

INDEPENDENT AUDITOR'S LIMITED ASSURANCE REPORT ON THE INFORMATION INCLUDED IN THE GREEN BOND REPORT

To the board of directors of Ferrovie dello Stato Italiane SpA

We have undertaken a limited assurance engagement in respect of the information about:

- (i) the allocation of the proceeds from the Green Bond related to the EMTN bond Series 10-17-18-19-20-21-22-23 issued by Ferrovie dello Stato Italiane SpA (hereinafter also the "Company"), presented in paragraph "Allocation of the Proceeds" (the "Allocation of the Proceeds"), and
- (ii) the related impact metrics presented in paragraph "Impact Reporting as of year end 2024-environmental performance" (the "Impact metrics")

(together the "Information") included in section "Allocation and Impact Reporting" of the accompanying "Green Bond Report 2024" (hereinafter also the "Report") of Ferrovie dello Stato Italiane SpA, prepared in accordance with the Green Bond Framework published by the Company in June 2022 (hereinafter also the "Framework"), as described in paragraph "Note on Calculation Methodology", included in section "Allocation and Impact report details" of the Report.

Responsibilities of the directors for the Information

The directors of Ferrovie dello Stato Italiane SpA are responsible for the preparation of the Information in accordance with the Framework. The directors are also responsible for such internal control as they determine is necessary to enable the preparation of Information that is free from material misstatement, whether due to fraud or error.

Auditor's Independence and Quality Management

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code) issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies International Standard on Quality Management 1 (ISQM Italia 1), which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

PricewaterhouseCoopers SpA

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Auditor's Responsibilities

Our responsibility is to express a limited assurance conclusion on the Information, based on the procedures we have performed, regarding the compliance of the Information with the Framework. We conducted our engagement in accordance with International Standard on Assurance Engagements - Assurance Engagements other than Audits or Reviews of Historical Financial Information ("ISAE 3000 revised") issued by the International Auditing and Assurance Standards Board for limited assurance engagements. That standard requires that we plan and perform procedures to obtain limited assurance about whether the Information is free from material misstatement.

Therefore, the procedures performed were less in extent than those performed in a reasonable assurance engagement conducted in accordance with ISAE 3000 revised and, consequently, do not provide us with a sufficient level of assurance that we have become aware of all significant facts and circumstances that might be identified in a reasonable assurance engagement.

The procedures we performed were based on our professional judgement and included inquiries, mainly of personnel of the Company responsible for the preparation of the Information, inspection of documents, recalculations, and other procedures designed to obtain evidence considered useful.

In detail, we performed the following main procedures:

- Review of the second party opinion;
- Inquiries of personnel responsible at Company and business level for the management and reporting on the Information;
- Understanding and assessing of the processes and procedures followed to generate, collect and manage the Information;
- Document reviews and analytical procedures, performed on a sample basis, regarding the indicators included in the Information.

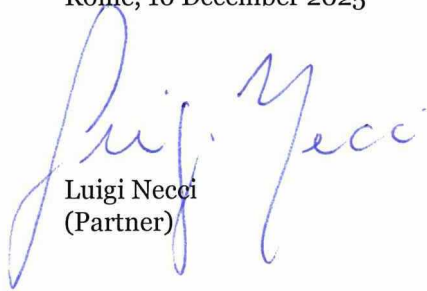
Limited Assurance Conclusion

Based on the procedures we have performed, nothing has come to our attention that causes us to believe that the information about the allocation of the proceeds and the related impact metrics respectively presented in paragraphs "Allocation of the Proceeds" and "Impact Reporting as of year end 2024- environmental performance" included in section "Allocation and Impact Reporting" of the "Green Bond Report 2024" of Ferrovie dello Stato Italiane SpA is not prepared, in all material respects, in accordance with the Green Bond Framework published by the Company in June 2022, as described in paragraph "Note on Calculation Methodology", included in section "Allocation and Impact report details" of the Report.

Other Matters

Our conclusion does not cover the information regarding the alignment with Regulation (EU) 2020/852.

Rome, 16 December 2025

A handwritten signature in blue ink, reading 'Luigi Necci'. The signature is fluid and cursive, with the first name 'Luigi' and the last name 'Necci' clearly distinguishable.

Luigi Necci
(Partner)



Gruppo FS

The Mobility Leader

GREEN BOND REPORT 2024

related to the EMTN bond Series 10-17-18-19-20-21-22-23

December 2025





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FS Group Overview and Sustainability



This reporting refers to all outstanding green bonds issued by FS Italiane.

Trenitalia, RFI and **Mercitalia Rail** receive and invest the proceeds of the Green Bonds issued by FS Italiane according to the FS 2022 Green Bond Framework.

- EMTN Public Issuances (underwritten by both traditional and green/ESG Institutional Investors)
 - EMTN private placement (i.e. EIB).



A business model which fully integrates sustainability

Our vision is clear: we aim to be the driving force behind a system built on resilient infrastructure, sustainable mobility, and integrated logistics.

Main 2024 ESG Results ¹	SDGs
EMISSIONS	
2,518,138 tCO ₂ e scope 1 and 2 emissions (location-based): -1.5% in relation to base year 2019	371213
SUSTAINABLE AND COMPETITIVE SUPPLY CHAINS	
452 economic operators/suppliers registered for the ESG questionnaire and 143 have obtained the ESG Rating	12
17 million m ³ water withdrawals: -16% in relation to base year 2019	61214
97% special waste recovered	111215
DEVELOPMENT OF PEOPLE, COMMUNITIES AND TERRITORY	
32.6% women in managerial roles ²	38
Over 12,600 m ² total area granted free of charge for social activities (Help Center and Reception Centers)	31116
HEALTH AND SAFETY	
93% of own workers covered by a health and safety management system	38

How the market perceives us:					
	Climate change/ Water security A-	Advanced	Average	ESG low risk	Rating 2 out of 5 (1 best, 5 worst)

¹Source: FS Group Integrated Report 2024

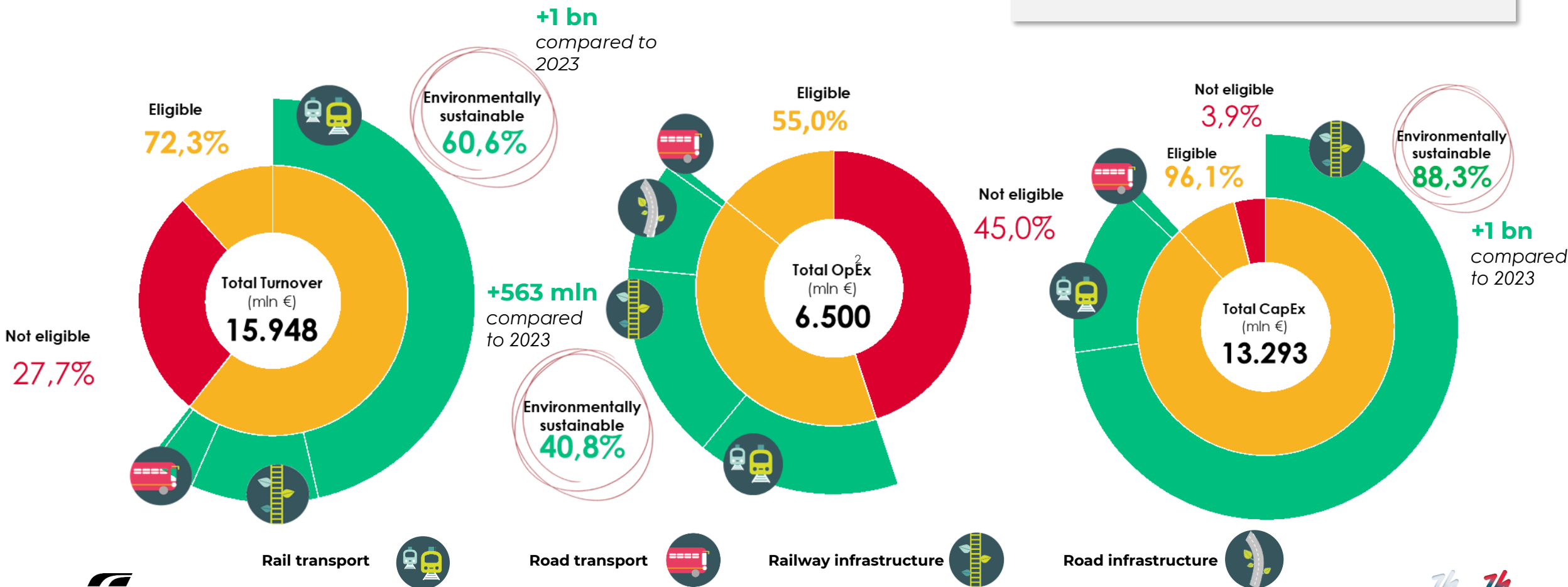
²The scope concerns the following companies: Ferrovie dello Stato Italiane S.p.A., RFI S.p.A., Trenitalia S.p.A., Ferservizi S.p.A., Italferr S.p.A., FS Sistemi Urbani S.p.A., Mercitalia Logistics S.p.A., Mercitalia Rail S.r.l., Mercitalia Intermodal S.p.A., Busitalia Veneto S.p.A., Busitalia Rail Service, Busitalia Campania S.p.A., Grandi Stazioni Rail S.p.A., Grandi Stazioni Immobiliare S.p.A., Terminali Italia S.r.l., Italcertifer S.p.A., FS Technology S.p.A. and Cremonesi Workshop.

