportation. This equates to a 75% reduction in transportation related CO<sub>2</sub>e emissions when shippers switch from highway to rail. Avoided emissions for CSX customers are estimated to be more than 11 million metric tons CO<sub>2</sub>e annually. The basis for this calculation is the percentage of merchandise and intermodal freight transportation that could move by either highway or rail, and the EPA determination that rail is three to five times more fuel efficient than moving freight by highway. The most substantial business decision for CSX is the philosophy of precision scheduled railroading (PSR) implemented in 2017, and tightened through 2018, which has changed the CSX operations model from a hub- and-spoke system to a leaner point-to-point system that implements more direct route train hauls, therefore reducing fuel use and locomotive emissions. PSR optimizes asset utilization and reduces the need for cars to go through hump yards. In 2018, CSX achieved and exceeded its emissions intensity reduction goal of a 6% to 8% decrease by 2020. The 2018 emissions intensity value is a decrease of 8.1% from the 2011 base year.

### C3.1d

**(C3.1d) Provide details of your organization’s use of climate-related scenario analysis.**

Climate-related scenarios	Details
Other, please specify  Internal Methodology	CSX applies an internal methodology to evaluate potential scenarios where climate change and other types of disruption may impact operations and safety, and that information is used to plan for business continuity. As part of that process, both short- and long-term impacts are considered, and action is taken. For example, scenarios analyzing short term effects like the likelihood and extent of flooding along the Gulf Coast resulted in decisions to harden tracks and raise critical equipment off the ground in preparation for forecasted severe weather. The potential for hurricane-induced wind damage is considered when implementing strategies to reinforce/harden infrastructure in the Jacksonville, Florida and coastal areas. Long-term effect scenario analyses include topics like rising temperatures and sea levels that may result in decisions to possibly relocate infrastructure and assets along coastal cities and ports to more inland locations. CSX also conducts business risk analyses regarding how climate change may impact the location of sensitive customer operations. CSX invests heavily in its network to fortify it against the impact of extreme weather events, including changes in temperature such as the extreme record-setting low temperatures in the northern regions of CSX’s territory during the first quarter of 2014. CSX has invested more than \$11 billion into the company over the past five years. In 2016, Hurricane Matthew damaged 2,600 miles of track across four states (FL, GA, SC, NC). When hurricanes occur in the East Coast of the U.S., the core leadership team and key decision makers in Jacksonville are positioned to respond to CSX’s operational needs and protect assets. In the case of costs that exceed the company’s regular forecasts, CSX often provides its shareholders with an estimate of the financial



impact a weather-related event may have had on the company. For example, following the recovery from Hurricane Florence in 2018, CSX estimated that the event had a \$0.02 impact on the company's earnings per share for the fourth quarter of 2018. These financial impacts result from multiple expense types, including labor and materials to repair infrastructure, loss of business, environmental clean-up and disposal, service disruptions, and reroutes. CSX spent more than \$470 million responding to/recovering from the effects of Hurricanes Katrina (2005), Isaac (2012), and Sandy (2012), and more recently, Hurricanes Matthew (2016 - \$25 million), Irma (2017 - \$27 million), and Florence (2018 - \$16 million).

## C4. Targets and performance

### C4.1

**(C4.1) Did you have an emissions target that was active in the reporting year?**

Intensity target

### C4.1b

**(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).**

**Target reference number**

Int 1

**Scope**

Scope 1+2 (location-based)

**% emissions in Scope**

100

**Targeted % reduction from base year**



6

**Metric**

Other, please specify

Metric ton CO<sub>2</sub>e/million revenue ton-mile

**Base year**

2011

**Start year**

2012

**Normalized base year emissions covered by target (metric tons CO<sub>2</sub>e)**

24.94

**Target year**

2020

**Is this a science-based target?**

No, but we anticipate setting one in the next 2 years

**% of target achieved**

100

**Target status**

Achieved

**Please explain**

2018 GHG emissions intensity is 22.91 metric tons CO<sub>2</sub>e/million revenue ton-miles, as compared to the base year value of 24.94 metric tons CO<sub>2</sub>e/million revenue ton-miles. The 2018 value represents a decrease of 8.1% since the base year (2011 base year compared to the 2020 target of 6% to 8%) and demonstrates achievement and exceedance of the desired reduction. Reduction in emissions results primarily from improving locomotive fuel efficiency. As part of CSX's 2020 Environmental Goals, CSX set out to reduce GHG emission intensity (Scope1 + Scope2) by 6 to 8% by 2020 as compared to base year 2011. CSX exceeded this target in 2018 with an 8.1% reduction in emission intensity as



compared to base year 2011. For reporting year 2018, as compared to base year 2011, absolute Scope 1 emissions decreased by 762,469 metric tons CO<sub>2</sub>e and absolute Scope 2 location-based emissions decreased by 151,353 metric tons CO<sub>2</sub>e. These gains in efficiency are delivered by investing in employee training, technological advancements, programmatic efforts, and locomotive upgrades.

**% change anticipated in absolute Scope 1+2 emissions**

8.1

**% change anticipated in absolute Scope 3 emissions**

0

## C4.2

**(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.**

---

**Target**

Waste

**KPI – Metric numerator**

Decrease asphalt, concrete, and brick to landfill to zero by 2020, and reduce hazardous waste generator status by 25 percent by 2020.

**KPI – Metric denominator (intensity targets only)**

Not applicable

**Base year**

2015

**Start year**

2015

**Target year**

2020





**KPI in baseline year**

**KPI in target year**

**% achieved in reporting year**

**Target Status**

Underway

**Please explain**

Waste generation and recycling for hazardous materials: CSX employees minimize waste by using resources efficiently and by implementing various recycling programs. Since 2015, CSX has reduced the amount of hazardous waste generated from ongoing operations by 7%. To encourage these reductions, CSX holds employee training focused on both federal and state requirements of proper handling of materials and the importance of reducing and recycling materials whenever possible.

**Part of emissions target**

Not applicable

**Is this target part of an overarching initiative?**

Other, please specify

Environmental Stewardship

### **C4.3**

**(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.**

Yes



### C4.3a

**(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.**

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	4	128,900
Not to be implemented	0	0

### C4.3b

**(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.**

**Initiative type**

Process emissions reductions

**Description of initiative**

Other, please specify

Idle reduction technology

**Estimated annual CO2e savings (metric tonnes CO2e)**

19,600

**Scope**

Scope 1



**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

6,060,000

**Investment required (unit currency – as specified in C0.4)**

37,000,000

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

21-30 years

**Comment**

Idle Reducing Technology: To reduce fuel consumption and Scope 1 emissions during idling, CSX has invested more than \$50 million since 2000 in idle reducing technologies including Automated Engine Start Stop (AESS). AESS automatically shuts down the locomotive when not in use and automatically starts it when needed. CSX also trains its employees on proper locomotive shutdown rules to eliminate unnecessary idling. In 2018, CSX saved approximately 2 million gallons of fuel as a result of this program. Idle reducing technology is typically operable for the life of the locomotive. Typical locomotive life is 30 years. CSX estimates 14% of its capital expenditure each year is focused on fuel efficient technologies and processes. In 2018, capital expenditure totaled \$1.745 billion therefore CSX focused approximately 244 million in fuel efficiencies. As an estimate AESS accounted for 15% of the focus.

