

Second-Party Opinion

Ferrovie dello Stato Italiane Green Bond Framework



Evaluation Summary

Sustainalytics is of the opinion that the Ferrovie dello Stato Italiane Green Bond Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2021. This assessment is based on the following:



USE OF PROCEEDS The eligible category for the use of proceeds – Clean Transportation – is aligned with those recognized by the Green Bond Principles. Sustainalytics considers that the eligible category is expected to contribute to a reduction in carbon emissions by supporting the transition towards low-carbon transport and advance the UN Sustainable Development Goals, specifically SDGs 9, 11 and 12.



PROJECT EVALUATION / SELECTION Ferrovie's Green Bond Working Committee will be responsible for the evaluation and selection of projects in line with the eligibility criteria. Ferrovie's internal risk management system of assessing, identifying and mitigating environmental and social risks is applicable to all allocation decisions made under the Framework. Sustainalytics considers these risk management systems and project selection process in line with market practice.



MANAGEMENT OF PROCEEDS Ferrovie's Treasury team will manage and track the allocation of proceeds using an internal green bond register. Ferrovie commits to fully allocate net proceeds within 24 months of issuance. Unallocated proceeds will be placed into Ferrovie's treasury accounts and may also be temporarily invested in projects via intercompany loans to its subsidiaries. This is in line with market practice.



REPORTING Ferrovie commits to report on the allocation of proceeds on its website on an annual basis until full allocation. Allocation reporting will include the total amount allocated to eligible projects, balance of unallocated proceeds and the amount of financing versus refinancing. In addition, Ferrovie is committed to reporting on relevant impact metrics. Sustainalytics views Ferrovie's allocation and impact reporting commitments as aligned with market practice.

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EU Taxonomy

Sustainalytics has assessed Ferrovie dello Stato Italiane SpA's Green Bond Framework for alignment with the EU Taxonomy, and is of the opinion that all of the Framework's eligibility criteria (which map to three economic activities) align with the applicable Technical Screening Criteria (TSC) in the EU Taxonomy, and the 11 sub-criteria all align with the Do No Significant Harm (DNSH) criteria. Sustainalytics is also of the opinion that the activities and projects to be financed under the Framework will be carried out in alignment with the EU Taxonomy's Minimum Safeguards.

Introduction

Ferrovie dello Stato Italiane SpA (“Ferrovie” or the “Group”) is an industrial holding company owned by the Ministry of Economy and Finance of Italy. The Group, through its subsidiaries, provides passenger and cargo transportation services via rail, roads and waterways. It also develops, operates and maintains railway and road network infrastructure. Ferrovie was established in 1905 and is headquartered in Rome, Italy. The Group serves 750 million rail passengers each year by operating approximately 10,000 trains.

Ferrovie has developed the Ferrovie dello Stato Italiane Green Bond Framework (the “Framework”) under which it intends to issue green bonds and use the proceeds to finance and refinance, in whole or in part, existing and future projects that are expected to support the transition towards low-carbon rail transport in Italy. The Framework defines eligibility criteria in one green category:

1. Clean Transportation

Ferrovie engaged Sustainalytics to review the Ferrovie dello Stato Italiane Green Bond Framework, dated June 2022, and provide a Second-Party Opinion on the Framework’s environmental credentials and its alignment with the Green Bond Principles 2021 (GBP).¹ The Framework will be available in a separate document.² The Framework updates and replaces Ferrovie’s 2019 Green Bond Framework, for which Sustainalytics provided a second-party opinion in June 2019 and an EU Taxonomy assessment in December 2021.³

Scope of work and limitations of Sustainalytics’ Second-Party Opinion

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent⁴ opinion on the alignment of the reviewed Framework with the current market standards and the extent to which the eligible project categories are credible and impactful.

As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework’s alignment with the Green Bond Principles 2021, as administered by ICMA;
- The credibility and anticipated positive impacts of the use of proceeds;
- The use of proceeds criteria alignment with the EU Taxonomy 2021 Delegated Act; and
- The alignment of the issuer’s sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.11, which is informed by market practice and Sustainalytics’ expertise as an ESG research provider.

As part of this engagement, Sustainalytics held conversations with various members of Ferrovie’s management team to understand the sustainability impact of their business processes and planned use of proceeds, as well as management of proceeds and reporting aspects of the Framework. Ferrovie representatives have confirmed that: (1) they understand it is the sole responsibility of Ferrovie to ensure that the information provided is complete, accurate and up to date; (2) they have provided Sustainalytics with all relevant information, and (3) any provided material information has been duly disclosed in a timely manner. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics’ opinion of the Framework and should be read in conjunction with that Framework.

Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and Ferrovie.

Sustainalytics’ Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market

¹ The Green Bond Principles are administered by the International Capital Market Association and are available at <https://www.icmagroup.org/assets/documents/Sustainable-finance/2021-updates/Green-Bond-Principles-June-2021-100621.pdf>

² The Ferrovie Dello Stato Italiane Green Bond Framework is available on Ferrovie Dello Stato Italiane SpA’s website at: <https://www.fsitaliane.it/content/fsitaliane/it/investor-relations/debito-e-credit-rating/green-bond-framework.html>

³ Sustainalytics’ 2019 Second-Party Opinion is available at: <https://www.fsitaliane.it/content/dam/fsitaliane/Documents/investor-relations/Ferrovie%20Green%20Bond%20Second%20Party%20Opinion%20Final.pdf>

⁴ When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics’ hallmarks is integrity, another is transparency.

standards. Furthermore, Sustainalytics' Second-Party Opinion addresses the anticipated impacts of eligible projects expected to be financed with bond proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner. Upon twenty-four (24) months following the evaluation date set stated herein, Ferrovie is encouraged to update the Framework, if necessary, and seek an update to the Second-Party Opinion to ensure ongoing alignment of the Framework with market standards and expectations.

In addition, the Second-Party Opinion opines on the potential allocation of proceeds but does not guarantee the realized allocation of the bond proceeds towards eligible activities.

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument, either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that Ferrovie has made available to Sustainalytics for the purpose of this Second-Party Opinion.

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the Ferrovie dello Stato Italiane Green Bond Framework

Sustainalytics is of the opinion that the Ferrovie dello Stato Italiane Green Bond Framework is credible and impactful, and aligns with the four core components of the GBP. Sustainalytics highlights the following elements of Ferrovie's Green Bond Framework:

- Use of Proceeds:
 - The eligible category – Clean Transportation – is aligned with those recognized by the GBP.
 - Sustainalytics notes that Ferrovie has established a lookback period of two years for refinancing activities under the Framework, which Sustainalytics considers to be aligned with market practice.
 - Ferrovie may finance or refinance expenditures related to low-carbon transport according to the following eligibility criteria:
 - Passenger rail transport such as trains and wagons that are electric and have zero direct tailpipe CO₂ emissions. This may also include hybrid systems, which are electric and emit zero direct tailpipe CO₂ emissions when supporting infrastructure is available, and use a conventional engine when supporting infrastructure is not available. The Framework also includes the financing of infrastructure dedicated to upgrading and retrofitting electric passenger trains, coaches and wagons to deliver zero direct tailpipe CO₂ emissions. Project examples include the installation of sensors for optimal air conditioning and energy efficient light sources. The Group may also finance specific assets such as "Pop" and "Rock" electric multiple unit trains and ETR 1000 electric high-speed trains. Sustainalytics considers such investments to be aligned with the technical screening criteria under the EU Taxonomy.
 - Freight rail transport such as trains and wagons that are electric and have zero direct tailpipe CO₂ emissions. This may also include hybrid systems, which are electric and emit zero direct tailpipe CO₂ emissions when supporting infrastructure is available, and use a conventional engine when supporting infrastructure is not available. The Framework also includes the financing of infrastructure dedicated to upgrading and retrofitting electric freight trains, coaches and wagons to deliver zero direct tailpipe CO₂ emissions. Project examples include the installation of sensors for optimal air conditioning and energy efficient light sources. The Group may also finance specific assets such as electric traction locomotives and wagons used for coil transportation. Sustainalytics considers such investments to be aligned with the technical screening criteria under the EU Taxonomy.
 - Low-carbon transport infrastructure dedicated to electrifying trackside infrastructure and associated subsystems such as charging stations, overhead lines, on-board

