



GREEN BOND IMPACT REPORTING
MARCH 2021

1.

FOREWORD

EUROFIMA'S MISSION

Since its establishment in 1956, EUROFIMA has extended EUR 88.9 billion of loans to its shareholder-clients for renewal and modernization of their rolling stock equipment, as such fulfilling its mission to support the development of public passenger rail transportation in Europe.

The contracting states that signed the EUROFIMA Convention ([Link to Convention](#)) recognized, already at that time, the importance that “the railway can play its role in the general economy [...] if it is in a position to effect investments corresponding to a normal renewal and to an indispensable modernization of rolling stock”.

Rail has always been one of the lowest, if not the lowest, carbon transport mode and has played a positive role in society, supporting economic development and offering congestion-free access to employment and leisure opportunities. Nevertheless, the awareness of railroad transport’s role as a key driver of sustainable development has increased significantly only in recent years, as a result of the increasing attention on sustainability at all levels of our society, among decision makers and investors.



Leuk, Switzerland- Source : SBB CFF FFS



Source : Renfe

SUSTAINABILITY

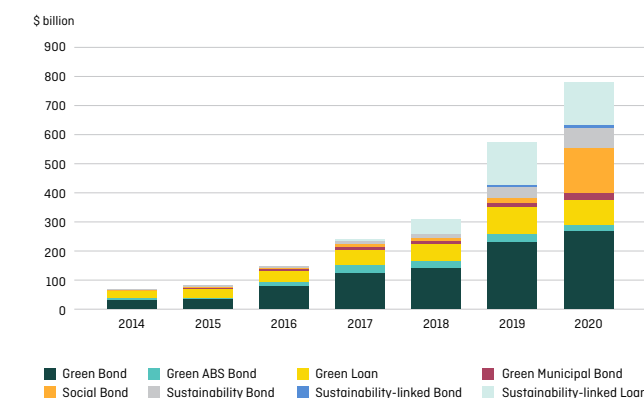
The concept of a sustainable society has been around for decades. In 1981, Lester Brown, founder of the Worldwatch Institute, defined a sustainable society as “one that is able to satisfy its needs without diminishing the chance of future generations.” Since then, the concept has evolved to include a broad range of social, economic and environmental elements that are supposed to work in harmony together and today it has become one of the most pressing topics in our society.

Sustainability has also been an increasingly important point on the political agenda, especially in Europe as highlighted by the principles included in art. 3 of the EU Treaty: “[The Union] shall work for the sustainable development of Europe based on balanced economic growth [...] aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment [...]”

In addition, the EU’s support of a transition to a low-carbon, more resource-efficient and sustainable economy has strengthened with the adoption of the UN 2030 agenda and sustainable development goals, the Paris climate agreement in 2015 and very recently culminated with the European Green Deal, a growth strategy aiming to make Europe the first climate neutral continent by 2050 and the European Green Deal Investment Plan, which is expected to mobilize at least EUR 1 trillion of sustainable investments over the next decade.

At the same time, the role of the financial markets in promoting sustainability has increased considerably, as witnessed by an exponentially increasing green, social and sustainable bonds market.

Global sustainable debt annual issuance, 2014-2020

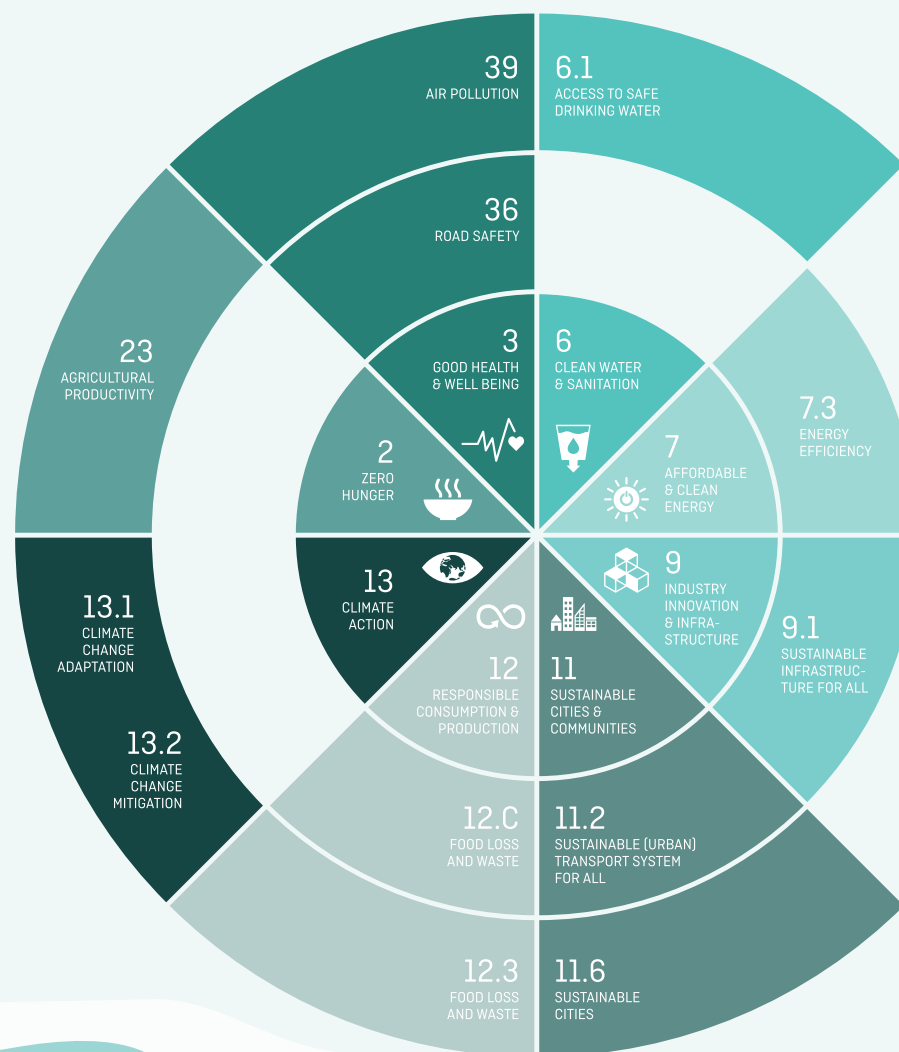


Source: BloombergNEF, Bloomberg L.P.

THE CENTRAL ROLE OF THE RAILWAYS SECTOR IN THE DEVELOPMENT OF SUSTAINABLE TRANSPORT

About sixty years after EUROFIMA's establishment, clean transportation has become a central element of all sustainable development efforts. In the final report of the Open Working Group on Sustainable Development Goals (SDG)¹, transport related targets are included in eight out of the seventeen SDGs (Goals 2, 3, 6, 7, 9, 11, 12, 13). Transportation makes also direct and indirect contributions to at least thirteen SDG targets and is directly related to five SDG indicators.

