

# GREEN BOND REPORT

## related to the EMTN bond Series 10 and Series 17



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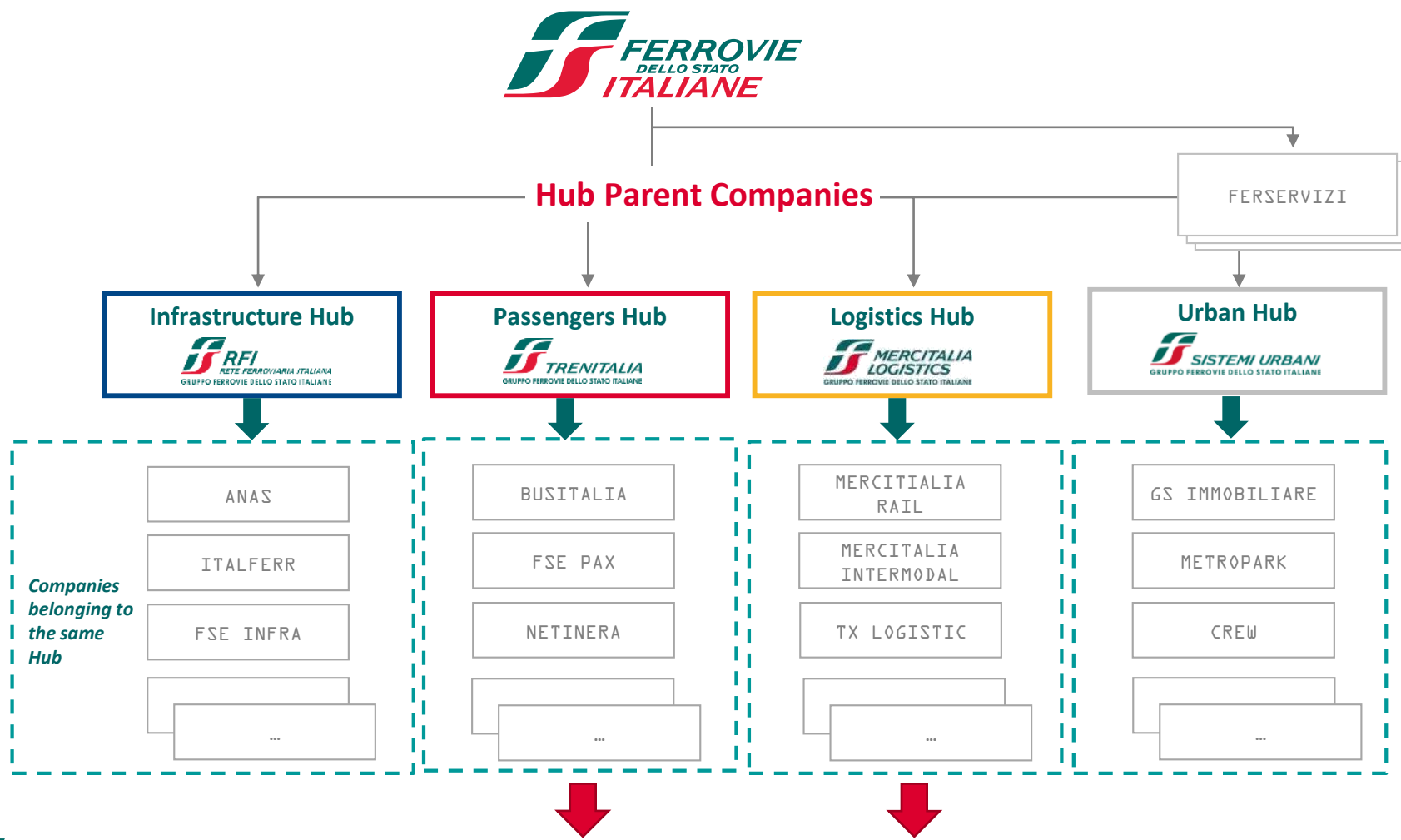
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# FS Group Overview and Sustainability



# FS Group in a snapshot

**Ferrovie dello Stato Italiane SpA** (“FS” or the “Issuer”) – **100% Italian State owned** – is the holding company of the Italian railway group (FS Group). As **one of the largest industrial groups in the Country**, it manages rail and road networks and transport services by rail and bus both passenger and freight, contributing to develop integrated mobility and logistics in Italy and abroad.



# A business model which fully integrates sustainability

FS sustainability approach permeates the full organizational structure ensuring integration of environmental, social and economical aspects within strategic business decisions

**FS Group vision is to become the company that enables a system of resilient infrastructure, sustainable mobility and integrated logistics**



<sup>1</sup> services carried out in full commercial autonomy and without public contributions  
<sup>2</sup> public transport services provided at the request of the State or the Regions which, on the basis of Service Contracts, pay the transport company a fee for compliance with established requirements (frequency, fares, performance levels and stops)

# FS Group Sustainability Commitment

## Our agenda for a sustainable mobility

The Group intends to place sustainability increasingly at the heart of its strategies. For this reason, the FS Italian Group committed to 12 of the **Sustainable Development Goals (SDGs)** identified by the United Nations 2030 Agenda.