- command and signalling, and trackside control-command subsystems. Sustainalytics considers financing of such activities to be aligned with market practice.
- Sustainalytics notes that the trains and wagons that are dedicated to the transport and storage of fossil fuels are excluded under the Framework.
 - Project Evaluation and Selection:
 - Ferrovie has established a Green Bond Working Committee (the “Committee”) which is comprised of representatives from various departments, including finance, sustainability and investments. The Committee will be responsible for evaluating and selecting eligible expenditures in line with the Framework’s eligibility criteria, with oversight from Ferrovie’s Head of Finance.
 - Ferrovie has in place an internally developed risk management system to identify and manage environmental and social risks associated with eligible projects, which is applicable to all allocation decisions made under the Framework.⁵ For additional details, please see Section 2.
 - Sustainalytics considers these risk management systems to be adequate and the project selection process to be in line with market practice.
 - Management of Proceeds:
 - Ferrovie’s Treasury team will be responsible for the management and allocation of proceeds. Ferrovie will track the proceeds using a green bond register.
 - Ferrovie intends to allocate the proceeds within 24 months from the issuance. Pending allocation, proceeds will be held in Ferrovie’s treasury accounts and may also be temporarily invested in projects via intercompany loans to its subsidiaries. Ferrovie has confirmed to Sustainalytics that temporary investments will not be made in carbon intensive activities.
 - Based on the use of a green bond register and disclosure of temporary allocation of proceeds, Sustainalytics considers this process to be in line with market practice.
 - Reporting:
 - Ferrovie intends to report on the allocation of proceeds and corresponding impact in its sustainability report which will be published on its website on an annual basis until full allocation. Allocation reporting will include the total amount allocated to eligible projects, the balance of unallocated proceeds and the amount of financing versus refinancing.
 - Where feasible, impact reporting may include key performance indicators such as estimated GHG emissions avoided in tonnes of CO₂e or gCO₂/tkm and estimated energy savings (GWh).
 - Based on the commitment to both allocation and impact reporting, Sustainalytics considers this process to be in line with market practice.

Alignment with Green Bond Principles 2021

Sustainalytics has determined that the Ferrovie dello Stato Italiane Green Bond Framework aligns with the four core components of the GBP. For detailed information, please refer to Appendix 2: Green Bond External Review Form.

Alignment with the EU Taxonomy

Sustainalytics has assessed each of the Framework’s eligible green use of proceeds criteria against the relevant criteria in the EU Taxonomy and determined their alignment with each of the Taxonomy’s three sets of requirements. The results of this assessment are as follows:

1. Technical Screening Criteria (TSC)
 - The eligible criteria defined in the Framework were associated with three activities under the EU Taxonomy. At the time of this assessment, all three were assessed as aligned with the applicable TSC of the EU Taxonomy.
2. Do No Significant Harm Criteria (DNSH)
 - All three eligible green activities and associated sub-criteria align with the applicable DNSH criteria.
 - The three criteria assessed have a total of 11 individual DNSH criteria (across all environmental objectives) applicable to them and are all aligned with the DNSH criteria.
3. Minimum Safeguards

⁵ Ferrovie, “Risk management”, at: <https://www.fsitaliane.it/content/fsitaliane/en/fs-group/governance/risk-management.html>

- Based on a consideration of the policies and management systems applicable to Framework criteria, as well as the regulatory context in which financing will occur, Sustainalytics is of the opinion that the EU Taxonomy’s Minimum Safeguards requirements will be met.
- For Sustainalytics’ assessment of alignment with the Minimum Safeguards, see Section 2 below.

Table 1 provides an overview of the alignment of the Framework with the TSC and DNSH criteria for the corresponding NACE activities in the EU Taxonomy

Table 1: Summary of Alignment of Framework Criteria with the EU Taxonomy

Framework Criterion	Alignment with Taxonomy Criteria		Alignment per EU Environmental Objective					
	TSC	DNSH	Mitigation	Adaptation	Water	Circular Economy	Pollution	Ecosystems
Passenger interurban rail transport	■	■	■	■	-	■	■	-
Freight rail transport	■	■	■	■	-	■	■	-
Infrastructure for rail transport	■	■	■	■	■	■	■	■

Legend	
Aligned	■
Partially aligned	□
Not aligned	⊠
No applicable DNSH criteria for this Objective or Activity	-
Grey shading indicates the primary EU Environmental Objective	

* The EU Taxonomy has not yet defined TSC for EU Environmental Objectives other than Climate Mitigation and Climate Adaptation. In cases where an activity of the Framework has the intent of advancing a different Objective, Sustainalytics has assessed alignment against the DNSH criteria for all six Objectives.

Section 2: Sustainability Strategy of Ferrovie

Contribution of framework to Ferrovie’s sustainability strategy

Sustainalytics is of the opinion that Ferrovie demonstrates a commitment to sustainability through its sustainability strategy, which is underpinned by three pillars: (i) energy and emissions, (ii) sustainable mobility, and (iii) safety.⁶

In order to mitigate the environmental impact of its business operations, Ferrovie has established a goal to become carbon neutral by 2040.⁷ In 2020, Ferrovie’s subsidiaries purchased approximately 1,372 TJ in energy certificates with guarantees of origin, accounting for roughly 37% of its energy consumption as compared to 17% in 2019. The Group is committed to upgrading its trains and bus fleet, as well as technology and performance of networks and stations to increase the energy efficiency of its operations and reduce emissions. In 2020, the Group developed the Green Train initiative focused on sustainability themes like zero-emission mobility, clean energy for a 100% renewable future, urban regeneration for energy and living efficiency and healthy, fair, equal and sustainable food. In addition, the Group is working towards two goals: (i) 50% of all freight transported for distances over 300 km to be carried by rail, and the remainder by roads

⁶ Ferrovie, “Sustainability Goals- 2030–2050”, at: <https://www.fsitaliane.it/content/fsitaliane/en/sustainability/stakeholder-engagement/2030--2050-goals.html>

⁷ Ferrovie, “FS Group 2022-2031 industrial plan”, (2022), at: https://www.fsitaliane.it/content/dam/rfi/news-e-media/piano-industriale-2022-2031/Piano%20Industriale%202022-2031%20Gruppo%20FS_Giadrrossi.pdf

by 2050, and (ii) offer multimodal passenger transport services to encourage shared public mobility choices to reduce road traffic, pollution and emissions. In terms of safety, the Group invested approximately EUR 14.32 million in 2020, in the development of train traffic safety technologies such as speed enforcement systems, smart roads and upgrading or installing signs in tunnels.⁸

Ferrovie launched a programme aimed at integrating financing decisions with ESG criteria in line with its business model in 2017. Since then, the Group has invested in electric high-speed passenger Trains ETR 1000, electric multiple unit Pop and Rock trains⁹ and freight locomotives which enabled Ferrovie to reduce its emissions from railway traction by approximately 25.5% between 2018 and 2020.¹⁰ Through the issuance of bonds, Ferrovie aims to continue financing assets aimed at contributing to its climate neutrality targets.

Sustainalytics is of the opinion that the Ferrovie dello Stato Italiane Green Bond Framework is aligned with the Group's overall sustainability strategy and initiatives and will further the Group's action on its commitment to provide integrated and sustainable mobility and logistics services.