¹ The Sustainable Development Goals (SDGs), officially known as "Transforming our world: the 2030 Agenda for Sustainable Development", are a set of seventeen aspirational global goals, with 169 specific targets, adopted through a United Nations resolution in September 2015.





Source : SBB CFF FFS

Transportation stimulates economic and social development, ensures accessibility to opportunities, but is also associated with a number of direct and indirect externalities, such as: traffic congestion, air pollution (responsible for about a fifth of global CO₂ emissions) and road accidents.

In this context, railroad transportation offers unparalleled energy efficiency and very low carbon emissions, when coupled with modern clean energy sources. Therefore, railroad transportation can play an important role in delivering a wide range of sustainable development goals and their supporting targets (e.g., overall economic development, social equality, poverty reduction, and enhanced sustainability).

Since its establishment EUROFIMA has made significant contributions to a sustainable society.

Up until year	Collateral mileage of the trains financed by EUROFIMA	Transported passengers on trains financed by EUROFIMA	CO ₂ emissions saved
2020	315 bn km	31 bn passengers	155 mio CO ₂

In addition, EUROFIMA endeavors to make a long-term and active contribution to a sustainable society and to climate protection through its Green Bonds and lending activity. The net proceeds from the Green Bond issuances are invested in Eligible Assets² (i.e., electrical trains), hence both incentivizing and supporting the development of sustainable mobility for our railway clients.

With its four fully allocated Green Bond issued since 2018³, EUROFIMA illustrates through its funding activity the way it actively participates in development of long-term sustainable mobility as a financing source of rolling stock for the European railway administrations and as, effectively, a pure player in the European public service railroad transportation.

² As defined in EUROFIMA GBF, published in 2018. [\[Link to Green Bond Framework\]](#)

³ EUR 500 million 0.25% due 2024, EUR 1'380 million 0.15% due 2034, EUR 750 million 0.10% due 2030, EUR 300 million 0% due 2026

2.

ABOUT THIS REPORT

REPORTING FRAMEWORK AND GUIDELINES

Reporting is an important mechanism that demonstrates transparency and accountability to our stakeholders. This report has been produced in line with the requirements set out in our Green Bond Framework Framework the ICMA “Handbook - Harmonized Framework for Impact Reporting” issued in December 2020 [\[Read more\]](#) and incorporates some of the elements included in the TEG Report “Proposal for an EU Green Bond Standard”, published in June 2019 [\[Read more\]](#), the TEG final report on the EU taxonomy [\[Read more\]](#) and its technical annex published in March 2020 [\[Read more\]](#).

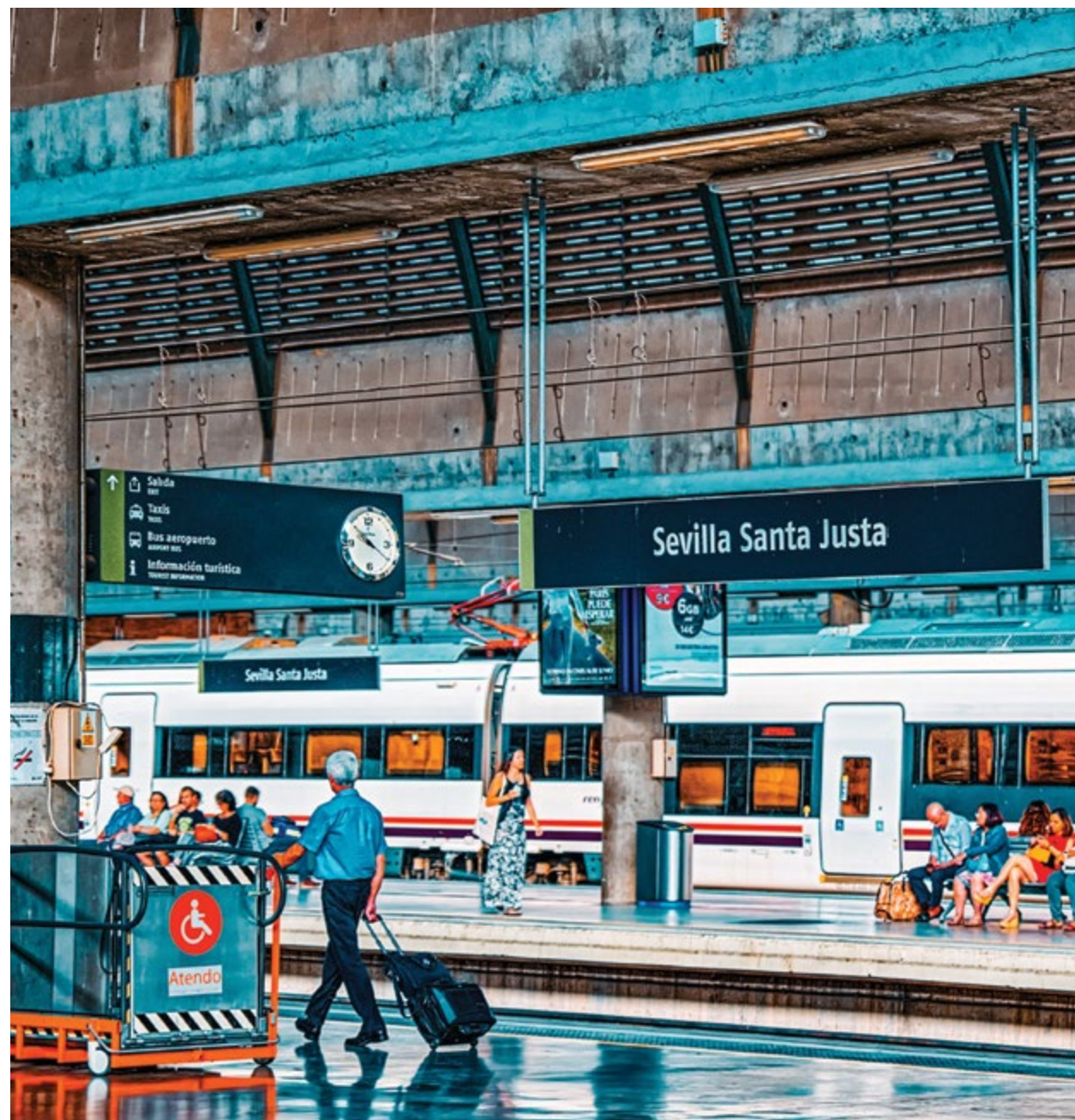
REPORTING SCOPE

This report presents the expected environmental impacts of projects financed with the Green Bond proceeds fully allocated at the time of this report, the impact reporting methodology applied and the related governance process.

Unless otherwise indicated, the reported impacts are Scope 1 (i.e., direct GHG emissions) as defined in the Greenhouse Gas Protocol⁴. Impact is reported for the aggregated portfolio of eligible assets as of September 30, 2020 (i.e., on a portfolio basis⁵).

⁴ Read more page 25, definition Scope 1: Direct GHG emissions. [\[Link\]](#)

⁵ In line with recommendations included in the EU Taxonomy Technical Report by TEG, §4.2 page 59. [\[Link\]](#)



Sevilla Santa Justa, Spain - Source : AdobeStock

3.

