GREEN BOND REPORT
related to the EMTN bond issuance Series 10

1 December 2020
CONTENTS

01  FS Group Overview and Sustainability
02  Green Bond Framework Summary
03  Allocation and Impact Reporting
04  Appendix & Contacts
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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.

<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>*Net of (1,727)m of cons.adj.</td>
</tr>
<tr>
<td>**Net of (668)m of cons.adj.</td>
</tr>
</tbody>
</table>

**Group Revenue by segment (2019)**

- Infrastructure: 39%
- Transport: 58%
- Real Estate Services: 1%
- Other services: 3%

**Consolidated Highlights (€mn)**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>4,750**</td>
<td>5,974</td>
<td>12,435*</td>
<td>12,078</td>
</tr>
<tr>
<td>EBITDA</td>
<td>518</td>
<td>1,297</td>
<td>2,609</td>
<td>2,476</td>
</tr>
<tr>
<td>EBITDA Margin</td>
<td>10.9%</td>
<td>21.7%</td>
<td>21%</td>
<td>20.5%</td>
</tr>
<tr>
<td>EBIT</td>
<td>(343)</td>
<td>454</td>
<td>829</td>
<td>714</td>
</tr>
<tr>
<td>EBIT Margin</td>
<td>n.a.</td>
<td>7.5%</td>
<td>6.7%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Net Income</td>
<td>(419)</td>
<td>362</td>
<td>584</td>
<td>559</td>
</tr>
<tr>
<td>Net Invested Capital</td>
<td>50,110</td>
<td>49,977</td>
<td>49,977</td>
<td>48,418</td>
</tr>
<tr>
<td>Equity</td>
<td>41,891</td>
<td>42,318</td>
<td>42,318</td>
<td>41,763</td>
</tr>
<tr>
<td>Net Financial Debt</td>
<td>8,219</td>
<td>7,659</td>
<td>7,659</td>
<td>6,655</td>
</tr>
</tbody>
</table>
A business model which fully integrates sustainability

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

Our vision is to create an offer of integrated and sustainable mobility and logistics services, in compliance with safety, using transport infrastructures in synergy with other operators and creating value in Italy and abroad.

HOW WE OPERATE

SUSTAINABILITY

- planning new infrastructures
- Management and maintenance of the railway/road infrastructure and fleets (trains, trams and buses)
- defining intermodal transport services
- providing passenger and freight transport services
- monitoring and investments in travel safety

FINANCIAL CAPITAL

- planning, assessing and managing investments
- debt capital market
- project finance
- soft financing

PHYSICAL CAPITAL

- recruiting and managing personnel
- training and development
- relationships with passengers, customers and suppliers
- relationships with institutions

HUMAN AND RELATIONAL CAPITAL

- innovation
- organisation and administration
- planning and control
- risk management
- internationalisation

INTELLECTUAL AND ORGANISATIONAL CAPITAL

- energy management
- environmental management systems

NATURAL CAPITAL

- recruiting and managing personnel
- training and development
- relationships with passengers, customers and suppliers
- relationships with institutions

RESULTS

- passengers transport services
- freight
- modal services
- integrated logistics services
- new infrastructures
- international services
- engineering services

INPUTS

- putting people's needs first
- people safety
- financial performance and investments
- attracting and satisfying employees
- value creation and competitiveness for the country
- environmental sustainability

INNOVATION

SERVICE QUALITY

PEOPLE FIRST

- innovation
- organisation and administration
- planning and control
- risk management
- internationalisation

INNOVATION
Our agenda for the future of transport

The Group signed the “UIC declaration on Sustainable Mobility and Transport”, formalising its commitment to responsible practices in terms of human rights, labour conditions, environment and anti-corruption, in line with the principles of the UN Global Compact subscribed in 2017. The Group is currently committed to six goals in particular, which constitute the base for the long-term targets:

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target</th>
<th>Contribution on the SDGs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sustainable mobility</strong></td>
<td>Passengers: 5% modal shift from privately-owned cars to shared public mobility and soft modes of transport by 2030 (15% by 2050), compared to 2015. Freight: 50% of transport by road and 50% of transport by rail by 2050 (for distances over 300 km).</td>
<td>![Icons for SDGs]</td>
</tr>
<tr>
<td><strong>Energy and emissions</strong></td>
<td>Carbon-neutral by 2050 (including traction)</td>
<td>![Icons for SDGs]</td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td>Zero fatalities involving passengers on Fs Italiane Group vehicles (trains, buses and other mobility systems), people interfering with the railway ecosystem, FS Italiane Group personnel and employees of contracting companies, by 2050. 50% fewer fatalities on roads operated by Anas by 2030, compared to 2015</td>
<td>![Icons for SDGs]</td>
</tr>
</tbody>
</table>
Green Bond Framework Summary
FS strongly believes that rail and public transport are critical for sustainable development and global efforts to fight climate change, by facilitating the modal shift away from cars and trucks into less carbon intensive modes of transport.

- FS updated its Green Bond Framework which is in accordance with the 2018 ICMA Green Bond Principles and which aims at financing projects with a positive impact in terms of environmental and social sustainability. The GBF obtained a Second Party Opinion from Sustainalytics and the EGPs are aligned with EU taxonomy.

Use of Proceeds

- Investments in public passengers transport rolling stock renewal
  - NEW ELECTRIC MULTIPLE UNIT (EMU) TRAINS FOR REGIONAL PASSENGER TRANSPORT
  - NEW ELECTRIC HIGH SPEED TRAINS “ETR 1000”

- Investments in freight transport rolling stock renewal*
  - NEW ELECTRIC LOCOMOTIVES FOR FREIGHT TRANSPORT
  - NEW WAGONS FOR FREIGHT TRANSPORT

FS may decide to include additional Project Categories for future issuances

Look-back period of 3 years

* aligned with criterion 5 of Transport criteria - Low Carbon Land Transport and the Climate Bonds Standard. In 2018 MIR transported 0,0001% of the ONU Codes 1972 (natural gas) as fossil fuel, on the total tons of transported goods
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

SGD 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

- **Sustainalytics** provided a **Second Party Opinion** on the Green Bond Framework and a **Pre-issuance verification** on the Climate Bonds standard.
- **FS** obtained the **Climate Bonds certification** on its second green bond issuance.
- **KPMG** provided a **Third Party Opinion** on the Green Bond Report.

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**Ferrovie Green Bond Framework**

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

**Impact of Use of Proceeds**

"Given the declared (estimated) energy improvements of the new electric trains compared to previous models, as well as recyclability of the trains, **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.**"

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**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."

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*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 Italiane Climate Bonds Initiative Certification

First Italian issuer to obtain the CBI Certification

• FS Italiane obtained the Climate Bonds Initiative Certification for its second green bond issuance

• The Eligible Green Projects selected for the FS green bond align with the Low Carbon Land Transport criteria as outlined by the Climate Bonds Standard*:
  - Criterion 3: Emissions threshold for public passenger transport - All infrastructure, infrastructure upgrades, rolling stock and vehicles for electrified public transport pass this criterion, including electrified rail, trams, trolleybuses and cable cars. Buses with no direct emissions (electric and hydrogen) also pass
  - Criterion 4: Emissions threshold for dedicated freight railway lines - All infrastructure, infrastructure upgrades and rolling stock for electrified freight rail lines pass this criterion
  - Additionally, as per CBI’s requirements for dedicated freight railway lines, Ferrovie has confirmed that no more than 50% on the share of fossil fuel freight t-km will be transported by the line

*Climate Bonds Standard Version 2.1 and Low Carbon Land Transport Version 1.0

First Italian issuer to obtain the CBI Certification
Allocation and Impact Report

Second Green Bond
**Euro 700 million second Green Bond – EMTN SERIES 10**

**Deal review**

**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**
  - Italy: 36%
  - France: 36%
  - Other: 1%
  - Nordics: 1%
  - Benelux: 5%
  - UK+Ire: 7%
  - Germany+Australia: 7%
  - Iberia: 3%
  - Switzerland: 2%
  - Asia: 1%
  - Other: 1%