Reporting on the European Taxonomy

Turnover, Capex and Opex

In accordance with **EU Regulation 852/2020 (EU Taxonomy)** below is summarized the performance of the Group with regard to the **shares of 2024 Turnover, Opex, and Capex¹ aligned to the two objectives of climate change mitigation and adaptation.**

- ✓ A total of **60.6%** of consolidated **turnover** is Taxonomy aligned
- ✓ A total of **40.8%** of consolidated **operating expenses** is Taxonomy aligned
- ✓ A total of **88.3%** of consolidated **capital expenditure** is Taxonomy aligned



¹Results refer to the share of turnover, operating expenses, and capital expenditures not related to intercompany activities.

²Total Opex as identified by the Delegated Regulations paragraphs 1.1.3.1. - 1.1.3.2



Green Bond Framework Summary



FS Green Bond Framework

First Green Bond Framework established in 2017. In 2022 FS has broadened the list of Eligible Green Projects.

Key figures of the GBF

- SPO provider confirmed EU Taxonomy alignment ([link](#))
- Compliance with ICMA Principles
- Eligible Green Projects covering the whole railway value chain

Potential KPIs:

- Energy efficiency
- Reducing CO₂ emissions
- Modal shift vs railway



All the EGP are aligned with the EU Taxonomy categories

Eligible Green Projects

Look-back period: 2 years (vs. 3 years of the previous update)

Look-forward period: 2 years

Trenitalia electric passenger trains and maintenance of the electric rolling stock

MIR electric locos and freight wagons and related maintenance

RFI electric HS infrastructure and maintenance of the railway lines



Green Bond Framework – SDGs Mapping

- The FS Green Bond Framework addresses 3 of 17 **UN Sustainable Development Goals**.
- The mapping has been inspired by the **ICMA high-level mapping to SDGs** and existing practices of issuers of Green Bonds in the transportation sector.



SDG 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all



SDG 11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport



SDG 12.2: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

SDG 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

External Reviews

Best practice



In 2022 Sustainalytics provided a **Second Party Opinion** on the updated Green Bond Framework, certifying its alignment to the EU Taxonomy.



PwC provided a **Third Party Opinion** on Green Bond Report.

*"Ferrovie demonstrates a commitment to sustainability through its sustainability strategy, which is underpinned by three pillars: (i) **energy and emissions**, (ii) **sustainable mobility**, and (iii) **safety**"*

*"Sustainalytics is of the opinion that Ferrovie has implemented **adequate measures** and is **well-positioned to manage and mitigate environmental and social risks** commonly associated with the eligible categories."*

*"Ferrovie dello Stato Italiane Green Bond Framework is aligned with the **overall sustainability strategy** of the Group and that the green use of proceed category will contribute to the advancement of the UN **Sustainable Development Goals 9, 11 and 12**"*

- Sustainalytics, 2022 Second Party Opinion -



Allocation and Impact Reporting

Green Bond Series 10-17-18-19-20-21-22-23



Reporting perimeter

Reporting activity for Series 24 is still ongoing and will be released one year after the issuance.

Series 10 Euro 700m

Green Senior Unsecured Notes 1.125% Due 2026

- Investments on both passenger and freight rollink stock among the Eligible Green Projects;
- 3.5x oversubscription with Eur 2.5 billion orders coming from 160 investors, of which around 50% from SRI investors;
- Final spread at m/s+128bps (equivalent to BTPs -16bps), fixing the final size at EUR 700m;
- First Italian bond CBI Certified.

Series 17 Euro 1,000m

Green Senior Unsecured Notes 0.375% Due 2028

- Investments in both local and high speed trains among the Eligible Green Projects;
- 1.8x oversubscription with Eur 1.8 billion orders coming from 90 investors, of which around 75% from SRI investors;
- Final spread at the tighter end of the guidance, at m/s+60bps, fixing the final size at EUR 1 bn;
- CBI Certified.

Series 18 Euro 350m

Green Senior Unsecured Floating Rate Notes Due 2028

- Investments in high speed trains among the Eligible Green Projects;
- First Green Bond underwritten by EIB;
- CBI Certified.

Series 19 Euro 200m

Green Senior Unsecured Floating Rate Notes Due 2039

- Investments in high speed trains among the Eligible Green Projects;
- Green Bond underwritten by EIB.

Reporting perimeter

Reporting activity for Series 24 is still ongoing and will be released one year after the issuance.

Series 20 Euro 1,100m

**Green Senior Unsecured Notes
3.75% Due 2027**

- Investments in new Trenitalia trains and relevant maintenance expenses and for the completion of the Turin-Milan-Naples high-speed network among the Eligible Green Projects;
- 1.9x oversubscription with Eur 2.1 billion orders coming from 150 investors, of which around 65% from ESG investors;
- Final spread at the tighter end of the guidance, at m/s+158.5bps, fixing the final size at EUR 1.1 bn.

Series 21-22 Euro 600m & Euro 500m

**Green Senior Unsecured Dual
Tranche issuances 4.125% Due 2029
& 4.50% Due 2033**

- First FS Dual tranche issuance;
- On the back of positive investors' interests (combined orders over EUR 2 bn, evenly split) reoffer spreads were directly set at MS+ 125 bps for the 6Y tranche and at MS+ 165 bps for the 10 Y tranche;
- Investments in new Trenitalia trains and relevant maintenance expenses and for the completion of the Turin-Milan-Naples high-speed network among the Eligible Green Projects.

Series 23 Euro 500m

**Green Senior Unsecured Floating Rate
Notes Due 2040**

- Investments in regional trains among the Eligible Green Projects;
- Green Bond underwritten by EIB.

Allocation of the Proceeds



100% of the proceeds allocated at the issue date, via intercompany loan from FS, the issuer, to Trenitalia, RFI and Mercitalia Rail.

As of 1/11/2025 part of the ETR 1000 owned by Trenitalia (and the related intercompany financing) was transferred to FS International as part of the international transport business reorganization. Please note that this transfer and reorganization does not have any impact on 2024 Reporting.

Issuance	Ultimate Beneficiary Company	Eligible Green Project	Funded Asset's Value (€/mln)	Unit of Asset Funded
10	Trenitalia	HIGH SPEED – FRECCIAROSSA 1000 TRAIN	117.60	3
		REGIONAL - POP AND ROCK TRAIN	464.50	53
	Mercitalia Rail	ELECTRIC LOCOMOTIVE E494	108.66	40
		WAGON SHIMMNS	14.30	140
17	Trenitalia	REGIONAL - POP AND ROCK TRAIN	834.46	108
		HIGH SPEED – FRECCIAROSSA 1000 TRAIN	166.79	5
18	Trenitalia	HIGH SPEED – FRECCIAROSSA 1000 TRAIN	351.57	10
19	Trenitalia	HIGH SPEED – FRECCIAROSSA 1000 TRAIN	201.8	6
20	Trenitalia	HIGH SPEED – FRECCIAROSSA 1000 TRAIN	173.4	5
		REGIONAL - POP AND ROCK TRAIN	158	17
		MAINTENANCE EXPENDITURES	568	421 ⁽¹⁾
	RFI	INVESTMENTS IN THE HIGH-SPEED PROJECT TO-MI-NA	199.7	7.8 km equivalent length railway link HS Firenze ⁽²⁾
21	Trenitalia	REGIONAL - POP AND ROCK TRAIN	93	11
		MAINTENANCE EXPENDITURES/REVAMPING	507.6	263 ⁽¹⁾
22	Trenitalia	REGIONAL - POP AND ROCK TRAIN	260.1	31
	RFI	INVESTMENTS IN THE HIGH-SPEED PROJECT TO-MI-NA	201.41	7.8 km equivalent length railway link HS Firenze ⁽²⁾
		OTHER HS/HC INVESTMENTS	43.72	NA ⁽³⁾
23	Trenitalia	REGIONAL - POP AND ROCK TRAIN	518	42

⁽¹⁾ Total equivalent trains maintained for the issuance 20 and 21. The criteria for estimating the number of equivalent trains per year is shown on slide 58

⁽²⁾ Series 20 and 22 financed investments in the Firenze High-Speed Hub project, the total extension of which is 7.8 km, therefore unit of asset funded is the same for both series

⁽³⁾ The different types of investments do not allow a common unit of assets funded.