OVERVIEW

As of September 30, 2020, EUROFIMA has allocated a total of EUR 2.898 million of net proceeds from its Green Bond issuance to investment projects aligned with the Green Bond Framework (GBF) ([Link to GBF](#)).

Annual GHG emissions savings

1'436'450 tCO₂
1'049 tCH₄⁵
4'655 tN₂O⁶

Reduced annual emissions

0 tCO₂
0 tCH₄
0 tN₂O

Avoided annual emissions

1'436'450 tCO₂
1'049 tCH₄
4'655 tN₂O

Energy annual savings

1'968.1 GWh

Avoided energy use

1'968.1 GWh

Reduced energy use

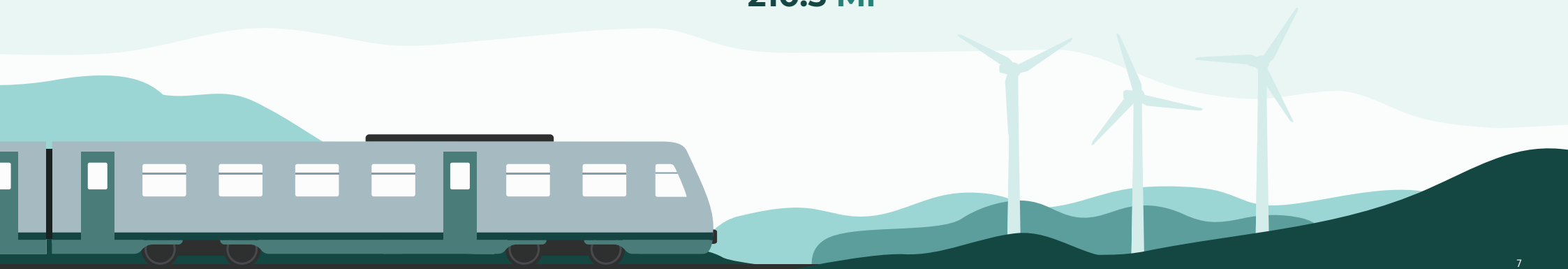
0 GWh

Annual reduction of fuel consumption

210.3 MI

⁵ CH₄ is the chemical formula of Methane, a greenhouse gas, which is emitted in production, refinement, transportation, and storage of crude oil.

⁶ N₂O is the chemical formula of Nitrous Oxide, a greenhouse gas, which is emitted during the combustion of petrol and diesel fuel.



4.

SDG MAPPING

The EUROFIMA GBF addresses two of the SDGs¹. The mapping has been inspired by the ICMA high-level mapping to SDGs [\[Read more\]](#) and existing practices of issuers of Green Bonds in the transportation sector.



Innovation and Infrastructure: efficient, clean and environmentally sound mobility to enable development and employment.



Sustainable Cities and Communities: social development via access to inclusive transportation and mobility in rapidly urbanizing cities.



5.

ENVIRONMENTAL
OBJECTIVES

The projects financed with the proceeds of EUROFIMA Green Bonds are contributing to the following environmental objective: climate change mitigation. [\[Read more\]](#)

There are several principal climate mitigation options for the “greening” of the transport sector including, most relevant for EUROFIMA, the following ones:

- Increasing the number of low and zero emission vehicles;
- Improving vehicle efficiency;
- Substituting fossil fuels with alternative and net-zero carbon fuels, and
- Improving efficiency of the overall transport and mobility system [\[Read more\]](#).

EUROFIMA green projects contribute to some extent to all of the above objectives, as they finance electric rolling stock.

The passenger electric railway activity is already a low carbon one: it is a zero-emission transport and near-to-zero carbon electricity generation or at least moving in this direction. In this regard, it is already compliant with a 2050 net-zero carbon activity⁷.

EUROFIMA financing focuses on clean transportation projects through supporting the procurement and deployment of clean transportation via modal shift (i.e., moving people to more sustainable and less polluting means of transportation) and low emissions (i.e., reducing GHG emissions and air pollutants per unit of service provided).

⁷ Read more page 329 of the EU Taxonomy Technical Report by TEG. [\[Link\]](#)

6.

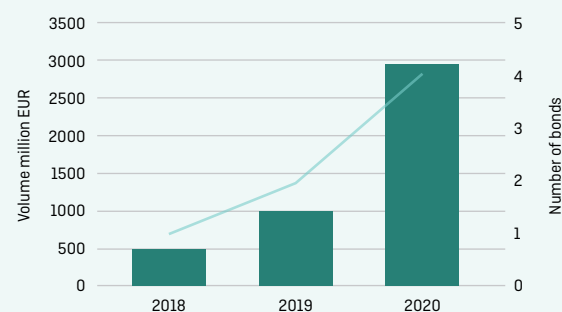
EUROFIMA GREEN BONDS

As of December 30, 2020 total outstanding Green Bonds amounted to EUR 2'930m and SEK 3'050m principal. In 2018, EUROFIMA launched its inaugural Green Bond with a EUR 500 million 2024 benchmark and subsequently issued a EUR 1'350 million 2034, a EUR 750 million 2030 and a EUR 300 million Green Bonds, which were all allocated by September 30, 2020.

EUROFIMA Green Bonds issued up to September 30, 2020

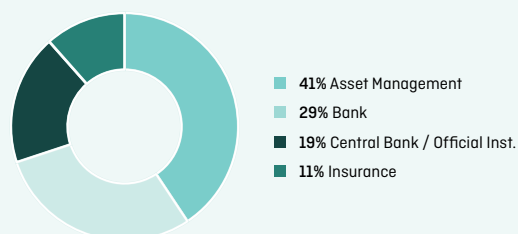
EUROFIMA Green Bond	ISIN	Currency	Issue Date	Maturity Date	Coupon	Amount issued EUR (m)
EUROF 0 1/4 02/09/24	XS1919899960	EUR	10.12.2018	09.02.2024	0.25	500
EUROF 0.15 10/10/34	XS2055744689	EUR	10.10.2019	10.10.2034	0.15	1,380
EUROF 0.1 05/20/30	XS2176621253	EUR	20.05.2020	20.05.2030	0.10	750
EUROF 0 07/28/26	XS2210044009	EUR	28.07.2020	28.07.2026	0.00	300
Total						2,930

EUROFIMA cumulative outstanding Green Bonds up to September 30, 2020

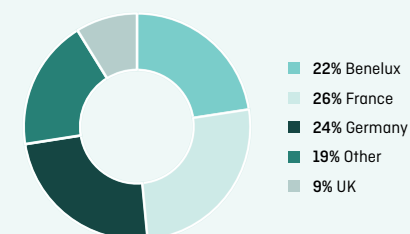


EUROFIMA Green Bond Distribution

% by investor type



% by geographical region





IMPACT INDICATORS

EUROFIMA reports on the following core indicators, with the goal of quantifying the savings generated:

1. Estimated annual Green-House Gas emissions (GHG) reduced or avoided, measured in tons of CO₂, N₂O⁶, and CH₄⁵
2. Estimated annual energy consumption reduced or avoided, measured in GWh
3. Estimated CO₂ emissions per passenger kilometer (gCO₂/pkm), for each type of rolling stock
4. Estimated energy consumption per passenger kilometer (MJ/pkm), for each type of rolling stock
5. Number of clean vehicles financed and deployed (i.e., electric rolling stock).