Approach to managing environmental and social risks associated with the projects

Sustainalytics recognizes that the net proceeds from the bonds issued under the Framework will be directed towards eligible projects that are expected to have positive environmental impact. However Sustainalytics is aware that such eligible projects could also lead to negative environmental and social outcomes. Some key environmental and social risks possibly associated with the eligible projects could include issues involving air pollution, emissions, occupational and public health and safety, supply chain risks, and community relations and stakeholder participation.

Sustainalytics is of the opinion that Ferrovie is able to manage or mitigate potential risks through implementation of the following:

- The Group set up a Sustainability Governance Model that defines governance and procedures with which Ferrovie intends to ensure the integrated supervision of the three sustainability dimensions. In 2016, Ferrovie established a dedicated Sustainability Committee that intends to ensure "integration of social and environmental aspects into economic-financial strategies".¹¹
- The Group has set up a Risk Management Model to identify business risk, operating risk, sustainability-related risk, including environmental and social risk, and risks related to the protection of human rights, human resources management, corruption and supply chain.¹²
- The Group's environmental policy promotes the efficient use of energy resources and the reduction of greenhouse gas emissions through the implementation of energy efficiency technologies and the promotion of renewable sources. The policy emphasizes the need to adopt a life cycle assessment (LCA) approach in all processes, particularly for water consumption, waste and the prevention of soil and air pollution to improve their environmental performance.¹³ To prevent air pollution and reduce GHG emissions, the Group adopted an LCA approach to improve the environmental performance of its operations. Additionally, the Group sets out short- and long-term strategies and principles through which its subsidiary companies measure and manage their environmental performance while pursuing the implementation of and certification with environmental management systems of all operating sites and processes.¹⁴
- The Group's Ethics Committee oversees the alignment of the activities of its subsidiaries with the commitments defined under its Code of Conduct. The Code of Ethics policy encourages the development of good practices to improve working conditions and reduce environmental impact along the entire value chain.¹⁵

⁸ Ferrovie, "Sustainability Report", (2020), at: [https://www.fsitaliane.it/content/dam/fsitaliane/en/Documents/commitment/sustainability-report/2020-sustainability-report--versione-definitiva/2020%20Sustainability%20Report%20\(web-singole\).pdf](https://www.fsitaliane.it/content/dam/fsitaliane/en/Documents/commitment/sustainability-report/2020-sustainability-report--versione-definitiva/2020%20Sustainability%20Report%20(web-singole).pdf)

⁹ Pop and Rock trains are 95% recyclable and are designed to achieve 30% reduction in energy use per passenger-kilometre in comparison with the latest electric train vehicles in Italy. For more information, please see: <https://www.fsitaliane.it/content/fsitaliane/en/innovation/transport-technology/the-new-regional-fleet.html>

¹⁰ Ferrovie, "Sustainability Report", (2020), at: <https://www.fsitaliane.it/content/dam/fsitaliane/en/Documents/commitment/sustainability-report/2020-sustainability-report--versione-definitiva/2020%20SR%20-%20Company%20highlights%20-%20the%20environment.pdf>

¹¹ Ferrovie, "Sustainability Report", (2020), at: <https://www.fsitaliane.it/content/dam/fsitaliane/en/Documents/commitment/sustainability-report/2020-sustainability-report--versione-definitiva/2020%20SR%20-%20Company%20highlights%20-%20the%20environment.pdf>

¹² Ferrovie, "Risk Management", at: <https://www.fsitaliane.it/content/fsitaliane/en/fs-group/governance/risk-management.html>

¹³ Ferrovie, "Environment Policy", at: <https://www.fsitaliane.it/content/fsitaliane/en/sustainability/environmental-commitment/environmental-policy.html>

¹⁴ Ferrovie, "Environment Policy", at: <https://www.fsitaliane.it/content/fsitaliane/en/sustainability/environmental-commitment/environmental-policy.html>

¹⁵ Ferrovie, "Code of Ethics", at:

https://www.fsitaliane.it/content/dam/fsitaliane/en/Documents/about-us/governance/code-of-ethics/Codice_Etico_2018_ENG.pdf

- To safeguard public health and safety, Ferrovie's Safety Management System includes train speed protection technologies and regular maintenance of railway infrastructure. The Group improved rail track safety through decreasing the number of railroad crossings and improving their safety, including integrative automatic protection devices to detect obstacles on crossings. The Group adopts latest standards issued by national and international public bodies, such as Italy's ENEA, the National Agency for New Technologies, Energy and Sustainable Economic Development.¹⁶ In addition, the Group conducts social impact assessments, continuous community engagement and consultation throughout the execution of projects, providing adequate measures to minimize the negative impact on local communities.¹⁷
- To manage supply chain risks, Ferrovie has set guidelines for the sustainable procurement of raw materials to improve the environmental and social performance of its suppliers. The focus of these guidelines is to standardize and integrate the requirements on sustainable procurement.¹⁸ Ferrovie selects its suppliers based on: (i) the presence of ISO 14001, ISO 9001 and OHSAS 18001 certified management systems for primary services and contracts (construction, railway equipment, cleaning rolling stock, etc.), (ii) utilization of eco-compatible materials and the product certification (FSC or Ecolabel certification), and (iii) commitment to reduce energy consumption to threshold values such as under the Energy Star 5.0 certification.¹⁹
- The Group joined the UN Global Compact in 2017 to formalize its commitment to inclusive and sustainable global economy, indicating its commitment to environmental and social responsibility, and respect for human rights.²⁰ The Group also signed the International Union of Railways Declaration on Sustainable Mobility and Transport in 2011, which supports the 10 principles of the UN Global Compact and the development of "sustainable mobility and transport systems" along with "responsible leadership" for rail companies.²¹
- Sustainalytics recognizes the sustainability-focused efforts of Ferrovie but notes that the Group and its subsidiaries have been involved in incidents related to the derailment of trains causing injuries and deaths between 2009 and 2020, and is undergoing legal proceedings related to these events. In this respect, Ferrovie has implemented a Safety Management System which includes train speed protection technologies and regular maintenance of railway infrastructure. The Group is working to improve rail track safety through, among other initiatives, reducing the number of railroad crossings and improving their safety, including installing new integrative automatic protection devices to detect obstacles on crossings.²² In 2021, the Group invested EUR 3.7 billion in infrastructure (an increase of 21% compared to 2020),²³ including adopting certified maintenance processes, developing diagnostic tools and conducting non-routine maintenance to improve reliability, efficiency and safety of its fleet. In addition, the Group has adopted the level 2 European Rail Traffic Management System/European Train Control System (ERTMS/ETCS) on the new HS/HC network lines. The system, in compliance with European standards, ensures the seamless transfer of trains on all European lines that are equipped with the ERTMS/ETCS, which is intended to guarantee safe travel. Ferrovie has also developed a Train Speed Control System (TSCS) which aids drivers and provides control of the maximum permitted speed at any instant, including when under constraints from signalling, infrastructural characteristics and train performance both in normal and deteriorated conditions.²⁴ Sustainalytics considers these measures to provide an adequate safeguard in this area.

¹⁶ ENEA a public body aimed at research, technological innovation and the provision of services to enterprises, public administration and citizens in the sectors of energy, the environment and sustainable economic development.

