



GREEN BOND IMPACT REPORTING
MARCH 2020

1.

FOREWORD

EUROFIMA'S MISSION

Since its establishment in 1956, EUROFIMA has extended EUR 86 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.



Kampen, The Netherlands - Source : iStock



Black Forest, Germany - Source : AdobeStock

SUSTAINABILITY

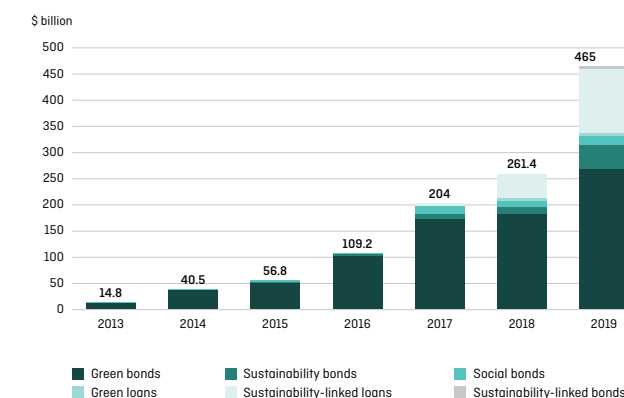
The concept of a sustainable society has been around for decades. In 1981, Lester Brown, founder of the Worldwatch Institute, defined a sustainable society as “one that is able to satisfy its needs without diminishing the chance of future generations.” Since then, the concept has evolved to include a 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, 2013-2019

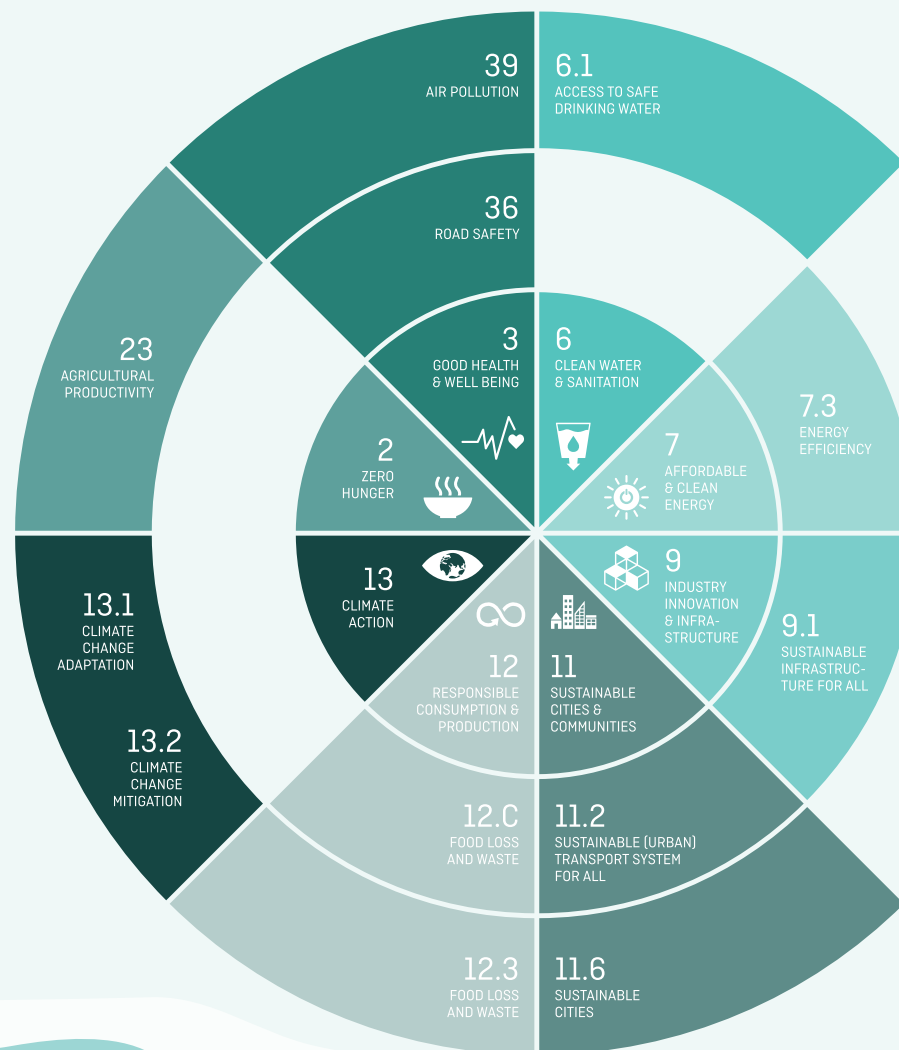


Source: BloombergNEF, Bloomberg L.P.

