

Hitachi Rail Limited Carbon Reduction Plan

Supplier name: Hitachi Rail Limited

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Commitment to achieving Net Zero

Hitachi Rail is committed to achieving Net Zero emissions on our entire value chain by 2050. In September 2021, Hitachi Group set new targets to achieve carbon neutrality (Scope 1 & 2) by 2030.

In December 2020, Hitachi, Ltd. received validation of its emission reduction targets from the Science Based Targets initiative (SBTi) - the international organisation that helps companies setting emission reduction targets in line with the Paris Agreement goals of keeping mean global temperatures to well below 2°C and preferably limit the increase to 1.5°C above pre-industrial levels. Hitachi Corporate made a commitment to reduce its absolute Scope 1 and 2 GHG emissions by 100% by 2030 and absolute Scope 3 GHG emissions by 40% by 2030, considering a 2010 baseline.

Baseline Emissions Footprint

Baseline emissions are a record of the greenhouse gases that have been produced in the past and were produced prior to the introduction of any strategies to reduce emissions. Baseline emissions are the reference point against which emissions reduction can be measured.

Baseline Year: 2021	
Additional Details relating to the Baseline Emissions calculations.	
<p>Last year, Hitachi Rail bolstered our existing commitment, setting new targets to achieve Net Zero emissions throughout our entire value chain by 2050. And we are well on the way, achieving a 12% decrease in CO₂e emissions across Scope 1 and 2.</p> <p>This year, we've set specific targets to reduce all emissions by at least 5% in FY23 compared to FY22.</p> <p>Additional information can be found in the latest ESG Report published here.</p>	
Baseline year emissions: 2021	
EMISSIONS	TOTAL (tCO₂e)
Scope 1	18,587

Scope 2	21,241
Scope 3 (Included Sources)	3,886,025
Total Emissions	3,925,853

Current Emissions Reporting

Reporting Year: 2022	
EMISSIONS	TOTAL (tCO_{2e})
Scope 1	17,347
Scope 2	17,870
Scope 3 (Included Sources)	3,349,241
Total Emissions	3,384,458

Carbon Reduction Projects

Completed Carbon Reduction Initiatives

Hitachi Rail is developing low-carbon, sustainable solutions to decarbonise transport around the world. Where railways are only partially electrified, Hitachi Rail is designing and building new batteries and hybrid trains and trams to cut diesel emissions and reduce the costs and the disruption of electrification programmes.

Hitachi Rail mainly relies on electricity used for lighting, plant operation and building temperature control but also uses fossil fuels, such as natural gas and district heating, to heat workplaces. To reduce electricity consumption, the organisation carries out constant work on its real estate assets. It employs energy-saving lighting and efficient heating/cooling technologies as much as possible, such as:

- Installation of LED lighting systems
- Construction of envelopes and installation of thermal insulation for windows/doors
- Direct expansion of heating/cooling systems (heat pumps)
- Installation of presence detectors or clocks/timers to control activation and/or deactivation of powered systems

- Improvement of the energy efficiency of data centres
- Promoting energy saving practises by reminding personnel to turn off the lights, their laptops and any other device that might consume energy.

Its total energy consumption - natural gas, electricity, diesel, LPG and petrol, district heating - amounted to 583,962 GJ, in line with the previous year. The percentage of electricity derived from renewable sources, both purchased from certified sources from the grid and self-produced, reached 54% in FY22, an increase of 30 percentage points with respect to the previous period.

From a Management System perspective, Hitachi Rail's integrated OHSE Management System ensures that process and procedures are properly implemented and maintained. This year Hitachi Rail achieved a Global Multisite Certificate for ISO 14001 and ISO 45001, demonstrating its constant efforts to build a safety culture and promote health and safety activities.

With regards to Scope 1 & 2, the carbon emission reduction achieved by these schemes equates to 4,612 tCO₂e, a 12% reduction against the 2021 baseline and the measures will be in effect when performing the contract. With regards to Scope 3, the carbon emission reduction achieved by these schemes equates to 536,784 tCO₂e, a -14% reduction against the 2021 baseline and the measures will be in effect when performing the contract.

At the product level, BSI PAS 2080 Certification on Design of Product & Services HAH-S, a joint venture company including Hitachi Rail, obtained the BSI PAS2080 Carbon Management certification for the HS2 Project related to a High-Speed train operating in the UK market. BSI PAS 2080 is the world's first standard for infrastructure carbon management and is critical to helping companies reduce carbon use and costs. PAS 2080 certification was required by the contracting station even if the train is not part of the infrastructure. At present, the conceptual design review has been completed and the next phase of the train's preliminary design is being finalised. The certification was issued by an external body and all activities carried out by HAH-S were coordinated by the Hitachi Rail team. The HAH-S design team leader was involved during the verification and asked to demonstrate that the hot spots, in terms of the train's carbon emissions, had been discussed by the design team to find an alternative design solution to reduce them. For the next certification surveillance audit, Hitachi Rail expects the audit team to request a possible alternative design solution to reduce the carbon footprint of the HS2 train. It was confirmed by BSI that Hitachi Rail is the first rail manufacturer in the world to obtain this certification and covers all rolling stock products and services.

Moreover, Hitachi Rail has carried its first project on Social Life Cycle Assessment (S-LCA) in 2022. It represents the first assessment of positive and negative social impact of a train along its life cycle. The train assessed was the HTR 412 Blues and this project has been supported by Circular S.r.l. To follow up on this project directly after the development of the S-LCA, a furthermore innovative project has been

started with the aim to develop the first Social Product Category Rules (S-PCR) worldwide.

Additional information, as well as further information on Hitachi Rail's CSR & Sustainability efforts, can be found in the latest ESG Report published [here](#).

Declaration and Sign Off

This Carbon Reduction Plan has been completed in accordance with PPN 06/21 and associated guidance and reporting standard for Carbon Reduction Plans.

Emissions have been reported and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol corporate standard¹ and uses the appropriate Government emission conversion factors for greenhouse gas company reporting².

Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions have been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard³.

This Carbon Reduction Plan has been reviewed and signed off by the board of directors (or equivalent management body).

Signed on behalf of Hitachi Rail Limited:



Jim Brewin, Head of the UK & Ireland,
Hitachi Rail Limited

Date: 14th March 2024

¹<https://ghgprotocol.org/corporate-standard>

²<https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting>

³<https://ghgprotocol.org/standards/scope-3-standard>