Impact reporting as of year end 2024 - environmental performance

«train vs. train» approach (1/2)

Issuance	Ultimate Beneficiary Company	Eligible Green Project	Unit of vehicle funded (equivalent)	Energy Saving MWh	Baseline GHG emissions tCO2	Total GHG emissions tCO2	Total GHG emissions avoided tCO2	Total GHG emissions avoided %
10	Trenitalia	HS – FRECCIAROSSA 1000 TRAIN ⁽²⁾	3 ⁽⁴⁾	6,729	10,398	8,268	2,129	20.5%
		REGIONAL - POP AND ROCK TRAIN ⁽¹⁾	53 ⁽⁴⁾	22,081	33,971	26,985	6,987	20.6%
	Mercitalia	ELECTRIC LOCOMOTIVE E494 ⁽³⁾	40 ⁽⁵⁾	2,759	29,973	29,100	873	2.9%
		WAGON SHIMMNS ⁽³⁾	140 ⁽⁵⁾	34	274	264	10	3.6%
17	Trenitalia	REGIONAL - POP AND ROCK TRAIN ⁽¹⁾	108 ⁽⁶⁾	34,093	49,497	40,033	9,464	19.1%
		HS – FRECCIAROSSA 1000 TRAIN ⁽⁸⁾	5 ⁽⁶⁾	14,170	-	-	-	-
18	Trenitalia	HS – FRECCIAROSSA 1000 TRAIN ⁽⁹⁾	10 ⁽⁷⁾	26,567	8,538	6,789	1,748	20.5%
19	Trenitalia	HS – FRECCIAROSSA 1000 TRAIN ⁽⁹⁾	6 ⁽⁷⁾	15,231	8,538	6,789	1,748	20.5%

⁽¹⁾ Data related to the POP and ROCK are estimates based on the values stated by the suppliers in the tender procurement process according to the European technical specification TS 50591 “Specification and verification of energy consumption for railway rolling stock”. The baseline for the calculation of energy saving and avoided GHG emissions is the market average for comparable trains in operation stated by the suppliers in the tender procurement process.

⁽²⁾ Data related to the ETR1000 are actual as the fleet is full in operation. The baseline for the calculation of energy saving and avoided GHG emissions is the previous generation High-Speed train “ETR 500” with 9 coaches in the fleet of Trenitalia.

⁽³⁾ Data related to the freight fleet are actual. The baseline for the calculation of energy saving and avoided GHG emissions are the last locomotive and wagon purchased, before these one, by Mercitalia Rail.

⁽⁴⁾ Data refer to 6 years time period (2019-2024).

⁽⁵⁾ Data refer to 5 years time period (2020-2024).

⁽⁶⁾ Data refer to 4 years time period (2021-2024).

⁽⁷⁾ Data refer to 3 years time period (2022-2024).

⁽⁸⁾ Data are related only to energy saving due to the fact that the trains are in service in Spain where traction energy comes 100% from renewable sources, therefore without CO2 emissions.

⁽⁹⁾ Data related to the ETR1000 (in service in Italy) are actual as the fleet is full in operation. The baseline for the calculation of energy saving and avoided GHG emissions is the previous generation High-Speed train “ETR 500” with 9 coaches in the fleet of Trenitalia. Trains operating in Spanish high speed service only contribute to energy saving due to the fact that the trains will be in service in Spain where traction energy comes 100% from renewable sources, therefore without CO2 emissions.



The Eligible Green Projects are considered **environmentally sustainable** in accordance with **EU Regulation 2020/852**, making a significant contribution to the objective of **climate change mitigation** as it complies with the criteria established for economic activity “6.1 Passenger interurban rail transport” and activity “6.2 Freight rail transport”. For further details refer to the “Other ESG indicators – EU Taxonomy assessment” section.

Impact reporting as of year end 2024 - environmental performance

«train vs. train» approach (2/2)

Issuance	Ultimate Beneficiary Company	Eligible Green Project	Unit of vehicle funded (equivalent)	Energy Saving MWh	Baseline GHG emissions tCO2	Total GHG emissions tCO2	Total GHG emissions avoided tCO2	Total GHG emissions avoided %
20	Trenitalia	HS – FRECCIAROSSA 1000 TRAIN ⁽⁴⁾	5 ⁽²⁾	14,170	-	-	-	-
		REGIONAL - POP AND ROCK TRAIN ⁽¹⁾	17 ⁽²⁾	8,921	10,720	8,403	2,317	21.6%
21	Trenitalia	REGIONAL - POP AND ROCK TRAIN ⁽¹⁾	11 ⁽³⁾	3,660	5,052	4,072	980	19.4%
22	Trenitalia	REGIONAL - POP AND ROCK TRAIN ⁽¹⁾	31 ⁽³⁾	9,824	13,751	11,119	2,632	19.1%
23	Trenitalia	REGIONAL - POP AND ROCK TRAIN ⁽¹⁾	42 ⁽⁵⁾	22,014	31,295	24,531	6,764	21.6%

⁽¹⁾ Data related to the POP and ROCK are estimates based on the values stated by the suppliers in the tender procurement process according to the European technical specification TS 50591 “Specification and verification of energy consumption for railway rolling stock”. The baseline for the calculation of energy saving and avoided GHG emissions is the market average for comparable trains in operation stated by the suppliers in the tender procurement process.

⁽²⁾ Data refer to 3 years time period (2022-2024)

⁽³⁾ Data refer to 2 years time period (2023-2024)

⁽⁴⁾ Data are related only to energy saving due to the fact that the trains will be in service in Spain where traction energy comes 100% from renewable sources, therefore without CO2 emissions.

⁽⁵⁾ Data refer to 1 year time period (2024)



The Eligible Green Projects are considered **environmentally sustainable** in accordance with **EU Regulation 2020/852**, making a significant contribution to the objective of **climate change mitigation** as it complies with the criteria established for economic activity “6.1 Passenger interurban rail transport”. For further details refer to the “Other ESG indicators – EU Taxonomy assessment” section.

Impact reporting as of year end 2024 - environmental performance

«train vs. car» approach

Issuance	Ultimate Beneficiary Company	Eligible Green Project	Unit of vehicle funded (equivalent)	Energy Saving MWh	Baseline GHG emissions tCO2	Total GHG emissions tCO2	Total GHG emissions avoided tCO2	Total GHG emissions avoided %
20	Trenitalia	MAINTENANCE EXPENDITURES ⁽²⁾	421 ⁽¹⁾	-	1,014,239	219,895	794,344	78.3%
21	Trenitalia	MAINTENANCE EXPENDITURES ⁽³⁾	263 ⁽¹⁾	-	633,598	141,673	491,925	77.6%

⁽¹⁾ Total equivalent trains maintained. The criteria for estimating the number of equivalent trains per year is shown on slide 58.

⁽²⁾ Data refer to 3 years time period (2022-2024).

⁽³⁾ Data refer to 2 years time period (2023-2024).



The Eligible Green Projects are considered **environmentally sustainable** in accordance with **EU Regulation 2020/852**, making a significant contribution to the objective of **climate change mitigation** as it complies with the criteria established for economic activity “6.1 Passenger interurban rail transport”. For further details refer to the “Other ESG indicators – EU Taxonomy assessment” section.

Impact reporting as of year end 2024 - environmental performance

«emission avoided» approach

Issuance	Ultimate Beneficiary Company	Eligible Green Project	Funded Asset's Value (€/mn)	Avoided emissions from road transport (tCO _{2eq})	Emissions from train transport (tCO _{2eq})	Total GHG emissions avoided (tCO _{2eq})	GHG emissions avoided by Funded Asset's (tCO _{2eq})
20	RFI	INVESTMENTS IN THE HIGH-SPEED PROJECT TO-MI-NA	199.7	686,877	329,344	357,533	24,878 ⁽¹⁾
22	RFI	INVESTMENTS IN THE HIGH-SPEED PROJECT TO-MI-NA	201.41	686,877	329,344	357,533	12,730 ⁽¹⁾
22	RFI	OTHER HS/HC INVESTMENTS	43.72	NA	NA	NA	21,891 ⁽²⁾

⁽¹⁾ Punctual approach: refer to slide 60 for an explanation of the approach.

⁽²⁾ Parametric approach: refer to slide 61 for an explanation of the approach.



The Eligible Green Projects are considered **environmentally sustainable** in accordance with **EU Regulation 2020/852**, making a significant contribution to the objective of **climate change mitigation** as it complies with the criteria established for economic activity “6.14 Infrastructure for rail transport”. For further details refer to the “Other ESG indicators – EU Taxonomy assessment” section.

Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Substantial contribution to	Taxonomy activity	EU Technical Screening Criteria	Alignment with Technical Screening Criteria
REGIONAL - POP AND ROCK TRAIN HIGH SPEED – FRECCIAROSSA 1000 TRAIN MAINTENANCE EXPENSES/ REVAMPING	Climate change mitigation	Passenger interurban rail transport	The activity complies with one of the following criteria: (a) the trains and passenger coaches have zero direct (tailpipe) CO ₂ emissions; (b) the trains and passenger coaches have zero direct (tailpipe) CO ₂ emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode).	Eligible green projects fulfill criteria a). Regional trains “Pop & Rock” and High speed trains “ETR 1000” are electric and they have zero direct (tailpipe) CO ₂ emissions. As for cyclic maintenance and revamping, only electric trains/locos and coaches in electric loco composition were considered ⁽¹⁾ .

