

ECO SCORING

ISSUING GREEN BONDS

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SNCF RÉSEAU'S GREEN BOND PROGRAMME

MAIN CHARACTERISTICS OF THE GREEN BONDS PROGRAMME

- + A programme focused on the network **renovation**...
- + ... for **significant** amounts (about € 1.5 bn / year) and **recurrent** (at least 1 issue / year)
- + ... bringing **additionality** (no refinancing of existing projects)
- + ... with **two certifications** (GBP and CBI) and an inclusion into the Barclays MSCI Index.



DETAILS OF THE GREEN BONDS ISSUES

2016

1st Green Bond for a Railway Infrastructure Manager

SNCF Réseau



€ 900,000,000
1% Climate Bond due
November 2031

2017

Longest Green Bond for a French company or agency

SNCF Réseau



€ 1,000,000,000
1.875% Climate Bond
due March 2034

2017

Longest Green Bond in €

SNCF Réseau



Longest Green Bonds with a double certification from CBI and GBP

€ 750,000,000
2.25% Climate Bond
due December 2047

- + Since October 2016, SNCF RESEAU has already issued 3 Green Bonds, for an overall amount of **€ 2.65 bn**, becoming one of the top 15 issuers worldwide on the Green Bond market.
- + **Climate Bond Award** from the *Climate Bonds Initiative* in 2017.
- + **Green Bond Award** from *Environmental Finance* in 2018 (Impact report of the year).

GREEN BOND REPORTING

SNCF RESEAU'S REPORTING

+ Transparency

- Impact indicators in line with SNCF Réseau's Framework and essentially focused on the carbon impact.
- Certification delivered by **KPMG** relying on :
 - ✓ The adequate allocation of proceeds to Eligible Projects
 - ✓ The adequate application of SNCF's carbon impact computation methodology
 - ✓ Management of proceeds before allocation to Eligible Projects
- Open source publication of the methodology and reporting



+ Standardisation

- Development with **Carbone 4** of a specific methodology for valuation of the carbon impact of railways infrastructure projects that includes :
 - ✓ The full life cycle of the project : building and operation
 - ✓ Potential evolution of the energy mix and means of transport
 - ✓ No double accounting



IMPACT METRICS (2017)

CATEGORIES	INDICATORS	RESULTS
INVESTMENTS IN MAINTENANCE, MODERNISATION AND ENERGY EFFICIENCY PROJECTS CONCERNING THE RAIL SYSTEM	GREENHOUSE GASES (GHG) EMITTED AND AVOIDED EMISSIONS	
	<ul style="list-style-type: none"> – Greenhouse Gas emissions due to the renewal project – Greenhouse Gas emissions avoided thanks to the renewal project 	<p>657 ktCO₂eq</p> <p>6,329 ktCO₂eq</p>
	PROTECTION OF RESOURCES	
	<ul style="list-style-type: none"> – Share of re-used and recycled rails (tons) – Share of re-used ballast (tons) – Volume of wooden sleepers recycled for energy purposes 	<p>100%</p> <p>30 to 50%</p> <p>67,753 tons</p>
INVESTMENTS RELATED TO NEW LINES AND LINE EXTENSIONS	GREENHOUSE GAS (GHG) EMISSIONS	
	<ul style="list-style-type: none"> – Greenhouse Gas emissions due to the project – Emissions avoided 	<p>80 ktCO₂eq</p> <p>277 ktCO₂eq</p>
	PROTECTION OF RESOURCES	
	<ul style="list-style-type: none"> – Number of hectares compensated – Number of wildlife crossings created 	<p>6,430</p> <p>1,253</p>
OTHER INVESTMENTS LINKED TO THE GLOBAL CLIMATE CHANGE CHALLENGES, THE PROTECTION OF BIODIVERSITY AND NATURAL RESOURCES	The category is to be expanded as it groups several projects that are less significant in terms of amounts, but important for the overall corporate strategy.	