WE SUPPORT



## Sustainability performance

The Group commitment is positively reflected in its sustainability ratings:

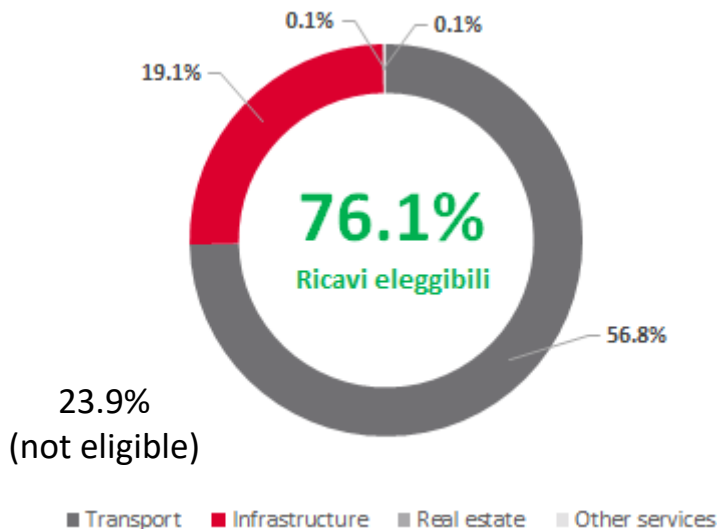
| SUSTAINABILITY RATING |                                   |  |  |
|-----------------------|-----------------------------------|--|--|
|                       | <b>CDP Climate Change<br/>"B"</b> |  | <b>ESG Risk assessment:<br/>Low Risk</b> |
|                       | <b>Advanced</b>                   |  | <b>Prime status</b>                      |

# European Taxonomy

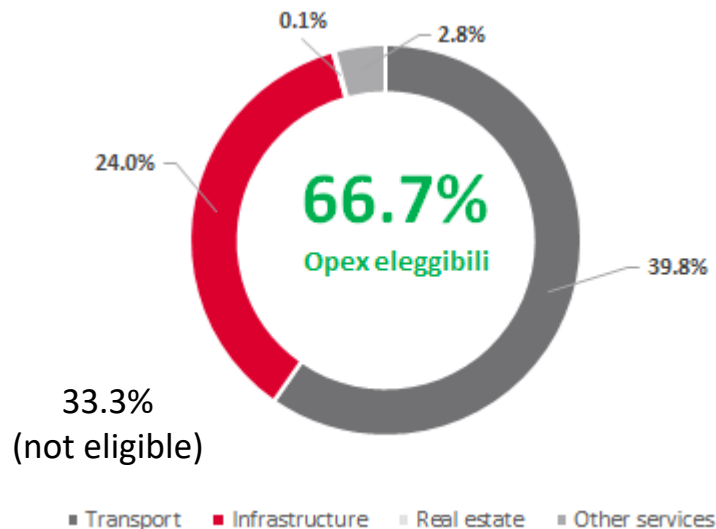
## Revenue, Capex and Opex

Below is summarized the performance of the Group's **four operating sectors** (Transport, Infrastructure, Real Estate Services and Other Services) with regard to the respective **percentage shares of 2021 Turnover, Opex and Capex – “Eligible”**, for the two objectives of **mitigation and adaptation**, in accordance with **EU Regulation no. 852/2020** (so called **EU Taxonomy**)

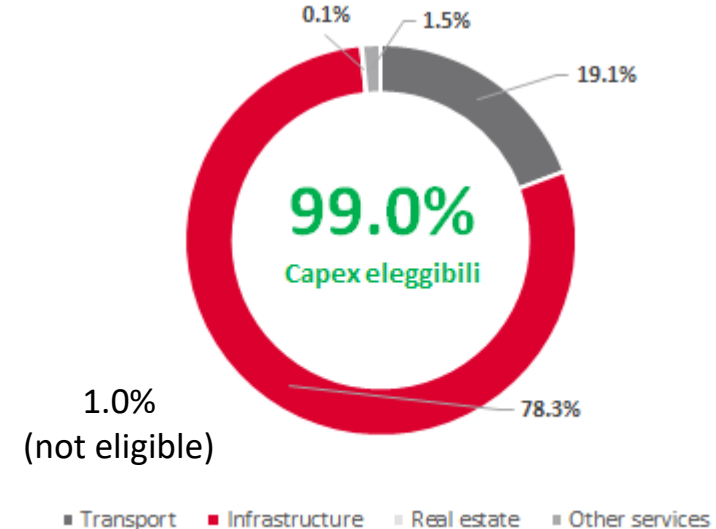
### Revenue



### Opex



### Capex



- ✓ A total of **76.1%** of consolidated **net revenues** is Taxonomy eligible
- ✓ A total of **66.7%** of consolidated **operating costs** is Taxonomy eligible
- ✓ **Almost the entirety** of consolidated **capital expenditure** is Taxonomy eligible

# FS and the actions taken to handle the Covid-19 emergency

The Group's forward-looking approach and openness to change have allowed it to see **the emergency as a possibility rather than a restriction**, providing it with the tools to **decipher the present and rethink the future**. The Group promptly implemented **solutions and actions** in the passenger and freight rail transportation with the aim of protecting the **health and safety of people**.