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.





Tirano, Switzerland - Source : AdobeStock

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	Mileage of trains financed by EUROFIMA in km	Transported passengers on trains financed by EUROFIMA	CO ₂ emissions saved (compared to road) in t
2019	312'854'885'232	30'369'775'878	151'896'218

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 inaugural Green Bond issued in 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.

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 published in 2018, the ICMA “Handbook – Harmonized Framework for Impact Reporting” issued in June 2019 [\[Read more\]](#) and incorporates some of the elements included in the TEG Report “Proposal for an EU Green Bond Standard”, also published in June 2019 [\[Read more\]](#).

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 December 10, 2019 (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. [\[Link\]](#)



3.

OVERVIEW

As of December 10, 2019, EUROFIMA has allocated a total of EUR 497 million of net proceeds from its Green Bond issuance to investment projects aligned with the Green Bond Framework (GBF) published in 2018 [\[Link to GBF\]](#).

Annual GHG emissions savings

159'095 tCO₂

Avoided annual emissions

159'095 tCO₂

Reduced annual emissions

0 tCO₂

Energy annual savings

229.8 GWh

Avoided energy use

229.8 GWh



Reduced annual energy

0 GWh



4. SDG MAPPING

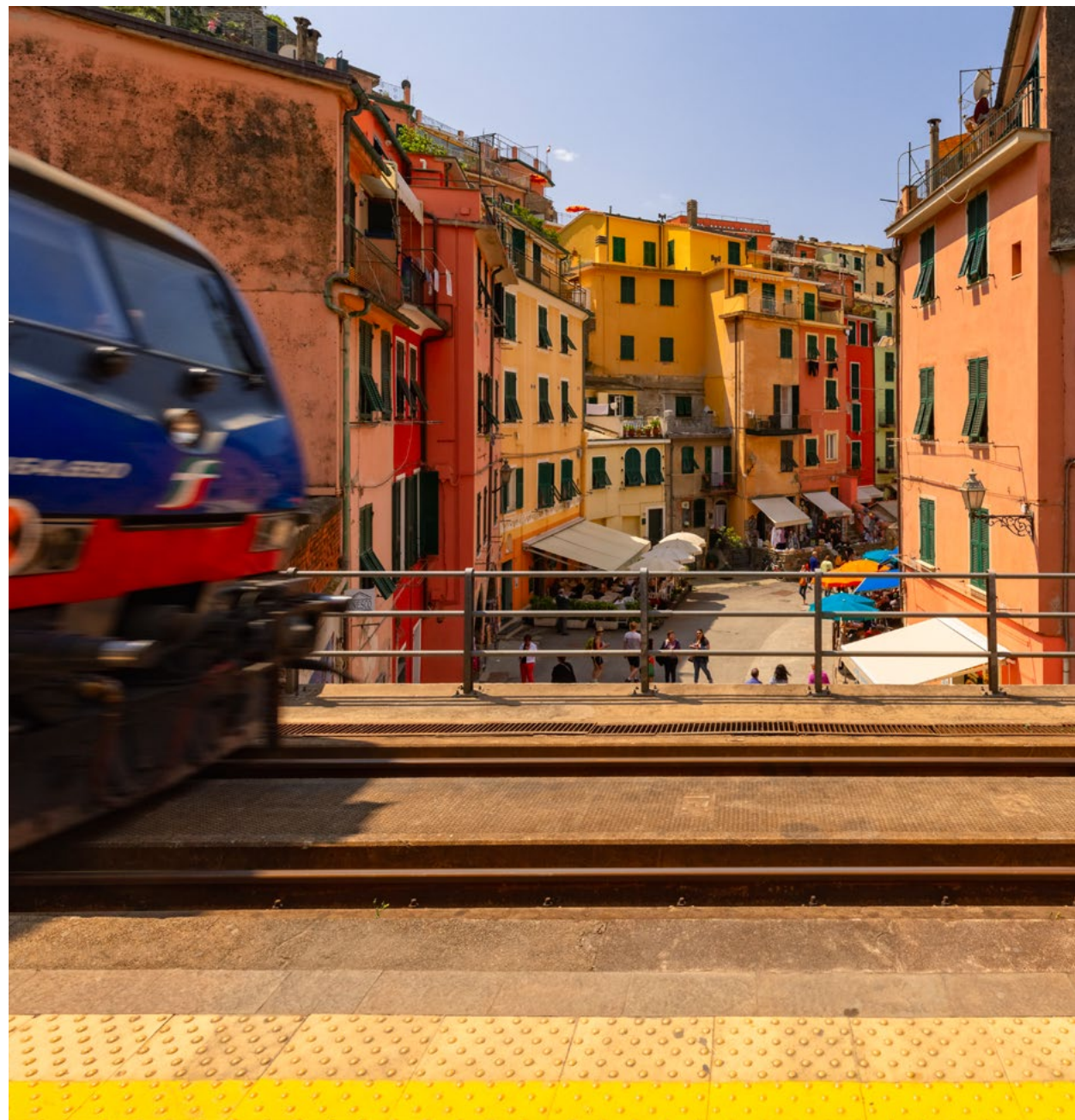
The EUROFIMA GBF addresses two of the SDGs¹. The mapping has been inspired by the ICMA high-level mapping to SDGs ([Read more](#)) and existing practices of issuers of Green Bonds in the transportation sector.