CARBON IMPACT OF THE PROJECTS FINANCED THROUGH THE GREEN BONDS (AS OF DEC-2017)

	Maintenance	Development	Total
+ 2016 (tCO2.eq)	-2.727.800	-190.200	-2.918.000
+ 2017 (tCO2.eq)	-5.671.700	-196.900	-5.868.600
+ Total (tCO2.eq)	-8.399.500	-387.100	-8.786.600

(tCO2.eq = Tons of CO2.equivalent)



	Maintenance	Development	Total
+ Average Carbon Neutrality (years)	3,8	7,4	3,9

CARBON IMPACT OF THE PROJECTS FINANCED THROUGH THE GREEN BONDS (AS OF DEC-2017)



The impact of the € 2,65 bn Green Bonds issued in 2016 and 2017 is equal to the carbon footprint of circa **18 000 French citizens over 40 years.**

CONCLUSION

GREEN BOND – THE PRO'S AND CON'S

+ Indisputable advantages...

- Geographical diversification
- Investors quality (buy & Hold) et average maturity of funding (Mid to Long term)
- Better primary market traction and spread tightening on the secondary market
- Strong Financial & Corporate communication tool : emphasize our industrial successes and their positive impact for the climate
- Management tool to help internal transformation : collaboration between departments, inclusion of SRI criteria in the company's governance

+ ... but also obvious constraints

- Several external costs, even though affordable (SOP, CBI certification, methodology, reporting)
- Significant and cross-department internal investment : business lines, sustainable development, finance, cost controlling, communication, etc.

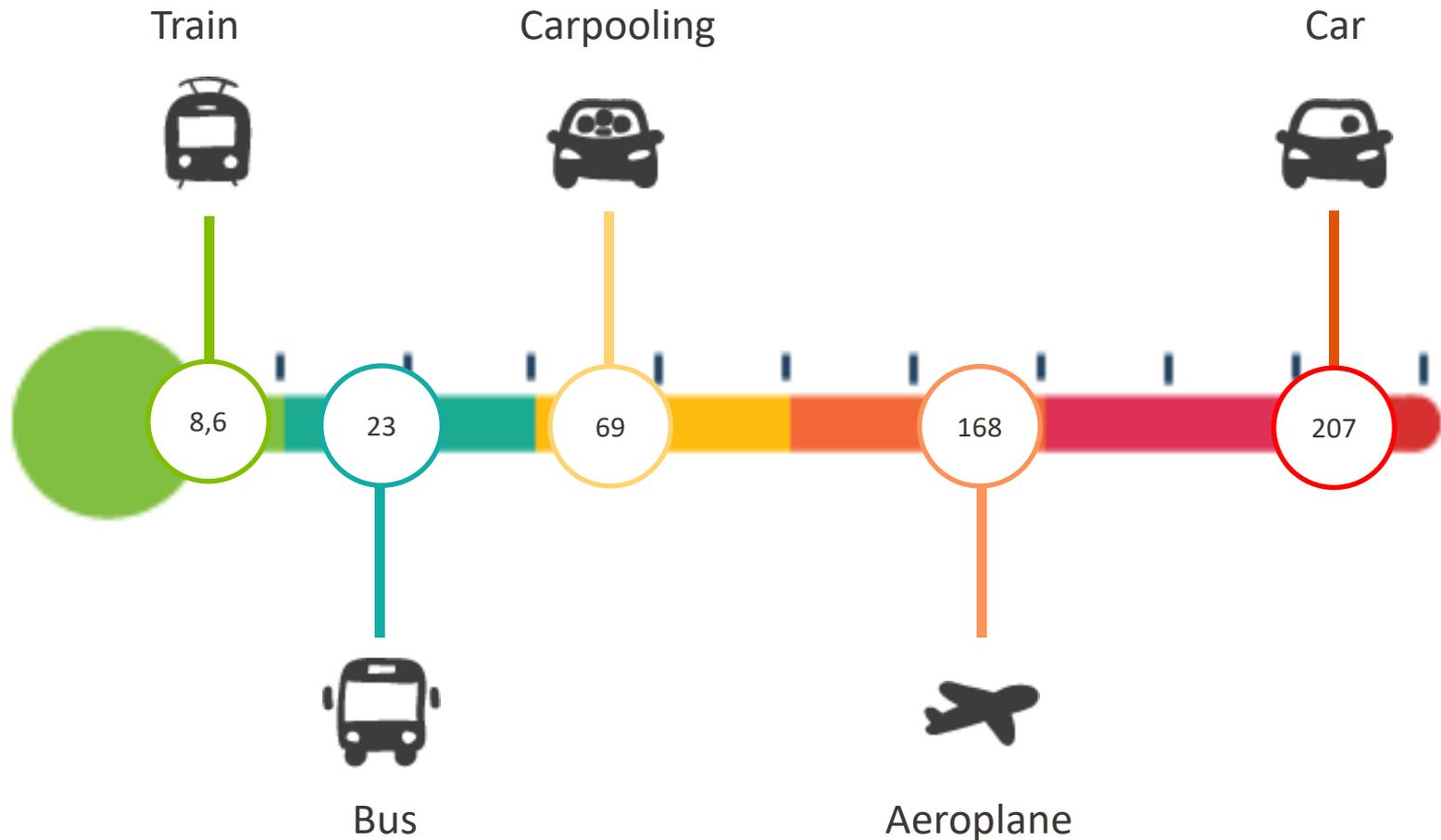
+ ...that likely constitute an obstacle to the development of the Green Bond market, most of all in a low yield and high liquidity environment.