Flow separation and passengers distancing on trains



Information panels and hand sanitiser dispensers on public transport vehicles



Biosafety Trust Certification



Intensification of cleaning and sanitisation of trains



Modernisation of cleaning methods for common areas



New train seat assignment criteria



Increase in railway freight transport to ensure the supply of goods



Free travel for Covid-19 doctors and nurses



Medevac medical train



QR codes for scanning information on sanitising procedures on hs trains



Digitalisation of ticket buying



Personal train ticket



Dynamic rates to improve passengers distribution on trains



Strengthening and integrating intermodal transport



Greater reduction of the number of standing passengers than seated ones



5 million tonnes of goods transported during lockdown



Gradual strengthening of train services



Welcome kit for Frecciarossa and Frecciargento passengers (mask, sanitizing gel, safety instruction)

## Legend:



Safety



Transport



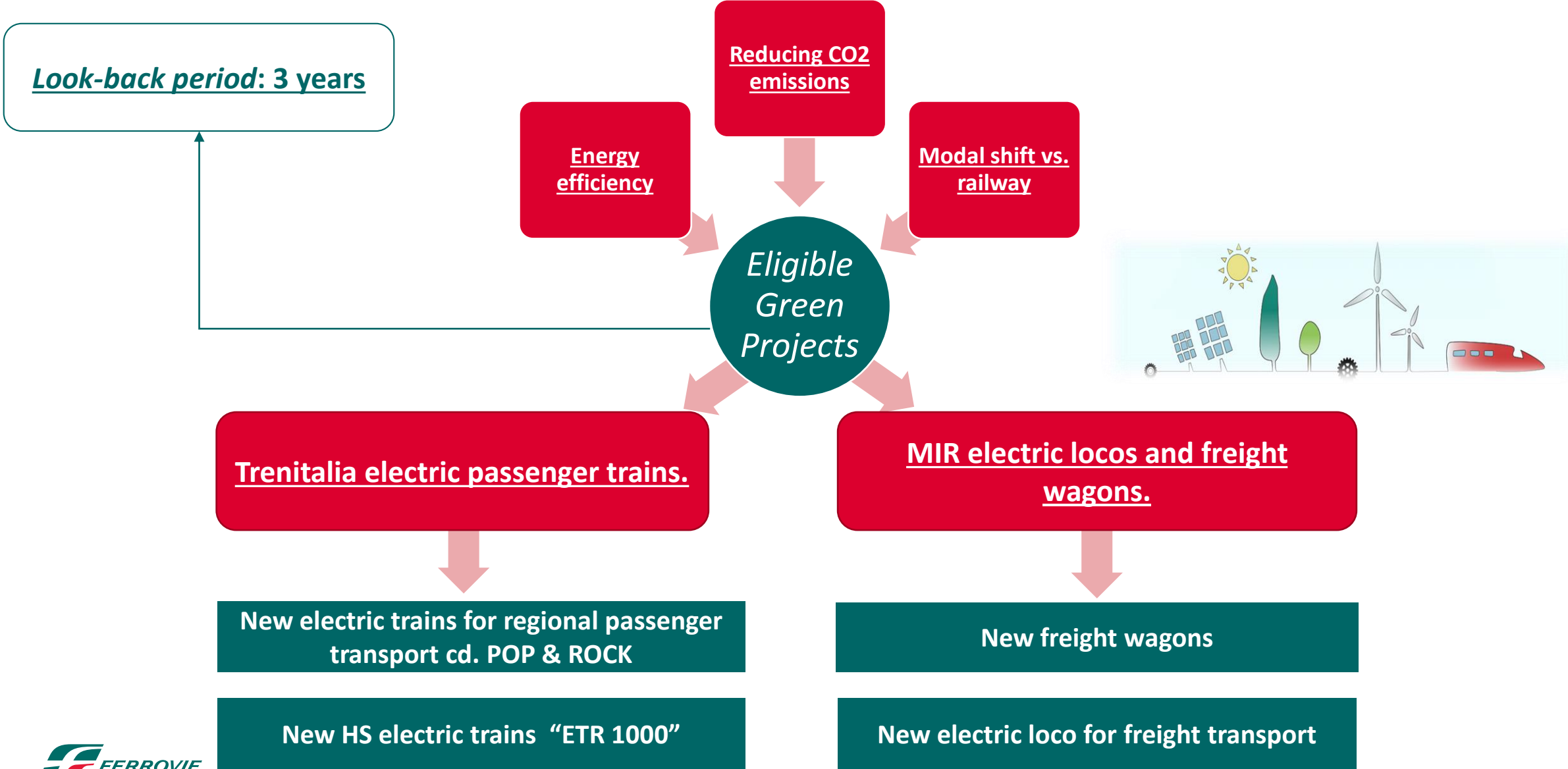
Digitalisation

# Green Bond Framework Summary



# FS Green Bond Framework established in 2017

GBF currently under review in order to enlarge the list of the Eligible Green Projects



# 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

- Sustainalytics provided a **Second Party Opinion** on the Green Bond Framework and a **Pre-issuance verification** on the Climate Bonds Initiatives standard.
- FS obtained the **Climate Bonds certification**.
- **KPMG** provided a **Third Party Opinion** on the Green Bond Report. 
- On December 2021 Sustainalytics has also assessed the **alignment** of FS Italiane **Green Bond Framework** to the **EU Taxonomy**.