¹⁷ Ferrovie, "Occupational Health and Safety", at: <https://www.fsitaliane.it/content/fsitaliane/en/fs-group/governance/occupational-health-and-safety.html>

¹⁸ Ferrovie, "Sustainability Report", (2020), at: <https://www.fsitaliane.it/content/dam/fsitaliane/en/Documents/commitment/sustainability-report/2020-sustainability-report--versione-definitiva/2020%20SR%20-%20Company%20highlights%20-%20the%20environment.pdf>

¹⁹ Ferrovie, "Purchasing and suppliers system", at: <https://www.fsitaliane.it/content/fsitaliane/en/fs-group/governance/purchasing-and-suppliers-system.html>

²⁰ UNGC, "Ferrovie dello Stato Italiane Group", August 2017, at: https://ungc-production.s3.us-west-2.amazonaws.com/commitment_letters/118361/original/Letter_of_Commitment_FS_Italiane.pdf?1501582997

²¹ UIC, "UIC Declaration: Sustainable Mobility & Transport", at: https://uic.org/IMG/pdf/uic_sustainability_declaration_final.pdf

²² Ferrovie, "Environment Policy", at: <https://www.fsitaliane.it/content/fsitaliane/en/sustainability/environmental-commitment/environmental-policy.html>

²³ This information has been shared by Ferrovie to Sustainalytics.

²⁴ Ferrovie, "Sustainability Report", (2020), at: <https://www.fsitaliane.it/content/fsitaliane/en/sustainability/sustainability-governance/sustainability-report.html>

Based on these policies, standards and assessments, Sustainalytics is of the opinion that Ferrovie has implemented adequate measures and is well positioned to manage and mitigate environmental and social risks commonly associated with the eligible categories.

Alignment with the EU Taxonomy's Minimum Safeguards

The EU Taxonomy recommends that companies have policies aligned with international and regional guidelines and regulations pertaining to human rights, labour rights, and combating bribery and corruption. Specifically, activities should be carried out in alignment with the UN Guiding Principles on Business and Human Rights and the OECD Guidelines for Multinational Enterprises. Additionally, companies should be in compliance with the International Labour Organisation's declaration on Fundamental Rights and Principles at Work.

Human and Labour Rights

Ferrovie has implemented the following policies and procedures aimed at ensuring human and labour rights:

- Ferrovie's group-level code of ethics follows the UN Universal Declaration of Human Rights and the conventions of the International Labour Organization. Ferrovie's code of ethics and principles are aimed at promoting respect for human rights and are applicable to all employees, subsidiaries and suppliers.²⁵
- Ferrovie became a signatory to the UN Global Compact in 2017, committing to contributing to economic, social and environmental progress in the communities where it operates. Additionally, the Group also participates in the "Railponsible" initiative for sustainable procurement guidelines which includes complying with national and international human rights regulations. Furthermore, minimum wage rules apply to both fixed-term and open-ended contract employees, which uphold Italy's National Labour Agreement as well as the Group's Code of Conduct.²⁶
- Ferrovie adheres to national labour agreements such as the Logistics, Freight Transport and Shipping agreement, the National Labour Agreement for the tertiary sector, and the railway, tram and shipping workers' (Mobility-LPT) contract.²⁷

Sustainalytics recognizes that Ferrovie's subsidiaries have been involved in incidents with respect to the safety of the Group's services related to the derailment of trains operated by the Group's subsidiaries dating back to 2009 and up to 2020. To address these issues, Ferrovie has developed policies to strengthen its Group-wide risk mitigation systems and implemented several initiatives, including the adoption of certified maintenance processes, the renewal and maintenance of its fleet to further enhance safety and investment in non-routine maintenance, security and technologies. As of 2020, the Italian rail network ranked seventh among European Economic Area countries in terms of safety performance measured as significant accidents per million train-kilometres. Sustainalytics has assessed the measures taken by Ferrovie to strengthen its group-wide risk management systems and policies pertaining to the safety of its operations and is of the opinion that these measures provide an adequate minimum safeguard in this area.

Anti-bribery and anti-corruption

Ferrovie has implemented the following policies and procedures aimed at ensuring anti-bribery and anti-corruption:

- Ferrovie's Code of Conduct outlines the Group's governance principles and overall ethics framework to strengthen its anti-corruption principles. Ferrovie's Anti-bribery and Corruption management system covers corruption including offering and accepting bribes either directly or indirectly by individuals or institutions, identifying the risk arising from such activities, risk prevention, and training and communication. Additionally, the Group also has a whistleblower policy which provides safeguards for whistleblowers, as required by law.
- Ferrovie carries out annual trainings for all its employees to strengthen its approach and to increase awareness in the areas of anti-corruption and anti-money laundering.²⁸

Sustainalytics' ESG Risk Rating has evaluated the performance of Ferrovie in the area of anti-bribery and anti-corruption rights and has not detected involvement in any relevant controversies which would suggest that

²⁵ Ferrovie dello Stato Italiane Group, Code of Ethics, at: https://www.fsitaliane.it/content/dam/fsitaliane/en/Documents/about-us/governance/code-of-ethics/Codice_Etico_2018_ENG.pdf

²⁶ Ferrovie dello Stato Italiane Group, "Sustainability Report 2020", at: [2020 Sustainability Report \(fsitaliane.it\)](https://www.fsitaliane.it/content/dam/fsitaliane/en/Documents/about-us/sustainability-report/2020-sustainability-report/fsitaliane.it)

²⁷ Ferrovie dello Stato Italiane Group, "Sustainability Report 2020", at: [2020 Sustainability Report \(fsitaliane.it\)](https://www.fsitaliane.it/content/dam/fsitaliane/en/Documents/about-us/sustainability-report/2020-sustainability-report/fsitaliane.it)

²⁸ Ferrovie dello Stato Italiane Group, "Sustainability Report 2020", at: [2020 Sustainability Report \(fsitaliane.it\)](https://www.fsitaliane.it/content/dam/fsitaliane/en/Documents/about-us/sustainability-report/2020-sustainability-report/fsitaliane.it)

the above policies are not being implemented effectively. Sustainalytics is of the opinion that these measures appropriately safeguard anti-bribery and anti-corruption in relation to the activities of the Framework.

Based on these policies, standards and assessments, Sustainalytics is of the opinion that Ferrovie's policies, guidelines and commitments are sufficient to demonstrate that the activities and projects to be financed under the Framework will be carried out in alignment with the EU Taxonomy's Minimum Safeguards.

Section 3: Impact of Use of Proceeds

The use of proceeds category is aligned with those recognized by the GBP and is relevant in the local context.

Impact of clean transportation in reducing emissions in Italy

In 2019, the transport sector produced the equivalent of 956.3 million tonnes of CO₂ emissions in the EU.²⁹ Emissions from the transportation sector have the potential to increase by 60% by 2050, as compared to 2015, due to rising population growth, economic development and continued urbanization.^{30,31} To address this issue, the EU has set a long-term objective of reducing GHG emissions by 80–95% by 2050 with an interim target of reducing emissions by 40% by 2030 compared with 1990 levels.³² The EU is committed to decarbonizing the transport sector by 2050.³³

In 2020, the transport sector was the largest contributor of CO₂ emissions, accounting for approximately 29% of Italy's emissions.³⁴ In an effort to decarbonize the transport sector, Italy has set a target for renewable energy to make up 22% of the energy used in the transport sector by 2030 as compared to 9% in 2019.^{35, 36} Italy has also set a target that 85% of new public sector vehicle purchases for urban services must be electric or hybrid by 2030. To encourage the use of low-carbon vehicles, Italy is committed to increasing public transport facilities, promote cycling, transport of goods on waterways and rail, boost alternative fuels such as biofuels and charging infrastructure.³⁷ In addition, among the objectives of the Italian National Recovery and Resilience Plan are to build infrastructure for sustainable mobility, and develop and maintain the railway sector.³⁸ The Plan is based on a five-year agreement between the Ministry of Transport and the National Rail Company to accelerate the electrification of the country's railway system.³⁹ As a result of the government's initiatives, increasing the use of electrified rail transport is likely to reduce Italy's carbon emissions by 33% by 2030 compared to 2005.⁴⁰

Given the above context, Sustainalytics is of the opinion that the advancement of electrified passenger and freight rail is expected to contribute towards the decarbonization of the transportation sector in Italy and support the achievement of Italy's and the EU's GHG reduction targets.