⁽¹⁾ Diesel-powered loco/trains were excluded, and coaches were curtailed by a correction factor to account for potential use in diesel composition. The criteria for estimating equivalent trains is given in the slide 58.

Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Substantial contribution to	Taxonomy activity	EU Technical Screening Criteria	Alignment with Technical Screening Criteria
HIGH SPEED PROJECT TO-MI-NA	Climate change mitigation	Infrastructure for rail transport	<p>The activity complies with one of the following criteria:</p> <p>a) the infrastructure is either: i. electrified trackside infrastructure and associated subsystems; ii. new and existing trackside infrastructure and associated subsystems where there is a plan for electrification, or where the infrastructure will be fit for use by zero tailpipe CO₂ emission trains within 10 years from the beginning of the activity; iii. until 2030, existing trackside infrastructure and associated subsystems that are not part of the TEN-T network and its indicative extensions to third countries, nor any defined network of major rail lines;</p> <p>b) the infrastructure and installations are dedicated to transshipping freight between the modes</p> <p>c) infrastructure and installations are dedicated to the transfer of passengers from rail to rail or from other modes to rail</p> <p>d) digital tools enable an increase in efficiency, capacity or energy saving.</p> <p>2. The infrastructure is not dedicated to the transport or storage of fossil fuels.</p>	The eligible green project is related to electrified trackside infrastructure and associated subsystems, thus fulfilling criteria (a) i.

Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Substantial contribution to	Taxonomy activity	EU Technical Screening Criteria	Alignment with Technical Screening Criteria
ELECTRIC LOCOMOTIVE E494 WAGON SHIMMNS	Climate change mitigation	Freight rail transport	<p>The activity complies with one of the following criteria:</p> <p>(a) the trains and wagons have zero direct tailpipe CO2 emission;</p> <p>(b) the trains and wagons have zero direct tailpipe CO2 emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode).</p> <p>2. The trains and wagons are not dedicated to the transport of fossil fuels.</p>	<p>Eligible green projects fulfill criteria a). Locomotive and wagon are electric, and they have zero direct (tailpipe) CO2 emissions.</p>

Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Taxonomy activity	Environmental objectives	DNSH Criteria	Alignment with DNSH Criteria
REGIONAL - POP AND ROCK TRAIN HIGH SPEED – FRECCIAROSSA 1000 TRAIN MAINTENANCE EXPENSES/ REVAMPING	Passenger interurban rail transport			<p>Ferrovie dello Stato has a risk management approach that covers climate change adaptation. Consistently with the best practices (e.g. EU Climate ADAPT – The Adaptation Support Tool), FS Group indeed considers adaptation as a way to minimize climate change risk. Ferrovie dello Stato is a TCFD (Task Force on Climate-Related Financial Disclosures) supporter since May 2021, and its climate change risk management process aims to identify and evaluate climate hazards and the related adaptation measures according to best practices. In 2023, to identify the share of turnover, operating expenses, and capital expenditures aligned with the objectives of the EU Taxonomy Regulation, the Group provided companies with a tool for climate analysis and vulnerability assessment of main assets to identify the related adaptation measures in the so-called Adaptation Catalogue. The tool allows to i) identify the prevailing asset types (i.e., rolling stock, vehicles, buildings, ships, etc.); ii) identify the climate hazards that can potentially affect the assets (in line with Appendix A of the Technical Annex of Delegated Regulation EU 2021/2139); iii) evaluate the degree of vulnerability of the prevailing asset to the climate hazard; iv) identify physical and non-physical solutions (adaptation solutions) that help reduce the effects of the hazards that weight on the specific economic activity.</p>
HIGH SPEED PROJECT TO-MI-NA	Infrastructure for rail transport	Climate change adaptation	Climate risk and vulnerability assessment	
ELECTRIC LOCOMOTIVE E494 WAGON SHIMMNS	Freight rail transport			

Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Taxonomy activity	Environmental objectives	DNSH Criteria	Alignment with DNSH Criteria
HIGH SPEED PROJECT TO-MI-NA	Infrastructure for rail transport	Sustainable use of water resources	Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies. Where an Environmental Impact Assessment is carried out in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed.	During the development of projects for infrastructure, particularly those subject to Environmental Impact Assessment (EIA), in-depth studies are conducted to assess the possible interactions of the work with the surrounding environment, with particular attention to the protection of surface and groundwater during construction and operation. Detailed analyses of the hydraulic and hydrogeological characteristics of the area involved are carried out to assess potential interferences during construction and operation, defining mitigation or improvement solutions. During the construction phase, contractors implement an Environmental Management System in accordance with UN EN ISO 14001 to manage Significant Environmental Aspects during construction and establish operational procedures for environmental surveillance in accordance with regulatory obligations. RFI's management of water withdrawals follows environmental, national, community and regional regulations, ensuring compliance with legislative requirements. In many cases, especially for public users, drinking water comes from the public aqueduct. RFI is committed to monitoring the water network it owns to maintain parameter values at the point of delivery. Periodically, potability analyses are carried out to monitor water quality, and if regulatory limits are exceeded, sanitization activities are implemented on the entire network through appropriate treatments.

Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Taxonomy activity	Environmental objectives	DNSH Criteria	Alignment with DNSH Criteria
<p>REGIONAL - POP AND ROCK TRAIN</p> <p>HIGH SPEED – FRECCIAROSSA 1000 TRAIN</p> <p>MAINTENANCE EXPENSES/ REVAMPING</p>	<p>Passenger interurban rail transport</p>	<p>Transition to a circular economy</p>	<p>Measures are in place to manage waste in accordance with the waste hierarchy, in particular during maintenance</p>	<p>The Group's main subsidiaries are ISO 14001:2015 Environment Management System (EMS) certified. The guidelines of EMS are applied to all operations including, procurement of goods and services, waste management, water management, preparation of train and crew, and shunting and maintenance of trains, wagons and locomotives.</p> <p>The Group's waste management policy is included in the EMS and the generated waste is managed in accordance with the waste management hierarchy while ensuring compliance with national and European regulations.</p> <p>The trains financed through green bonds have respectively the following high recyclability and recoverability rate: ETR 1000 over 94%; Pop over 96%, Rock over 97%.</p> <p>The ETR1000 and the Rock passenger trains obtained the Environmental Product Declaration (EPD) which shows that the Frecciarossa 1000 emits only 28 grams of CO₂ per passenger per kilometer and the Rock emits 5.7 grams of CO₂ per passenger per kilometer.</p>

Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Taxonomy activity	Environmental objectives	DNSH Criteria	Alignment with DNSH Criteria
<p>ELECTRIC LOCOMOTIVE E494</p> <p>WAGON SHIMMNS</p>	<p>Freight rail transport</p>	<p>Transition to a circular economy</p>	<p>Measures are in place to manage waste in accordance with the waste hierarchy, in particular during maintenance</p>	<p>The Group's main subsidiaries are ISO 14001:2015 Environment Management System (EMS) certified. The guidelines of EMS are applied to all operations including, procurement of goods and services, waste management, water management, preparation of train and crew, and shunting and maintenance of trains, wagons and locomotives.</p> <p>The Group's waste management policy is included in the EMS and the generated waste is managed in accordance with the waste management hierarchy while ensuring compliance with national and European regulations.</p>

Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Taxonomy activity	Environmental objectives	DNSH Criteria	Alignment with DNSH Criteria
HIGH SPEED PROJECT TO-MI-NA	Infrastructure for rail transport	Transition to a circular economy	<p>Operators limit waste generation in processes related to construction and demolition and take into account best available techniques. At least 70 % (by weight) of the non-hazardous construction and demolition waste generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol. Operators use selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling.</p> <p>For manufacturing of constituents assess and adopts techniques that support:</p> <ul style="list-style-type: none"> (a) reuse and use of secondary raw materials; (b) design for high durability, recyclability, easy disassembly and adaptability; (c) waste management that prioritises recycling over disposal; (d) traceability of substances of concern. 	<p>As part of the construction of new rail infrastructure, the main waste materials are excavated soil and rocks. RFI adopts environmental principles aimed at encouraging reuse of these materials rather than disposal. Whenever possible, waste materials are reused in ongoing projects or at off-site sites, while those that cannot be reused are managed as waste and disposed of in licensed facilities. RFI's procedures have been modified to meet EU principles and promote high standards in the European construction context. The Civil Works Design Manual defines procedures to maximize the reuse of excavated soil and rock, reducing waste generation and promoting the circular economy. By-products that are not reused in railroad works can be used for environmental rehabilitation in agreement with local authorities. Only if the materials do not meet environmental requirements are they managed as waste, with a focus on recovery rather than disposal. The Procurement Agreements include specific clauses to promote circular economy principles. For waste management, the Contractor must define operating methods consistent with regulatory requirements and submit periodic reports. In rail infrastructure maintenance activities, the main wastes are copper, steel, sleepers, and crushed stone. Removed materials are evaluated for reuse, and unsuitable materials are managed as waste, with preference given to recovery. Between 2019 and 2021, more than 90 percent of the special waste produced by RFI was sent for recovery, as reported in the Sustainability Report. RFI has implemented a UNI ISO 14001-compliant Environmental Management System to manage environmental aspects and continuously improve environmental performance.</p>

Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Taxonomy activity	Environmental objectives	DNSH Criteria	Alignment with DNSH Criteria
REGIONAL - POP AND ROCK TRAIN HIGH SPEED – FRECCIAROSSA 1000 TRAIN MAINTENANCE EXPENSES/ REVAMPING	Passenger interurban rail transport	Pollution prevention and control	Locomotive propulsion engines (RLL) and railcar propulsion engines (RLR) meet the emission limits in Annex II of Regulation (EU) 2016/1628 of the European Parliament and of the Council.	Regional trains “Pop & Rock” and High speed trains “ETR 1000” are electric and they have zero direct (tailpipe) CO2 emissions. As for cyclic maintenance and revamping, only electric trains/locos and coaches in electric loco composition were considered ⁽¹⁾ .

⁽¹⁾ Diesel-powered loco/trains were excluded, and coaches were curtailed by a correction factor to account for potential use in diesel composition. The criteria for estimating equivalent trains is given in the slide 58.

Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Taxonomy activity	Environmental objectives	DNSH Criteria	Alignment with DNSH Criteria
ELECTRIC LOCOMOTIVE E494 WAGON SHIMMNS	Freight rail transport	Pollution prevention and control	Engines for the propulsion of railway locomotives (RLL) and engines for the propulsion of railcars (RLR) comply with emission limits set out in Annex II to Regulation (EU) 2016/1628.	Locomotive and wagon are electric, and they have zero direct (tailpipe) CO2 emissions.

Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Taxonomy activity	Environmental objectives	DNSH Criteria	Alignment with DNSH Criteria
HIGH SPEED PROJECT TO-MI-NA	Infrastructure for rail transport	Pollution prevention and control	<p>Where appropriate, given the sensitivity of the area affected, in particular in terms of the size of population affected, noise and vibrations from use of infrastructure are mitigated by introducing open trenches, wall barriers, or other measures and they comply with Directive 2002/49/EC of the European Parliament and of the Council. Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.</p>	<p>RFI is aware of major air pollution factors resulting from its activities, including air emissions, noise, and vibration. These impacts occur during the construction of new works, at maintenance sites, and in railroad operating areas. At the design stage of new infrastructure, RFI conducts targeted studies to prevent and reduce pollution by adopting mitigation solutions. To manage noise and vibration, the Construction Site Environmental Project (PAC) and the Environmental Monitoring Project (PMA) are prepared, which identify solutions and verify the effectiveness of the measures taken. With regard to railway operations, RFI conducts noise simulations at the request of relevant agencies to identify and mitigate impacts on sensitive receptors. RFI promotes sustainability through a Design Manual, which guides the design of new works and maintenance interventions, considering environmental aspects and specific authorizations. Contractually, contractors are required to adopt an Environmental Management System in accordance with UN EN ISO 14001, defining operating methods to manage materials, hazardous substances and waste to prevent pollution of environmental matrices. All necessary environmental permits are acquired, and operational and mitigation actions, such as wetting of tracks and installation of dust and noise barriers, are implemented to manage noise and air emissions.</p>

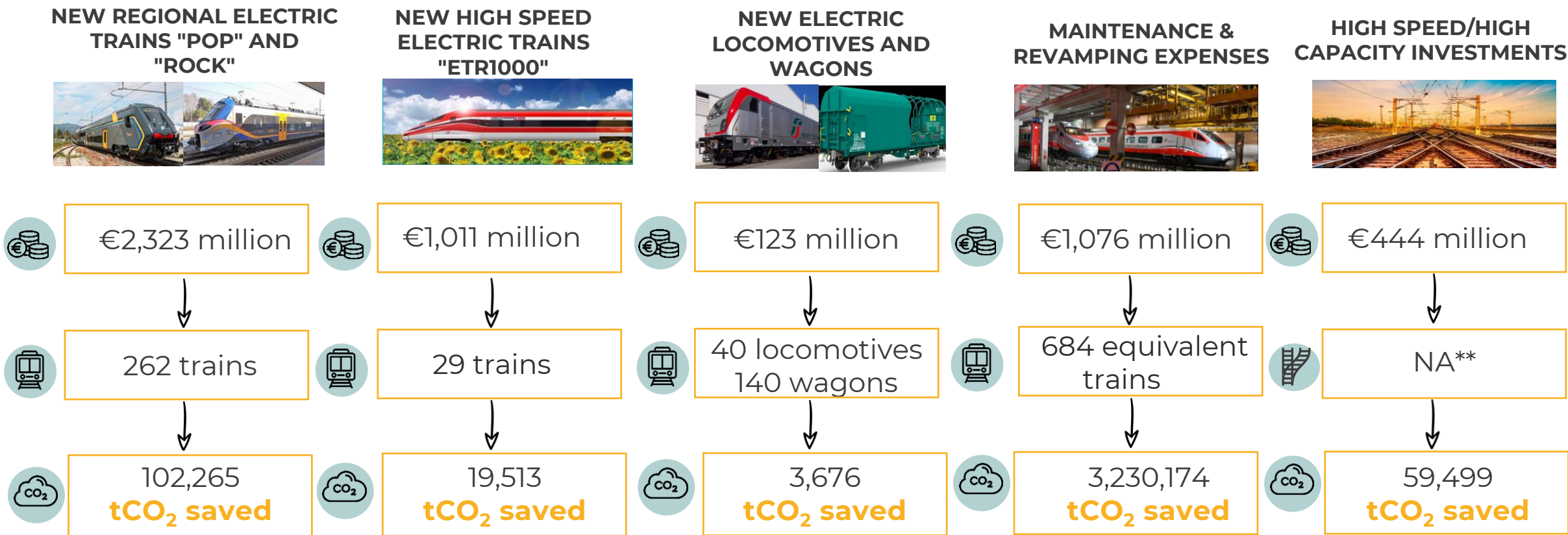
Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Taxonomy activity	Environmental objectives	DNSH Criteria	Alignment with DNSH Criteria
HIGH SPEED PROJECT TO-MI-NA	Infrastructure for rail transport	Protection and restoration of biodiversity and ecosystems	<p>An Environmental Impact Assessment (EIA) or screening has been completed in accordance with Directive 2011/92/EU.</p> <p>Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented.</p> <p>For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented.</p>	<p>With reference to the protection and restoration of biodiversity and ecosystems, RFI has a special procedure "Management of interventions in protected natural areas and/or subject to landscape constraints" that applies to cases in which an organizational structure of the company operates as Principal, as Technical Subject or as executor in investment or maintenance projects that may result in interference, even indirectly, with protected areas and/or on areas or assets subject to constraints. In the event that the implementation of the interventions affects territories or assets subject to protection regimes related to the presence of protected areas and/or landscape constraints, the company preliminarily assesses the feasibility of the interventions or the conditions to which they are subjected in order to acquire the appropriate authorizations required by the regulations in force. Where an Environmental Impact Assessment has been carried out, the necessary mitigation and compensation measures for environmental protection are implemented. For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and major biodiversity areas, and other protected areas), an appropriate assessment is conducted, where applicable, and, based on its conclusions, the necessary mitigation measures are implemented.</p>

Other ESG indicators – EU Taxonomy assessment

Eligible Green Project	Minimum safeguards
ALL	<p>FS Italiane promotes the protection of human rights for its employees, customers, citizens, suppliers and business partners, helping create a responsible supply chain and operating in accordance with the United Nations’ Universal Declaration of Human Rights and the fundamental conventions of the International Labour Organization.</p> <p>The principles on which the Group operates include respect for human rights and the commitment to contribute to the creation of a responsible supply chain, also established in the Code of Ethics (which guides the Group in its relationships with stakeholders). Furthermore, the Group promotes open and inclusive employment relationships and rejects any type of discrimination or harm against people, prevents any form of illegal labour and endorses policies aimed at the psychological and physical well-being of personnel.</p> <p>Since 2017, the Group has joined the UN’s Global Compact (“GC”) network.</p>

8 Green Bonds for a total Eur 4.95 bn issued as year end 2024



..... in the period 2019-2023 thanks to the Series 10, 17,18, 19, 20, 21 and 22

Furthermore, the **Bond issuance Series 7***** allocated **€549.64 million** and **€49.78 million** to fund respectively **17** High Speed Electric Trains "ETR1000" and **7** Regional Electric Trains "POP" and "ROCK". Total **13,491 tCO₂ saved*** in 2018 thanks to the Series 7.