- **Investor type breakdown**
  - Funds/AM: 42.7%
  - Insurances & Pension Funds: 20.9%
  - Official Institutions: 22.3%
  - Banks & PB: 13.8%
  - Official Institutions: 22.3%
  - Other: 0.3%

**First Italian bond CBI Certified**

- **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**

**Informazione pubblica**
Allocation of the Proceeds

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

<table>
<thead>
<tr>
<th>ELIGIBLE GREEN PROJECT</th>
<th>Allocated net proceeds</th>
<th>Unit of vehicle funded (equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Investments in public passenger transport rolling stock renewal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Electric Multiple Unit (EMU) Trains For Regional Passenger Transport: “Pop” and “Rock”</td>
<td>€ 463.77 million</td>
<td>53</td>
</tr>
<tr>
<td>New High Speed Trains “Frecciarossa1000”</td>
<td>€ 117.60 million</td>
<td>3</td>
</tr>
<tr>
<td><strong>2. Investments in freight transport rolling stock renewal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Electric Locomotives For Freight Transport</td>
<td>€ 103.6 million</td>
<td>40</td>
</tr>
<tr>
<td>New Wagons For Freight Transport</td>
<td>€ 14.3 million</td>
<td>140</td>
</tr>
<tr>
<td><strong>TOTAL NET PROCEEDS</strong></td>
<td>€ 699,279,000</td>
<td>100% financing of new projects</td>
</tr>
</tbody>
</table>
### Impact reporting - environmental performance

«train vs. train» approach

<table>
<thead>
<tr>
<th>Project Category</th>
<th>Eligible Green Project</th>
<th>Unit of Vehicle funded</th>
<th>Energy Saving MWh</th>
<th>Baseline GHG emissions tCO2</th>
<th>Total GHG emissions tCO2</th>
<th>Total GHG emissions avoided tCO2</th>
<th>Total GHG emissions avoided %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investments in public passenger transport rolling stock renewal</td>
<td>REGIONAL - POP AND ROCK TRAIN (1)</td>
<td>53</td>
<td>24,944</td>
<td>38,729</td>
<td>30,837</td>
<td>-7,892</td>
<td>-20.40%</td>
</tr>
<tr>
<td></td>
<td>HIGH SPEED - FRECCiarossa1000 TRAIN (2)</td>
<td>3</td>
<td>6,035</td>
<td>9,324</td>
<td>7,415</td>
<td>-1,909</td>
<td>-20.50%</td>
</tr>
<tr>
<td>Investments in freight transport rolling stock renewal</td>
<td>ELECTRIC LOCOMOTIVE E494 (3)</td>
<td>40</td>
<td>152</td>
<td>1,609</td>
<td>1,561</td>
<td>-48</td>
<td>-3.00%</td>
</tr>
<tr>
<td></td>
<td>WAGON SHIMMNS (3)</td>
<td>140</td>
<td>17</td>
<td>209.8</td>
<td>204.4</td>
<td>-5.4</td>
<td>-2.60%</td>
</tr>
</tbody>
</table>

- Data refer to 1 year time period (full 2019) for passenger category, whereas refer to semi-annual (I semester 2020) data for the freight category.

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”. Actual consumption will be available starting from 2021. 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 (Alstom, Hitachi, CAF and Bombardier).

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 but refer to the first semester 2020 only (partially impacted by the lockdown). 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$_2^{(1)}$)

\[ \text{Annual average consumption (MWh) of the relevant train} \times \text{CO}_2 \text{ emission factor (gCO}_2/\text{kWh})/1000 \]

- The **Annual Average Consumption** is actual or estimate depending on the deployment status of project \(^{(2)}\)
- The **CO}_2 \text{ Emission Factor} \ (316.4 \text{ gCO}_2/\text{kWh}) \text{is the last available CO}_2 \text{ emission factor related to the Italian electricity production mix as calculated by ISPRA}^{(3)}

\(^{(1)}\): Location-based approach. CO$_2$ emission are included, other gas (CH$_4$ e N$_2$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) Rapporti 303/2018, «Fattori di emissione atmosferica di gas a effetto serra nel settore elettrico nazionale e nei principali Paesi Europei» (Tabella 2.4, pag. 32, Produzione elettrica lorda anno 2017)
Third Party Opinion

Independent auditors’ report on the Green Bond Report

To the board of directors of Ferrovie dello Stato Italiane S.p.A.