7.

IMPACT REPORT ON ALLOCATED NET PROCEEDS

The impact data refers to net proceeds of EUROFIMA Green Bonds, which are fully allocated as at the date of the report⁸ and so out of EUR 3'198.1m total net proceeds EUR 2'898.2m have been allocated as per most recent Allocation report. The unallocated amount is EUR 299.8m.

Green Bond proceeds not allocated to Eligible Green Assets are held in accordance with EUROFIMA's liquidity management policy.

Scope of eligible expenditures

Scope of eligible expenditures	
Capital expenditure	100%
Operating expenditure	0%
Working capital	0%
Tangible assets	100%
Intangible assets	0%
Percentage financed by EUROFIMA	100%

⁸ As per the Allocation Report of September 30, 2020.

Impact Report (1/4)

Project main data			Project details						Values by pkm		Total impact data**		Impact data (per EUR 1M)***		Additional annual reduction/avoidance of air pollutants		
Borrower	Project location	Project description	Project start	Project lifetime*	Project costs	Vehicles deployed	Asset average age	Annual Passengers *km	CO ₂ emissions	Energy consumption	Annual CO ₂ emissions reduced/avoided	Annual energy savings	Annual CO ₂ emissions reduced/avoided	Annual energy savings	Annual CH ₄ emissions reduced/avoided	Annual N ₂ O emissions reduced/avoided	Annual estimated reduction in fuel consumption
			Year	in years	EUR millions	in number	in years	Pmkm	g/pkm	MJ/pkm	Tons	GWh	Tons/ML€	GWh/ML€	Tons	Tons	MI Liter
SBB Bern	CH	Financing for 22 EMUs utilized for suburban and regional traffic in canton Zürich (mainly Zürich S-Bahn).	2019	4.9	179	22	9	256.4	0.0	0.29	49,571	71.9	276.3	0.4	36.2	160.7	7.7
CFL Luxemburg	LU	Financing of the brand new double deck EMUS (Class 2400 from Alstom) for cross country services to France and Belgium, procured to meet a growing passengers demand of 3/5% annually.	2019	6.0	26	4	To be delivered	25.0	0.0	0.32	4,834	6.8	185.9	0.3	3.5	15.7	0.7
CFL Luxemburg	LU	Financing of the brand new double deck EMUS (Class 2400 from Alstom) for cross country services to France and Belgium, procured to meet a growing passengers demand of 3/5% annually.	2019	10.3	24	3	To be delivered	18.8	0.0	0.32	3,625	5.1	151.1	0.2	2.6	11.7	0.5
SBB Bern	CH	Financing for 3 FLIRT EMUs utilized for suburban and regional traffic in across Switzerland (mainly around Leman Lake) and cross-country services around Geneve.	2017	8.7	18	3	10	12.9	0.0	0.29	2,498	3.6	140.5	0.2	1.8	8.1	0.4
SBB Bern	CH	Financing for 30 FLIRT EMUs utilized for suburban and regional traffic in across Switzerland (mainly around Leman Lake) and cross-country services around Basel and Geneve to Germany and France.	2017	9.7	148	30	12	129.2	0.0	0.29	24,982	36.3	168.9	0.2	18.2	81.0	3.9
SBB Bern	CH	Financing of 2 High speed trains used in international traffic between Italy and Switzerland, in the line Zürich-Lugano-Milan.	2017	10.0	35	2	6	65.0	0.0	0.29	12,568	18.2	356.7	0.5	9.2	40.7	1.9
SNCB Brussels	BE	Refinancing of M6 coaches, mainly utilized in the domestic market and in some cross-country services with Luxemburg.	2017	10.0	55	33	12	76.5	0.0	0.32	14,782	20.8	267.3	0.4	10.8	47.9	2.2
SBB Bern	CH	Financing for 7 Stadler Kiss EMUs utilized for suburban and regional traffic in canton Zürich (mainly Zürich S-Bahn).	2018	3.0	88	7	6	98.5	0.0	0.29	19,044	27.6	217.2	0.3	13.9	61.7	3.0

Impact Report (2/4)

Project main data			Project details						Values by pkm		Total impact data**		Impact data (per EUR 1M)***		Additional annual reduction/avoidance of air pollutants		
Borrower	Project location	Project description	Project start	Project lifetime*	Project costs	Vehicles deployed	Asset average age	Annual Passengers *km	CO ₂ emissions	Energy consumption	Annual CO ₂ emissions reduced/avoided	Annual energy savings	Annual CO ₂ emissions reduced/avoided	Annual energy savings	Annual CH ₄ emissions reduced/avoided	Annual N ₂ O emissions reduced/avoided	Annual estimated reduction in fuel consumption
			Year	in years	EUR millions	in number	in years	Pmkm	g/pkm	MJ/pkm	Tons	GWh	Tons/ML€	GWh/ML€	Tons	Tons	ML Liter
SNCB Brussels	BE	Refinancing of M6 coaches, mainly utilized in the domestic market and in some cross-country services with Luxemburg.	2018	5.1	114	45	14	104.3	0.0	0.32	20,158	28.4	176.3	0.2	14.7	65.3	3.0
RENFE Operadora Madrid	ES	Financing of 80 5-cars Civia from CAF/Siemens/Alstom, utilized in Regional and sub-urban/commuter traffic in several areas of Spain.	2019	15.0	300	80	13	896.1	0.0	0.32	173,243	243.9	577.5	0.8	126.6	561.5	26.1
RENFE Operadora Madrid	ES	Financing of 16 5-cars Civia from CAF/Siemens/Alstom, utilized in Regional and sub-urban/commuter traffic in several areas of Spain.	2019	9.6	66	16	13	179.2	0.0	0.32	34,649	48.8	527.9	0.7	25.3	112.3	5.2
SBB Bern	CH	Financing for 13 Siemens Rabe 514 EMUs utilized for suburban and regional traffic in canton Zürich (mainly Zürich S-Bahn).	2019	9.4	83	13	12	133.6	0.0	0.29	25,820	37.5	312.0	0.5	18.9	83.7	4.0
FS Rome	IT	Financing of 81 light, single-cab E464 locomotives and relevant 29 Double Deck Vivalto coaches and 5 Alstom Minuetto 3-cars EMUs, which are utilized in the regional traffic in various Italian regions.	2019	14.8	134	115	12	856.4	0.0	0.39	165,566	216.5	1236.5	1.6	120.9	536.6	23.1
FS Rome	IT	Financing of 82 light, single-cab E464 locomotives, 2 Double Deck Vivalto coaches and 1 Alstom Minuetto 3-cars EMUs, which are utilized in the regional traffic in various Italian regions: besides, Eurofima financed 23 E403 multi system locomotives, mainly used in Intercity and night traffic along the Adriatic line.	2020	14.5	200	108	11	1097.9	0.0	0.39	212,267	277.5	1063.8	1.4	155.1	687.9	29.7
SBB Bern	CH	Financing for 34 FLIRT EMUs utilized for suburban and regional traffic in across Switzerland (mainly around Leman Lake, canton Vaud and Zug S-Bahn).	2020	7.0	190	34	7	146.4	0.0	0.29	28,313	41.1	149.0	0.2	20.7	91.8	4.4
SBB Bern	CH	Refinancing of 9 FLIRT EMUs utilized for suburban and regional traffic in the area of Basel and cross-country services to Germany.	2020	9.0	19	9	15	38.8	0.0	0.29	7,495	10.9	400.3	0.6	5.5	24.3	1.2

