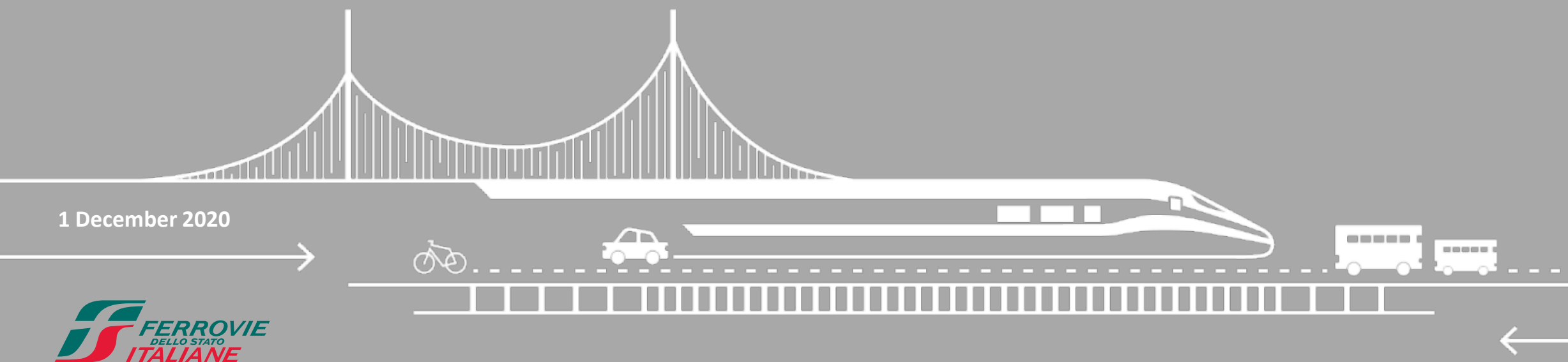


# GREEN BOND REPORT

## related to the EMTN bond issuance Series 10



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- 04** Appendix & Contacts



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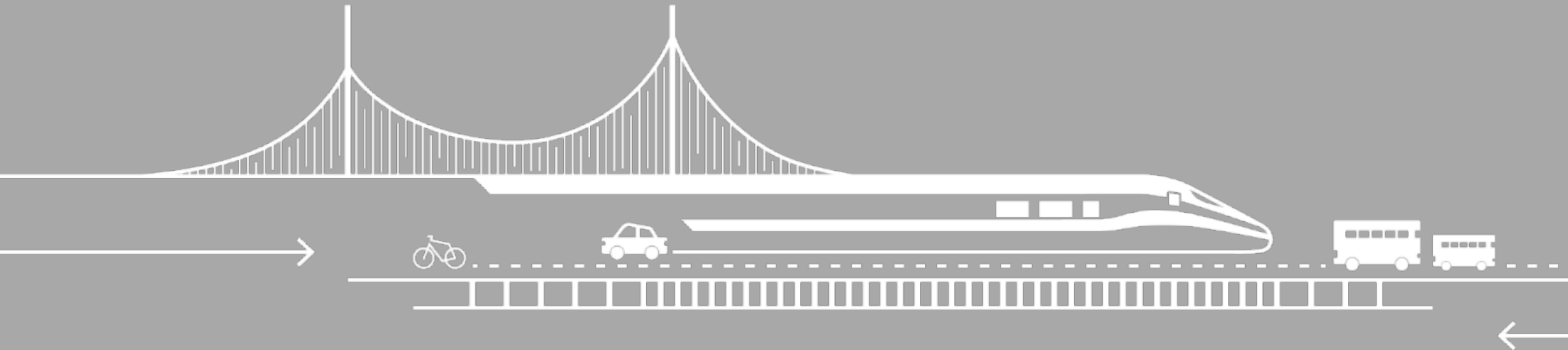
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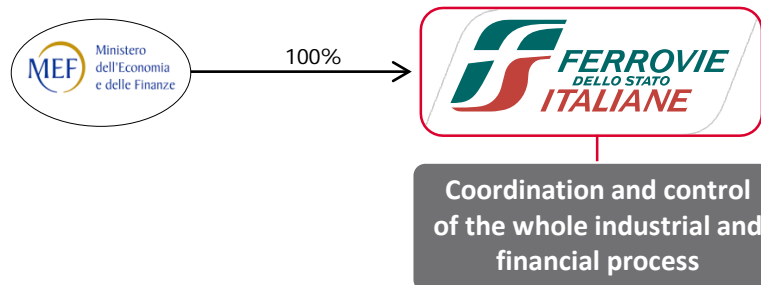
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# FS Group Overview and Sustainability

