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Independent Accountants' Review Report

The Board of Directors
Norfolk Southern Corporation:

Report on the Statement of Greenhouse Gas Emissions for the year ended December 31, 2023

Conclusion

We have reviewed whether Norfolk Southern Corporation's (Norfolk Southern) Statement of Greenhouse Gas Emissions and the related notes (the GHG Statement) for the year ended December 31, 2023 has been prepared in accordance with the corresponding criteria set forth in the Basis of Presentation section of Note 1 of the GHG Statement (the Criteria).

Based on our review, we are not aware of any material modifications that should be made to the GHG Statement for the year ended December 31, 2023 in order for it to be prepared in accordance with the Criteria.

Our conclusion on the GHG Statement does not extend to any other information that accompanies or contains the GHG Statement and our report.

Basis for Conclusion

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants in the versions of AT-C section 105, *Concepts Common to All Attestation Engagements*, and AT-C section 210, *Review Engagements* that are applicable as of the date of our review. We are required to be independent and to meet our other ethical requirements in accordance with relevant ethical requirements related to the engagement. We believe that the evidence we have obtained is sufficient and appropriate to provide a reasonable basis for our conclusion.

Responsibilities for the GHG Statement

Management of Norfolk Southern is responsible for:

- designing, implementing and maintaining internal control relevant to the preparation of the GHG Statement such that it is free from material misstatement, whether due to fraud or error;
- selecting or developing suitable criteria for preparing the GHG Statement and appropriately referring to or describing the criteria used; and
- preparing the GHG Statement in accordance with the Criteria.

Inherent Limitations in Preparing the GHG Statement

As described in Note 1 of the GHG Statement, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and the methods used for determining such data. The selection by management of different but acceptable measurement techniques could have resulted in materially different measurements.



Our Responsibilities

The attestation standards established by the American Institute of Certified Public Accountants require us to:

- plan and perform the review to obtain limited assurance about whether any material modifications should be made to the GHG Statement in order for it to be prepared in accordance with the Criteria; and
- express a conclusion on the GHG Statement based on our review.

Summary of the Work we Performed as the Basis for Our Conclusion

We exercised professional judgment and maintained professional skepticism throughout the engagement. We designed and performed our procedures to obtain evidence that is sufficient and appropriate to provide a basis for our conclusion. Our procedures selected depended on our understanding of the GHG Statement and other engagement circumstances, and our consideration of areas where material misstatements are likely to arise. In carrying out our engagement, we performed procedures that consisted primarily of:

- inquiring of management to obtain an understanding of the methodology applied to measure and evaluate the greenhouse gas emissions and energy consumption metrics;
- evaluating management's application of the Criteria;
- inspecting a selection of supporting documentation for activity data;
- considering the appropriateness of emission factors used and estimates;
- recalculating a selection of the greenhouse gas emissions and energy consumption metrics; and
- performing analytical procedures.

The procedures performed in a review vary in nature and timing from, and are substantially less in extent than, an examination, the objective of which is to obtain reasonable assurance about whether the subject matter information is prepared in accordance with the criteria, in all material respects, in order to express an opinion. Because of the limited nature of the engagement, the level of assurance obtained in a review is substantially lower than the assurance that would have been obtained had an examination been performed.

KPMG LLP

Atlanta, Georgia
July 10, 2024

Norfolk Southern Corporation

Statement of Greenhouse Gas Emissions
Year ended December 31, 2023

Operational Boundary	Emissions (in metric tons CO₂e)
Scope 1	4,097,539
Scope 2 (Market Based)	137,982
Scope 2 (Location Based)	145,307
Scope 1 + 2 (Location Based) Emissions	4,242,846
Reported Scope 3	1,999,109
Scope 3 Category 1: Purchased goods and services and Scope 3 Category 2: Capital goods	876,675
Scope 3 Category 3: Fuel-and-energy-related activities (not included in scope 1 and 2)	957,785
Scope 3 Category 4: Upstream transportation and distribution	23,618
Scope 3 Category 5: Waste generated in operations	57,957
Scope 3 Category 6: Business travel (commercial air business travel, rental car usage, personal car use for business purpose)	38,006
Scope 3 Category 7: Employee commuting	43,881
Scope 3 Category 8: Upstream leased assets	1,187
SBTi Target	Emissions Intensity (in metric tons CO₂e / MGTM)
Scope 1 + 2 (Location Based) Emissions Intensity	12.62
Million Gross Ton-Miles (MGTM)	336,074

The above Scope 1 emissions exclude 78,867 tons of direct CO₂ emissions from the use of biofuels.

Intensity metrics are reported in metric tons (MT) of CO₂ equivalents per Million Gross Ton-Miles (MT CO₂e / MGTM).

The accompanying notes are an integral part of the Statement of Greenhouse Gas Emissions.