**Ferrovie Green Bond Framework**

*“Ferrovie’s Green Bond Framework is credible and impactful, and aligns with the four core components of the GBP 2018.”*

**Ferrovie’s sustainability strategy**

*“Ferrovie has demonstrated a commitment to integrate sustainable practices into its business strategy and operations, as aligned with its strategic vision”*

**Impact of Use of Proceeds**

*“Sustainalytics is of the opinion that the eligible category contributes to increased sustainability and energy efficiency of Ferrovie’s operations and the transport system in Italy.”*

**EU Taxonomy**

*“The activities align with the Do Not Significant Harm (DNSH) criteria defined for the activities above-mentioned. Sustainalytics is also of the opinion that the activity and projects to be financed under the Framework will be carried out in alignment with the EU Taxonomy’s Minimum Safeguards.”*

*Sustainalytics believes that the eligible category is aligned with Ferrovie’s overall sustainability strategy and efforts, and will also contribute to the advancement of UN SDGs, specifically 9, 11, and 12.*

*Based on the above, Sustainalytics is confident that Ferrovie is well-positioned to issue green bonds, and that Ferrovie Green Bond Framework is robust, transparent and in alignment with the Green Bond Principles 2018.*

# FS's Green Issuances and Reporting perimeter

- Series 7's reporting already made in 2018 after full allocation of the net proceeds, no more reporting is due unless material changes occur.
- Due to CBI certification (cfr. slide 13), reporting for Series 10, 17 and 18 is required on an annual basis.
- Reporting activity for Series 18 is still ongoing and will be released one year after the issuance.

| FS's Green Bond | Issue Date | Allocation | Reporting                  |
|-----------------|------------|------------|----------------------------|
| EMTN Series 7   | 7/12/2017  | 100%       | Once until full allocation |
| EMTN Series 10  | 09/07/2019 | 100%       | Annually                   |
| EMTN Series 17  | 25/03/2021 | 100%       | Annually                   |
| EMTN Series 18  | 23/12/2021 | 100%       | Annually                   |

# Allocation and Impact Report

Green Bond Series 10



# Euro 700 million second Green Bond – EMTN SERIES 10

## Deal review

Carry on the Group's sustainability path for a clean transport including the freight sector 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 the tighter end of the guidance, at m/s+128bps (equivalent to BTPs -16bps), fixing the final size at EUR 700m

First Italian bond CBI Certified

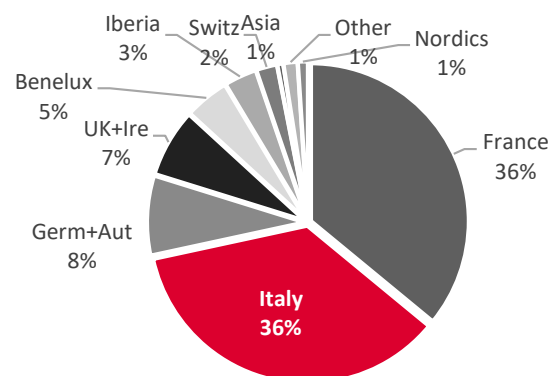


### Transaction Key Terms

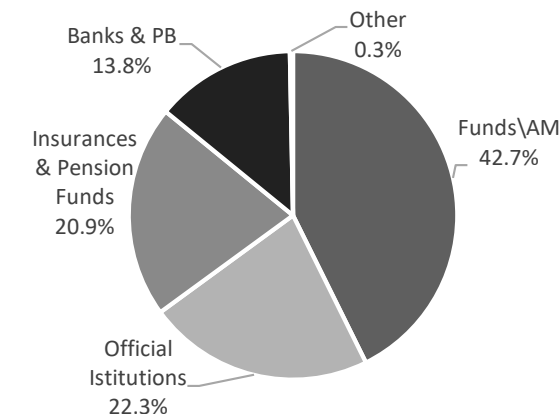
|                          |  |
|--------------------------|--|
| Issuer                   | Ferrovie dello Stato Italiane SpA                  |
| Issue Type               | Green Bond   |
| Issuer Rating (at Issue) | BBB / BBB (S&P / Fitch)                            |
| Format                   | Senior Unsecured, Reg S Bearer                     |
| Amount                   | Euro 700m  |
| Issue Date               | 09 July 2019                                       |
| Maturity Date            | 09 July 2026                                       |
| Coupon                   | 1.125%   |
| Reoffer Price / Yield    | 99.967 / 1.130%                                    |
| Reoffer Spread           | m/s+ 128bps  |
| Listing / Docs           | Irish Stock Exchange / Green Bond Framework / EMTN |



### Geographical breakdown



### Investor type breakdown



# 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                         | Unit of vehicle funded (equivalent) |
|--|---------------------------------------|-------------------------------------|
| <b>1. Investments in public passenger transport rolling stock renewal</b>                  |                                       |                                     |
| New Electric Multiple Unit (EMU) Trains For Regional Passenger Transport: "Pop" and "Rock" | € 463.77 million                      | 53                                  |
| New High Speed Trains "Frecciarossa1000"   | € 117.60 million                      | 3                                   |
| <b>2. Investments in freight transport rolling stock renewal</b>                           |                                       |                                     |
| New Electric Locomotives For Freight Transport   | € 103.6 million                       | 40                                  |
| New Wagons For Freight Transport   | € 14.3 million                        | 140                                 |
| <b>TOTAL NET PROCEEDS</b>  | <b>€ 699,279,000</b>                  |                                     |
|  | <b>100% financing of new projects</b> |                                     |