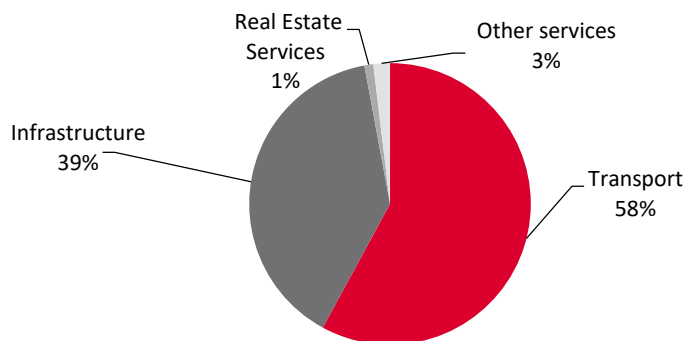


# FS Group in a snapshot

**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.



**Group Revenue by segment (2019) \***



	Consolidated Highlights (€mn)			
	30 June 2020	30 June 2029	31 Dec. 2019	31 Dec. 2018
Revenue	4,750**	5,974	12,435*	12,078
EBITDA	518	1,297	2,609	2,476
EBITDA Margin	10.9%	21.7%	21%	20.5%
EBIT	(343)	454	829	714
EBIT Margin	n.a.	7.5%	6.7%	5.9%
Net Income	(419)	362	584	559
Net Invested Capital	50,110	49,977	49,977	48,418
Equity	41,891	42,318	42,318	41,763
Net Financial Debt	8,219	7,659	7,659	6,655

Source: FS 2018-2019 Annual Report

\*Net of (1,727)m of cons.adj.

\*\*Net of (668)m of cons.adj.

# 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

**INPUTS**

- Financial capital
- Physical capital
- Human and relational capital
- Intellectual and organisational capital
- Natural capital



**RESULTS**

- Passengers transport services
- Freight modal services
- integrated logistics services
- new infrastructures
- international services
- engineering services

**IMPACTS**

- Putting people's needs first
- People safety
- Financial performance and investments
- Value creation and competitiveness for the country
- Service quality
- Technological skills and progress
- Attracting and satisfying employees
- Environmental sustainability

# 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.

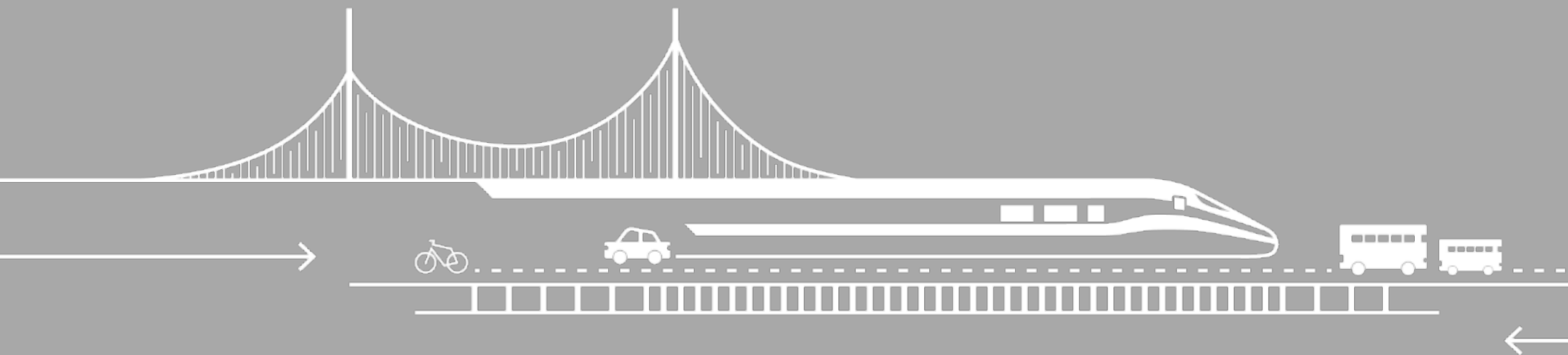
The Group is currently committed to six goals in particular, which constitute the base for the long-term targets:



## FS GROUP LONG TERM GOALS 2030-2050

Objective	Target	Contribution on the SDGs
<b>Sustainable mobility</b> Increase the percentage of passengers and freight transported using alternative, collective mobility solutions	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).	
<b>Energy and emissions</b> Achieve a carbon-neutral energy mix	Carbon-neutral by 2050 (including traction)	
<b>Safety</b> Become Europe’s best-in-class	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	

# Green Bond Framework Summary



# Green Bond Framework



## Use of Proceeds

- 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**.