* Compared to previous train models (Pop, Rock and Etr 1000)
 ** The different types of investments do not allow a common unit of assets funded.
 *** Expired in 2023.



Allocation & impact report details

Green Bond Series 10-17-18-19-20-21-22-23



Series 10: allocation of the Proceeds

100% proceeds allocated at the issue date, via intercompany loan from FS, the issuer, to Trenitalia and Mercitalia Rail

PROCEEDS ALLOCATION

ELIGIBLE GREEN PROJECT	Trains' value (€/mln)	Unit of vehicle funded (equivalent)
1. Investments in public passenger transport rolling stock renewal		
New Electric Multiple Unit (EMU) Trains For Regional Passenger Transport: "Pop" and "Rock"	464.5	53
New High Speed Trains "Frecciarossa1000"	117.60	3
2. Investments in freight transport rolling stock renewal		
New Electric Locomotives For Freight Transport	108.66	40
New Wagons For Freight Transport	14.3	140
TOTAL	705.06	236
	100% financing allocated	

Series 10 impact reporting as of year end 2024 - environmental performance



Passenger transport «train vs. train» approach (2019-2024)

Project Category	Eligible Green Project	Year	Unit of Vehicle funded	Energy Saving MWh	Baseline GHG emissions tCO2	Total GHG emissions tCO2	Total GHG emissions avoided tCO2	Total GHG emissions avoided %
Investments in public passenger transport rolling stock renewal	REGIONAL - POP AND ROCK TRAIN ⁽¹⁾	2019	53	24,944	38,729	30,837	7,892	20.4%
		2020		18,257	26,979	21,203	5,776	21.4%
		2021		24,114	36,722	29,092	7,630	20.8%
		2022		24,222	37,058	29,394	7,664	20.7%
		2023		23,532	36,075	28,630	7,445	20.6%
		2024		22,081	33,971	26,985	6,987	20.6%
		Total		137,150	209,534	166,141	43,394	20.7%
	HIGH SPEED – FRECCIA ROSSA 1000 TRAIN ⁽²⁾	2019	3	6,035	9,324	7,415	1,909	20.5%
		2020		2,771	4,281	3,404	877	20.5%
		2021		3,184	4,919	3,912	1,007	20.5%
		2022		5,722	8,841	7,031	1,810	20.5%
		2023		6,352	9,815	7,805	2,010	20.5%
		2024		6,729	10,398	8,268	2,129	20.5%
		Total		30,793	47,578	37,835	9,742	20.5%

➤ Data refer to 6 years time period (2019-2024)

⁽¹⁾ Data related to the POP and ROCK are estimates based on the values stated by the suppliers in the tender procurement process according to the European technical specification TS 50591 “Specification and verification of energy consumption for railway rolling stock”. The baseline for the calculation of energy saving and avoided GHG emissions is the market average for comparable trains in operation stated by the suppliers in the tender procurement process.

⁽²⁾ Data related to the ETR1000 are actual as the fleet is full in operation. The baseline for the calculation of energy saving and avoided GHG emissions is the previous generation High-Speed train “ETR 500” with 9 coaches in the fleet of Trenitalia.

Series 10 impact reporting as of year end 2024 - environmental performance

Freight transport «train vs. train» approach (2020-2023)



Project Category	Eligible Green Project	Year	Unit of Vehicle funded	Energy Saving MWh	Baseline GHG emissions tCO2	Total GHG emissions tCO2	Total GHG emissions avoided tCO2	Total GHG emissions avoided %
Investments in freight transport rolling stock renewal	ELECTRIC LOCOMOTIVE E494 ⁽¹⁾	2020	40	994	10,797	10,482	315	2.9%
		2021		2,580	28,030	27,213	817	2.9%
		2022		2,475	26,881	26,098	783	2.9%
		2023		2,643	28,708	27,872	836	2.9%
		2024		2,759	29,973	29,100	873	2.9%
		Total	40	11,451	124,389	120,765	3,624	2.9%
	WAGON SHIMMNS	2020	140	36	418	407	11	2.6%
		2021		37	475	463	12	2.5%
		2022		33	430	419	11	2.6%
		2023		26	230	222	8	3.5%
		2024		34	274	264	10	3.6%
		Total	140	166	1,827	1,775	52	2.8%



Gruppo FS

⁽¹⁾ Data related to the freight fleet are actual. The baseline for the calculation of energy saving and avoided GHG emissions are the last locomotive and wagon purchased, before these one, by Mercitalia Rail.

Series 17 allocation of the Proceeds

100% proceeds allocated at the issue date, via intercompany loan from FS to Trenitalia

PROCEEDS ALLOCATION		
ELIGIBLE GREEN PROJECT	Trains' value (€/mln)	Unit of vehicle funded (equivalent)
1. New Electric Multiple Unit (EMU) Trains For Regional Passenger Transport: "Pop" and "Rock"	834.46	108
2. New High Speed Trains "Frecciarossa1000" ⁽¹⁾	166.79	5
TOTAL		113
100% financing allocated		

⁽¹⁾ Trains operating in Spanish high speed services. Please note that as of 01/11/2025 all 5 trains (related to the Spanish operation) and the relevant intercompany loan vs. Trenitalia was transferred to FS International as per internal reorganization of the business within the FS Group.

Series 17 impact reporting as of year end 2024 - environmental performance

«train vs. train» approach



Project Category	Eligible Green Project	Year	Unit of Vehicle funded	Energy Saving MWh	Baseline GHG emissions tCO2	Total GHG emissions tCO2	Total GHG emissions avoided tCO2	Total GHG emissions avoided %
Investments in public passenger transport rolling stock renewal	REGIONAL - POP AND ROCK TRAIN ⁽¹⁾	2021	108	27,309	38,942	31,362	7,580	19.5%
		2022		36,948	53,124	42,868	10,256	19.3%
		2023		36,056	52,028	42,019	10,009	19.2%
		2024		34,093	49,497	40,033	9,464	19.1%
		Total		134,406	193,591	156,282	37,309	19.3%
	HIGH SPEED – FRECCIAROSSA 1000 TRAIN ⁽²⁾	2021	5	9,447 ⁽³⁾	-	-	-	-
		2022		1,332 ⁽⁴⁾	-	-	-	-
		2023		11,470	-	-	-	-
		2024		14,170	-	-	-	-
		Total		36,419	-	-	-	-

⁽¹⁾ Data related to the POP and ROCK are estimates based on the values stated by the suppliers in the tender procurement process according to the European technical specification TS 50591 “Specification and verification of energy consumption for railway rolling stock”.

⁽²⁾ Data are related only to energy saving due to the fact that the trains will be in service in Spain where traction energy comes 100% from renewable sources, therefore without CO₂ emissions.

⁽³⁾ Data estimated considering fully operational services.

⁽⁴⁾ Trains started running commercial services from 25/11/22. Data includes the preliminary activities carried out in the first half of the year.

Series 18 allocation of the Proceeds

100% proceeds allocated at the issue date, via intercompany loan from FS to Trenitalia⁽¹⁾

PROCEEDS ALLOCATION		
ELIGIBLE GREEN PROJECT	Trains' value (€/mln)	Unit of vehicle funded (equivalent)
New High Speed Trains "Frecciarossa1000" ⁽²⁾	351.57	10
TOTAL	351.57 100% financing allocated	10

⁽¹⁾ Please note that as of 01/11/2025 7 of the 10 trains (related to the Spanish operation) and the relevant intercompany loan vs. Trenitalia was transferred to FS International as per internal reorganization of the business within the FS Group.

⁽²⁾ Trains operating in Spanish high speed services (7 trains) and Italy high speed service (3 trains).

Series 18 impact reporting as of year end 2024 - environmental performance

«train vs. train» approach



Project Category	Eligible Green Project	Year	Unit of Vehicle funded	Energy Saving MWh	Baseline GHG emissions tCO2	Total GHG emissions tCO2	Total GHG emissions avoided tCO2	Total GHG emissions avoided %
Investments in public passenger transport rolling stock renewal	HS – FRECCIAROSSA 1000 TRAIN ⁽¹⁾	2022		7,588	7,260	5,773	1,487	20,5%
		2023	10	22,411	8,060	6,409	1,651	20,5%
		2024		26,567	8.538	6,789	1,748	20,5%
		Total	10	56,565	23,857	18,971	4,885	20,5%

⁽¹⁾ Data related to the ETR1000 (in service in Italy) are actual as the fleet is full in operation. The baseline for the calculation of energy saving and avoided GHG emissions is the previous generation High-Speed train “ETR 500” with 9 coaches in the fleet of Trenitalia. Trains operating in Spanish high speed service only contribute to energy saving due to the fact that the trains will be in service in Spain where traction energy comes 100% from renewable sources, therefore without CO2 emissions.