Impact Report (3/4)

Project main data			Project details						Values by pkm		Total impact data**		Impact data (per EUR 1M)***		Additional annual reduction/avoidance of air pollutants		
Borrower	Project location	Project description	Project start	Project lifetime*	Project costs	Vehicles deployed	Asset average age	Annual Passengers *km	CO ₂ emissions	Energy consumption	Annual CO ₂ emissions reduced/avoided	Annual energy savings	Annual CO ₂ emissions reduced/avoided	Annual energy savings	Annual CH ₄ emissions reduced/avoided	Annual N ₂ O emissions reduced/avoided	Annual estimated reduction in fuel consumption
			Year	in years	EUR millions	in number	in years	Pmkm	g/pkm	MJ/pkm	Tons	GWh	Tons/ML€	GWh/ML€	Tons	Tons	MI Liter
SBB Bern	CH	Refinancing of 6 FLIRT EMUs utilized for suburban and regional traffic in the area of Basel and cross-country services to Germany.	2020	8.0	11	6	15	25.8	0.0	0.29	4,996	7.3	447.2	0.6	3.6	16.2	0.8
SBB Bern	CH	Refinancing of 13 Stadler Kiss EMUs (4-cars version), utilized for suburban and regional traffic in canton Zürich (mainly Zürich S-Bahn).	2020	10.0	103	13	9	121.7	0.0	0.29	23,534	34.2	228.5	0.3	17.2	76.3	3.6
SNCB Brussels	BE	Refinancing of M6 coaches, mainly utilized in the domestic market and in some cross-country services with Luxembourg.	2020	14.4	16	6	14	13.9	0.0	0.32	2,688	3.8	168.0	0.2	2.0	8.7	0.4
FS Rome	IT	Financing of 57 light, single-cab E464 locomotives and relevant 94 Double Deck Vivalto coaches, which are utilized in the regional traffic in various Italian regions.	2020	9.9	200	151	8	804.9	0.0	0.39	155,605	203.4	778.0	1.0	113.7	504.3	21.7
RENFE Operadora Madrid	ES	Financing of 27 5-cars Class 449 from CAF, utilized in the Regional traffic and partly also as Intercity, in various area of Spain.	2020	9.9	94	27	14	287.1	0.0	0.32	55,515	78.2	592.2	0.8	40.6	179.9	8.4
RENFE Operadora Madrid	ES	Financing of 32 of Civia trains from CAF/Siemens/Alstom, both in the 3,4 and 5-cars version, utilized in Regional and sub-urban/commuter traffic in several areas of Spain.	2020	14.3	85	32	13	264.5	0.0	0.32	51,144	72.0	599.0	0.8	37.4	165.8	7.7
FS Rome	IT	Financing of 26 light, single-cab E464 locomotives and 123 Double Deck Vivalto coaches, which are utilized in the regional traffic in various Italian regions: besides Eurofima financed also 8 more modern Alstom Jazz EMUs, which are an evolution of the Minuetto and up to the latest technology to serve the growing commuter traffic in Italy.	2020	14.2	240	157	7	686.5	0.0	0.39	132,727	173.5	553.0	0.7	97.0	430.2	18.5

Impact Report (4/4)

Project main data			Project details						Values by pkm		Total impact data**		Impact data (per EUR 1M)***		Additional annual reduction/avoidance of air pollutants		
Borrower	Project location	Project description	Project start	Project lifetime*	Project costs	Vehicles deployed	Asset average age	Annual Passengers *km	CO ₂ emissions	Energy consumption	Annual CO ₂ emissions reduced/avoided	Annual energy savings	Annual CO ₂ emissions reduced/avoided	Annual energy savings	Annual CH ₄ emissions reduced/avoided	Annual N ₂ O emissions reduced/avoided	Annual estimated reduction in fuel consumption
			Year	in years	EUR millions	in number	in years	Pmkm	g/pkm	MJ/pkm	Tons	GWh	Tons/ML€	GWh/ML€	Tons	Tons	ML Liter
SBB Bern	CH	Refinancing of 14 Stadler Rabe 526, based on the GTW family, that are operated by Thurbo in regionals services, mainly in the area around Zürich and St Gallen and of 28 Kiss utilized to serve the traffic in the Zürich S-Bhan.	2020	6.0	279	42	11	453.2	0.0	0.29	87,618	127.1	314.4	0.5	64.0	284.0	13.6
RENFE Operadora Madrid	ES	Financing of 4 S-104 High Speed trains from Alstom and 13 S-114, which represent their more modern evolution; these specific ID numbers are mainly used to support the regional traffic, with also some seldom utilization for Intercity and High speed services.	2020	9.8	166	17	11	547.1	0.0	0.32	105,769	148.9	638.8	0.9	77.3	342.8	15.9
RENFE Operadora Madrid	ES	Financing of 2 S-104 High Speed trains from Alstom, utilized to support the regional traffic in across Spain.	2020	14.2	13	2	15	64.4	0.0	0.32	12,443	17.5	985.0	1.4	9.1	40.3	1.9
SBB Bern	CH	Financing for 6 FLIRT EMUs utilized for suburban and regional traffic in across Switzerland (mainly around Lemman Lake, canton Vaud and Zug S-Bhan)	2017	9.6	14	6	11	25.8	0.0	0.29	4,996	7.3	362.8	0.5	3.6	16.2	0.8
		Total portfolio (since 2018)			2,898.2	983		7,429.9			1,436,449.8	1,968.1	496	0.7	1,049.3	4,655.5	210.3

* From the start of the financing project

** As we have partially changed the methodology model (see page 8 of the Impact assessment methodology 2021), the comparison with 2020 values is not possible.