---

**Initiative type**

Energy efficiency: Processes  
Behavioral Change

**Description of initiative**

Process optimization



**Estimated annual CO2e savings (metric tonnes CO2e)**

39,100

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

12,080,000

**Investment required (unit currency – as specified in C0.4)**

74,000,000

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Employee Training: CSX provides locomotive operating employees with training, education, and feedback to help them operate locomotives in the most fuel-efficient manner possible to reduce Scope 1 emissions. CSX uses locomotive Event Recorder Automated Download (ERAD) technology to monitor and record train operations data and provide feedback to the engineers on how to adjust their locomotive operation to improve fuel efficiency. CSX locomotive engineers are also trained on locomotive simulators, developing best practices, and improving their awareness of fuel-efficient train handling. In 2018, CSX saved approximately 3.8 million gallons of fuel as a result of this program. Employee training is repeated periodically; benefits are expected for the extent of the career of each trained engineer. CSX estimates 14% of its capital expenditure each year is focused on fuel efficient technologies and processes. In 2018, capital expenditure totaled \$1.745 billion therefore CSX focused approximately 244 million in fuel efficiencies. As an estimate ERAD accounted for 30% of the focus.



**Initiative type**

Process emissions reductions

**Description of initiative**

Other, please specify

Trip Optimizer Technology

**Estimated annual CO2e savings (metric tonnes CO2e)**

39,700

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

12,260,000

**Investment required (unit currency – as specified in C0.4)**

75,000,000

**Payback period**

4 - 10 years

**Estimated lifetime of the initiative**

Ongoing

**Comment**

CSX has implemented a plan to install Trip Optimizer technology on approximately 2,100 locomotives to reduce Scope 1 emissions (this estimate includes the emission reductions associated with installations completed in 2016). The Trip Optimizer is an automated locomotive cruise control device that helps drivers achieve optimal fuel burn by automatically controlling locomotive speed and acceleration in real-time, reducing driver fluctuations for increased fuel efficiency. In 2018, CSX saved approximately 4 million gallons of fuel as a result of this program.



Trip Optimizer technology is operable for the life of the locomotive, which is typically 30 years. CSX estimates 14% of its capital expenditure each year is focused on fuel efficient technologies and processes. In 2018, capital expenditure totaled \$1.745 billion therefore CSX focused approximately \$244 million in fuel efficiencies. As an estimate Trip Optimizer accounted for approximately 30% of the focus.

---

**Initiative type**

Process emissions reductions

**Description of initiative**

Other, please specify

Trailing Unit Shutdown

**Estimated annual CO2e savings (metric tonnes CO2e)**

30,500

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

9,410,000

**Investment required (unit currency – as specified in C0.4)**

0

**Payback period**

<1 year

**Estimated lifetime of the initiative**

Ongoing



**Comment**

Trailing Unit Shutdown is an operational change rather than a technology enhancement. By shutting down the backup locomotives that are behind the lead locomotive when they are not needed, significant fuel savings has been achieved without any impact to velocity or reliability. In 2018, CSX saved approximately 3 million gallons of fuel as a result of this program. Trailing Unit Shutdown is a permanent change in operations that does not have an end date.

**C4.3c**

**(C4.3c) What methods do you use to drive investment in emissions reduction activities?**

Method	Comment
Partnering with governments on technology development	The National Gateway project is a public-private partnership between CSX and the government to complete an estimated \$850 million infrastructure initiative. CSX has committed approximately \$475 million over several years with the remainder of the funding from state and federal sources. The National Gateway project will enhance the existing rail network to allow for increased double-stacked intermodal clearance and therefore better enable CSX to provide a low-carbon transportation alternative. The Virginia Avenue Tunnel project was completed in the fall of 2018. This tunnel now provides for the efficient movement of double-stacked freight in an area of the East Coast with significant traffic congestion, reducing emissions of key pollutants in a heavily populated region.

**C4.5**

**(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?**

Yes

**C4.5a**

**(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.**

---

**Level of aggregation**

Company-wide

**Description of product/Group of products**

A typical CSX freight train is on average two to four times more fuel efficient than highway freight transportation. A typical intermodal train can carry the cargo load of 280 trucks. As a result of this efficiency, CSX allows customers to avoid and/or reduce GHG emissions that would otherwise be generated from more carbon-intensive modes of transportation. This equates to a 75% reduction in transportation related CO<sub>2</sub>e emissions when shippers switch from highway to rail.

**Are these low-carbon product(s) or do they enable avoided emissions?**

Avoided emissions

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Other, please specify

Calculated avoided emissions

**% revenue from low carbon product(s) in the reporting year**

76.91

**Comment**

Considering the volume of freight CSX hauled in 2018, 61% of the total revenue is attributable to the merchandise traffic and 16% revenue for intermodal - this represents 77% of the freight revenue that could have been moved by either truck or rail (the other 23% revenue consisted of coal and other freight likely only shipped by rail). If the freight CSX hauled in the merchandise and intermodal business had been moved via truck instead of by rail, those trucks would have emitted an additional 11,598,976 metric tonnes CO<sub>2</sub>e (as compared to the emissions from CSX's locomotives). The revenue for merchandise and intermodal combined was \$9,422,000,000 which represents 77% of the 2018 total revenue of \$12.25 billion.





## C5. Emissions methodology

### C5.1

**(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).**

#### Scope 1

---

**Base year start**

January 1, 2011

**Base year end**

December 31, 2011

**Base year emissions (metric tons CO<sub>2</sub>e)**

5,400,086

**Comment**

As part of CSX's 2020 Environmental Goals, CSX set out to reduce GHG emission intensity (Scope1 + Scope2) by 6 to 8% by 2020 as compared to base year 2011. CSX met and exceeded this target in 2018 with an 8.1% reduction in emission intensity as compared to base year 2011. For reporting year 2018, as compared to base year 2011, absolute Scope 1 emissions decreased by 762,469 metric tons CO<sub>2</sub>e and absolute Scope 2 location-based emissions decreased by 151,353 metric tons CO<sub>2</sub>e. These gains in efficiency are delivered by investing in employee training, technological advancements, programmatic efforts, and locomotive upgrades.

#### Scope 2 (location-based)

---

**Base year start**

January 1, 2011

**Base year end**

December 31, 2011



**Base year emissions (metric tons CO2e)**

295,354

**Comment**

Emission factors for purchased electricity were obtained from the U.S. EPA's Emissions and Generation Resource Integrated Database (eGRID2016). Although CSXT represents the majority of both CSX's business and emissions, since 2012 CSX has been tracking the emissions and emission reduction efforts of subsidiaries. As part of CSX's 2020 Environmental Goals, CSX set out to reduce GHG emission intensity (Scope1 + Scope2) by 6 to 8% by 2020 as compared to base year 2011. CSX met and exceeded this target in 2018 with an 8.1% reduction in emission intensity as compared to base year 2011. For reporting year 2018, as compared to base year 2011, absolute Scope 1 emissions decreased by 762,469 metric tons CO2e and absolute Scope 2 location-based emissions decreased by 151,353 metric tons CO2e. These gains in efficiency are delivered by investing in employee training, technological advancements, programmatic efforts, and locomotive upgrades.

**Scope 2 (market-based)**

---

**Base year start**

January 1, 2017

**Base year end**

December 31, 2017

**Base year emissions (metric tons CO2e)**

174,598

**Comment**

Emission factors for Scope 2 market-based electricity were obtained from Green-e Energy Residual Mix Emission Rates (2018). CSX uses location-based Scope2 emissions in the current goal to reduce GHG emission intensity by 6 to 8 percent by 2020 as compared to base year 2011. For reporting year 2018, as compared to base year 2011, absolute Scope 1 emissions decreased by 762,469 metric tons CO2e and absolute Scope 2 location-based emissions decreased by 151,353 metric tons CO2e. These gains in efficiency are delivered by investing in employee training, technological advancements, programmatic efforts, and locomotive upgrades.