Notes to the Statement of Greenhouse Gas Emissions

Year ended December 31, 2023

Note 1: The Company

Norfolk Southern Corporation (the “Company”, “NS” or “Norfolk Southern”) is an Atlanta, Georgia-based company that owns a major freight railroad. The Company is primarily engaged in the rail transportation of raw materials, intermediate products, and finished goods primarily in the Southeast, East, and Midwest and, via interchange with rail carriers, to and from the rest of the United States (U.S.). The Company also transports overseas freight through several Atlantic and Gulf Coast ports.

Basis of Presentation

NS has prepared its 2023 Statement of Greenhouse Gas Emissions (GHG) on a calendar reporting year that is the same as our financial reporting period.

The Company has prepared its GHG statement in accordance with the following World Resources Institute and World Business Council for Sustainable Development’s Greenhouse Gas Protocol standards and guidance (collectively, the GHG Protocol):

- Scope 1 and Scope 3 GHG Emissions information has been prepared in accordance with the World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard Revised.
- Scope 2 GHG Emissions information has been prepared in accordance with the World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard Revised and the WRI/WBCSD GHG Protocol Scope 2 Guidance: An amendment to the GHG Protocol Corporate Standard.

The Company’s Statement of GHG Emissions includes all direct (Scope 1) and indirect (Scope 2) GHG emissions generated from all company-owned locations, which are all located in the United States as defined under the financial control approach which includes GHG emissions from stationary sources related to fuel oil, kerosene, natural gas, propane and non-vehicle diesel, purchased electricity and mobile sources including locomotive diesel, fleet and non-fleet vehicle fuel and jet fuel method and indirect GHG emissions (Scope 3) from the following categories:

- Scope 3 Category 1: Purchased goods and services and Scope 3 Category 2: Capital goods,
- Scope 3 Category 3: Fuel-and-energy-related activities (not included in scope 1 and 2),
- Scope 3 Category 4: Upstream transportation and distribution,
- Scope 3 Category 5: Waste generated in operations,
- Scope 3 Category 6: Business travel (commercial air business travel, rental car usage, personal car use for business purpose)
- Scope 3 Category 7: Employee commuting, and
- Scope 3 Category 8: Upstream leased assets.

Energy metrics and emissions intensity were prepared using the guidance in Global Reporting Initiative (GRI) Standards, 302-1: Energy, and 305-4 GHG emissions intensity, as applicable.

Estimation Uncertainties

Environmental and energy use data included in the Statement of GHG Emissions are subject to measurement uncertainties resulting from limitations inherent in the nature and the methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

Base Year

The Company established 2019 as its base year, in alignment with our target to achieve a 42% reduction in Scope 1 and Scope 2 greenhouse gas emissions intensity by 2034 that was validated by Science-Based Target Initiative (SBTi). Base year GHG emissions were:

Operational Boundary	Emissions (in metric tons CO₂e)
Scope 1	4,784,047
Scope 2 (Location Based)	201,474
Scope 1 + 2 (Location Based) Emissions	4,985,521
SBTi Target	Emissions Intensity (in metric tons CO₂e / MGTM)
Scope 1 + 2 (Location Based) Emissions Intensity	13.38
Million Gross Ton-Miles (MGTM)	372,718

The Company has not established a base year for Scope 3 emissions.

Our policy is to restate our base year if any changes in GHG emission methodology, emission factors, organizational boundary conditions (financial control), would change base year data by more than 5%. For acquisitions, base year data for the acquired business is added to the total base year data. For divestitures, the base year data for the divested business is subtracted from total base year emissions. No recalculations or adjustments have been made to base year emissions.

Note 2: GHG Reporting

Greenhouse Gases

The GHG Protocol covers the accounting and reporting of seven greenhouse gases covered by the Kyoto Protocol – Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur Hexafluoride (SF₆), and Nitrogen Trifluoride (NF₃).

Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur Hexafluoride (SF₆), and Nitrogen Trifluoride (NF₃) emissions have been omitted from our reporting as they are not material sources of greenhouse gas emissions for the Company.

Scope 1 Emissions

The Company's Scope 1 direct emissions sources primarily result from our operational activities and include emissions from locomotives, on-road vehicle fleet, off-road equipment, and aircraft. Direct sources also include the use of natural gas, propane, and oil, which are used for heating. Other stationary combustion sources use diesel fuel, gasoline, and kerosene, which are used for on-site generators and boiler heating. Scope 1 also includes total purchasing card fuel purchases, oil/water separator methane emissions, as well as fugitive refrigerant emissions from buildings and locomotives.

Scope 2 Emissions

The Company's Scope 2 indirect emissions sources are coming from our energy demands, primarily for buildings such as locomotive shops, classification yards, operations offices, service, and support centers, and transload facilities. GHG emissions from energy demands are associated with purchased electricity.