# Impact reporting as of year end 2021 - environmental performance

## Passenger transport «train vs. train» approach (2019-2020-2021)

| 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 <sup>(1)</sup>        | 2019         |                        | 24,944            | 38,729                      | 30,837                   | -7,892                           | -20.40%                       |
|   |   | 2020         | 53                     | 18,257            | 26,979                      | 21,203                   | -5,776                           | -21.41%                       |
|   |   | 2021         |                        | 24,114            | 36,722                      | 29,092                   | -7,630                           | -20.78%                       |
|   |   | <b>Total</b> | <b>53</b>              | <b>67,315</b>     | <b>102,430</b>              | <b>81,132</b>            | <b>-21,298</b>                   | <b>-20.79%</b>                |
|   | HIGH SPEED – FRECCIA ROSSA1000 TRAIN <sup>(2)</sup> | 2019         |                        | 6,035             | 9,324                       | 7,415                    | -1,909                           | -20.50%                       |
|   |   | 2020         | 3                      | 2,771             | 4,281                       | 3,404                    | -876                             | -20.48%                       |
|   |   | 2021         |                        | 3,184             | 4,919                       | 3,912                    | -1,007                           | -20.48%                       |
|   |   | <b>Total</b> | <b>3</b>               | <b>11,990</b>     | <b>18,524</b>               | <b>14,731</b>            | <b>-3,792</b>                    | <b>-20.47%</b>                |

➤ Data refer to 3 years time period (2019-2020-2021)

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.



# Impact reporting as of year end 2021 - environmental performance

## Freight transport «train vs. train» approach (2020-2021)

| 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 <sup>(1)</sup> | 2020         | 40                     | 994               | 10,797                      | 10,482                   | -314                             | -2.91%                        |
|  |   | 2021         |                        | 2,580             | 28,030                      | 27,213                   | -816                             | -2.91%                        |
|  |   | <b>Total</b> |                        | <b>3,574</b>      | <b>38,827</b>               | <b>37,695</b>            | <b>-1,130</b>                    | <b>-2.91%</b>                 |
|  | WAGON SHIMMNS                           | 2020         | 140                    | 32                | 417.0                       | 406.9                    | -10.1                            | -2.44%                        |
|  |   | 2021         |                        | 37                | 475.0                       | 463.4                    | -11.6                            | -2.44%                        |
|  |   | <b>Total</b> |                        | <b>69</b>         | <b>892.0</b>                | <b>870.3</b>             | <b>-21.7</b>                     | <b>-2.44%</b>                 |

➤ Data refer to 2 years time period (2020-2021)

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.

# Note on Calculation Methodology

## GHG EMISSION

**GHG emissions of the EGPs (tCO<sub>2</sub><sup>(1)</sup>)**

=

**[Annual average consumption (MWh) of the relevant train] X [CO<sub>2</sub> emission factor (gCO<sub>2</sub>/kWh)]/1000**

- The **Annual Average Consumption** is actual or estimate depending on the deployment status of project <sup>(2)</sup>
- The **CO<sub>2</sub> Emission Factor** (316.4 gCO<sub>2</sub>/kWh) is the CO<sub>2</sub> emission factor related to the Italian electricity production mix as calculated by ISPRA<sup>(3)</sup>

(1): Location-based approach. CO<sub>2</sub> emission are included, other gas (CH<sub>4</sub> e N<sub>2</sub>O) are not included (less than 1%)

(2): Refer to the previous slide for detail on each project

(3): Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA) Reports 303/2018, "Atmospheric emission factors of greenhouse gases in the national electricity sector and in the main European countries" (Table 2.4, p., 32, Gross electricity production year 2017)

# Allocation and Impact Report

Green Bond Series 17



# Euro 1 billion third Green Bond – EMTN SERIES 17

## Deal review

Investments in both local and high speed transport 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



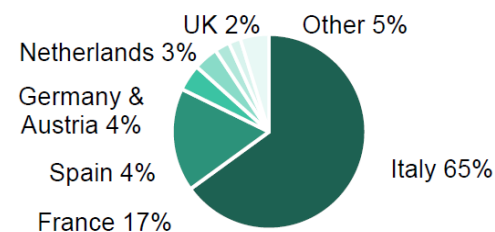
Climate Bond Certified

### Transaction Key Terms

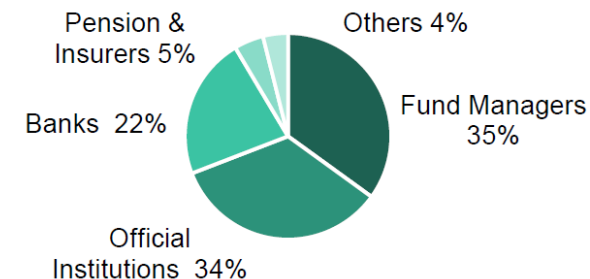
|                          |  |
|--------------------------|--|
| Issuer                   | Ferrovie dello Stato Italiane SpA                  |
| Issue Type               | Green Bond   |
| Issuer Rating (at Issue) | BBB / BBB (S&P / Fitch)                            |
| Format                   | Senior Unsecured, Reg S Bearer                     |
| Amount                   | Euro 1,000m  |
| Issue Date               | 25 March 2021                                      |
| Maturity                 | 25 March 2026                                      |
| Coupon                   | 0.375%   |
| Reoffer Price / Yield    | 99.491 / 0.449%                                    |
| Reoffer Spread           | m/s+ 60 bps  |
| Listing / Docs           | Irish Stock Exchange / Green Bond Framework / EMTN |



### Geographical breakdown



### Investor type breakdown



# 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    | Unit of vehicle funded (equivalent) |
|---|------------------|-------------------------------------|
| 1. New Electric Multiple Unit (EMU) Trains For Regional Passenger Transport: "Pop" and "Rock" | € 834.58 million | 108                                 |
| 2. New High Speed Trains "Frecciarossa1000"*  | € 166.79 million | 5                                   |
| <b>TOTAL € 1,001.37 million</b>   |                  | <b>113</b>                          |
| <b>100% financing allocated</b>   |                  |                                     |

\*Trains operating in both Italian and Spanish high speed services.