Alignment with/contribution to SDGs

The Sustainable Development Goals were adopted in September 2015 by the United Nations General Assembly and form part of an agenda for achieving sustainable development by 2030. The bonds issued

²⁹ Statista, "Transportation emissions in the European Union - Statistics & Facts", (2021), at: <https://www.statista.com/topics/7968/transportation-emissions-in-the-eu/#dossierKeyfigures>

³⁰ ITF report, "Transport demand set to triple, but sector faces potential disruptions", (2019), at: <https://www.itf-oecd.org/transport-demand-set-triple-sector-faces-potential-disruptions>

³¹ OECD, International Transport Forum, "How to Make Urban Mobility Clean and Green", (2018), at: <https://www.itf-oecd.org/sites/default/files/docs/cop24-urban-mobility.pdf>

³² Europe Environment Agency, "Greenhouse Gas Emissions", (2018), at: <https://www.eea.europa.eu/airs/2018/resource-efficiency-and-low-carbon-economy/greenhouse-gas-emission#:~:text=Renewed%20efforts%20by%20Member%20States,2030%20compared%20with%201990%20levels.>

³³ ITF, "Decarbonizing Transport in Europe The Way Forward", at: <https://www.itf-oecd.org/sites/default/files/docs/decarbonising-transport-europe-way-forward.pdf>

³⁴ Climate Transparency, "Climate Transparency Report", (2021), at: <https://www.climate-transparency.org/wp-content/uploads/2021/10/CT2021Italy.pdf>

³⁵ European Commission, "Commission staff working document assessment of the final national energy and climate plan of Italy", (2020), at: https://ec.europa.eu/energy/sites/ener/files/documents/staff_working_document_assessment_necp_italy.pdf

³⁶ Statista, "Share of energy consumption from renewable sources in the transport sector in Italy from 2005 to 2019", (2022), at: <https://www.statista.com/statistics/817856/share-of-energy-consumption-from-res-in-transports-in-italy/>

³⁷ Climate Action, "Climate Action in Italy", (2021), at: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/690663/EPRS_BRI\(2021\)690663_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/690663/EPRS_BRI(2021)690663_EN.pdf)

³⁸ European Parliament, "Italy's National Recovery and Resilience Plan", at: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/698847/EPRS_BRI\(2021\)698847_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/698847/EPRS_BRI(2021)698847_EN.pdf)

³⁹ IEA, "National Recovery and Resilience Plan / M3C1: Rail network and secure roads", (2022), at: <https://www.iea.org/policies/13686-national-recovery-and-resilience-plan-m3c1-rail-network-and-secure-roads>

⁴⁰ European Parliament, "Climate action in Italy", (2021), at: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/690663/EPRS_BRI\(2021\)690663_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/690663/EPRS_BRI(2021)690663_EN.pdf)

under the Ferrovie dello Stato Italiane Green Bond Framework are expected to help advance the following SDGs and targets:

Use of Proceeds Category	SDG	SDG target
Clean Transportation	9. Industry, Innovation and Infrastructure	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.
	11. Sustainable Cities and Communities	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
	12. Responsible Consumption and Production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

Conclusion

Ferrovie has developed the Ferrovie dello Stato Italiane Green Bond Framework under which it may issue green bonds and use the proceeds to finance low-carbon rail transport and associated infrastructure. Sustainalytics considers that the projects funded by the green bond proceeds are expected to support the transition towards low-carbon rail transport in Italy.

The Ferrovie dello Stato Italiane Green Bond Framework outlines a process by which proceeds will be tracked, allocated and managed, and makes commitments for reporting on the allocation and impact of the use of proceeds. Furthermore, Sustainalytics believes that the Ferrovie dello Stato Italiane Green Bond Framework is aligned with the overall sustainability strategy of the Group and that the green use of proceeds category will contribute to the advancement of the UN Sustainable Development Goals 9 and 11. Additionally, Sustainalytics is of the opinion that Ferrovie has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects funded by the use of proceeds.

Sustainalytics has assessed Ferrovie dello Stato Italiane SpA's Green Financing Framework for alignment with the EU Taxonomy and is of the opinion the Framework's eligibility criteria, which map to three economic activities, are aligned with the applicable Technical Screening Criteria in the EU Taxonomy and aligned with the applicable Do No Significant Harm Criteria. Sustainalytics is also of the opinion that the activities and projects to be financed under the Framework are expected to be carried out in alignment with the EU Taxonomy's Minimum Safeguards.

Based on the above, Sustainalytics is confident that Ferrovie dello Stato Italiane SpA is well positioned to issue green bonds and that the Ferrovie dello Stato Italiane Green Bond Framework is robust, transparent and in alignment with the four core components of the Green Bond Principles 2021.

Appendices

Appendix 1: Approach to Assessing Alignment with the EU Taxonomy

Sustainalytics has assessed each of the eligible green use of proceeds criteria in the Framework against the criteria for the relevant NACE⁴¹ activity in the EU Taxonomy. This appendix describes Sustainalytics' process and presents the outcome of its assessment of alignment with the Taxonomy's applicable Technical Screening Criteria (TSC) and Do No Significant Harm (DNSH) criteria. Sustainalytics' assessment involves two steps:

1. Mapping Framework Criteria to Activities in the EU Taxonomy

The initial step in Sustainalytics' assessment process involves mapping each criterion in the Framework to a relevant and applicable NACE activity in the EU Taxonomy. Note that each Framework criterion may be relevant and applicable to more than one NACE activity and vice versa. Sustainalytics recognizes that some Framework criteria relate to projects that do not map well to a NACE activity. In such cases, Sustainalytics has mapped to the NACE activity that is most relevant with respect to the primary environmental objective and impacts.

In some cases, the Framework criteria cannot be mapped to an activity in the EU Taxonomy, as some activities are not yet covered by the Taxonomy, and some categories which are traditionally included in green bonds may not be associated with a specific economic activity. While recognizing that financing projects in these areas may still have environmental benefits, Sustainalytics has not assessed these criteria for alignment.

The outcome of Sustainalytics' mapping process for Ferrovie dello Stato Italiane SpA Framework is shown in Table 2^{Error! Reference source not found.} below.

2. Determining Alignment with EU Taxonomy Criteria

The second step in Sustainalytics' process is to determine the alignment of each criterion with relevant criteria in the EU Taxonomy. Alignment with the TSC and DNSH criteria is usually based on the specific criteria contained in the issuer's Framework, and may in many cases (especially DNSH criteria) also be based on management systems and processes and/or regulatory compliance. To assess alignment with the EU Taxonomy's Minimum Safeguards Sustainalytics has conducted an assessment of policies, management systems and processes applicable to the use of proceeds, as well as examining the regulatory context in the geographical location in which the issuer will finance activities and projects. (This assessment is included in Section 2, above.)

In cases where the Framework criteria describe projects which are intended to advance EU environmental objectives other than Climate Mitigation or Climate Adaptation, the Taxonomy does not include relevant TSC. In these cases, Sustainalytics has assessed the activity for alignment with the DNSH criteria across all objectives.

Sustainalytics' detailed assessment of alignment is provided in Appendix 2.

Table 2: Framework mapping table

Framework Category	Framework Criterion (Eligible Use of Proceeds)	EU / NACE Activity	NACE Code	Primary EU Environmental Objective	Refer to Table
Clean transportation	Public passenger rolling stock: Investments in low-carbon public passengers' transport rolling stock renewal	6.1. Passenger interurban rail transport	H49.10, and N77.39	Mitigation	3
	Investments in low-carbon freight transport rolling stock renewal.	6.2. Freight rail transport	H49.20 and N77.39	Mitigation	4

⁴¹ The EU Taxonomy is based on economic activities defined in NACE (Nomenclature des Activités Économiques dans la Communauté Européenne). The Taxonomy currently lists 70 economic activities which have been chosen due to their ability to substantially contribute to climate change mitigation or adaptation.