We have been engaged to perform a limited assurance engagement on the Allocation and Impact Reporting resulted from green projects financed with the Green Bond included in the Green Bond Report related to the EMTN bond issuance Series 10 (the “Report”) of Ferrovie dello Stato Italiane S.p.A. (the “Company”) prepared on the basis of the Green Bond Framework as of June 2019 (the “Framework”), developed by the Company in accordance with the Green Bond Principles, 2018 (the “Principles”) related to the Green Bond issued on 9 July 2018 (the “Green Bond”).

Responsibilities of the Company’s directors for the Report

The directors are responsible for the preparation of the Report in accordance with the Framework, developed by the Company in accordance with the Principles. In particular the directors are responsible for the preparation of the Allocation and Impact Reporting in accordance with the eligible green projects categories and of the Environmental Benefits data resulting from green projects financed with the Green Bond included in the Report as described in the “Framework summary” paragraph of the Report.

The directors are also responsible for such internal control as they determine is necessary to enable the preparation of a Report that is free from material misstatement, whether due to fraud or error. It also includes identifying the content of the Report, selecting and applying policies, and making judgments and estimates that are reasonable in the circumstances.

Auditors’ independence and quality control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants 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 Control 1 (ISQC 1) and, accordingly, maintains a system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Auditors’ responsibility

Our responsibility is to express a conclusion, based on the procedures performed, about the Allocation and Impact Reporting in accordance with the eligible green projects categories and on the Environmental Benefits data resulting from green projects financed with the Green Bond included in the Report as described in the “Framework summary” paragraph of the Report.
Third Party Opinion

We carried out our work in accordance with the criteria established by the 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 ("IAASB") 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 which addresses the applicability of the eligible green projects categories used in the preparation of Allocation and Impact Reporting in the Report;
- reviewing the application of the methodology included in the Framework used in the preparation of the Allocation and Impact Reporting in the Report;
- evaluating the design and implementation of the reporting processes and the controls regarding the Allocation and Impact Reporting;
- interviewing relevant staff at corporate and business level responsible for the Green Bond management and reporting;
- interviewing relevant staff at corporate and business level responsible for providing and consolidating the Allocation and Impact Reporting;
- evaluating internal and external documentation, based on sampling, to determine whether the Allocation and Impact Reporting is supported by sufficient evidence in line with the eligible green projects categories and resulting from green projects financed with the Green Bond 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 Allocation and Impact Reporting resulting from green projects financed with the Green Bond included in the Green Bond Report related to the EMTN bond issuance Series 10 are not prepared in all material respects, in accordance with the "Framework summary" paragraph of the Report.

Rome, 1 December 2020

KPMG S.p.A.

Benedetto Garucci
Director of Audit

Informazione pubblica
Climate Bond Initiative Post-Issuance Verification

• Sustainalytics released the Post-Issuance Verification Letter for the benefit of the Climate Bonds Initiative Certificate

• Climate Bonds Standard Board approved the Post Issuance Certification

Ferrovie dello Stato Italiane S.p.A.

POST-ISSUANCE VERIFICATION LETTER

Low Carbon Transportation CRITERIA OF THE CLIMATE BONDS STANDARD

Type of engagement: Assurance Engagement
Period engagement was carried out: November 2020
Approved verifier: Sustainalytics
Contact address for engagement: De Nederlands
Post-Issuance Engagement Leader: E

No exceptions were identified. All projects aligned with the Post-Issuance Requirements of the Climate Bonds Standard Version 3.0 and were in conformance with the Low Carbon Transportation criteria.