*** The savings per 1 ML€ invested shows a higher value compared to the first issuance; the impacting factors are outlined here below

a) The change in the model, where we used the data per country and per mode of operations, reduced the value by roughly 35%, as the Regional&Commuter load factor is generally lower than the average value at country level

b) Spain and Italy, which were not recipients in our first issuance and now accounts for more than 52% of the proceeds, have a better train load factor, increasing the value per 1 ML invested by roughly 45%, compared to the first issuance

c) The trains financed in Spain and Italy are also less expensive and have more seats: therefore, the cost of one seat is roughly 65% lower than the trains in the first issuance

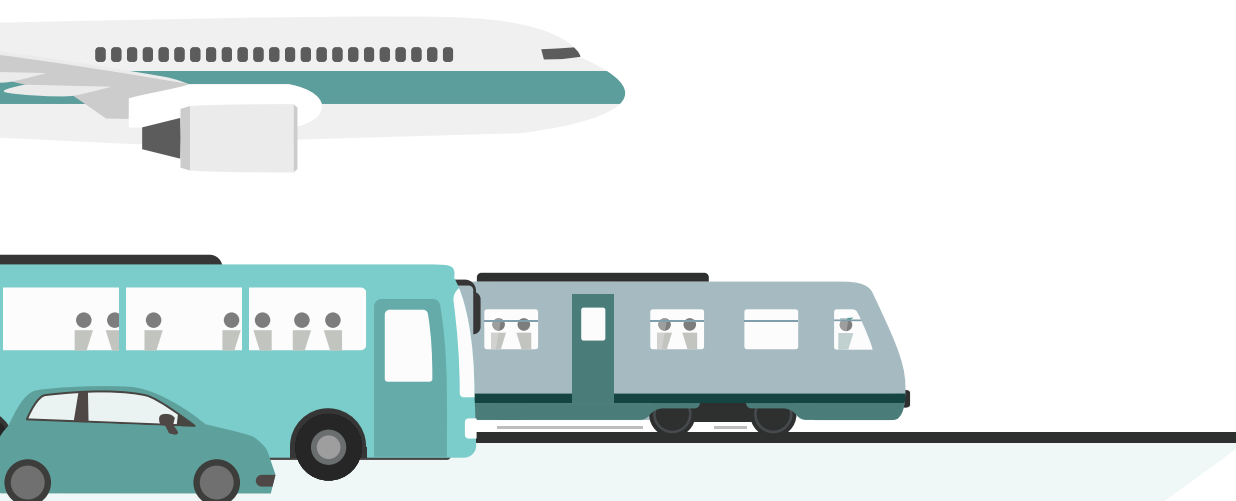
8.

METHODOLOGY OVERVIEW

The approach followed to derive the impact indicators above is based on the comparison between:

- a) the emissions and energy consumption of the green assets or projects, and
- b) the emissions and energy consumption of alternative means of transportation (i.e., those that would be used, in case the rolling stock were not financed).

Therefore, the “baseline” for impact assessment purposes is the “alternative means of transportation”¹⁰.



MAIN ASSUMPTIONS AND OTHER CONSIDERATIONS

The estimation of the impact is based on the following main assumptions:

- a) The reported impact is the expected environmental impact (i.e. ex-ante), as opposed to the actual (i.e. ex-post)¹¹;
- b) The reported impact is defined as “Avoided” (i.e., reduction compared to the scenario where the project was not financed) or “Reduced” (i.e., reduction compared to historical, actual values);
- c) The benefits are annual benefits and are not estimated as a total, cumulative amount over the project lifetime (i.e., duration of the financing) and are based on the assumption that the green rolling stock runs at the normal and planned operating schedule under steady operations and all passengers would move to different means of transportation, in case such rolling stock had not been financed;
- d) The emissions considered for the financed rolling stock are assessed based on the standards of Scope 1, as defined in the Greenhouse Gas Protocol⁴, which considers only the “Tank-to-Wheel” (TtW) values (i.e., energy consumed or emissions generated only by the train). This is also in line with the EU Taxonomy¹² that considers electric rail transport as a zero-direct emission means of transport.
- e) EUROFIMA commits to using the latest available parameters and keeps the right to modify the model, in order to improve the accuracy of the estimations.

A detailed methodology description is included in Annex 1 [\(Link\)](#).

¹⁰ For the explanation of the methodology, the assumptions, the data sources and computations, please refer to the Annex 1 - Methodology [\(Link\)](#).

¹¹ The assessment of the impact indicators is based on assumptions, therefore the actual (ex-post) environmental impact of the projects may diverge from initial assessment and across projects. In addition, financed projects might also have other impacts than those captured in the impact assessment table.

¹² Page 329 of the EU Taxonomy Technical Report by TEG [\(Link\)](#).

9.

FINANCED ASSETS

PROJECTS DESCRIPTION

The equipment financed by EUROFIMA through the fully allocated proceeds of its green bonds, represents a mix of rolling stock types for the benefit of several railway companies located in different European countries. Such equipment aims to support the sustainable growth of railways traffic.

The assets are either Electrical Multiple Units (EMUs), electrical locomotives or passenger coaches (combined with electrical locomotives). The five corresponding countries (Switzerland, Luxembourg, Belgium, Spain and Italy) and relevant state-owned Railways significantly contribute to climate change mitigation: all the trains are up to the latest technology in terms of sustainability, digitalization and energy consumption.

Annex 2 List of financed assets [\[Link\]](#).



Central Station - Antwerp, Belgium - Source iStock



CFL, the national railway company of Luxembourg, received 2% of the proceeds; in 2019 it carried around 25 million passengers, with a significant 7.4% growth compared to 2018. The company is strongly committed to establish itself as a sustainable and green company, to the extent that 100% of the energy comes from renewable sources and plans to reduce further the carbon footprint across the whole company¹³.

The following rolling stock belonging to CFL is financed through the Green Bonds proceeds:

- **Class 2400 (7 EMUs)** The equipment financed consists of 7 brand new Alstom 4 cars EMUs (Coradia family) to be delivered in 2021 and 2022. The trains are up to the latest technology in terms of sustainability features (e.g., low floor access, areas for bicycles and reading, easy travel for people with reduced mobility, dynamic PIS, WiFi and HVAC) and will be used both in Luxembourg and in cross country services in France and Belgium. According to the CFL expectations, the 334 seats per train should help to meet a growing passengers demand between 3% to 5% annually, with an additional positive environmental impact.

¹³ Sustainable development CFL [\[Link\]](#)

¹⁴ Sustainability action plan SNCB [\[Link\]](#)



Belgium - Source : SNCB



SNCB, the national railway company in Belgium, which in 2019 carried around 257 million passengers, received 6% of the proceeds. The operator is also strongly focused to give a green footprint to its operational activities: it has a clear five years sustainability plan 2017-2022, which aims at reducing the energy consumption by 5% and improving other indicators on waste, consumables, noise, water and soil management¹⁴.

The following rolling stock belonging to SNCB is refinanced through the Green Bonds proceeds:

- **Class M6 (84 passenger cars)** EUROFIMA refinanced the purchase of 84 brand new double deck coaches, which were originally financed in 2007 and 2008. At that time, the coaches were up to the latest technology in terms of comfort and digitalization. They are mainly utilized in the domestic market and in some cross-country services with Luxembourg. The coaches are utilized on electrified lines and pushed or pulled by an electrical locomotive, normally a Class 18 from Siemens, which is not part of this financing.