APPENDICES

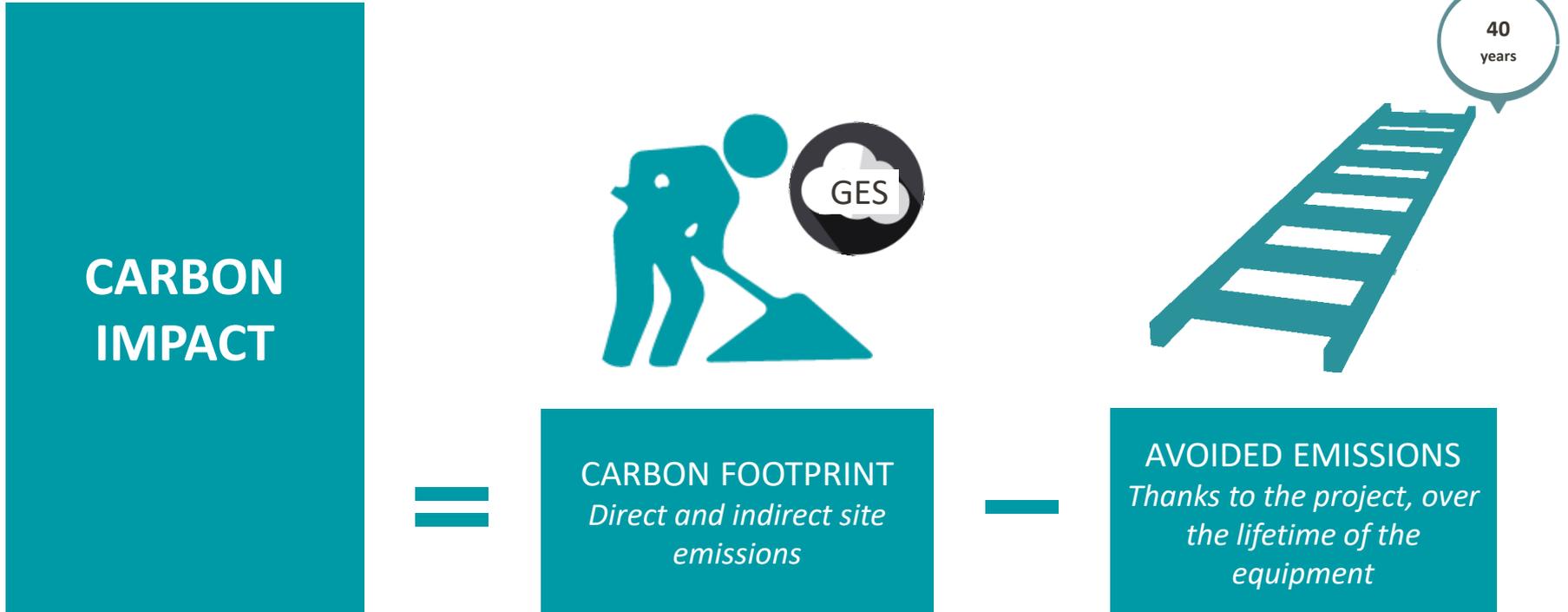
CLIMATE STRENGTHS OF THE RAIL SYSTEM

A LOW GHG EMISSION MEANS OF TRANSPORT

CO₂ emissions expressed in grams / traveller for 1 Km :



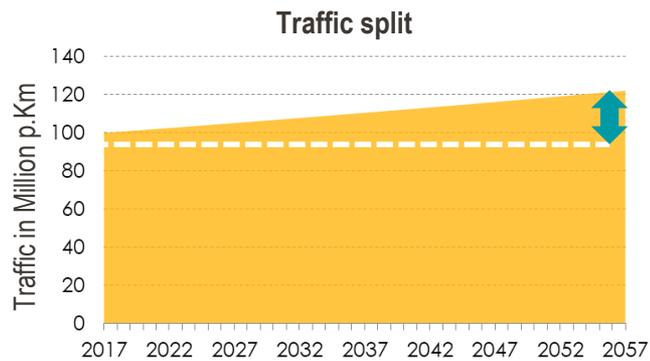
AN INNOVATIVE METHODOLOGY



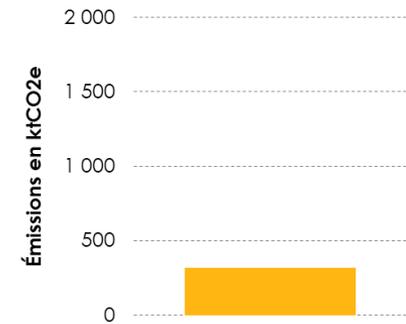