### ELIGIBLE GREEN PROJECTS - EGB

*To ensure energy efficiency improvements, carbons emission reduction and modal shift to rail both for the local and long distance public transport and for freight transport, among other improvements related to air quality and comfort for passengers and safety for freight forwarding*

#### 1. 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"

#### 2. Investments in freight transport rolling stock renewal\*

NEW ELECTRIC LOCOMOTIVES FOR FREIGHT TRANSPORT

NEW WAGONS FOR FREIGHT TRANSPORT

**included since June 2019**

FS may decide to include additional Project Categories for future issuances

**Look-back period of 3 years**

Use of Proceeds

# 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

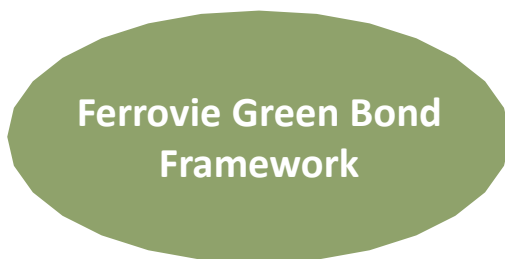


**SDG 12.2:** By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and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

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

# External Reviews

- **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



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



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



*“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.”*

*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

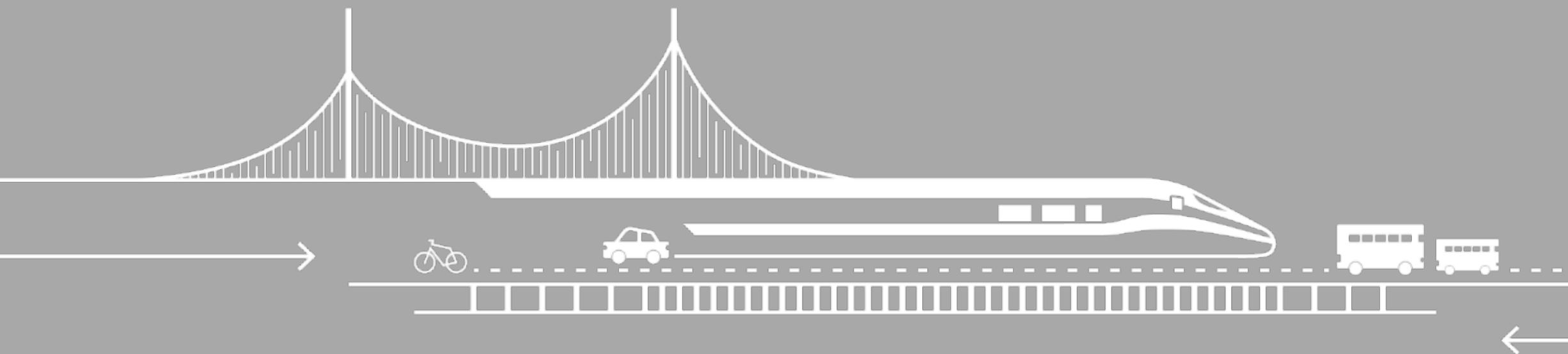
- FS Italiane obtained the Climate Bonds Initiative Certification for its second green bond issuance
- The Eligible Green Projects selected for the FS green bond align with the **Low Carbon Land Transport criteria** as outlined by the Climate Bonds Standard\*:
  - Criterion 3: Emissions threshold for 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