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.





Bergen - Oslo, Norway - Source : iStock

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 activity⁶.

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).

⁶ Read more page 329 of the EU Taxonomy Technical Report by TEG. [\[Link\]](#)

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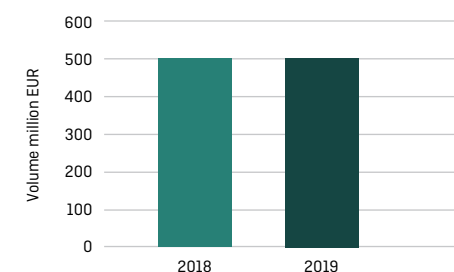
EUROFIMA GREEN BONDS

Outstanding Green Bonds amounted to EUR 1000m principal. In 2018, EUROFIMA launched its inaugural Green Bond with a EUR 500 million 2024 benchmark and in 2019 issued another EUR 500 million 2034 benchmark bond.

EUROFIMA Green Bonds issued up to December 10, 2019

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	500
Total						1000

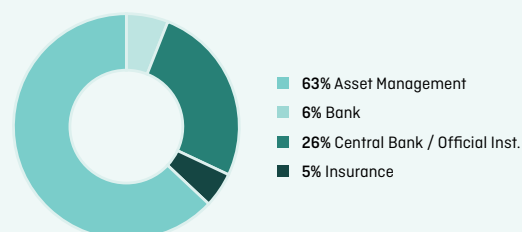
EUROFIMA outstanding Green Bonds



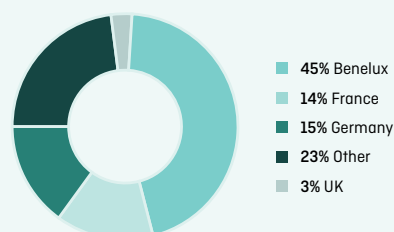
EUROFIMA Green Bond Distribution

Inaugural Green Bond: EUROF 0.25% due February 2024

% by investor type

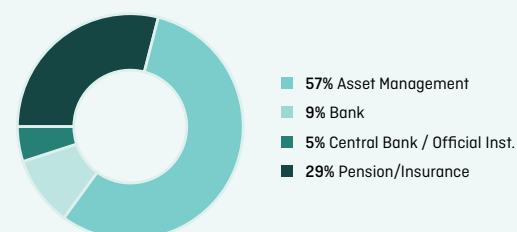


% by geographical region

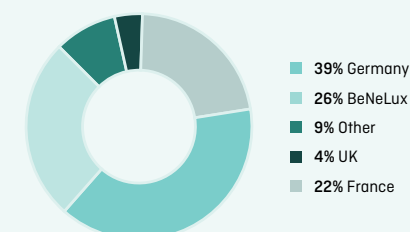


EUROF 0.15% due February 2034⁷

% by investor type



% by geographical region



⁷ This bond issue has been increased to EUR 1 billion in Q1 2020.