COMPUTATION OF AVOIDED GHG EMISSIONS ON A RENEWED SECTION

BALANCE BETWEEN PROJECT AND REFERENCE SITUATIONS

Renewal situation

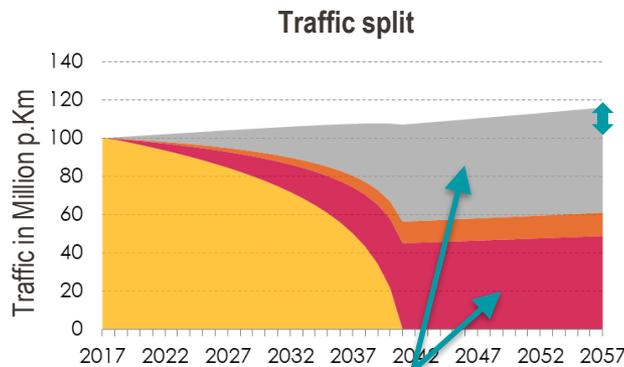


Cumulated GHG emissions

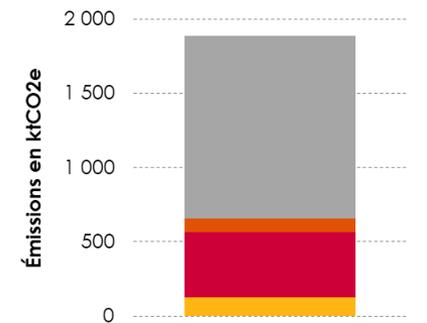


Evolving emissions factors

Reference situation
(without renewal)



Cumulated GHG emissions



Modal Report