The Company quantified Scope 2 emissions using two methods: a location-based method and a market-based method. The location-based method considers average emissions factors for the electricity grids that provide electricity. The market-based method considers emissions rates from purchased energy certificates or contractual arrangements under which power is procured from specific sources, such as renewable energy.

Changes in methodology

The methodology used to calculate emissions for Scope 3 categories 1 and 2 involves combining supplier-specific emission data with a spend-based approach. Previously, NS' spend-based emissions were determined using the Greenhouse Gas Protocol Scope 3 Evaluator tool. In 2023, because of the retirement of the Greenhouse Gas Protocol Scope 3 Evaluator tool, spend-based emissions were determined by mapping the spend amount to EEIO emissions factors based on their industry and spend types.

The decision to aggregate Scope 3 categories 1 and 2 in 2023 was influenced by limitations in the sourcing department's spend data, which did not allow for distinguishing between "Purchased Goods and Services" and "Capital Goods" expenditures.

Scope 3 Category 5 Waste Generated in Operations

Per the GHG Protocol's Technical Guidance for Calculating Scope 3 Emissions,

Category 5 includes emissions from third-party disposal and treatment of waste generated in the reporting company's owned or controlled operations in the reporting year. This category includes emissions from disposal of both solid waste and wastewater. Only waste treatment in facilities owned or operated by third parties is included in scope 3. Waste treatment at facilities owned or controlled by the reporting company is accounted for in scope 1 and scope 2. Treatment of waste generated in operations is categorized as an upstream scope 3 category because waste management services are purchased by the reporting company. NS procures services from a waste management vendor to manage and supervise the operational waste generated by corporate activities, which includes landfill and recycled waste types from business operations. NS utilizes the waste data from their waste vendor for Scope 3 upstream waste emissions calculations.

NS is not a seller or distributor of products that generate waste and at no point during transport does the Company take ownership or control of products. Therefore, waste generated as a result of hazmat incidents and environmental remediation are excluded, including emissions related to ongoing actions as a result of the East Palestine derailment.

GHG Emission Factors

GHG Emission Source	Emission Factor Source	Data Sources and Calculation Methodologies
Scope 1 Heating	US EPA Center for Corporate Climate Leadership Emission Factor Hub	Fuel consumption/Fuel-based method
Scope 1 Transport Fuel	US EPA Center for Corporate Climate Leadership Emission Factor Hub	Fuel consumption/ Fuel-based method
Scope 2 and Scope 3 Category 8 Grid Electricity	US Environmental Protection Agency eGRID 2022	Utility Management/Electricity Consumption
Scope 2 Market-Based Electricity	2023 Green-e Energy Residual Emission Rates (2021 Data)	Utility Management/ Electricity Consumption
Scope 3 Category 1: Purchased Goods and Services Scope 3 Category 2: Capital Goods	USA EPA Center for Corporate Climate Leadership Emission Factor Hub	Supplier-Specific Emissions Data/ Average Spend-Based Method
Scope 3 Category 3: Fuel-and-Energy-Related Activities	2023 DEFRA GHG Reporting Conversion Factors	Fuel consumption/ Average-data method
Scope 3 Category 4: Upstream Transportation and Distribution	US EPA Center for Corporate Climate Leadership Emission Factor Hub	Distance-based method
Scope 3 Category 5: Waste Generated in Operations	US EPA Center for Corporate Climate Leadership Emission Factor Hub	Logistics supplier/Waste-type-specific method

Scope 3 Category 6: Business Travel	US EPA Center for Corporate Climate Leadership Emission Factor Hub	Travel Agency/Distance-based method
Scope 3 Category 7: Employee Commuting	US EPA Center for Corporate Climate Leadership Emission Factor Hub	Human Resources/Average-data method
Scope 3 Category 8: Upstream Leased Assets	US EPA Center for Corporate Climate Leadership Emission Factor Hub	Real Estate Department/Average-data method

Emissions from the following categories are not relevant or significant to the Company's business:

Scope 3 Category	Explanation
9: Downstream transportation and distribution	NS does not manufacture products for downstream transportation and distribution of "sold products."
10: Processing of sold products	NS does not manufacture or process products for sale.
11: Use of sold products	NS does not manufacture products for use by others.
12: End of life treatment of sold products	NS does not manufacture products.
13: Downstream leased assets	While NS occasionally leases owned properties to third parties, this represents an insignificant source of emissions in comparison to the overall NS GHG emissions profile.
14: Franchises	NS does not have any franchises.
15: Investments	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 NS's investments in the reporting year, not already included in scope 1 or scope 2. This category applies to investors (i.e., companies that make an investment with the objective of making a profit) and companies providing financial services. NS does not provide financial services.