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;
2. Estimated annual energy consumption reduced or avoided, measured in GWh;
3. Estimated CO₂ emissions per passenger kilometer (gCO₂ pkm), for each type rolling stock;
4. Estimated energy consumption per passenger kilometer (pkm), for each type of rolling stock, and
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 992.4m total net proceeds EUR 497.0m have been allocated as per Allocation report of December 10, 2019. The unallocated amount is EUR 495.4m.

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 December 10, 2019, the fully allocated proceeds are those relating to the inaugural Green Bond: EUR 500m 0.25 due February 2024 (XS1919899960).

Impact Report

Project main data			Project details					Values by pkm		Total impact data		Impact data (per EUR 1 million)	
Borrower	Project location	Project description	Project start	Project lifetime	Project costs	Vehicles deployed	Asset average age	GHG emissions	Energy consumption	Annual GHG-emissions reduced/avoided	Annual energy savings	Annual GHG-emissions reduced/avoided	Annual energy savings
			Year	in years	EUR millions	in number	in years	CO ₂ /pkm	MJ/pkm	Tons CO ₂	GWh	Tons CO ₂ /MEUR	GWh/MEUR
SBB	Switzerland	Financing for 22 EMUs utilized for suburban and regional traffic in canton Zürich (mainly Zürich S-Bahn).	2019	4,9	183	22	7,2	0,0	0,29	86.633	125,7	472,4	0,7
SBB	Switzerland	Financing for 4 EMUs utilized for suburban and regional traffic in across Switzerland (mainly around Leman Lake) and cross-country services around Basel.	2017	8,6	18	4	8,4	0,0	0,29	5.821	8,4	330,8	0,5
SBB	Switzerland	Financing for 29 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	147	29	7,5	0,0	0,29	42.205	61,2	288,1	0,4
CFL	Luxembourg	Brand new double-decker EMUs for cross-country services to France and Belgium, procured to meet a growing passengers demand of 3-5% annually.	2019	5,9	13	2	To be delivered ⁹	0,0	0,32	2.417	3,4	185,9	0,3
CFL	Luxembourg	Brand new double-decker EMUs for cross-country services to France and Belgium, procured to meet a growing passengers demand of 3-5% annually.	2019	10,2	24	3	To be delivered ⁹	0,0	0,32	3.625	5,1	151,1	0,2
SNCB	Belgium	Refinancing of 44 coaches mainly utilized in the domestic market and in some cross-country services with Luxemburg.	2018	5,1	112	44	11,3	0,0	0,32	18.394	25,9	163,6	0,2
Total portfolio (since 2018)					497	104				159.095	229,8	320,1	0,5

⁹ The 5 EMUs are still being manufactured, as CFL placed the order at the end of 2018; the delivery is expected to happen in 2021 and 2022