**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

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

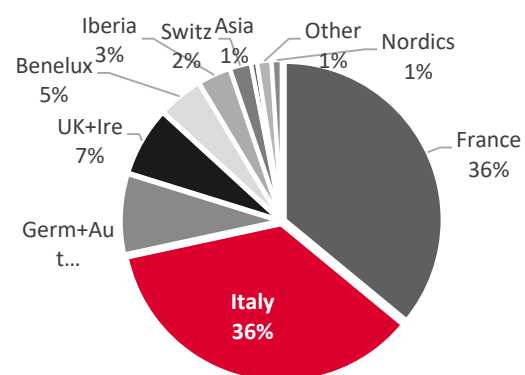


**EUR 700,000,000**

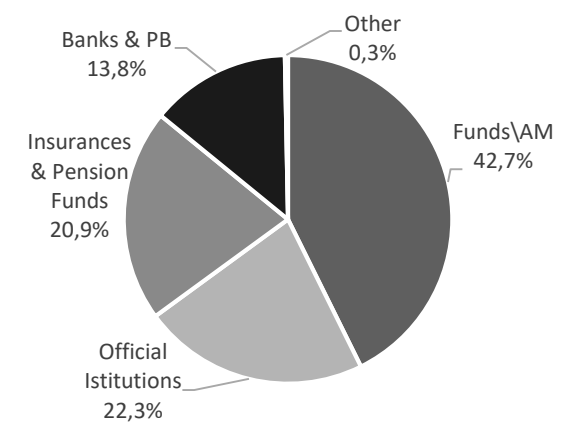


Green Senior Unsecured Notes  
1.125% Due 2026

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	Allocated net proceeds	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 - 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 %
Investments in public <u>passenger</u> transport rolling stock renewal	REGIONAL - POP AND ROCK TRAIN <sup>(1)</sup>	53	24,944	38,729	30,837	-7,892	-20.40%
	HIGH SPEED - FRECCIAROSSA1000 TRAIN <sup>(2)</sup>	3	6,035	9,324	7,415	-1,909	-20.50%
Investments in <u>freight</u> transport rolling stock renewal	ELECTRIC LOCOMOTIVE E494 <sup>(3)</sup>	40	152	1,609	1,561	-48	-3.00%
	WAGON SHIMMNS <sup>(3)</sup>	140	17	209.8	204.4	-5.4	-2.60%

- 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<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 last available 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) 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



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## 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 resulting 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 2019 (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 (Italia) 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.

KPMG S.p.A. è una società per azioni di diritto italiano e fa parte del network KPMG di entità indipendenti affiliate a KPMG International Limited, società di diritto inglese.

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# Third Party Opinion



KPMG

# 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 **Exceptions**  
Netherlands

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

Eligible Green Project	Total GHG emissions avoided tCO2 due to the modal shift	Rationale
<p><b>PASSENGER TRANSPORT REGIONAL - POP AND ROCK TRAINS</b></p>	<p><b>270,000 tCO2 avoided</b> thanks to 60 new trains until 2032 in a proxy Region</p>	<p>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.</p> <p>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.</p> <p>Thus, the estimation has been done comparing the CO2/paxKm for the new trains Pop and Rock to the CO2/paxKm of cars.</p> <p>For the cars' emissions factor have been assumed the ISPRA<sup>1</sup> data and the European average from Ecopassenger Methodology<sup>2</sup> for the load factor .</p> <p>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.</p> <p>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.</p> <p>➤ 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.</p>



# Other ESG indicators - Freight

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

Eligible Green Project	Total GHG emissions avoided tCO2 due to the modal shift	Rationale
<p><b>FREIGHT TRANSPORT ROLLING STOCK</b></p>	<p><b>50% CO2 emission avoided</b> thanks to the new electric locomotives and wagons VS. trucks in a proxy route</p>	<p>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.</p> <p>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.</p> <p><u>Main assumptions:</u></p> <ul style="list-style-type: none"> <li>➢ 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. <b>Therefore, 1 wagon is able to transport the equivalent freight of 2 trailer trucks.</b></li> <li>➢ 1 electric locomotive drives 20 wagons, equivalent to 40 trucks.</li> <li>➢ 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.</li> </ul> <p><b>Therefore, there are 200 trucks less in 1 month between Ravenna e Piadena thanks to the loco and wagons.</b></p> <p>The standard composition of train, as above said transports 1,600t of goods (20wagons fo 80t each).</p> <ul style="list-style-type: none"> <li>➢ This <b>train</b> produces <b>3,25tCO2</b> in the route Ravenna-Piadena (260 km) <sup>1</sup></li> <li>➢ <b>40</b> trailer trucks produce <b>7tCO2</b> to cover 260 km <sup>2</sup></li> </ul> <p><b><u>Therefore, a loaded train which cover 260km avoids 50% of CO2 emission compared to an equivalent freight transported by trucks.</u></b></p>