Conclusion
Based on the limited assurance procedures conducted and evidence obtained, nothing has come to Sustainalytics’ attention that causes us to believe that, in all material respects, the allocation of EUR 699,279,000 from the Ferrovie Certified Climate Bonds, issued to fund eligible green projects, is not in conformance with the Post-Issuance Requirements of the Climate Bonds Standard.
## Other ESG indicators - Passenger

### An assessment of the modal shift generated by the projects – «train vs. car» approach

<table>
<thead>
<tr>
<th>Eligible Green Project</th>
<th>Total GHG emissions avoided tCO₂ due to the modal shift</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASSENGER TRANSPORT REGIONAL - POP AND ROCK TRAINS</td>
<td><strong>270,000 tCO₂ avoided thanks to 60 new trains until 2032 in a proxy Region</strong></td>
<td>The assessment has been done on a proxy Italian Region where the fleet renewal with the new Pop and Rock will be significant and where the Public Service Contract has one of the longest duration (2032). For this reason, it is reasonable to suppose that the increase in the passengers up to 2032 will be mainly generated by the introduction of the new trains. The baseline considered to derive the environmental impact of the modal shift (in terms of avoided CO₂ emissions), is that all passengers would continue using a car as the alternative means of transportation, in the case that project had not been financed. Thus, the estimation has been done comparing the CO₂/paxKm for the new trains Pop and Rock to the CO₂/paxKm of cars. For the cars’ emissions factor have been assumed the ISPRA¹ data and the European average from Ecopassenger Methodology² for the load factor . For the Pop and Rock emissions see the Calculation Methodology, whereas load factor and production are those expected in the Public Service Contract of the proxy Region. The results have been normalized to the 60 units funded so far by the two green bonds. The exercise will be developed for each new green bond issue. ➢ The analysis does not take into account COVID-19 crisis impact on 2020 and potential impact on the coming years, as currently it is difficult to predict and quantify the overall impact that COVID-19 may have in the future on Group’s business and specifically on the regional transportation business.</td>
</tr>
</tbody>
</table>

¹: 168 gCO₂/km; https://www.isprambiente.gov.it/it
Other ESG indicators - Freight

An assessment of the modal shift generated by the projects «train vs. truck» approach

<table>
<thead>
<tr>
<th>Eligible Green Project</th>
<th>Total GHG emissions avoided tCO2 due to the modal shift</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREIGHT TRANSPORT ROLLING STOCK</td>
<td>50% CO2 emission avoided thanks to the new electric locomotives and wagons VS. trucks in a proxy route</td>
<td>The assessment has been done on a proxy route (260km Ravenna-Piadena) where the new electric locomotives and wagons is already in operation for the transportation of coils. For this reason, it is reasonable to suppose that the increase in the passengers up to 2032 will be generated by the introduction of the new trains. Main assumptions: ➢ A wagon is able to transport roughly 80t of goods (coils in this specific case), whereas a trailer truck is able to transport roughly 40t of goods. Therefore, 1 wagon is able to transport the equivalent freight of 2 trailer trucks. ➢ 1 electric locomotive drives 20 wagons, equivalent to 40 trucks. ➢ The route Ravenna-Piadena (260 km) is covered by a train of 20 wagons, 5 times in a month fully loaded and 5 times (back) unloaded. Therefore, there are 200 trucks less in 1 month between Ravenna e Piadena thanks to the loco and wagons. The standard composition of train, as above said transports 1,600t of goods (20 wagons fo 80t each). ➢ This train produces 3,25tCO2 in the route Ravenna-Piadena (260 km) ➢ 40 trailer trucks produce 7tCO2 to cover 260 km Therefore, a loaded train which cover 260km avoids 50% of CO2 emission compared to an equivalent freight transported by trucks.</td>
</tr>
</tbody>
</table>

1: one trailer truck on average produces 675 g/kmCO2 -> in 260km produces 175,5 kg; https://www.isprambiente.gov.it/it
2: calculation based on https://www.ecotransit.org/methodology.en.html
## Other ESG indicators – EU Taxonomy