# Impact reporting as of year end 2021 - environmental performance

## «train vs. train» approach

| Project Category  | Eligible Green Project                  | Unit of Vehicle funded | Energy Saving MWh | Baseline GHG emissions tCO2 | Total GHG emissions tCO2 | Total GHG emissions avoided tCO2 | Total GHG emissions avoided % |
|---|---|------------------------|-------------------|-----------------------------|--------------------------|----------------------------------|-------------------------------|
|   |   | 2021                   | 2021              | 2021                        | 2021                     | 2021                             | 2021                          |
| Investments in public passenger transport rolling stock renewal | REGIONAL - POP AND ROCK TRAIN (1)       | 108                    | 27,309            | 38,942                      | 31,362                   | -7,581                           | -19.5%                        |
|   | HIGH SPEED - FRECCIAROSSA1000 TRAIN (2) | 5                      | 9,447             | 0                           | 0                        | -                                | -                             |

- Data refer to the March – December 2021 time period
- 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 CO<sub>2</sub> emissions.

# Note on Calculation Methodology

## GHG EMISSION

**GHG emissions of the EGPs (tCO<sub>2</sub><sup>(1)</sup>)**

=

**[Annual average consumption (MWh) of the relevant train] X [CO<sub>2</sub> emission factor (gCO<sub>2</sub>/kWh)]/1000**

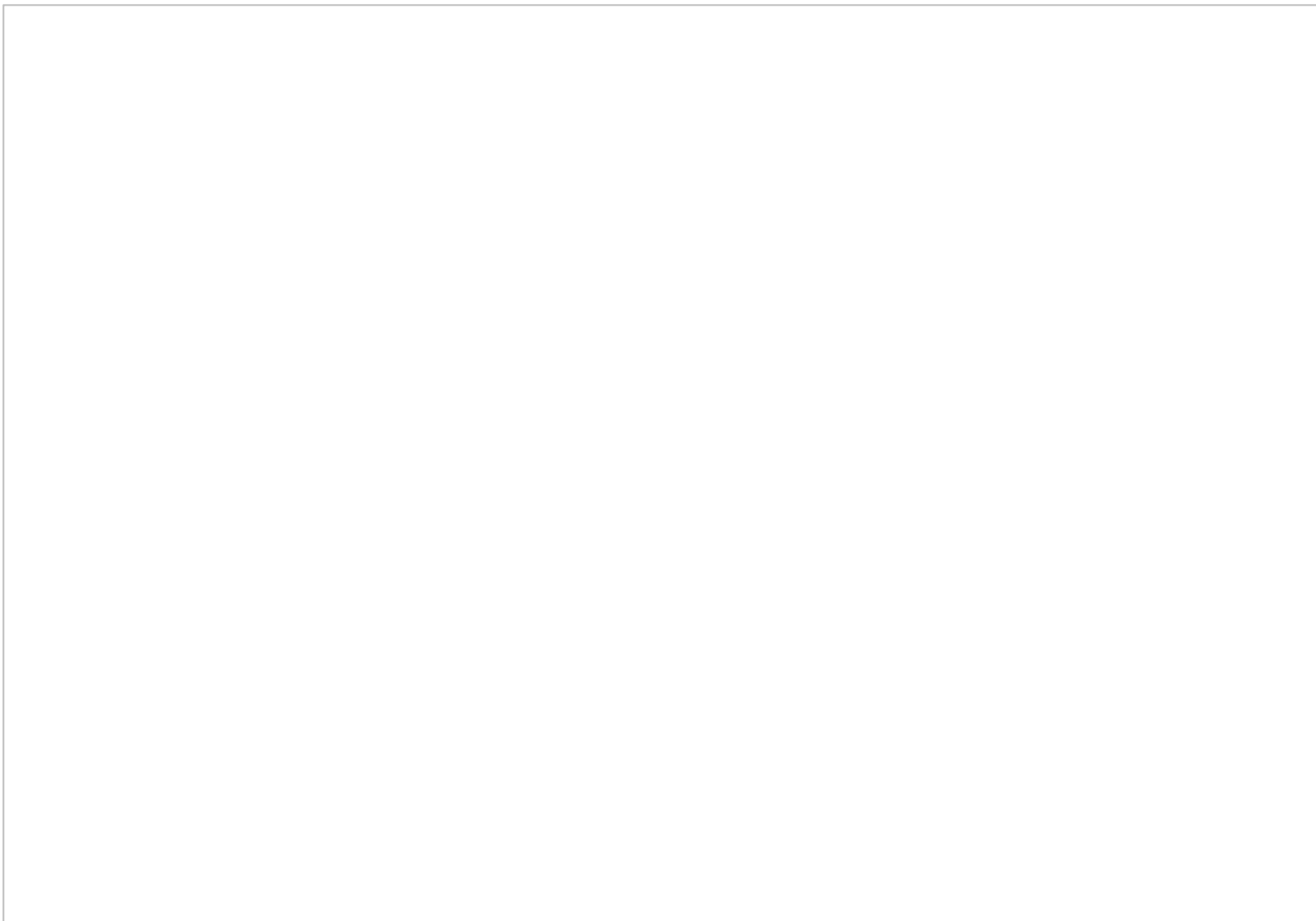
- The **Annual Average Consumption** is actual or estimate depending on the deployment status of project <sup>(2)</sup>
- The **CO<sub>2</sub> Emission Factor** (277.6 gCO<sub>2</sub>/kWh) is the CO<sub>2</sub> emission factor related to the Italian electricity production mix as calculated by ISPRA<sup>(3)</sup>