Series 19 allocation of the Proceeds

100% proceeds allocated at the issue date, via intercompany loan from FS to Trenitalia ⁽¹⁾

PROCEEDS ALLOCATION		
ELIGIBLE GREEN PROJECT	Funded Asset's Value (€/mln)	Unit of vehicle funded (equivalent)
New High Speed Trains “Frecciarossa1000” ⁽²⁾	201.8	6
TOTAL	201.8	6
	100% financing allocated	

⁽¹⁾ Please note that as of 01/11/2025 3 of the 6 trains (related to the Spanish operation) and the relevant intercompany loan vs. Trenitalia was transferred to FS International as per internal reorganization of the business within the FS Group.

⁽²⁾ Trains operating in Spanish high speed services (3 trains) and Italy high speed service (3 trains).

Series 19 impact reporting as of year end 2024 - environmental performance

«train vs. train» approach



Project Category	Eligible Green Project	Year	Unit of Vehicle funded	Energy Saving MWh	Baseline GHG emissions tCO2	Total GHG emissions tCO2	Total GHG emissions avoided tCO2	Total GHG emissions avoided %
Investments in public passenger transport rolling stock renewal	HS – FRECCIAROSSA 1000 TRAIN ⁽¹⁾	2022		6,521	7,260	5,773	1,487	20.5%
		2023	6	13,234	8,060	6,409	1,651	20.5%
		2024		15,231	8,538	6,789	1,748	20.5%
		Total	6	34,987	23,857	18,971	4,885	20.5%

⁽¹⁾ Data related to the ETR1000 (in service in Italy) are actual as the fleet is full in operation. The baseline for the calculation of energy saving and avoided GHG emissions is the previous generation High-Speed train “ETR 500” with 9 coaches in the fleet of Trenitalia. Trains operating in Spanish high speed service only contribute to energy saving due to the fact that the trains will be in service in Spain where traction energy comes 100% from renewable sources, therefore without CO2 emissions.

Series 20 allocation of the Proceeds

100% proceeds allocated at the issue date, via intercompany loan from FS to Trenitalia and RFI

PROCEEDS ALLOCATION

ELIGIBLE GREEN PROJECT	Funded Asset's Value (€/mln)	Unit of asset funded (equivalent)
1. New Electric Multiple Unit (EMU) Trains For Regional Passenger Transport: "Pop" and "Rock"	158	2 Pop, 15 Rock
2. New High Speed Trains "Frecciarossa1000" ³	173.4	5
3. Maintenance expenses	568	421 ¹
4. Investments in the high-speed project TO-MI-NA	199.7	7.8 km ² equivalent length railway link HS Firenze

TOTAL
1,099.1
100% financing
allocated

⁽¹⁾ Total equivalent trains maintained for 2020 and 2021. The criteria for estimating the number of equivalent trains per year is shown on slide 58

⁽²⁾ Series 20 and 22 financed investments in the Firenze High-Speed Hub project, the total extension of which is 7.8 km, therefore unit of asset funded is the same for both series

⁽³⁾ Trains operating in Spanish high speed services. Please note that as of 01/11/2025 all 5 trains (related to the Spanish operation) and the relevant intercompany loan vs. Trenitalia was transferred to FS International as per internal reorganization of the business within the FS Group.

Series 20 impact reporting as of year end 2024 - environmental performance

«train vs. train» approach



Uimate Beneficiary Company	Eligible Green Project	Year	Unit of vehicle funded	Energy Saving MWh	Baseline GHG emissions tCO ₂	Total GHG emissions tCO ₂	Total GHG emissions avoided tCO ₂	Total GHG emissions avoided %
Trenitalia	HIGH SPEED – FRECCIAROSSA 1000 TRAIN ⁽¹⁾	2022		1,332	-	-	-	-
		2023	5	11,470	-	-	-	-
		2024		14,170	-	-	-	-
		Total	5	26,972	-	-	-	-
	REGIONAL - POP AND ROCK TRAIN ⁽²⁾	2022		9,862	11,831	9,269	2,562	21.7%
		2023	17	9,554	11,468	8,986	2,482	21.6%
		2024		8,921	10,720	8,403	2,317	21.6%
		Total	17	28,337	34,019	26,658	7,361	21.6%

⁽¹⁾ Data are related only to energy saving due to the fact that the trains will be in service in Spain where traction energy comes 100% from renewable sources, therefore without CO2 emissions.

⁽²⁾ Data related to the POP and ROCK are estimates based on the values stated by the suppliers in the tender procurement process according to the European technical specification TS 50591 “Specification and verification of energy consumption for railway rolling stock”. The baseline for the calculation of energy saving and avoided GHG emissions is the market average for comparable trains in operation stated by the suppliers in the tender procurement process.

Series 20 impact reporting as of year end 2024 - environmental performance

«train vs. car» approach



Ultimate Beneficiary Company	Eligible Green Project	Year	Unit of vehicle funded (equivalent)	Energy Saving MWh	Baseline GHG emissions tCO ₂	Total GHG emissions tCO ₂	Total GHG emissions avoided tCO ₂	Total GHG emissions avoided %
Trenitalia	MAINTENANCE EXPENSES	2022		n.a	830,281	220,114	610,166	73.5%
		2023	421 ⁽¹⁾	n.a	1,050,120	226,479	823,641	78.4%
		2024		n.a.	1,014,239	219,895	794,344	78.3%
		Total	421 ⁽¹⁾	n.a	2,894,640	666,488	2,228,151	77.0%

⁽¹⁾ Total equivalent trains maintained for 2020 and 2021. The criteria for estimating the number of equivalent trains per year is shown on slide 58.

Series 20 impact reporting as of year end 2024 - environmental performance

«emission avoided» approach



Ultimate Beneficiary Company	Eligible Green Project	Year	Total Investement (A) (€/mn)	Funded Asset's Value (€/mn) (B)	Avoided emissions from road transport (tCO _{2eq})	Emissions from train transport (t.CO2eq)	Total GHG emissions avoided (tCO _{2eq}) (C)	GHG emissions avoided by Funded Asset's (tCO _{2eq}) (B/A)*C
RFI	INVESTMENTS IN THE HIGH-SPEED PROJECT TO-MI-NA	2022						
		2023	2,870	199.7	686,877	329,344	357,533	24,878 ⁽¹⁾
		2024						
		Total	2,870	199.7	686,877	329,344	357,533	24,878 ⁽¹⁾

⁽¹⁾ Punctual approach: refer to slide 60 for an explanation of the approach.

Series 21 allocation of the Proceeds

100% proceeds allocated at the issue date, via intercompany loan from FS to Trenitalia and RFI

PROCEEDS ALLOCATION		
ELIGIBLE GREEN PROJECT	Funded Asset's Value (€/mln)	Unit of asset funded (equivalent)
1. New Electric Multiple Unit (EMU) Trains For Regional Passenger Transport: "Pop" and "Rock"	93	6 Pop, 5 Rock
2. Maintenance/Revamping expenses	507.8	263 ¹
TOTAL		600.8 100% financing allocated
		274

⁽¹⁾ Total equivalent trains maintained for 2020 and 2021. The criteria for estimating the number of equivalent trains per year is shown on slide 58.

Series 21 impact reporting as of year end 2024 - environmental performance

«train vs. train» approach



Uimate Beneficiary Company	Eligible Green Project	Year	Unit of vehicle funded	Energy Saving MWh	Baseline GHG emissions tCO ₂	Total GHG emissions tCO ₂	Total GHG emissions avoided tCO ₂	Total GHG emissions avoided %
Trenitalia	REGIONAL - POP AND ROCK TRAIN ¹	2023	11	3,876	5,322	4,283	1,039	19.5%
		2024		3,660	5,052	4,072	980	19.4%
		Total	11	7,536	10,374	8,355	2,019	19.5%

⁽¹⁾ Data related to the POP and ROCK are estimates based on the values stated by the suppliers in the tender procurement process according to the European technical specification TS 50591 “Specification and verification of energy consumption for railway rolling stock”. The baseline for the calculation of energy saving and avoided GHG emissions is the market average for comparable trains in operation stated by the suppliers in the tender procurement process.

Series 21 impact reporting as of year end 2024 - environmental performance

«train vs. car» approach



Ultimate Beneficiary Company	Eligible Green Project	Year	Unit of vehicle funded (equivalent)	Energy Saving MWh	Baseline GHG emissions tCO ₂	Total GHG emissions tCO ₂	Total GHG emissions avoided tCO ₂	Total GHG emissions avoided %
Trenitalia	MAINTENANCE EXPENSES	2023	263 ⁽¹⁾	n.a.	656,013	145,915	510,098	77.8%
		2024		n.a.	633,598	141,673	491,925	77.6%
		Total	263 ⁽¹⁾	n.a.	1,289,611	287,588	1,002,023	77.7%

⁽¹⁾ Total equivalent trains maintained for 2020 and 2021. The criteria for estimating the number of equivalent trains per year is shown on slide 58.