## C5.2

**(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.**

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

## C6. Emissions data

### C6.1

**(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO<sub>2</sub>e?**

#### Reporting year

---

**Gross global Scope 1 emissions (metric tons CO<sub>2</sub>e)**

4,637,617

**Start date**

January 1, 2018

**End date**

December 31, 2018

**Comment**

2018 Gross Scope1 emissions were independently verified

#### Past year 1

---

**Gross global Scope 1 emissions (metric tons CO<sub>2</sub>e)**

4,706,707



**Start date**

January 1, 2017

**End date**

December 31, 2017

**Comment**

2017 Gross Scope1 emissions were independently verified

**Past year 2**

---

**Gross global Scope 1 emissions (metric tons CO2e)**

4,774,800

**Start date**

January 1, 2016

**End date**

December 31, 2016

**Comment**

2016 Gross Scope1 emissions were independently verified

**Past year 3**

---

**Gross global Scope 1 emissions (metric tons CO2e)**

5,300,099

**Start date**

January 1, 2015

**End date**

December 31, 2015



**Comment**

2015 Gross Scope1 emissions were independently verified

**C6.2**

**(C6.2) Describe your organization’s approach to reporting Scope 2 emissions.**

**Row 1**

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We are reporting a Scope 2, market-based figure

**Comment**

CSX’s Scope 2 location-based CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub> emissions from electricity are quantified by multiplying the annual electricity usage by average emission rates.

Annual electricity usage (in kilowatts per hour [KWH]) and total annual spend on electricity are obtained from a service provider hired by CSX to manage utilities. The electricity usage data provided by this service provider includes all CSX companies, with three exceptions – the CSX Technology Jacksonville Data Center, Canadian facilities, and a large remediation project in MA. The electricity usage for these three exceptions is obtained from internal CSX sources. Emissions factors for U.S. locations are obtained from U.S. EPA’s Emissions Generation Resource Integrated Database (eGRID2016). The market-based emission factors are obtained from Green-e Energy Residual Mix Emissions Rates (2018). The Canadian GHG intensities are obtained from Environment Canada, 2008 Greenhouse Gas Emissions Intensity for the national level. Scope 2 location-based emissions were independently verified.

**C6.3**

**(C6.3) What were your organization’s gross global Scope 2 emissions in metric tons CO<sub>2</sub>e?**



## Reporting year

---

### Scope 2, location-based

144,001

### Scope 2, market-based (if applicable)

120,551

### Start date

January 1, 2018

### End date

December 31, 2018

### Comment

2018 location-based Gross Scope2 emissions were independently verified

## Past year 1

---

### Scope 2, location-based

220,696

### Scope 2, market-based (if applicable)

174,598

### Start date

January 1, 2017

### End date

December 31, 2017

### Comment

2017 location-based Gross Scope2 emissions were independently verified



**Past year 2**

---

**Scope 2, location-based**

229,217

**Scope 2, market-based (if applicable)**

**Start date**

January 1, 2016

**End date**

December 31, 2016

**Comment**

2016 location-based Gross Scope2 emissions were independently verified

**Past year 3**

---

**Scope 2, location-based**

280,588

**Scope 2, market-based (if applicable)**

**Start date**

January 1, 2015

**End date**

December 31, 2015

**Comment**

2015 location-based Gross Scope2 emissions were independently verified



## C6.4

**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?**

No

## C6.5

**(C6.5) Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.**

### **Purchased goods and services**

---

#### **Evaluation status**

Relevant, calculated

#### **Metric tonnes CO<sub>2</sub>e**

2,104,613

#### **Emissions calculation methodology**

CSX reviewed annual spend from purchased goods and services. Emissions were estimated using the WRI/WBCSD GHG Protocol Scope 3 Evaluator Tool. The online tool is based on the Quantis Suite 2.0 software. The tool estimates emissions in terms of expenditures in a given economic sector, using environmental input-output datasets based on the World Input-Output Database (WIOD) and the Open IO Database. Since these supply chain emission estimates are rough approximations based on simplified approaches, they will not be included in CSX's GHG Inventory. CSX continues to work to understand emission sources in the supply chain.

#### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

#### **Explanation**

It is important to note that emissions from purchased goods and services are not included in CSX's GHG inventory because they are rough approximations based on simplified approaches.





## Capital goods

---

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

1,354,137

### Emissions calculation methodology

CSX reviewed annual spend from capital goods. Emissions were estimated using the WRI/WBCSD GHG Protocol Scope 3 Evaluator Tool. The online tool is based on the Quantis Suite 2.0 software. The tool estimates emissions in terms of expenditures in a given economic sector, using environmental input-output datasets based on the World Input-Output Database (WIOD) and the Open IO Database. Since these supply chain emission estimates are rough approximations based on simplified approaches, they will not be included in CSX's GHG Inventory. CSX continues to work to understand emission sources in the supply chain.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### Explanation

It is important to note that emissions from capital goods are not included in CSX's GHG inventory because they are rough approximations based on simplified approaches.

## Fuel-and-energy-related activities (not included in Scope 1 or 2)

---

### Evaluation status

Not relevant, explanation provided

### Explanation

All of CSX's fuel-and-energy-related activities are included in reported Scope 1 and 2 emission sources.

## Upstream transportation and distribution

---

### Evaluation status



Relevant, calculated

**Metric tonnes CO2e**

13,736

**Emissions calculation methodology**

Activity data sources for upstream transportation and distribution were the annual total weight of supplier and intra-facility deliveries (tons) and the mileage of each shipment provided by the CSX third-party logistics contractor. Emissions were quantified by using the distance-based calculation method provided in the WRI/WBCSD GHG Protocol Technical Guidance for Calculation Scope 3 Emissions (Version 1.0, April 2013). The total weight of each truck load (TL) and less-than-truck-load (LTL) shipments (in pounds) is multiplied by the mileage of each shipment and the emission factor of the transportation method. Emission factors were obtained from the EPA Center for Corporate Climate Leadership GHG Emission Factors Hub.

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

100

**Explanation**

Annual supplier delivery weight and mileage were obtained from the CSX logistic management company. According to both the CSX Procurement Manager and the logistics management company representative, the company tracks more than 75% of all shipments for CSXT. Therefore, approximately 25% of the CSXT supplier data is not included in the GHG inventory.

**Waste generated in operations**

---

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

25,602

**Emissions calculation methodology**

Activity data sources for waste generated in operations were the annual total mass of waste (short tons) and the proportion of waste being landfilled, recycled, and incinerated provided by the CSXT Manager Environmental Programs – Waste. The Average-Data Method outlined in



the WRI/WBCSD GHG Protocol Technical Guidance for Calculating Scope 3 Emissions (Version 1.0, April 2013) was used to quantify emissions. Emission factors were obtained from the EPA Waste Reduction Model (WARM) Version 13 (Management Practices and Background Documents, March 2015). Only end-of-life process emission factors were used from the WARM documentation. For landfilled waste, the emission factor associated with mixed municipal solid waste (MSW) material was used. For recycled waste, emissions from material recovery in preparation for recycling were assumed to have been allocated to the recycled material; therefore, the emission factor used for recycled waste was zero metric tons of carbon dioxide equivalent (MTCO<sub>2e</sub>)/short ton. For incinerated waste, the emission factor associated with mixed MSW material was used. CSX wastes were assumed to be composed of mixed MSW and mixed recyclables because it was difficult to determine all of the types of waste generated in operations.

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**Explanation**

CSX waste is managed by the CSXT Manager Environmental Programs - Waste and all data is managed within CSX using various documentation (i.e. manifests and bills of lading, etc.).