Global Warming Potentials

The GHG Inventory was calculated using the Global Warming Potentials (GWP) from the International Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) and the country appropriate emissions factors listed above. All GHG emissions are calculated in metric tons (MT) of greenhouse gas (CO₂, CH₄, N₂O) and converted to MT of CO₂ equivalents (or CO₂e) using the GWPs.

Scope 1, 2, and 3 GHG Inventory by Constituent Greenhouse Gas

The following table presents the Company's GHG Inventory by scope and constituent greenhouse gas for the year ended December 31, 2023.

GHG Type	Emissions (in metric tons CO ₂ e)
Scope 1	
CO ₂	4,063,161
CH ₄	8,539
N ₂ O	25,839
Total Scope 1	4,097,539***
Scope 2 (Location-Based)	
CO ₂	144,517
CH ₄	335
N ₂ O	455
Total Scope 2 (Location-Based)	145,307
Total Scope 2 (Market-Based)	137,982**
Scope 3	
CO ₂	105,976
CH ₄	72
N ₂ O	643
CO ₂ e	1,892,418*
Total Reported Scope 3	1,999,109

*57,957 metric tons CO₂e are emissions related to waste generated in operations. The total CO₂ and N₂O emissions breakdown for this category is not available because emissions for waste constitute only methane emissions and emission factors for waste are not broken down per GHG type. 957,785 metric tons CO₂e are emissions related to the well to tank (upstream) portion of scope 1 fuel use and a breakdown for this category is not available because emission factors are provided in kg of CO₂e per liter and therefore a breakdown per GHG type is unavailable. 876,675 metric tons CO₂e are related to purchased goods and services emissions and capital goods emissions. Constituent gas breakdowns for purchased goods and services and capital goods are not available due to spend-based emissions factors being used in kgCO₂e/USD.

**metric tons CO₂e are scope 2 market-based emissions calculated using the Green-e Residual Mix emission factors. Green-e emission factors are provided in pounds of CO₂e per MWh and therefore a breakdown per GHG type is unavailable.

*** The above Scope 1 emissions exclude 78,867 tons of direct CO₂ emissions from the use of biofuels.

Note 3: Energy Consumption

Energy Type	For the Year Ended December 31, 2023
Total non-renewable energy consumption (MWh)	16,118,122
Total renewable energy consumption (MWh)	320,606
Total energy consumption (MWh)	16,438,728
Renewable sources data coverage (%)	$(320,606/16,438,728)*100 = 2\%$

Total non-renewable energy consumption: This is the sum of non-renewable consumption of fuel (excluding feedstocks), consumption of non-renewable purchased or acquired electricity, and consumption of non-renewable purchased or acquired heat, steam and cooling.

Total renewable energy consumption: This is the sum of consumption of renewable fuel (excluding feedstocks), consumption of renewable purchased or acquired electricity, consumption of renewable purchased or acquired heat, steam and cooling and consumption of self-generated nonfuel renewable energy.

Renewable energy: This is energy taken from sources that are inexhaustible such as wind, solar, hydropower, geothermal, biomass and marine (tidal and wave energy), as defined in the GHG Protocol.

Renewable sources data coverage (% of denominator): This is the renewable sources consumed for the year represents as a percentage of total energy consumption (non-renewable + renewable) for the Company.

	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh	Renewable Sources Data Coverage (%)
Consumption of fuel (excluding feedstock)	296,601	15,787,783	16,084,384	$(296,601/16,084,384)*100 = 2\%$
Consumption of purchased or acquired electricity	24,005	330,339	354,344	$(24,005/354,344)*100 = 7\%$
Total energy consumption	320,606	16,118,122	16,438,728	$(320,606/16,438,728)*100 = 2\%$
Our goal is to increase our renewable energy* usage to 30% by 2030.				
<i>*Renewable energy specifically refers to purchased electricity at facilities.</i>				

Note 4: Emissions Intensity and 2034 SBTi-approved emissions reduction target

Scope of activities and emissions included in target	Reporting Year Emissions Intensity (EI) (Scopes 1 + Scope 2 Location-based)	Unit of Measurement	Target timeframe	Target progress
<p>Norfolk Southern committed to reduce scope 1 and 2 GHG emissions intensity 42% per million gross ton-miles (MGTM) by 2034 from a 2019 base year. The target boundary includes biogenic emissions and removals from bioenergy feedstocks.</p> <p>This target was validated by SBTi and is currently active.</p>	<p>12.62</p>	<p>(MT CO₂e) per MGTM</p>	<p>Base year: 2019</p> <p>Target year: 2034</p>	<p>Base year emissions (Total (Scopes 1 + Scope 2 Location-Based)): 4,985,521 MT CO₂e</p> <p>Base year denominator (MGTM): 372,718</p> <p>Base year emissions intensity (in metric tons CO₂e / MGTM): 13.38</p> <p>Total % reduction from base year emissions: -5.6%</p>