Series 22 allocation of the Proceeds

100% proceeds allocated at the issue date, via intercompany loan from FS to Trenitalia and RFI

PROCEEDS ALLOCATION		
ELIGIBLE GREEN PROJECT	Funded Asset's Value (€/mln)	Unit of asset funded (equivalent)
1. New Electric Multiple Unit (EMU) Trains For Regional Passenger Transport: "Pop" and "Rock"	260.1	18 Pop, 13 Rock
2. Investments in the high-speed project TO-MI-NA	201.41	7.8 km ¹ equivalent length railway link HS Firenze
3. Other HS/HC investments	43.7	NA ²
TOTAL		500.8 100% financing allocated ³

Series 22 impact reporting as of year end 2024 - environmental performance

«train vs. train» approach



Uimate Beneficiary Company	Eligible Green Project	Year	Unit of vehicle funded	Energy Saving MWh	Baseline GHG emissions tCO ₂	Total GHG emissions t tCO ₂	Total GHG emissions avoided tCO ₂	Total GHG emissions avoided %
Trenitalia	REGIONAL - POP AND ROCK TRAIN ⁽¹⁾	2023	31	10,390	14,457	11,673	2,784	19.3%
		2024		9,824	13,751	11,119	2,632	19.1%
		Total	31	20,214	28,208	22,792	5,416	19.2%

⁽¹⁾ Data related to the POP and ROCK are estimates based on the values stated by the suppliers in the tender procurement process according to the European technical specification TS 50591 “Specification and verification of energy consumption for railway rolling stock”. The baseline for the calculation of energy saving and avoided GHG emissions is the market average for comparable trains in operation stated by the suppliers in the tender procurement process.

Series 22 impact reporting as of year end 2024 - environmental performance

«emission avoided» approach



Ultimate Beneficiary Company	Eligible Green Project	Year	Total Investement (A) (€/mn)	Funded Asset's Value (€/mn) (B)	Avoided emissions from road transport (tCO _{2eq})	Emissions from train transport (t.CO2eq)	Total GHG emissions avoided (tCO _{2eq}) (C)	GHG emissions avoided by Funded Asset's (tCO _{2eq})
RFI	INVESTMENTS IN THE HIGH-SPEED PROJECT TO-MI-NA	2023						
			2,870	201.41	686,877	329,344	357,533	12,730 ⁽¹⁾
	OTHER HS/HC INVESTMENTS	2024						
		2023						
			NA	43.72	NA	NA	NA	21,891 ⁽²⁾
		2024						
	ALL INVESTMENTS	Total	2,870	245.13	686,877	329,344	357,533	34,621

⁽¹⁾ Punctual approach: (B/A)*C. Refer to slide 60 for an explanation of the approach.

⁽²⁾ Parametric approach: Carbon efficiency parameter (Tonns/Euro) x B. Refer to slide 61 for an explanation of the approach.

Series 23 allocation of the Proceeds

100% proceeds allocated at the issue date, via intercompany loan from FS to Trenitalia

PROCEEDS ALLOCATION		
ELIGIBLE GREEN PROJECT	Funded Asset's Value (€/mln)	Unit of asset funded (equivalent)
1. New Electric Multiple Unit (EMU) Trains For Regional Passenger Transport: "Pop" and "Rock"	518	42
TOTAL		518 100% financing allocated 42

Series 23 impact reporting as of year end 2024 - environmental performance

«train vs. train» approach



Uimate Beneficiary Company	Eligible Green Project	Year	Unit of vehicle funded	Energy Saving MWh	Baseline GHG emissions tCO ₂	Total GHG emissions tCO ₂	Total GHG emissions avoided tCO ₂	Total GHG emissions avoided %
Trenitalia	REGIONAL - POP AND ROCK TRAIN ⁽¹⁾	2024	42	22,014	31,295	24,531	6,764	21.6%
		Total	42	22,014	31,295	24,531	6,764	21.6%

⁽¹⁾ Data related to the POP and ROCK are estimates based on the values stated by the suppliers in the tender procurement process according to the European technical specification TS 50591 “Specification and verification of energy consumption for railway rolling stock”. The baseline for the calculation of energy saving and avoided GHG emissions is the market average for comparable trains in operation stated by the suppliers in the tender procurement process.

Note on Calculation Methodology (1/5)

Estimated avoided emissions thanks to the purchase of new trains and the maintenance expenses/revamping

Purchase of new trains

«train vs. train» approach



Comparison with similar trains (i.e. trains offered in bidding process)

Cyclic Maintenance/Revamping

«train vs. car» approach



Comparison with road transport (benefit calculated in terms of modal shift car-to-rail)

Baseline

Calculation algorithm

$$\left(\frac{kWh}{trkm} \text{baseline} - \frac{kWh}{trkm} \text{train} \right)_{serie} * f_{conv_{serie}} * trkm_{avg_{year N}} * n^{\circ}_{train_{serie}}$$

Specific saving Production factor Green Bond Scope

f_{conv} is the CO₂ emission factor of the first year of reporting, related to the Italian electricity production mix as calculated by ISPRA for the year N-2 (i.e. for the serie 20 reported for the first time in 2022, the value of year 2020 is used)

$$\left(\frac{CO_2}{paxkm} \text{car} - \frac{CO_2}{paxkm} \text{train} \right)_{year N} * \frac{paxkm_{train_{year N}}}{train_{year N}} * train_{eq_{serie}}$$

Specific saving Production factor Green Bond Scope (3)

CO₂ car is the ratio of car's average emission per passenger-km in the first year of reporting (161,9 gCO₂/km in 2022) (1) and the pax/car average load factor (1,5 in 2022) (2)
CO₂ train is the product between train's average specific consumption and the CO₂ emission factor related to the electricity production mix

- (1): Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA) - The database of average emission factors of road transport in Italy
- (2) EcoPassenger - Environmental Methodology and Data Update 2016
- (3) The criteria for estimating the number of Green Bond Scope's equivalent trains is shown on slide 58

Note on Calculation Methodology (2/5)

Maintenance expenses/revamping - Green Bond Scope's Equivalent Train Definition

Blocked composition trains

Locomotives + coaches*

$$train_{eq\ series} = train_{comp.blocked} + (loco_{el} + coach_{el} + coach_{prom} * f_r) / comp_{avrg}$$

- $train_{comp.blocked}$ = trains with blocked composition (e.g. ETR1000, TAF, etc.)
- $loco_{el}$ = electric-powered locomotives
- $coach_{el}$ = coaches used exclusively in electric loco composition
- $coach_{prom}$ = mixed-use coaches used in both electric and diesel loco compositions
- f_r = corrective reduction factor that takes into account the mixed use of coaches
- $comp_{avrg}$ = average composition of trains composed of loco + coaches per Business

Note on Calculation Methodology (3/5)

Purchase of new trains - GHG EMISSION

GHG emissions of the EGPs (tCO₂⁽¹⁾)

=

[Annual average consumption (MWh) of the relevant train] X [CO₂ emission factor (gCO₂/kWh)]/1000

- The **Annual Average Consumption** is actual or estimate depending on the deployment status of project ⁽²⁾
- The **CO₂ Emission Factor** is the CO₂ emission factor related to the Italian electricity production mix as calculated by ISPRA⁽³⁾

Series	CO2 emission factor (gCO ₂ /kWh)
10	316.4
17	277.6 (EMU), 0 (ETR1000 Spain)
18, 19, 20	259.8
21, 22	267.9
23	307.3

Note on Calculation Methodology (4/5)

Emissions avoided thanks to infrastructure investments that lead the modal shift to rail transport

Punctual Approach

Where cost-benefit analysis of an investment project is available, the valuation of externalities is done through a **punctual approach (direct or indirect)**.

Emissions avoided during the operation of a railway project are generally calculated using the **differential approach** determined by comparing the "project" scenario involving the construction of the project and the "reference" scenario not involving the investment. The calculation is performed along a **30-year operating phase**.

Through specific transportation study, it was possible to estimate the **number of vehicles.km** diverted from road to rail mode and the related CO₂ saved.

This value is netted by the CO₂ emitted for the production of electricity needed to run the extra number of trains that result from the investment. On the right side, the tons of CO₂ avoided are reported.

**-357,533 tCO₂e
EMISSION
AVOIDED**

CO₂ emissions
avoided during the
operation of the
railway work thanks to
the modal shift to rail
transport

Note on Calculation Methodology (5/5)

Emissions avoided thanks to infrastructure investments that lead the modal shift to rail transport

Parametric Approach

In case a cost-benefit analysis of an investment project is not available, the estimation of CO₂eq tons can be done through a **parametric approach**. A basket of HS/HC projects with characteristics similar to those of the High Speed TO-MI-NA was selected and a **carbon efficiency parameter** was calculated.

Carbon efficiency parameter (Tonns/Euro)

x

Amount financed (Euro)

CO₂ emissions avoided during the operation of the railway work calculated by applying a carbon efficiency parameter (expressed in tons of CO₂ per euro) to the share of the project financed by the green bond.

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