**Business travel**

---

**Evaluation status**

Relevant, calculated

**Metric tonnes CO<sub>2e</sub>**

25,525

**Emissions calculation methodology**

Employee business travel activity data sources were personal vehicle mileage, rental car mileage, taxi/shuttle mileage, and air travel mileage. GHG emissions were calculated using emission factors and global warming potential (GWP) values from the U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors Hub, WRI GHG Protocol, and WRI GHG Emission Factors Compilation (April 2014). Activity data quality is overall reasonable and dependable. Personal vehicle mileage is managed by CSX Accounts Payable and obtained from employee expense reports and Mileage Reimbursement Plan records. Rental car mileage is managed and reported by CSX’s rental car vendor. Taxi/Shuttle mileage is managed and reported by the CSX Director of Purchasing Services. Annual air travel mileage is managed and reported



by CSX's travel agency. Employee business travel GHG emissions were calculated using calculation methodologies from the U.S. EPA Climate Leaders GHG Inventory Protocol and WRI GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. The following assumptions were made: (1) Personal employee vehicles used for business travel were assumed to be gasoline light-duty trucks, model years 2005- 2019, with an average fuel economy of 16.2 miles per gallon (mpg). (2) Rental vehicles were assumed to be intermediate-sized passenger cars, model years 2010-2019, with an average fuel economy of 22.5 mpg. (3) Taxi/Shuttle vehicles were assumed to be vans, SUVs, and trucks in the Light Duty Truck EPA classification with an average fuel economy of 16.2 mpg. (4) Air travel distance (i.e., long haul, medium haul, or short haul) for each trip was not available; therefore, the emission factors were selected based on the "Distance Not Known" category of the EPA Climate Leaders Core Module Guidance for Optional Emissions from Commuting, Business Travel and Product Transport (May 2008).

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

75

**Explanation**

Employee business travel data for rental car mileage, taxi/shuttles, and commercial airlines was obtained from third-party suppliers which totals 19,285 metric tons of CO<sub>2</sub>e. This is approximately 75% of the total employee business travel. Additional employee business travel maintained by CSX includes personal vehicle mileage.

**Employee commuting**

---

**Evaluation status**

Relevant, calculated

**Metric tonnes CO<sub>2</sub>e**

89,061

**Emissions calculation methodology**

Employee commute mileage was obtained from the employee work and home zip codes. Mileage was determined based on the direct line distance between work and home zip codes. GHG emissions were calculated using emission factors, average fuel economies, and GWP values from the U.S. EPA Center for Corporate Climate Leadership GHG Emission Factors Hub, WRI GHG Protocol, and WRI GHG Emission Factors Compilation (April 2014). Exact employee commuting mileage was not available. CSX Corporate Human Resources provided employee work and home zip codes to estimate the commuting mileage. Since there were



more than 13,000 unique zip code locations, it was impractical to manually obtain the driving distance between each employee home and work zip code. Mileage was determined based on the direct line distance between work and home zip codes by converting zip code data into the latitude and longitude of the geographic center of the zip code location. The direct line distance between employee work and home locations was calculated using an Excel formula obtained from <http://www.cpearson.com/excel/LatLong.aspx> and <http://bluemm.blogspot.com/2007/01/excel-formula-tocalculatedistance.html>. Zip code data were converted into the latitude and longitude of the geographic center of the zip code location using the United States ZIP Code Database. The calculated distance was multiplied by the number of employees who lived and worked in those zip codes and by the number of commutes per year. Commuting was assumed to include two commuting trips per day, 5 days a week, 48 weeks per year (considering holidays and vacations), for a total of 480 commutes per employee per year. The average one-way commuting distance was 19.94 miles. This average was applied to employees whose commute could not be accurately calculated (i.e., work and/or home zip code not available or calculated distance was more than 100 miles). Calculated distances over 100 miles for a one-way commute were not used because it was not realistic for a 5-day a week commute. Employee vehicles used for commuting were assumed to be gasoline intermediate-sized passenger cars, model years 2005-2019, with an average fuel economy of 22.5 mpg.

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**Explanation**

Employee home and work zip codes used for the calculation are maintained by CSX.

**Upstream leased assets**

**Evaluation status**

Not relevant, explanation provided

**Explanation**

While CSX occasionally leases properties from third parties, this represents a very limited emissions source. Emissions from these properties would mainly be attributable to purchased electricity for an office environment.

**Downstream transportation and distribution**

**Evaluation status**



Not relevant, explanation provided

**Explanation**

CSX is a transportation company in the business of hauling freight. There are no downstream "sold" products for transportation and distribution.

**Processing of sold products**

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**Evaluation status**

Not relevant, explanation provided

**Explanation**

CSX is a transportation company providing transportation services for others. CSX does not manufacture or process products for sale.

**Use of sold products**

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**Evaluation status**

Not relevant, explanation provided

**Explanation**

CSX is a transportation company providing transportation services for others. CSX does not manufacture products for use by others.

**End of life treatment of sold products**

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**Evaluation status**

Not relevant, explanation provided

**Explanation**

CSX is a transportation company providing transportation services for others. CSX does not manufacture products; therefore, "end of life treatment of sold products" is not relevant to CSX business activities.

**Downstream leased assets**

---

**Evaluation status**



Not relevant, explanation provided

**Explanation**

While CSX occasionally leases owned properties to third parties, this represents an insignificant source of emissions in comparison to the overall CSX GHG emissions profile.

**Franchises**

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**Evaluation status**

Not relevant, explanation provided

**Explanation**

CSX does not have any franchises.

**Investments**

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**Evaluation status**

Not relevant, explanation provided

**Explanation**

Based on the definition of “investment” provided in the Guidance for Calculating Scope 3 emissions, this category is not relevant. This category includes Scope 3 emissions associated with CSX’s investments in the reporting year, not already included in Scope 1 or Scope 2. This category is applicable to investors and companies that provide financial services. CSX does not provide financial services.

**Other (upstream)**

---

**Evaluation status**

Not relevant, explanation provided

**Explanation**

No additional sources of emissions have been identified.

**Other (downstream)**

---



**Evaluation status**

Not relevant, explanation provided

**Explanation**

No additional sources of emissions have been identified.

**C6.7**

**(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?**

No

**C6.10**

**(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO<sub>2</sub>e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

---

**Intensity figure**

0.00039

**Metric numerator (Gross global combined Scope 1 and 2 emissions)**

4,781,618

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

12,250,000,000

**Scope 2 figure used**

Location-based





**% change from previous year**

10

**Direction of change**

Decreased

**Reason for change**

The improvement in the Emission Intensity metric results from a decrease in GHG emissions by 145,785 metric tons CO<sub>2</sub>e even though total revenues increased by \$842 million . Both Scope1 (-1.5%) and Scope2 (-35%) emissions decreased, primarily through improvements in operating efficiencies and cost controls.

**C-TS6.15**

**(C-TS6.15) What are your primary intensity (activity-based) metrics that are appropriate to your emissions from transport activities in Scope 1, 2, and 3?**

**Rail**

---

**Scopes used for calculation of intensities**

Report just Scope 1

**Intensity figure**

0.000014

**Metric numerator: emissions in metric tons CO<sub>2</sub>e**

4,409,567

**Metric denominator: unit**

t.km

**Metric denominator: unit total**

304,719,559,420



**% change from previous year**

-1

**Please explain any exclusions in your coverage of transport emissions in selected category, and reasons for change in emissions intensity.**

The Scope 1 value (numerator) for this emission intensity calculation uses the locomotive emissions associated with freight haul. The denominator (t.km) is an indicator of the volume of freight haul. CSX does not use electric locomotives to haul freight, so Scope2 emissions are not included in this emission intensity calculation. The improvement in the Emission Intensity metric results from a 31,785-metric ton CO2e decrease in locomotive emissions even though freight haul volume increased by 0.3%. This was accomplished as a result of improved train operating efficiencies, adherence to fuel management policies, and more fuel-efficient locomotives.