	Investments in infrastructure for low-carbon transportation	6.14. Infrastructure for rail transport	F42.12, F42.13, M71.12, M71.20, F43.21, H52.21 and	Mitigation	5
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Appendix 2: Comprehensive EU Taxonomy Alignment Assessment

The tables below provide a detailed assessment of the alignment of Issuer's Framework criteria with the EU Taxonomy's TSC and DNSH criteria for the relevant NACE activity.

Table 3

Framework Activity assessed	Public passenger rolling stock: Investments in low-carbon public passengers' transport rolling stock renewal		
EU Activity	6.1. Passenger interurban rail transport		
NACE Code	H49.10, and N77.39		
<i>EU Technical Screening Criteria</i>		<i>Alignment with Technical Screening Criteria</i>	
Mitigation	The activity complies with one of the following criteria: a. the trains and passenger coaches have zero direct (tailpipe) CO ₂ emissions; b. the trains and passenger coaches have zero direct (tailpipe) CO ₂ emission when operated on a track with necessary infrastructure and use a conventional engine where such infrastructure is not available (bimode).	As part of the Clean Transportation category of the Framework, Ferrovie intends to finance only Electric Multiple Unit trains and electric High-speed Trains, which fulfill the TSC for this EU Activity.	Aligned
<i>DNSH Criteria</i>		<i>Alignment with DNSH Criteria</i>	
Climate Change Adaptation	Refer to the assessment set out in Appendix 3, Table 6		
Transition to a circular economy	Measures are in place to manage waste in accordance with the waste hierarchy, in particular during maintenance.	The Group's main subsidiaries are certified under ISO 14001:2015 Environment Management System (EMS). 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. Ferrovie has communicated that 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.	Aligned
Pollution prevention and control	Engines for the propulsion of railway locomotives (RLL) and engines for the propulsion of railcars (RLR) comply with emission limits set out in Annex II to Regulation (EU) 2016/1628 of the European Parliament and of the Council	Ferrovie has confirmed that all locomotives are electric and do not have any direct emissions related to combustion.	Aligned

Table 4

Framework Activity assessed		Investments in low-carbon freight transport rolling stock renewal.	
EU Activity		6.2. Freight rail transport	
NACE Code		H49.20 and N77.39	
<i>EU Technical Screening Criteria</i>		<i>Alignment with Technical Screening Criteria</i>	
Mitigation	<ol style="list-style-type: none"> The activity complies with one or both of the following criteria: <ol style="list-style-type: none"> the trains and wagons have zero direct tailpipe CO₂ emission; the trains and wagons have zero direct tailpipe CO₂ emission when operated on a track with necessary infrastructure and use a conventional engine where such infrastructure is not available (bimode). The trains and wagons are not dedicated to the transport of fossil fuels. 	<p>As part of the Clean Transportation category of the Framework, Ferrovie intends to finance electric traction locomotives and wagons for, which fulfill this criterion.</p> <p>Additionally, Ferrovie has confirmed that trains, wagons and locomotives will not be used for the transport of fossil fuels.</p>	Aligned
<i>DNSH Criteria</i>		<i>Alignment with DNSH Criteria</i>	
Climate Change Adaptation	Refer to the assessment set out in Appendix 3, Table 6		
Transition to a circular economy	Measures are in place to manage waste, in accordance with the waste hierarchy, in particular during maintenance.	<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>Ferrovie has communicated that 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>	Aligned
Pollution prevention and control	Engines for the propulsion of railway locomotives (RLL) and engines for the propulsion of railcars (RLR) comply with emission limits set out in Annex II to Regulation (EU) 2016/1628.	Ferrovie has confirmed that all locomotives are electric and do not have any direct emissions related to combustion.	Aligned

Table 5

Framework Activity assessed		Investments in infrastructure for low-carbon transportation	
EU Activity		6.14. Infrastructure for rail transport	
NACE Code		F42.12, F42.13, M71.12, M71.20, F43.21, and H52.21	
EU Technical Screening Criteria		Alignment with Technical Screening Criteria	
Mitigation	<p>1. The activity complies with one of the following criteria:</p> <ul style="list-style-type: none"> (a) the infrastructure (as defined in Annex II.2 to Directive (EU) 2016/797 of the European Parliament and of the Council) is either: <ul style="list-style-type: none"> (i) electrified trackside infrastructure and associated subsystems: infrastructure, energy, on-board control-command and signalling, and trackside control command and signalling subsystems as defined in Annex II.2 to Directive (EU)2016/797; (ii) new and existing trackside infrastructure and associated subsystems where there is a plan for electrification as regards line tracks, and, to the extent necessary for electric train operations, as regards sidings, or where the infrastructure will be fit for use by zero tailpipe CO2 emission trains within 10 years from the beginning of the activity: infrastructure, energy, on-board control-command and signalling, and trackside control-command and signalling subsystems as defined in Annex II.2 to Directive (EU)2016/797; (iii) until 2030, existing trackside infrastructure and associated subsystems that are not part of the TEN-T network²⁷⁵ and its indicative extensions to third countries, nor any nationally, supranationally or internationally defined network of major rail lines: infrastructure, energy, on-board control-command and signalling, and trackside control-command and signalling subsystems as defined in Annex II.2 to Directive (EU) 2016/797; (b) the infrastructure and installations are dedicated to transshipping freight between the modes: terminal infrastructure and superstructures for loading, unloading and transshipment of goods; (c) infrastructure and installations are dedicated to the transfer of passengers from rail to rail or from other modes to rail. <p>2. The infrastructure is not dedicated to the transport or storage of fossil fuels.</p>	<p>1. The activity of Ferrovie complies with the following criteria:</p> <ul style="list-style-type: none"> (a) the infrastructure (as defined in Annex II.2 to Directive (EU) 2016/797 of the European Parliament and of the Council) is: <ul style="list-style-type: none"> (ii) The eligible green projects are related to electrified trackside infrastructure and associated subsystems: infrastructure, energy, on-board control-command and signalling, and trackside control command and signalling subsystems as defined in Annex II.2 to Directive (EU)2016/797 <p>2. Ferrovie has confirmed that the infrastructure will not be dedicated towards the transportation or storage of fossil fuels.</p>	Aligned
DNSH Criteria		Alignment with DNSH Criteria	
Climate Change Adaptation	Refer to the assessment set out in Appendix 3, Table 6		Aligned

Sustainable use and protection of water and marine resources	<p>The activity complies with the criteria set out in Appendix B to the Climate Delegated Annex mentioned below:</p> <ol style="list-style-type: none"> 1. Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential as defined in Article 2, points (22) and (23), of Regulation (EU) 2020/852, in accordance with Directive 2000/60/EC of the European Parliament and of the Council and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders. 2. Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU of the European Parliament and of the Council and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed 	<ol style="list-style-type: none"> 1. The Environment Impact Assessment (EIA) procedure provides assessment for the water component with regard to the maintenance of the quality of the functioning of the hydrological system affected by the project in accordance with Directive 2000/60/EC, establishing a framework for Community action in the field of water policy. In Italy, the EU Directive 2011/92/EU as amended by 2014/52/EU are already transposed as Legislative Decree no. 152 of 3 April 2006, the Consolidated Environmental Act, which is also the reference legislation for the EIA procedure. 2. The application of the EIA procedure on individual projects is governed by the Italian Legislative Decree 152/2006 that implement the Directive 2011/92/EU as amended by 2014/52/EU, the risks related to water are already identified and no additional assessment of impact on water is required. 	Aligned
Transition to a circular economy	<p>At least 70% (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material defined in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol. Operators limit waste generation in processes related to construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.</p>	<p>Ferrovie confirmed that 70% of the non-hazardous construction and demolition waste generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol.</p> <p>The project includes a management plan for waste materials that aims to maximise the percentage, according to the specificity of the case, of waste managed within the principles of the circular economy. In fact, this plan identifies the management methods for the re-use, recycling and recovery of non-hazardous waste from construction and demolition activities, especially in relation to maximising the re-use of materials inside and outside the construction site (e.g., at recovery plants), avoiding as much as possible the sending to landfills.</p>	Aligned
Pollution prevention and control	<ol style="list-style-type: none"> 1. Where appropriate, given the sensitivity of the area affected, in particular in terms of the size of population affected, noise and vibrations from use of infrastructure are mitigated by introducing open trenches, wall barriers, or other measures and comply with Directive 2002/49/EC of the European Parliament and of the Council. 2. Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works. 	<ol style="list-style-type: none"> 1. The Group's commitment to reducing the acoustic impact of the works is evident in the performance of acoustic and vibrational studies and simulations, in order to size noise barriers or other mitigation measures. The effectiveness of the barriers is verified in the post-operam monitoring phases. Directive 2002/49/EC, on the assessment and management of environmental noise, was implemented in Italy by Legislative Decree 194 of 19 August 2005 and subsequently updated by 	Aligned