(1): Location-based approach. CO<sub>2</sub> emission are included, other gas (CH<sub>4</sub> e N<sub>2</sub>O) are not included (less than 1%)

(2): Refer to the previous slide for detail on each project

(3): Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA) «Emission factors for the production and consumption of electricity in Italy 19/01/2022» (tab 14, column "Gross electricity production year 2019»)

# Third Party Opinion



# Third Party Opinion



Ferrovie dello Stato Italiane S.p.A.  
Independent auditors' report  
27 May 2022

We carried out our work in accordance with the criteria established by "International Standard on Assurance Engagements 3000 (Revised) - Assurance Engagements other than Audits or Reviews of Historical Financial Information" ("ISAE 3000 Revised"), issued by the International Auditing and Assurance Standards Board applicable to limited assurance engagements. This standard requires that we plan and perform the engagement to obtain limited assurance about whether the Report is free from material misstatement. A limited assurance engagement is less in scope than a reasonable assurance engagement carried out in accordance with ISAE 3000 Revised, and consequently does not enable us to obtain assurance that we would become aware of all significant matters and events that might be identified in a reasonable assurance engagement.

The procedures we performed on the Report are based on our professional judgement and include inquiries, primarily of the Company's personnel responsible for the preparation of the information presented in the Report, documental analyses, recalculations and other evidence gathering procedures, as appropriate.

Specifically, we carried out the following main procedures:

- reviewing the second party opinion;
- evaluating the design and implementation of the reporting processes and the controls regarding the Allocation of the Proceeds data and the environmental performance data;
- interviewing relevant staff at corporate and business level responsible for the Green Bonds management and reporting;
- interviewing relevant staff at corporate and business level responsible for providing and consolidating the Allocation of the Proceeds data and the environmental performance data;

- evaluating internal and external documentation, based on sampling, to determine whether the Allocation of the Proceeds data is supported by sufficient evidence in line with the eligible green projects and the environmental performance data resulting from green projects financed with the Green Bonds is prepared in line with the methodology included in the Framework.

## Conclusion

Based on the procedures performed, nothing has come to our attention that causes us to believe that the Allocation of the Proceeds data and the environmental performance data resulting from green projects financed with the Green Bonds included in the Green Bond Report - April 2022, are not prepared, in all material respects, in accordance with the "Green Bond Framework Summary" paragraph of the Report.

Rome, 27 May 2022

KPMG S.p.A.

Gabriele de Gennaro  
Director of Audit

# Other ESG indicators – EU Taxonomy assessment

## Summary of Alignment with the EU Taxonomy– Screening criteria

| Eligible Green Project   | Substantial contribution to      | Taxonomy activity                          | EU Technical Screening Criteria   | Alignment with Technical Screening Criteria   |
|--|----------------------------------|--|---|---|
| <b>REGIONAL - POP AND ROCK TRAIN</b><br><br><b>HIGH SPEED - FRECCIAROSSA1000 TRAIN</b> | <b>Climate change mitigation</b> | <b>Passenger interurban rail transport</b> | The activity complies with one of the following criteria:<br>(a) the trains and passenger coaches have zero direct (tailpipe) CO <sub>2</sub> emissions;<br>(b) the trains and passenger coaches have zero direct (tailpipe) CO <sub>2</sub> 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).<br>Regional trains “Pop & Rock” and High speed trains “ETR 1000” are electric and they have zero direct (tailpipe) CO <sub>2</sub> emissions                           |
| <b>ELECTRIC LOCOMOTIVE E494</b><br><br><b>WAGON SHIMMNS</b>                            | <b>Climate change mitigation</b> | <b>Freight rail transport</b>              | The activity complies with one or both of the following criteria:<br>(a) the trains and wagons have zero direct tailpipe CO <sub>2</sub> emission;<br>(b) the trains and wagons have zero direct tailpipe CO <sub>2</sub> emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode).<br>2. The trains and wagons are not dedicated to the transport of fossil fuels. | Eligible green projects fulfill criteria a).<br>Locomotives are electric and they have zero direct (tailpipe) CO <sub>2</sub> emissions<br><br>Trains and wagons are not dedicated to the transport of fossil fuels |

# Other ESG indicators – EU Taxonomy assessment

## Summary of Alignment with the EU Taxonomy– Do Not Significant Harm «DNSH» criteria

| Eligible Green Project  | Taxonomy activity   | Environmental objectives  | DNSH Criteria   | Alignment with DNSH Criteria   |
|---|---|---|---|--|
| <b>REGIONAL - POP AND ROCK TRAIN</b><br><br><b>HIGH SPEED - FRECCIAROSSA1000 TRAIN</b><br><br><b>ELECTRIC LOCOMOTIVE E494</b><br><br><b>WAGON SHIMMNS</b> | <b>Passenger interurban rail transport</b><br><br><b>Freight rail transport</b> | <b>Climate change adaptation</b><br><br><b>Transition to a circular economy</b> | Climate risk and vulnerability assessment<br><br>Measures are in place to manage waste in accordance with the waste hierarchy, in particular during maintenance | <p>Ferrovie has a risk management approach in place that includes climate risk. The Group has two main approaches to climate change adaptation: mitigation and adaptation. These dimensions are in line with the recommendations of the Task Force on Climate Related Financial Disclosures (TCFD) and aim to identify possible outcomes of climate-related risk and opportunity factors, at the Group and portfolio level.</p> <p>The Group set up a Project Team in 2020 tasked with developing an infrastructure adaptation plan, building resilience, and maintaining profits in the face of climate-related events. The Project Team carried out the first pilot project for vulnerability assessment, and physical risk modelling to identify the areas with the greatest exposure to climatic events. The assessment used the Representative Concentration Path (RCP) which is a greenhouse gas (GHG) concentration trajectory adopted by the Intergovernmental Panel on Climate Change (IPCC) and describes the different climatic futures possible depending on the volume of GHG in the atmosphere across varied timelines. Ferrovie assessed the adaptation measures for the risk arising under each scenario of the analysis.</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