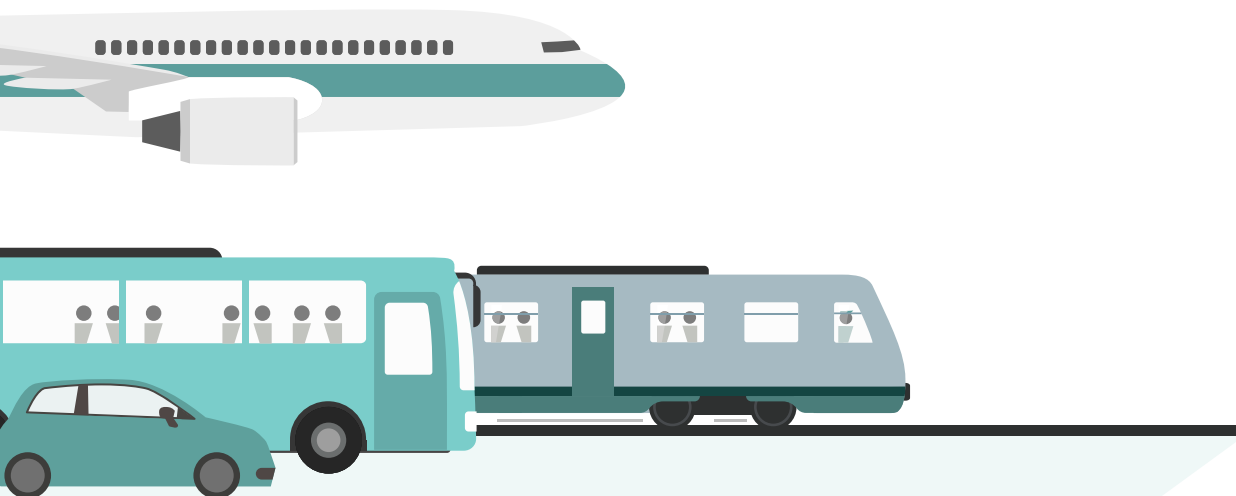
8.

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.

A detailed methodology description is included in Appendix 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) or passenger coaches (driven by electrical locomotive). The three corresponding countries (Switzerland, Luxembourg, Belgium) and state-owned Railways significantly contribute to climate change mitigation: all of the trains are up to the latest technology in terms of sustainability, digitalization and energy consumption Annex 2 List of financed assets [\[Link\]](#).



Paris, Gare du Nord - Source AdobeStock



SBB, which received around 70% of the proceeds, is the largest provider of sustainable mobility solutions in Switzerland. They carry around 1.25 million passengers per day. The company is strongly committed to delivering a sustainable and green strategy, reducing energy and pollutants: SBB's trains already draw 90% of their energy from hydropower and the plan is to have the entire rail network powered renewables by 2025¹³.



Zurich, Switzerland - Source : AdobeStock

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

- **Rabe 523 (11 trains)**: based on the Flirt family of Stadler, this is a 4-cars Intercity and 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 (8 trains)**: This train is the same as the Rabe 523, as far as comfort, capacity and mechanical features are concerned: its signalling capabilities make 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 capabilities make it suitable to run also in France. It is therefore operated by SBB in domestic lines around the lake Lemman and for cross country operation with France.

- **Rabe 514 (14 trains)**: Based on the Desiro family from Siemens, this is 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 (8 trains)**: Based on the Stadler KISS family, it is the evolution of the Rabe 514; a double-decker, in this case, a 6 cars and longer version that can carry 535 sitting passengers and around 800 standing. The train is new and equipped with the features (e.g., PIS, HVAC, low entrance floor, area for bicycles) that make a train sustainable and comfortable to attract the increased ridership in the great Zürich area.

¹³ Sustainability strategy SBB ([Link](#))



SNCB, the main railway operator in Belgium, received 23% of the proceeds: it carries every year 375 million passengers and is also strongly focused to give a green footprint to his operational activities; 68% of traction current comes from non-fossil fuel energy sources (and only 3.7% from coal).¹⁴

EUROFIMA refinanced the purchase of 44 brand new double deck coaches (Class M6), 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 Luxemburg. The coaches are utilized on electrified line and pushed or pulled by an electrical locomotive, normally a Class 18 from Siemens, which is not part of this financing.



Belgium - Source : SNCB



Despite being a small operator and receiving 7% of the proceeds CFL is investing a lot to promote rail transportation in Luxembourg: EUR 2.16 billion since 2008. The energy comes mainly from renewable energies and gas-fired plants.¹⁵

The equipment financed consist of 5 brand new Alstom Class 2400 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 and 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 meet a growing passengers demand between 3 to 5% annually, with a clear positive environmental impact.

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

¹⁵ Sustainable development CFL [\[Link\]](#)

10.

GOVERNANCE

10.1 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.

Strategy & Shareholders Relations 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.

10.2 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 Director is notified of the Management Committee Approval.

10.3 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.



Italy - Source : RENFE

CONTACTS

For further information about EUROFIMA Green Bonds or if you have any questions regarding this report or other sustainability-related queries, please contact:

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