		<p>Legislative Decree 42 of 17/02/17. Based on the regulatory provisions, acoustic mapping of existing lines is conducted for the development of the acoustic remediation plan. The acoustic planning for new railway lines is developed in compliance with the binding national regulations and is aimed at the study and dimensioning of the interventions required to comply with the regulatory limits.</p> <p>2. The Group has taken measures to control and reduce impacts from construction work, which are dealt organically in the Construction Site Environmental Project. It contains the analysis of environmental aspects and the significance of impacts on specific components and the consequent sizing of mitigation measures.</p> <p>The Construction Site Environmental Project defines the general criteria for the organisation of the construction site and the management of the environmental aspects involved in the construction phase, also through the identification of specific mitigation measures (noise barriers, dust barriers, vehicle wheel washing systems, wetting of the construction site areas, road sweeping when leaving the construction site, etc.) and efficiency measures to contain emissions (such as the use of electric service vehicles, high motor efficiency work vehicles, electricity supply from renewable sources, etc.).</p> <p>During the construction phase, the contractor is obliged to apply an Environmental Management System that complies with the requirements of UNI EN ISO 14001 to guarantee constant environmental monitoring of the site in compliance with all applicable regulatory requirements and the guidelines and mitigation measures set out in the Site Environmental Project.</p> <p>The Group has also structured its own site environmental control through periodic inspections and supervisory audits conducted by a team of experts to assess the contractor's performance in the proper management of environmental aspects.</p>	
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<p>Protection and restoration of biodiversity and ecosystems</p>	<p>Refer to the assessment set out in Appendix 3, Table 7</p>	<p>Aligned</p>	

Appendix 3: Criteria for Do No Significant Harm (“DNSH”) to Climate Change Adaptation and Protection and Restoration of Biodiversity and Ecosystems

Table 6

Criteria for DNSH to Climate Change Adaptation		
<i>DNSH Criteria</i>	<i>Alignment with DNSH Criteria</i>	
<p>The physical climate risks that are material to the activities mentioned above have been identified by the Issuer by performing a robust climate risk and vulnerability assessment.⁴² The assessment must be proportionate to the scale of the activity and its expected lifespan, such that:</p> <ul style="list-style-type: none"> for investments into activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using downscaling of climate projections; for all other activities, the assessment is performed using high resolution, state-of-the-art climate projections across a range of future scenarios consistent with the expected lifetime of the activity, including, at least, 10 to 30 years climate projections scenarios for major investments. <p>The issuer has developed a plan to implement adaptation solutions to reduce material physical climate risks to the selected activities under this framework.</p> <ul style="list-style-type: none"> For new activities the Issuer ensures that adaptation solutions do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of assets and of other economic activities and are consistent with local, sectoral, regional or national adaptation efforts. For activities that involve upgrading or altering existing assets or processes, the Issuer must implement adaptation solutions identified within five years from the start of the activity. In addition, selected adaptation solutions must not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of assets and of other economic activities and are consistent with local, sectoral, regional or national adaptation efforts. 	<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>For new projects developed by the Group, Life Cycle Assessment (LCA) is incorporated in all phases with special importance to water consumption, waste management and prevention of soil and air pollution. These assessments aim to improve overall environmental performance of the Group. Ferrovie and its main subsidiaries are ISO 14001: 2015 certified, and all operations including procurement are carried out based on the guidelines of the Environment Management System (EMS) standards. Additionally, Ferrovie has also confirmed that it aims to comply with</p>	<p>Aligned</p>

⁴² The EU Delegated Act identifies several climate related risk and classifies them into chronic or acute risks, Chronic risks include -changing temperature (air, freshwater, marine water), changing wind patterns, changing precipitation patterns and types, coastal erosion, heat stress, ocean acidification, sea-level rise, and solifluction. Acute risks pertain to – heat/ cold wave, wildfire, cyclone, hurricane, tornado, storm, drought, landslide, flood, and glacial lake outburst. For a complete list of climate related risk please refer to Section 2 of Appendix E of EU’s draft delegated regulation (Annex 1), at: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12302-Climate-change-mitigation-and-adaptation-taxonomy#ISC_WORKFLOW

	<p>adaption laws, directives and policies at the sector, national and international level.</p> <p>For activities that involve upgrading or altering existing assets or processes, Ferrovie confirms implementation of the adaptation solutions identified within five years from the start of the activity.</p>	
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Table 7

Criteria for the Protection and Restoration of Biodiversity and Ecosystems		
<i>DNSH Criteria</i>	<i>Alignment with DNSH Criteria</i>	
<ul style="list-style-type: none"> • An Environmental Impact Assessment (EIA) or screening has been completed, for activities within the Union, in accordance with Directive 2011/92/EU. For activities in third countries, an EIA has been completed in accordance with equivalent national provisions or international standards. • Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented. • For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. 	<ul style="list-style-type: none"> • To ensure that infrastructure projects are adequately included, the Group integrates assessment on every possible environmental impact related to the realization of the works on the territory concerned. The application of the EIA procedure on individual projects is governed by Legislative Decree 152/2006 that implement the Directive 2011/92/EU as amended by 2014/52/EU, which establishes the categories and typological characteristics for which it is necessary to submit the works to the procedure. Therefore, as per practice, the Group carries out environmental impact assessments in accordance with current legislation and reference standards. The purpose of the environmental impact assessment, in accordance with the EU directive, is to identify and assess the impact on the territory and the environment during the construction and operation of the work, and to identify the relevant mitigation measures to prevent or reduce and, if necessary, compensate for the negative impacts on the environmental components affected. • As a result of the EIA, Ferrovie monitor of the identified environmental factors to verify, in the pre-operam, post-operam and operational phases, the effectiveness of the mitigation and compensation measures implemented and to intervene with further corrective measures where necessary. By way of example, mitigation and compensation measures are envisaged, such as the construction of green and natural engineering works. Mitigation of the impact on habitats and ecosystems also involves maintaining connectivity through the enhancement of interfering environmental corridors and the construction of wildlife crossings. During the construction phase, environmental protection measures include the treatment of surface water with first rainwater tanks and the management of any accidental spills, as well as the reduction 	<p>Aligned</p>