**ALL**

**Scopes used for calculation of intensities**

Report just Scope 1

**Intensity figure**

0.000014

**Metric numerator: emissions in metric tons CO2e**

4,409,567

**Metric denominator: unit**

t.km

**Metric denominator: unit total**

304,719,559,420

**% change from previous year**

-1



**Please explain any exclusions in your coverage of transport emissions in selected category, and reasons for change in emissions intensity.**

The Scope 1 value (numerator) for this emission intensity calculation uses the locomotive emissions associated with freight haul. The denominator (t.km) is an indicator of the volume of freight haul. CSX does not use electric locomotives to haul freight, so Scope2 emissions are not included in this emission intensity calculation. The improvement in the Emission Intensity metric results from a 31,785-metric ton CO2e decrease in locomotive emissions even though freight haul volume increased by 0.3%. This was accomplished as a result of improved train operating efficiencies, adherence to fuel management policies, and more fuel-efficient locomotives.

## C7. Emissions breakdowns




### C7.1

**(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?**

Yes

### C7.1a

**(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).**

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	4,590,452	IPCC Fourth Assessment Report (AR4 - 100 year)  <sub>1</sub>
N2O	34,028	IPCC Fourth Assessment Report (AR4 - 100 year)  <sub>2</sub>
CH4	12,881	IPCC Fourth Assessment Report (AR4 - 100 year)  <sub>3</sub>



HFCs	0.12	IPCC Fourth Assessment Report (AR4 - 100 year) ④
PFCs	0	IPCC Fourth Assessment Report (AR4 - 100 year) ⑤
SF6	0	IPCC Fourth Assessment Report (AR4 - 100 year) ⑥
NF3	0	IPCC Fourth Assessment Report (AR4 - 100 year) ⑦

- ① IPCC Fourth Assessment Report (AR4 - 100 year)
- ② IPCC Fourth Assessment Report (AR4 - 100 year)
- ③ IPCC Fourth Assessment Report (AR4 - 100 year)
- ④ IPCC Fourth Assessment Report (AR4 - 100 year)
- ⑤ IPCC Fourth Assessment Report (AR4 - 100 year)
- ⑥ IPCC Fourth Assessment Report (AR4 - 100 year)
- ⑦ IPCC Fourth Assessment Report (AR4 - 100 year)

## C7.2

**(C7.2) Break down your total gross global Scope 1 emissions by country/region.**

Country/Region	Scope 1 emissions (metric tons CO2e)
United States of America	4,636,211
Canada	1,406



### C7.3

**(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.**

By activity

#### C7.3c

**(C7.3c) Break down your total gross global Scope 1 emissions by business activity.**

Activity	Scope 1 emissions (metric tons CO2e)
Stationary Combustion Sources	48,341
Mobile Combustion Sources	4,584,877
Landfills	3,190
Refrigerants (Losses)	257
Oil/Water Separators	952

### C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

**(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization’s total gross global Scope 1 emissions by sector production activity in metric tons CO2e.**

	Gross Scope 1 emissions, metric tons CO2e	Comment
Transport services activities	4,409,567	Since this question seeks to compare transport services sector as relates to freight haul services, this value is for emissions from locomotives only and does not reflect the total scope 1 emissions as reported in the CSX Corporate GHG Inventory which includes stationary and mobile sources.



## C7.5

**(C7.5) Break down your total gross global Scope 2 emissions by country/region.**

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
United States of America	143,967	120,415	306,364	0
Canada	34	137	3,038	0

## C7.6

**(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.**

By activity

### C7.6c

**(C7.6c) Break down your total gross global Scope 2 emissions by business activity.**

Activity	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Purchased Electricity	144,001	120,551

## C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

**(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.**

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment



Transport services activities	0	0	Scope 2 location-based emissions for the entire CSX Corporation GHG Inventory including facilities and other uses of electricity is 144,001 metric tons CO2e. Transport services activities (i.e. freight haul) utilize diesel-powered locomotives which do not contribute to scope 2 emissions.
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### C7.9

**(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?**

Decreased

### C7.9a

**(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year.**

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0		0	No renewable energy consumption in 2017 or 2018.
Other emissions reduction activities	128,908		2.6	Locomotives represent the largest source of GHG emissions (in excess of 90%) and therefore present the greatest opportunity for emission reduction activities. Activities contributing to this reduction in emissions include: (1) increased use of Idle reduction technologies such as AESS and emphasis on engine shutdown policy; (2) promoting locomotive engineer behavior changes through the use of Event Recorder Automated Download (ERAD) technology to monitor train handling and provide feedback to the



				<p>engineer; (3) Trip Optimizer technology which acts as an automated cruise control for optimizing train handling; (4) operational changes such as trailing engine shutdown and distributed power, both reduce fuel consumption and therefore emissions; (5) network operational change to a "Scheduled Railroading" business model results in improved freight haul efficiencies, less fuel consumption (with corresponding reduction in emissions). CSX total Scope 1 &amp; 2 emissions in 2017 were 4,910,526 MTCO<sub>2e</sub> and in 2018 were 4,781,618 MTCO<sub>2e</sub>, there CSX arrived at 2.6% decrease through the equation <math>100\% - (4,781,618 / 4,910,526 * 100\%) = 2.6\%</math>.</p>
Divestment				
Acquisitions				
Mergers				
Change in output				
Change in methodology				
Change in boundary				
Change in physical operating conditions				
Unidentified				
Other				

### C7.9b

**(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?**

Location-based





## C8. Energy

### C8.1

**(C8.1) What percentage of your total operational spend in the reporting year was on energy?**

More than 5% but less than or equal to 10%

### C8.2

**(C8.2) Select which energy-related activities your organization has undertaken.**

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	No

### C8.2a

**(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.**

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	18,162,359	18,162,359



Consumption of purchased or acquired electricity		0	309,402	309,402
Total energy consumption		0	18,471,761	18,471,761

## C8.2b

**(C8.2b) Select the applications of your organization’s consumption of fuel.**

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

## C8.2c

**(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.**

**Fuels (excluding feedstocks)**

Diesel

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

17,641,626



**Comment**

Heat energy from fuel combustion used to power locomotives, vehicles, engines, heaters, and equipment in rail yards and rail operations.

---

**Fuels (excluding feedstocks)**

Motor Gasoline

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

300,853

**Comment**

Heat energy from fuel combustion used to power vehicles, engines, heaters, and equipment in rail yards and rail operations.

---

**Fuels (excluding feedstocks)**

Natural Gas

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

97,023

**Comment**

Heat energy from fuel combustion used to power vehicles, engines, heaters, and equipment in rail yards and rail operations.

---



**Fuels (excluding feedstocks)**

Propane Liquid

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

104,638

**Comment**

Heat energy from fuel combustion used to power vehicles, engines, heaters, and equipment in rail yards and rail operations.

---

**Fuels (excluding feedstocks)**

Jet Gasoline

**Heating value**

LHV (lower heating value)

**Total fuel MWh consumed by the organization**

11,656

**Comment**

Heat energy from fuel combustion used to power company owned jets.

---

**Fuels (excluding feedstocks)**

Waste Oils  
Used Oil

**Heating value**



LHV (lower heating value)

**Total fuel MWh consumed by the organization**

6,563

**Comment**

Heat energy from fuel combustion used to power heaters in rail yards.

**C8.2d**

**(C8.2d) List the average emission factors of the fuels reported in C8.2c.**

**Diesel**

---

**Emission factor**

10.21

**Unit**

kg CO2 per gallon

**Emission factor source**

U.S.EPA Emission Factor Hub (March 9, 2018)

**Comment**

Diesel use is predominantly for powering locomotives .