As the leader in the passenger rail transport sector with 88% market share, the FS is committed to achieving carbon neutrality in 2050, through facilitating the shift towards more efficient and less polluting methods of transport, promoting the efficient use of energy resources and the reduction of greenhouse gas emissions, implementing more efficient energy technologies and extending the utilization of renewable sources; in 2019 they reduced the CO₂ emissions by 1.6%¹⁵.



Saronno, Italy - Source : AdobeStock

The following electrical rolling stock is financed through the green bond proceeds:

- **Minuetto [6 trains]** This 3-cars, low floor EMU was built in large numbers by Alstom and utilized as Sub-urban and commuter traffic in almost all regions of Italy; it has a maximum speed of 160 Km/h.

- **ETR Jazz [8 trains]** Based on the same Coradia Family of Minuetto, this train is the natural and more modern evolution, part of a plan to renew the regional transport and make the commuter travel better. They are low floor access EMUs, specifically designed to meet environmental and sustainability criteria; 95% of the material is recyclable and they guarantee 30% more energy savings than the previous generation. They also meet the latest requirements in terms of disability facilities (entrance, seats, toilets) and of the latest available technologies (video surveillance system, PIS, sound system, braille messages, 220 V power sockets). EUROFIMA financed both the 4-cars (3 units) and the 5-cars (5 units) version.

- **E464 [246 Locomotives]** E464 is a simple, low power (only 3.6 Mw) single cab locomotive, built specifically by Bombardier for the regional passenger traffic: with more 700 units, this is the largest FS fleet and one of the largest of the same kind at European level and it is utilized in all Italian regions. It is mainly coupled with mid-distance coaches and Vivalto double-deck passenger cars; based on the configuration (which coaches and how many) it can carry up to 800 seated passengers and can run at a speed of 160 Km/h.

- **E403 [23 Locomotives]** E403 is a powerful (5.6 Mw), multi-system locomotive, originally designed by Hitachi Rail to serve the freight traffic in Italy and across the Brenner Pass. After being simplified, it was assigned to Trenitalia, the passengers division of FS, which utilizes the loco, coupled with UIC-Z1 and IC-Gran Comfort coaches, in intercity and night services, covering mainly the line along the Adriatic coast.

- **Vivalto [248 passenger cars]** Vivalto are low floor access, double deck coaches, specifically designed for the regional and commuter traffic and are widely used across the entire peninsula, always coupled with a E464 locomotive. They can make available till 126 seats, run at a speed up to 160 km/h and have the latest technology in terms of PIS, comfort and provisions for disability.

¹⁵ FS Sustainability [\[Link\]](#)

The following electrical rolling stock belonging to Renfe is financed through the Green Bond proceeds:

- **Civia 463 (12 trains)** Based on the Civia modular family, partly built by a consortium of CAF and Siemens and partly by Alstom, these EMUs are the 3 cars version: the trains were specifically built for the commuter traffic in several Spanish regions and are mainly used for the suburban traffic around, in and out of the main cities. The Civia train concept was created with passenger comfort and build quality in mind, and to meet the goals of reliability, frequency, punctuality, and a better provision for disabled passengers; the 3 cars version has a speed of 120 km/h and makes available 169 seats.

- **Civia 464 (19 trains)** This is the 4 cars version of the same Civia family with a total of 223 seats

- **Civia 465 (97 trains)** This is the 5 cars version of the same Civia family with a total of 277 seats

- **Class 449 (27 trains)** Built by CAF under a design from Renfe, the Class 449 are mainly utilized in the Regional traffic across all areas of Spain, covering distances higher than the Civia family and used from time to time also for Intercity services: they are a modern 5 cars formation, with a maximum speed of 160 km/h and 263 seats. Similar to the Civia family, their design had the goal to improve comfort and reliability and a better provision for disabled passengers.

- **S-104 (6 trains)** This 4 motorized cars intercity train belongs to the first version of the Alstom Pendolino family, even though the version used by Renfe is not tilting: it can reach a speed of 250 Km/h and has a capacity of 236 seats. Unlike most of the Spanish trains, it has the international gauge and not the Iberic one. Their utilization is mainly as mid-distance regional train, fulfilling a Public Service Obligation in various Spanish regions; however, it has also a limited utilization as Intercity.

- **S-114 (13 trains)** This High-Speed train is the upgraded and better version of the S-104 and was built by a consortium of Alstom and CAF, based on the latest Pendolino family; even though the trains are similar from outside, the technology inside is different in order to be aligned with Spanish requirements in terms of voltage and signalling. The specific ID numbers financed by EUROFIMA are mainly utilized to fulfil the growing regional ridership in Catalonia, connecting Barcelona-Tarragona-Lerida Pirineois; they have also a limited usage as High-speed trains in the line Madrid-Valladolid.



Source : Renfe



With 5'000 trains running every day, more than 500 million passengers a year and about 15'000 committed employees, Renfe is working to make the train the star of mobility in Spain; it received 25% of the proceeds. Sustainability and green footprint are at the heart of the Renfe's strategy; in 2019 the energy to power all electric vehicles (80% of the fleet) came from renewable sources. This will play an instrumental role to help achieving the goal to reduce the CO2 emissions by more than 7 million tons, in the entire rail network on which Renfe operates, by 2030. Besides, the company is exploring fewer polluting sources of energy (LNG, Hydrogen) to replace its diesel fleet¹⁶.

¹⁶ Sustainable development Renfe ([Link](#))



SBB, which received around 40% of the proceeds, is the largest provider of sustainable mobility solutions in Switzerland: the company is strongly committed to delivering a sustainable and green strategy along the entire value chain – from procurement to production, use and disposal. In 2019 they reduced the carbon emissions by 6.4% and their trains already draw 90% of their energy from hydropower: they plan to have the entire rail network powered by renewables by 2025 and to achieve climate neutrality by 2030¹⁷.



Léman Express, Switzerland - Source : SBB CFF FFS

The following electrical rolling stock is financed through the green bond proceeds:

- **Rabe 523 (51 trains)** Based on the Flirt family of Stadler, this is a 4-cars regional train, which is operated by SBB on the regional connections in Canton Vaud (mainly around Lausanne) and on the central part of Switzerland. Even if this train was originally developed 15 years ago, this version meets the latest standard in terms of comfort and sustainability: It can travel at the speed of 160 km/h and carry 180 passengers and support the growth of rail traffic in Switzerland.

- **Rabe 521 (23 trains)** This train is the same as the Rabe 523, as far as comfort, capacity and mechanical features are concerned: its Signalling feature makes it suitable to run also in Germany. It is therefore operated by SBB in the regional services around Basel and in cross-country services, connecting Switzerland with the southern part of Baden-Württemberg.

- **Rabe 522 (14 trains)** This train is the same as the Rabe 523, as far as comfort, capacity and mechanical features are concerned: its Multisystem and Signalling features make it suitable to run also in France. It is therefore operated by SBB in domestic lines around the lake Lemman, canton Vaud and for cross country operation with France.