Inspired by the EU Taxonomy «Do Not Significant Harm» assessment

<table>
<thead>
<tr>
<th>Eligible Green Project</th>
<th>Environmental objective</th>
<th>Recyclability Rate</th>
<th>Other waste management and low environment impact features</th>
</tr>
</thead>
<tbody>
<tr>
<td>REGIONAL - POP AND ROCK TRAIN</td>
<td>Circular Economy</td>
<td>Between 92% and 96%</td>
<td>Life Cycle Assessment (LCA), to assess the environmental performance for the entire life cycle.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 94%</td>
<td>Maximisation of environmentally compatible and recycled material for the construction.</td>
</tr>
<tr>
<td>HIGH SPEED - FRECCIAROSSA1000 TRAIN</td>
<td></td>
<td>&gt; 70%</td>
<td>In accordance with UE Dir. 2066/66/CE batteries with harmful metals are marked for a correct waste disposal.</td>
</tr>
<tr>
<td>ELECTRIC LOCOMOTIVE E494</td>
<td></td>
<td>&gt; 97%</td>
<td>Oil free compressor and the new fire-fighting system reduce environmental impact.</td>
</tr>
<tr>
<td>WAGON SHIMMNS</td>
<td></td>
<td></td>
<td>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</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eligible Green Project</th>
<th>Environmental objective</th>
<th>Minimise noise and vibrations of rolling stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>REGIONAL - POP AND ROCK TRAIN</td>
<td>Pollutioin</td>
<td>Thresholds in line with Regulation 1304/2014 Noise TSI: Electric multiple units &lt;80dB at 80km/h &amp; &lt;95 at 250 km/h</td>
</tr>
<tr>
<td>HIGH SPEED - FRECCIAROSSA1000 TRAIN</td>
<td></td>
<td>Thresholds in line with Regulation 1304/2014 Noise TSI: Electric locomotives &lt;84dB at 80km/h</td>
</tr>
<tr>
<td>ELECTRIC LOCOMOTIVE E494</td>
<td></td>
<td>Thresholds in line with Regulation 1304/2014 Noise TSI: Wagons &lt;83dB at 80km/h</td>
</tr>
<tr>
<td>WAGON SHIMMNS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Other ESG indicators – EU Taxonomy

**Inspired by the EU Taxonomy Adaptation and minimum safeguards assessment**

<table>
<thead>
<tr>
<th>Eligible Green Project</th>
<th>Adaptation: criterion A1 and A2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALL</strong></td>
<td>The Group constantly monitors current and expected risks and opportunities, including social and environmental aspects, particularly those relating to climate change. The Group has a project in place that aims to integrate physical and non-physical measures aimed at reducing - to the extent possible and on a best effort basis - all material risks that have been identified through a climate risk assessment. The Group activities do not adversely affect the adaptation efforts of other people, nature and assets.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eligible Green Project</th>
<th>Minimum safeguards</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALL</strong></td>
<td>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. 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 psychological and physical well-being of personnel. Since 2017, the Group has joined the UN’s Global Compact (“GC”) network.</td>
</tr>
</tbody>
</table>
2 Green Bonds for a total 1.3 billion euro issued so far

Total allocation and environmental impact so far (2018-2019)

- **REGIONAL TRAINS POP & ROCK**
  - €515 million
  - 60 trains

- **HIGH-SPEED TRAIN ETR 1000**
  - €667 million
  - 20 trains

- **FREIGHT ELECTRIC LOCOMOTIVES and WAGONS**
  - €118 million
  - 40 locomotives
  - 140 wagons

Total 33,600 tCO2 saved* in 2 years

FS will keep on green issuance to complete regional and high speed fleet upgrading and to fund further «green» investments

* Data related to the POP and ROCK are estimates, please see slide 16 for details.
Appendix & Contacts
ECP - 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, CO₂ 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.

- **Electrodynamiс 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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https://www.fsitaliane.it/content/fsitaliane/en/investor-relations.html