**Jet Gasoline**

---

**Emission factor**

9.75

**Unit**

kg CO2 per gallon



**Emission factor source**

U.S.EPA Emission Factor Hub (March 9, 2018)

**Comment**

Jet Gasoline is used for company owned jets.

**Motor Gasoline**

---

**Emission factor**

8.78

**Unit**

kg CO2 per gallon

**Emission factor source**

U.S.EPA Emission Factor Hub (March 9, 2018)

**Comment**

Motor gasoline mostly for vehicle fleet and yard equipment.

**Natural Gas**

---

**Emission factor**

53.06

**Unit**

kg CO2 per million Btu

**Emission factor source**

U.S.EPA Emission Factor Hub (March 9, 2018)

**Comment**

Natural gas used for some stationary and mobile combustion sources.



### Propane Liquid

---

**Emission factor**

5.72

**Unit**

kg CO2 per gallon

**Emission factor source**

U.S.EPA Emission Factor Hub (March 9, 2018)

**Comment**

Propane is used for some boilers and mobile sources (yard equipment).

### Waste Oils

---

**Emission factor**

10.21

**Unit**

kg CO2 per gallon

**Emission factor source**

U.S.EPA Emission Factor Hub (March 9, 2018)

**Comment**

Nonhazardous used oil is used for space heating which consists primarily of diesel and lube oils

## C8.2f

**(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.**



**Basis for applying a low-carbon emission factor**

Grid mix of renewable electricity

**Low-carbon technology type**

Other low-carbon technology, please specify  
residual mix

**Region of consumption of low-carbon electricity, heat, steam or cooling**

North America

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

309,402

**Emission factor (in units of metric tons CO2e per MWh)**

0.39

**Comment**

To obtain the Weighted Grid Mix Residual Mix Emission Factor, first determine a weighting factor for each State according to the MWh usage in that State (State MWh/total MWh), next multiply the weighting factor times the residual mix emission factor for the State, finally add all the weighted amounts to get a single Weighted Grid Mix Emission Factor representative of the entire system.

**C-TS8.2h**

**(C-TS8.2h) Provide details on the average emission factor used for all transport movements per mode that directly source energy from the grid.**

Category	Emission factor unit	Average emission factor: unit value	Comment
Rail			The CSX Rail transport mode does not obtain energy from the grid.





## C-TS8.4

**(C-TS8.4) Provide any efficiency metrics that are appropriate for your organization’s transport products and/or services.**

---

**Activity**

Rail

**Metric figure**

0.00203

**Metric numerator**

Other, please specify  
gallons of fuel

**Metric denominator**

Revenue-ton.mile

**Metric numerator: Unit total**

423,998,863

**Metric denominator: Unit total**

208,712,027,000

**% change from last year**

-0.9

**Please explain**

A common freight haul efficiency metric used by U.S. Class 1 Rail companies is “Revenue Ton-Mile per gallon of diesel (RTM/gal).” This measures the ability of a freight train to transport one U.S. short ton of freight a certain distance (miles) per gallon of diesel fuel. For this metric,



bigger is better. Sometimes this ratio is inverted to "gallons of fuel per RTM". For this metric, smaller is better since it represents the gallons of fuel needed to move one ton for freight a distance of one mile.

## **C9. Additional metrics**

### **C9.1**

**(C9.1) Provide any additional climate-related metrics relevant to your business.**

---

**Description**

**Metric value**

**Metric numerator**

**Metric denominator (intensity metric only)**

**% change from previous year**

**Direction of change**

**Please explain**



## C-TO9.3/C-TS9.3

**(C-TO9.3/C-TS9.3) Provide tracking metrics for the implementation of low-carbon transport technology over the reporting year.**

---

**Activity**

Rail

**Metric**

Other, please specify  
Avoided emissions

**Technology**

Other, please specify  
More efficient mode of transport

**Metric figure**

11,168,893

**Metric unit**

Other, please specify  
metric tons CO<sub>2</sub>e (MTCO<sub>2</sub>e)

**Explanation**

According to EPA, a typical CSX freight train is approximately four times more fuel efficient than highway freight transportation. A typical train can carry the cargo load of 280 trucks. As a result of this efficiency, CSX enables customers to avoid and/or reduce GHG emissions that would otherwise be generated from more carbon-intensive modes of transportation. Avoided emissions for CSX customers are estimated to be more than 11 million metric tons CO<sub>2</sub>e annually. The basis for this calculation is the percentage of merchandise (41%) and intermodal (45%) freight transportation that could move by either highway or rail. Fuel-saving technologies and processes include: (1) precision scheduled railroading (PSR) - implemented in 2017, PSR changed the CSX operations model from a hub- and-spoke system to a leaner point-to-point system, which implements more direct routes, optimizes assets, and reduces fuel use; (2) CSX deploys distributed power on certain trains - this involves



placing locomotive power at intermediate points throughout the train. The distributed locomotives are remotely operated by the lead locomotive. Distributed power reduces draft forces thus reducing fuel consumption and increasing train efficiency; (3) CSX has implemented a plan to install Trip Optimizer technology on approximately 2,100 locomotives. The Trip Optimizer is an automated locomotive cruise control device that helps drivers achieve optimal fuel burn by automatically controlling locomotive speed and acceleration in real-time and reducing driver fluctuations for increased fuel efficiency. EPA estimates Trip Optimizer improves fuel efficiency by 10%; (4) Trailing Unit Shutdown is an operational change rather than a technology enhancement. By shutting down unnecessary backup locomotives behind the lead locomotive, significant fuel savings have been achieved without any cost to velocity or reliability.

## C-TO9.6/C-TS9.6

**(C-TO9.6/C-TS9.6) What is your investment in research and development (R&D), equipment, products and services and which part of it would you consider a direct investment in the low-carbon transition?**

---

**Activity**

Rail

**Investment start date**

January 1, 2018

**Investment end date**

December 31, 2018

**Investment area**

R&D

**Technology area**

Smart systems

**Investment maturity**

Applied research and development



**Investment figure**

244,000,000

**Low-carbon investment percentage**

0-20%

**Please explain**

CSX's Mechanical Operations group is focusing on using existing technologies to limit unnecessary train stops. Acoustic detectors and temperature trending logic continue to be used to proactively identify bearings in distress before they cause line of road events. Within Mechanical Operations, the Communications and Signals group is reviewing thermal imaging technology to identify abnormal braking conditions. Abnormal braking causes delays and less fuel-efficient locomotives. Past technologies have included research, testing, and implementing CSX Intermodal Terminals, Inc. XGate on a small scale before it was rolled out company wide. XGate is an innovative gate solution creating efficient terminal flow through expedited in-gate, out-gate, and on-terminal processing. This technology reduces the amount of truck idle time at the terminal, therefore reducing fuel consumption and emissions. This group also oversaw the testing, implementation, and rollout of Trip Optimizer. Trip Optimizer is an automated locomotive cruise control device that helps drivers achieve optimal fuel burn by automatically controlling locomotive speed and acceleration in real-time, reducing driver fluctuations for increased fuel efficiency. In 2018, it is estimated CSX saved approximately 3.9 million gallons of fuel as a result of this program. CSX estimates the investment for fuel efficient technologies to be 14% of its total capital expenditure of approximately \$1.745 billion.