# Other ESG indicators – EU Taxonomy

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

Eligible Green Project	Environmental objective	Recyclability Rate	Other waste management and low environment impact features
REGIONAL - POP AND ROCK TRAIN	Circular Economy	Between <b>92%</b> and <b>96%</b>	Life Cycle Assessment (LCA), to assess the environmental performance for the entire life cycle. Maximisation of environmentally compatible and recycled material for the construction. In accordance with UE Dir. 2066/66/CE batteries with harmful metals are marked for a correct waste disposal.
HIGH SPEED - FRECCIAROSSA1000 TRAIN		> <b>94%</b>	
ELECTRIC LOCOMOTIVE E494		> <b>70%</b>	Oil free compressor and the new fire-fighting system reduce environmental impact
WAGON SHIMMNS		> <b>97%</b>	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
Eligible Green Project	Environmental objective	Minimise noise and vibrations of rolling stock	
REGIONAL - POP AND ROCK TRAIN	Pollution	Thresholds in line with <b>Regulation 1304/2014 Noise TSI</b> : Electric multiple units <80dB at 80km/h & <95 at 250 km/h	
HIGH SPEED - FRECCIAROSSA1000 TRAIN		Thresholds in line with <b>Regulation 1304/2014 Noise TSI</b> : Electric locomotives <84dB at 80km/h	
ELECTRIC LOCOMOTIVE E494		Thresholds in line with <b>Regulation 1304/2014 Noise TSI</b> : Wagons <83dB at 80km/h	
WAGON SHIMMNS		Thresholds in line with <b>Regulation 1304/2014 Noise TSI</b> : Wagons <83dB at 80km/h	

# Other ESG indicators – EU Taxonomy

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

Eligible Green Project	Adaptation: criterion A1 and A2
ALL	<p>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.</p>
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 psychological and physical well-being of personnel.</p> <p>Since 2017, the Group has joined the UN's Global Compact ("GC") network.</p>

# 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

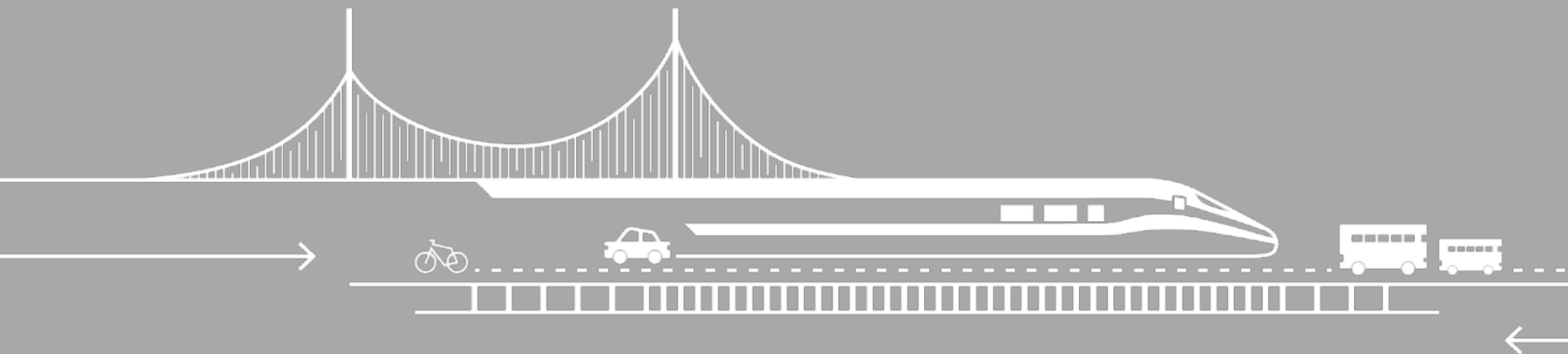


**Total 33,600 tCO2 saved\* in 2 years**

**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



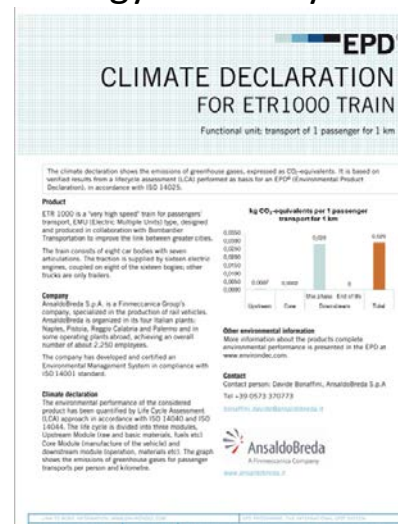
# EGP - New Regional Trains “Pop” & “Rock”

- 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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