- **Rabe 514 (27 trains)** Based on the Desiro family from Siemens, this is a 4 cars double-decker regional train operated by SBB as S-Bahn in the Zürich area. It has 378 seats and can run at a speed of 140 km/h.

- **Rabe 511 (56 trains)** Based on the Stadler KISS family, it is the evolution of the Rabe 514; a double-decker, both in the 6 cars and 4 cars version that can carry up to 535 sitting passengers and around 800 standing. The train is new and equipped with all the features (e.g., PIS, HVAC, low entrance floor, area for bicycles) that make it sustainable and comfortable to attract the increased ridership in the greater Zurich area.

- **Rabe 526 (14 trains)** This is a peculiar and articulated EMU, based on the GTW family, with a power module between cars; EUROFIMA financed both the versions with 2 and 3 cars. The train is a modern low floor access EMU, operated by Thurbo (a JV owned by SBB and Canton Thurgau) to serve the regional traffic in the northeastern part of Switzerland, mainly in the cantons St Gallen, Thurgau and Zurich, and has up to 162 seats.

- **Rabe 503 (2 trains)** This is a high-speed train built on the Pendolino platform developed by Alstom; they are used in the international traffic in the line Milan-Zurich under an agreement between FS and SBB. With a speed of 250 Km/h, multi-system and multi-signalling features, latest PIS and a tilting mechanisms, the train has a level of technology and comfort second to none.

¹⁷ Sustainability strategy SBB [\[Link\]](#)



10.

DO NO SIGNIFICANT HARM

The railway operators, recipient of the financing, commit to keep the financed items of equipment in good conditions for the entire life cycle, carrying out the proper maintenance activities according to the maintenance plan suggested by the manufacturer and approved by the National/European Rail Safety Agency, as prerequisite to be authorized to operate them.

The dates of the latest and the next main revisions, as communicated by the recipients of the financing for each green item of equipment are properly added to the Report (see Annex 2, list of financed assets) [\(Link\)](#).

11.

GOVERNANCE

11.1 INTERNAL STAKEHOLDERS

The process of Green Bond issuance, project selection, loan disbursement, proceeds allocation and related reporting cuts across a number of functions: Capital Markets, Strategic & Shareholder Relations, Middle Office, Treasury & Asset Management and Information Technology. It is led by Capital Markets and Middle Office. Capital Markets is ensuring that impact and allocation reporting are in line with EUROFIMA GBF and other market standards and best practices.

Middle Office with the Rolling Stock Manager is responsible for the collateral selection (i.e., rolling stock) that forms the asset pool of Eligible Assets, as defined by EUROFIMA GBF. It is also responsible for the green net proceeds allocation, the development of the impact methodology and corresponding impact measurement.

Treasury & Asset Management ensure that any balance of Green Bond proceeds not yet allocated to eligible Green Assets is held in accordance with EUROFIMA liquidity management policy, until such funds are disbursed.

Shareholder & Strategic Relation is responsible for the conclusion of loans with the railways and specifying the collateral requirements, in line with Capital Markets Green Bonds issuance activity.

Information Technology is responsible for the tools for collateral management (rolling stock register) as well as for EUROFIMA accounting, reporting and asset management system that tracks bond issuances, proceeds investment, loan disbursements and related collateral.

11.2 GOVERNANCE

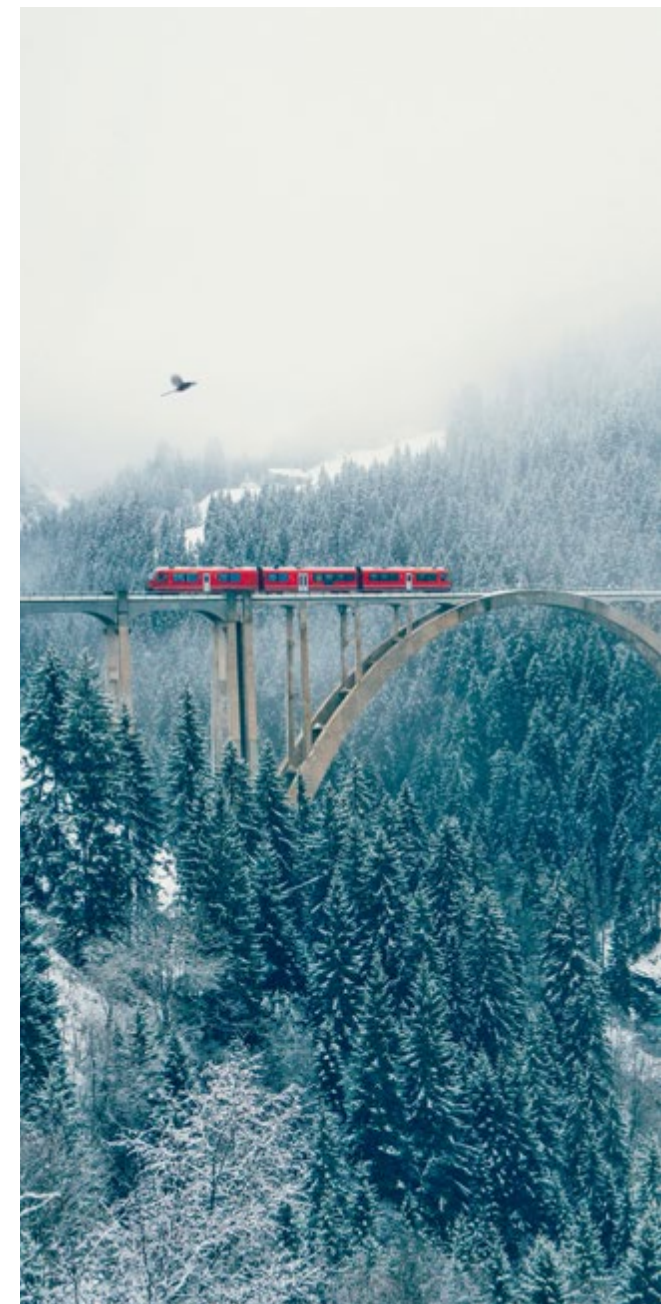
EUROFIMA maintains a register of Eligible Assets up-to date at any time, through its collateral management system, where the eligibility criteria are set up.

The Management Committee reviews and signs off the list of eligible assets on a quarterly basis. It also reviews and approves the Allocation Report as well as the Impact Report, on a yearly basis or more often, as required. The Board of Directors is notified of the Management Committee approval.

11.3 DATA & OTHER INFORMATION

The Railways companies are important partners for EUROFIMA both in terms of push and pull of the sustainability policy. The data and information in this report is either from publicly available sources or provided by the railways on a best effort basis.

EUROFIMA engages with its railway clients to receive rolling stock collateral in line with the GBF over the life of the allocated Green Bond proceeds. Nevertheless, it is at the railways' discretion, whether to provide EUROFIMA with impact or other related information by specific green rolling stock item.



Switzerland - Source : iStock

CONTACTS

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