## C10. Verification

### C10.1

**(C10.1) Indicate the verification/assurance status that applies to your reported emissions.**

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

## C10.1a

**(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.**

---

**Scope**

Scope 1

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Reasonable assurance

**Attach the statement**

 CSX\_2019 GHG Verification Report.pdf

**Page/ section reference**

Cover page to the Report titled "Verification of CSX Corporation 2018 Greenhouse Gas Inventory" and page 7-1

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

---

**Scope**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Type of verification or assurance**

Reasonable assurance

**Attach the statement**

 CSX\_2019 GHG Verification Report.pdf

**Page/ section reference**

Cover page to the Report titled "Verification of CSX Corporation 2018 Greenhouse Gas Inventory" and page 7-1

**Relevant standard**

ISO14064-3

**Proportion of reported emissions verified (%)**

100

**C10.1b**

**(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.**

---

**Scope**

Scope 3- all relevant categories

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Attach the statement**

 CSX\_2019 GHG Verification Report.pdf

**Page/section reference**

Cover page to the Report titled "Verification of CSX Corporation 2018 Greenhouse Gas Inventory" and page 7-1

**Relevant standard**

ISO14064-3

**C10.2**

**(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?**

Yes

**C10.2a**

**(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?**





Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Year on year emissions intensity figure	ISO 14064-3	Emissions intensity figures are verified during third-party verification of annual GHG Inventory

## C11. Carbon pricing

### C11.1

**(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?**

No, and we do not anticipate being regulated in the next three years

### C11.2

**(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?**

No

### C11.3

**(C11.3) Does your organization use an internal price on carbon?**

No, but we anticipate doing so in the next two years

## C12. Engagement

### C12.1

**(C12.1) Do you engage with your value chain on climate-related issues?**

Yes, our suppliers



Yes, our customers

## C12.1a

**(C12.1a) Provide details of your climate-related supplier engagement strategy.**

---

### **Type of engagement**

Information collection (understanding supplier behavior)

### **Details of engagement**

Code of conduct featuring climate change KPIs

Collect climate change and carbon information at least annually from suppliers

### **% of suppliers by number**

100

### **% total procurement spend (direct and indirect)**

100

### **% Scope 3 emissions as reported in C6.5**

100

### **Rationale for the coverage of your engagement**

CSX began participating in the CDP Supply Chain program in 2014 and continues to interact with suppliers to "live like CSX" as relates to sustainability and emission reduction initiatives. Moving forward, CSX is planning to implement a mandatory participation from 100% of its suppliers in a BROWZ questionnaire focused on sustainable practices and climate change. BROWZ is a third-party interface used by CSX for supply chain qualifications through comprehensive assessments. Suppliers will be asked to identify the proportion of their GHG emissions that they can attribute to business with CSX, company wide sustainable practices, and climate change focused questions to allow CSX to better understand its supply chain footprint. CSX asks that suppliers join in reducing environmental footprint, supporting sustainable development, and engaging on sustainability issues to maintain a commitment to social, environmental, and community stewardship. Environmental stewardship is



key to CSX's business model, as an efficient way to transport goods. CSX follows rigorous environmental standards across its network and expects suppliers to work to the same standards, and "live like CSX".

**Impact of engagement, including measures of success**

CSX is at the beginning of the process to fully engage its suppliers in the BROWZ questionnaire, and therefore is still defining the measures of success. Once a baseline is developed CSX will define its measures of success and determine supplier goals and incentives. CSX currently evaluates its suppliers according to safety, compliance, quality standards, and sustainability and makes recommendations for future improvements.

**Comment**

CSX has chosen to engage both with its suppliers and customers. CSX has high expectations of its suppliers in areas of ethics, compliance, and environmental stewardship. Engagement on GHG emissions and risks and opportunities around climate change is an extension of that expectation and provides a method for CSX to evaluate risk within the supply chain. Because CSX offers a mode of land transportation that is, on average, four times more fuel efficient than trucks, the company is well positioned to expand services to companies that are looking to reduce the emissions associated with their upstream and downstream transportation.

**C12.1b**

**(C12.1b) Give details of your climate-related engagement strategy with your customers.**

---

**Type of engagement**

Education/information sharing  
Engagement

**Details of engagement**

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

**% of customers by number**

100



**% Scope 3 emissions as reported in C6.5**

0

**Please explain the rationale for selecting this group of customers and scope of engagement**

CSX has chosen to engage both with its suppliers and customers. CSX is providing forums, including an online Carbon Calculator, for its customers to understand how shipping their goods by rail will benefit their business. The calculator is a public forum that gives customers and potential customers the ability to make the best environmental choice of transportation options for their needs and calculates the carbon dioxide emissions savings of specific rail shipments, providing comparative data among their choices. These customer forums allow companies to collaborate, work through logistical challenges that occur when changing shipping methods and quantify the sustainability benefit that is provided by CSX. Because the Carbon Calculator is a public forum CSX assumes all customers have participated. Additionally, CSX responds to numerous customer requests pertaining to emissions associated with hauling customer freight by CSX.

**Impact of engagement, including measures of success**

CSX works with customers to shift their freight transport from highway to rail, and continually strives to increase the value customers receive by shipping their goods with CSX. Potential customers are selected by the sales and marketing team if the general transport is more than 500 miles. This criterion makes sense for a switch from truck to rail for the customer and for CSX to gain a price advantage. Success in gaining that value is determined by increased rates of conversion from highway to rail, and by CSX's inclusion on the Dow Jones Sustainability Index (DJSI). In 2018, CSX received this top sustainability recognition for the eighth year for high performance in supply chain management as well as environmental management, corporate governance, and corporate citizenship/philanthropy. In 2002, CSX launched a customer satisfaction assessment program for customers to share their feedback and provide improvement suggestions. The company uses an independent firm to survey customers on a range of factors that influence their sense of satisfaction. These factors include speed and consistency of service, problem resolution, and ease of order placement. The main driver of the increase in total score was the progress CSX has made in local service delivery.

**C12.3**

**(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?**

- Direct engagement with policy makers
- Trade associations



### C12.3a

**(C12.3a) On what issues have you been engaging directly with policy makers?**

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Energy efficiency	Support	<p>CSX engages lawmakers to advocate for topics that the railroad supports, including responsible environmental legislation. A key topic of engagement is advocating for the expansion of the national freight network; this will benefit the environment and local communities by offering a surface transportation alternative that is, on average, four times less carbon intensive than other modes of land transportation and help relieve highway congestion. CSX advocates for this expanded network through a strong brand campaign designed to increase public awareness of the environmental benefits of rail, as well as direct engagement with policy makers at the local, state, and federal levels. An example of this engagement is the National Gateway project, a public-private partnership through which CSX is working with federal, state, and local governments. Together, CSX and its public partners are investing approximately \$850 million to extend the environmental advantages of rail by improving intermodal capacity in key high-traffic corridors via more efficient double-stack intermodal operations. By improving the efficiency of intermodal transport, the project will decrease fuel consumption by nearly 2 billion gallons and reduce carbon dioxide emissions by 20 million tons in the project's first 30 years of operation.</p>	<p>As Congress considers legislation to limit emissions of carbon dioxide and other greenhouse gases, it should take into account the environmental friendliness of freight railroading. According to a recent independent study for the Federal Railroad Administration, railroads on average are four times more fuel efficient than trucks. GHG emissions are directly related to fuel consumption. That means that moving freight by rail instead of truck reduces GHG emissions by 75%. Climate legislation offers an opportunity for policymakers to encourage the movement of more freight by environmentally friendly rail and to spur the development of carbon capture and storage technology.</p>



## C12.3b

**(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?**

Yes

## C12.3c

**(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.**

---

**Trade association**

Business Roundtable

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Business Roundtable (BRT) is an association of chief executive officers of leading U.S. companies with more than \$7.3 trillion in annual revenues and nearly 16 million employees. GHG emissions, impacts of climate change, rising energy prices, and growing energy demand must be managed with thoughtful and far-sighted government policies and business strategies. BRT remains committed to a vision for America's energy future that is more diverse, more domestic, and more efficient.