## Summary of Alignment with the EU Taxonomy– Do Not Significant Harm «DNSH» criteria

| Eligible Green Project  | Taxonomy activity   | Environmental objectives                | DNSH Criteria   | Alignment with DNSH Criteria  |
|---|---|---|---|---|
| <b>REGIONAL - POP AND ROCK TRAIN</b><br><br><b>HIGH SPEED - FRECCIAROSSA1000 TRAIN</b><br><br><b>ELECTRIC LOCOMOTIVE E494</b><br><br><b>WAGON SHIMMNS</b> | <b>Passenger interurban rail transport</b><br><br><b>Freight rail transport</b> | <b>Pollution prevention and control</b> | 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 of the European Parliament and of the Council | All trains and locomotives are electric and do not have any direct emissions related to combustion. |

# Other ESG indicators – EU Taxonomy

## Summary of Alignment with the EU Taxonomy - Minimum safeguards 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).</p> <p>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 psychological and physical well-being of personnel.</p> <p>Since 2017, the Group has joined the UN's Global Compact ("GC") network.</p> |

# 3 Green Bonds for a total Eur 2.3 bn issued until March 2021

Total allocation and environmental impact (Series 10 and Series 17 )

**NEW REGIONAL ELECTRIC  
TRAINS "POP" AND "ROCK"**



€1,298 million



161 trains



**NEW HIGH SPEED ELECTRIC  
TRAINS "ETR1000"**



€284.4 million



8 trains



**NEW ELECTRIC LOCOMOTIVES AND  
WAGONS**



€118 million



40 locomotives  
140 wagons



**Total 36,671 tCO<sub>2</sub> saved \* in 2019, 2020 and 2021 thanks to the Series 10 and 17**

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 tCO<sub>2</sub> saved \*** in 2018 thanks to the Series 7.

# Appendix & Contacts



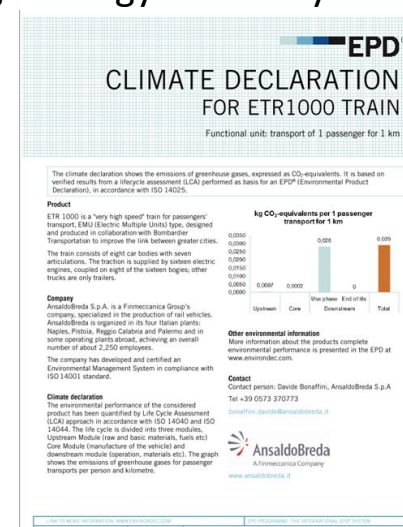
# EGP - New Regional Trains “Pop” & “Rock”

- New electric highly energy efficient trains both medium capacity (“Pop”) and high-capacity (“Rock”)
- Innovative technologies for energy efficiency (engines with natural ventilation, use of light alloys, LED lighting, CO<sub>2</sub> sensors for optimal climatization, smart parking mode, etc)
- Recyclability rate between 92% and 96%
- More bikes racks, with charging points for electric bikes
- Access to “White Certificate” mechanism (national incentives scheme for high energy efficiency investments) obtained on February 15th, 2017



# EGP - New High Speed Trains "ETR 1000"

- The **ETR 1000**, named "**Frecciarossa 1000**" is the new electric high-speed train of Trenitalia, comfortable, safe and environmentally friendly, designed to meet the most advanced technology (ERTMS/ECTS traction control system)
- Extremely accurate **aerodynamic design** to minimize motion resistance
- High **efficiency of traction system**
- **Recyclability** rate over **94%**
- First HS train provided with **Environmental Product Declaration (EPD)**
- **Access to "White Certificate"** mechanism (national incentives scheme for high energy efficiency investments) obtained on December 1st, 2015



# Focus EGP – New electric Locomotives and Wagons for freight transport

- **New electric locomotives “E494”** the latest model of the TRAXX family single-system locomotive, designed to **minimize energy consumption** and assures a significant efficiency improvement compared to the previous models
- **“Parking Mode”** and **“Eco-mode”** enable a very low energy consumption during the standstill and the use of the locomotive in the case of partial load reducing the vibration and noise level
- **Electrodynamic braking system** regenerates the energy to the overhead line, **magnetic components** with very high energy efficiency and **optimized cooling control** improve energy efficiency
- Oil free compressor and the new fire-fighting system reduce environmental impact



- **New wagons for coils transportation** are equipped with electronic monitoring devices for accident prevention solutions for coil fastening
- Lighter by 1400 kg
- Noise reduction with respect to existing wagons
- Wagons are equipped with electronic devices that allow to store data for “on condition maintenance” and to use each component for its entire useful life for a lower environmental impact

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