	<p>of noise and air pollution with barriers. Ferrovie also pays attention to the management and reuse of excavated soil and rocks, with a view to the circular economy, also favouring supply and final destination sites close to the construction site, also to reduce CO₂ emissions related to their transport.</p> <ul style="list-style-type: none"> • The Group is aware about the fragility of the ecosystems in which it operates along with the possible interferences related to the construction of infrastructure works. Therefore, the railway works projects include the characterisation of areas of conservation interest (Areas protected by national or local legislation, Nature Network 2000, UNESCO World Heritage sites, Key Biodiversity Areas, Important Bird Areas and other areas of ecological value), and the recognition of flora and fauna, particularly the wetlands and the Italian Red Lists, aimed at the knowledge and assessment of the ecological sensitivity of the reference territory. The possible direct or indirect impact of the project on habitats or species of Community interest is governed by the Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC) on which the Natura 2000 Network is based, which provides for an Impact Assessment in which the elements relative to the compatibility of the projects with the conservation purposes envisaged by the reference legislation are provided.⁴³ 	
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⁴³ Ferrovie dello Stato Italiane, "Sustainability Policy", at: <https://www.fsitaliane.it/content/fsitaliane/en/sustainability/sustainability-governance/sustainability-policy.html>

Appendix 4: Green Bond - External Review Form

Section 1. Basic Information

Issuer name:	Ferrovie dello Stato Italiane SpA
Green Bond ISIN or Issuer Green Bond Framework Name, if applicable:	Ferrovie dello Stato Italiane Green Bond Framework
Review provider's name:	Sustainalytics
Completion date of this form:	June 17, 2022
Publication date of review publication: Original publication date <i>[please fill this out for updates]</i> :	Second-Party Opinion was published in June 2019 and alignment with EU Taxonomy was published in December 8, 2021

Section 2. Review overview

SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarise the scope of the review.

The review assessed the following elements and confirmed their alignment with the GBP:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Use of Proceeds | <input checked="" type="checkbox"/> Process for Project Evaluation and Selection |
| <input checked="" type="checkbox"/> Management of Proceeds | <input checked="" type="checkbox"/> Reporting |

ROLE(S) OF REVIEW PROVIDER

- | | |
|---|--|
| <input checked="" type="checkbox"/> Consultancy (incl. 2 nd opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification | <input type="checkbox"/> Rating |
| <input type="checkbox"/> Other <i>(please specify)</i> : | |

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW *(if applicable)*

Please refer to Evaluation Summary above.

Section 3. Detailed review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

1. USE OF PROCEEDS

Overall comment on section *(if applicable)*:

The eligible category for the use of proceeds Clean Transportation, is aligned with those recognized by the Green Bond Principles. Sustainalytics considers that the eligible category is expected to contribute to a reduction in carbon emissions by supporting the transition towards low-carbon transport and advance the UN Sustainable Development Goals, specifically SDGs 9, 11 and 12.

Use of proceeds categories as per GBP:

- | | |
|---|--|
| <input type="checkbox"/> Renewable energy | <input type="checkbox"/> Energy efficiency |
| <input type="checkbox"/> Pollution prevention and control | <input type="checkbox"/> Environmentally sustainable management of living natural resources and land use |
| <input type="checkbox"/> Terrestrial and aquatic biodiversity conservation | <input checked="" type="checkbox"/> Clean transportation |
| <input type="checkbox"/> Sustainable water and wastewater management | <input type="checkbox"/> Climate change adaptation |
| <input type="checkbox"/> Eco-efficient and/or circular economy adapted products, production technologies and processes | <input type="checkbox"/> Green buildings |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBP | <input type="checkbox"/> Other <i>(please specify)</i> : |

If applicable please specify the environmental taxonomy, if other than GBP:

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable):

Ferrovie's Green Bond Working Committee will be responsible for overseeing the evaluation and selection of eligible projects. Ferrovie's internal risk management system of assessing, identifying and mitigating environmental and social risks is applicable to all allocation decisions made under the Framework. Sustainalytics considers these risk management systems and project selection process in line with market practice.

Evaluation and selection

- | | |
|--|---|
| <input checked="" type="checkbox"/> Credentials on the issuer's environmental sustainability objectives | <input checked="" type="checkbox"/> Documented process to determine that projects fit within defined categories |
| <input checked="" type="checkbox"/> Defined and transparent criteria for projects eligible for Green Bond proceeds | <input checked="" type="checkbox"/> Documented process to identify and manage potential ESG risks associated with the project |
| <input checked="" type="checkbox"/> Summary criteria for project evaluation and selection publicly available | <input type="checkbox"/> Other <i>(please specify)</i> : |

Information on Responsibilities and Accountability

- Evaluation / Selection criteria subject to external advice or verification
- In-house assessment
- Other (please specify):

3. MANAGEMENT OF PROCEEDS

Overall comment on section (if applicable):

Ferrovie 's Treasury team will manage and track the allocation of proceeds using an internal green bond register. Ferrovie commits to allocate net proceeds within 36 months of issuance. Unallocated proceeds will be placed into Ferrovie's treasury accounts and may also be temporarily invested in projects via intercompany loans to its subsidiaries. This is in line with market practice.

Tracking of proceeds:

- Green Bond proceeds segregated or tracked by the issuer in an appropriate manner
- Disclosure of intended types of temporary investment instruments for unallocated proceeds
- Other (please specify):

Additional disclosure:

- Allocations to future investments only
- Allocations to both existing and future investments
- Allocation to individual disbursements
- Allocation to a portfolio of disbursements
- Disclosure of portfolio balance of unallocated proceeds
- Other (please specify):

4. REPORTING

Overall comment on section (if applicable):

Ferrovie commits to report on the allocation of proceeds on its website on an annual basis until full allocation. Allocation reporting will include the total amount allocated to eligible projects, balance of unallocated proceeds and the amount of financing versus refinancing. In addition, Ferrovie is committed to reporting on relevant impact metrics. Sustainalytics views Ferrovie's allocation and impact reporting as aligned with market practice.

Use of proceeds reporting:

- Project-by-project
- On a project portfolio basis
- Linkage to individual bond(s)
- Other (please specify):

Information reported:

- Allocated amounts Green Bond financed share of total investment
- Other (*please specify*): balance of unallocated proceeds, and the amount of financing vs refinancing.

Frequency:

- Annual Semi-annual
- Other (*please specify*):

Impact reporting:

- Project-by-project On a project portfolio basis
- Linkage to individual bond(s) Other (*please specify*):

Information reported (expected or ex-post):

- GHG Emissions / Savings Energy Savings
- Decrease in water use Other ESG indicators (*please specify*): net carbon footprint of the investment per million of EUR invested, estimated modal shift, estimated FTE's creation on the construction site, estimated average time and savings.

Frequency

- Annual Semi-annual
- Other (*please specify*):

Means of Disclosure

- Information published in financial report Information published in sustainability report
- Information published in ad hoc documents Other (*please specify*):
- Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review):

Where appropriate, please specify name and date of publication in the useful links section.

USEFUL LINKS (e.g. to review provider methodology or credentials, to issuer's documentation, etc.)

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE**Type(s) of Review provided:**

- | | |
|--|--|
| <input type="checkbox"/> Consultancy (incl. 2 nd opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification / Audit | <input type="checkbox"/> Rating |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

Review provider(s):**Date of publication:****ABOUT ROLE(S) OF INDEPENDENT REVIEW PROVIDERS AS DEFINED BY THE GBP**

- i. **Second-Party Opinion:** An institution with environmental expertise, that is independent from the issuer may issue a Second-Party Opinion. The institution should be independent from the issuer's adviser for its Green Bond framework, or appropriate procedures, such as information barriers, will have been implemented within the institution to ensure the independence of the Second-Party Opinion. It normally entails an assessment of the alignment with the Green Bond Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental features of the type of projects intended for the Use of Proceeds.
- ii. **Verification:** An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from Green Bond proceeds, statement of environmental impact or alignment of reporting with the GBP, may also be termed verification.
- iii. **Certification:** An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognised external green standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.
- iv. **Green Bond Scoring/Rating:** An issuer can have its Green Bond, associated Green Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialised research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental performance data, the process relative to the GBP, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

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