**How have you influenced, or are you attempting to influence their position?**

CSX's position on climate legislation is consistent with BRT. As Congress addresses legislation regarding environmental emissions, it should take into account the environmental friendliness of freight railroading, which provides the most fuel-efficient method of transporting freight over land. Legislation could offer an opportunity for policymakers to encourage supply chain sustainability – including the movement of freight by environmentally friendly rail – and spur the development of carbon capture and storage technology.

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**Trade association**

Association of American Railroads

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

The Association of American Railroads (AAR) is the standard-setting organization for North America's railroads. America's freight railroads operate the safest, most efficient, cost-effective, and environmentally sound freight transportation system in the world. As Congress considers legislation to limit emissions of carbon dioxide and other greenhouse gases, it should consider the environmental friendliness of freight railroading. Climate legislation offers an opportunity for policymakers to encourage the movement of freight by environmentally friendly rail and spur the development of carbon capture and storage technology.

**How have you influenced, or are you attempting to influence their position?**

CSX's position on climate legislation is consistent with AAR. CSX understands that improving energy efficiency and maximizing clean and affordable domestic energy resources are crucial to continued economic growth, improved quality of life, and environmental stewardship. Furthermore, this can help address the complex global challenge of climate concerns. Railroads, including CSX, are essential to moving these objectives forward through efficient transportation solutions, offering a decreased emissions impact compared to trucks; on average, rail is four times more efficient than highway transportation. In 2018, CSX provided \$738,651 in support to AAR.

## C12.3f

**(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?**

Engagement activities are in line with CSX's short- and long-term strategies, which are developed by Environmental and Strategic Planning teams considering 2020 sustainability goals and annual risk monitoring. Strategic plans and engagement opportunities are communicated by Federal and State Government Affairs teams, which all report to a single executive. This clear line of accountability aligns strategy development, activities, and communication. Further, CSX develops and publishes a Corporate Social Responsibility (CSR) Report that outlines the company's high-level performance and commitments in business, governance, environment, and safety, and describes interactions between the workforce, community, and value chain. In past years the CSR Report was published on an annual basis. The 2018 CSR Report is a supplement to the 2016 CSR Report and CSX intends to publish a full CSR Report every other year moving forward. The collaborative process of developing and publishing this report further aligns business strategy with execution and communication. In



**addition, the Audit Committee of the Board of Directors has oversight responsibility for environmental matters, including carbon emissions, and has responsibility for risk oversight and evaluation, including risks associated with energy and environmental policy.**

## **C12.4**

**(C12.4) Have you published information about your organization’s response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

---

### **Publication**

In mainstream reports

### **Status**

Complete

### **Attach the document**

 CSX 2018 CSR Data Supplement.pdf

### **Page/Section reference**

Governance - Page 7; Emissions figures - Page 18 - 19; Emission targets - Page 18; Other metrics - throughout

### **Content elements**

Governance  
Emissions figures  
Emission targets  
Other metrics

### **Comment**





Corporate Social Responsibility (CSR) Report Data Supplement;

<https://www.csx.com/share/wwwcsx15/assets/File/Responsibility/CSX%202018%20CSR%20Data%20Supplement.pdf>

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**Publication**

In mainstream reports

**Status**

Complete

**Attach the document**

 CSX\_2018 Annual Report.pdf

**Page/Section reference**

Governance - throughout and Page 118; Strategy - Page iv; Risks & opportunities - Page 7 - 12; Other metrics - throughout

**Content elements**

Governance

Strategy

Risks & opportunities

Emission targets

Other metrics

**Comment**

CSX 2018 Annual Report;

<http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NzA1NjA2fENoaWxkSUQ9NDE4MDc0fFR5cGU9MQ==&t=1>



## C14. Signoff

### C-FI

**(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

CSX's reporting structure is setup to include Executive Vice President and Chief Legal Officer who directly reports to the Chief Executive Officer and the Board of Directors is an equal reporting position to the Chief Financial Officer and Chief Operating Officer who both report direction to the Chief Executive Officer. The Executive VP and Chief Legal Officer is the highest member of the C-Suite responsible for climate related issues.

### C14.1

**(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

	Job title	Corresponding job category
Row 1	Executive Vice President and Chief Legal Officer; CSX's reporting structure is setup to include EVP/CLO who directly reports to the CEO and the Board as an equal reporting position to the CFO.	Chief Financial Officer (CFO)

## SC. Supply chain module

### SC0.0

**(SC0.0) If you would like to do so, please provide a separate introduction to this module.**

### SC0.1

**(SC0.1) What is your company's annual revenue for the stated reporting period?**



	Annual Revenue
Row 1	12,250,000,000

## SC0.2

**(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?**

No

## SC1.1

**(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.**

---

**Requesting member**

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Emissions in metric tonnes of CO<sub>2</sub>e**

**Uncertainty (±%)**

2

**Major sources of emissions**



Locomotive diesel emissions

**Verified**

No

**Allocation method**

Allocation based on another physical factor

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

CSX uses the operational control approach to report Scope 1, 2, and 3 emissions. Approximately 92% of CSX's carbon footprint (considering Scope 1 and 2 emissions) is attributed to locomotive diesel fuel consumed in the transportation of freight. The service we provide our customers is the transportation of their freight, therefore the major emission source attributable to our customers is locomotive diesel fuel consumption.

---

**Requesting member**

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Emissions in metric tonnes of CO<sub>2</sub>e**

**Uncertainty (±%)**

2

**Major sources of emissions**

Locomotive diesel emissions



**Verified**

No

**Allocation method**

Allocation based on another physical factor

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

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---

**Requesting member**

**Scope of emissions**

Scope 1

**Allocation level**

Company wide

**Emissions in metric tonnes of CO<sub>2</sub>e**

**Uncertainty (±%)**

2

**Major sources of emissions**

Locomotive diesel emissions

**Verified**



No

**Allocation method**

Allocation based on another physical factor

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

CSX uses the operational control approach to report Scope 1, 2, and 3 emissions. Approximately 92% of CSX's carbon footprint (considering Scope 1 and 2 emissions) is attributed to locomotive diesel fuel consumed in the transportation of freight. The service we provide our customers is the transportation of their freight, therefore the major emission source attributable to our customers is locomotive diesel fuel consumption.

**SC1.2**

**(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).**

CSX uses Emission Factors and Global Warming Potentials from EPA Center for Corporate Climate Leadership GHG Emission Factors Hub (3/9/2019);

**SC1.3**

**(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?**

Allocation challenges	Please explain what would help you overcome these challenges
We face no challenges	CSX currently uses the described method of allocating carbon to individual customers based on emissions per revenue ton mile, published references from the EPA Center for Corporate Climate Leadership GHG Emission Factors Hub (3/9/2019), and the individual customers Revenue Ton Miles.

**SC1.4**

**(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?**



No

## SC1.4b

**(SC1.4b) Explain why you do not plan to develop capabilities to allocate emissions to your customers.**

CSX currently uses the described method of allocating carbon to individual customers based on emissions per revenue ton mile, published references from the WRI GHG Emission Factors Compilation, and the individual customers Revenue Ton Miles.

## SC2.1

**(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.**

## SC2.2

**(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?**

No

## SC3.1

**(SC3.1) Do you want to enroll in the 2019-2020 CDP Action Exchange initiative?**

No

## SC3.2

**(SC3.2) Is your company a participating supplier in CDP's 2018-2019 Action Exchange initiative?**

No



## SC4.1

**(SC4.1) Are you providing product level data for your organization's goods or services?**

No, I am not providing data

## Submit your response

**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

	Public or Non-Public Submission	I am submitting to	Are you ready to submit the additional Supply Chain Questions?
I am submitting my response	Public	Customers	No, Submit Supply Chain Questions Later

**Please confirm below**

I have read and accept the applicable Terms