

Marketing communication - For professional investors - May 2024

BNP PARIBAS GREEN BOND FUND



Impact Report 2023

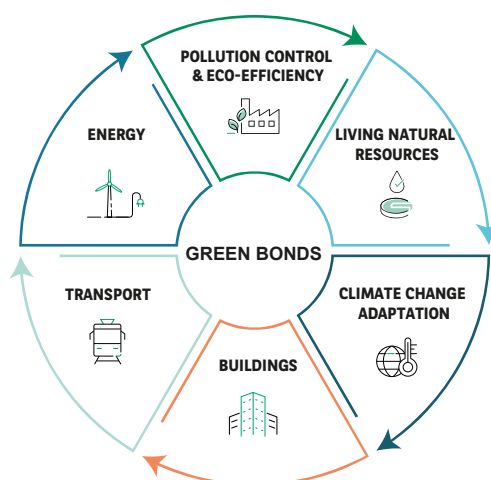


BNP PARIBAS
ASSET MANAGEMENT

The sustainable
investor for a
changing world

UNDERSTANDING GREEN BONDS

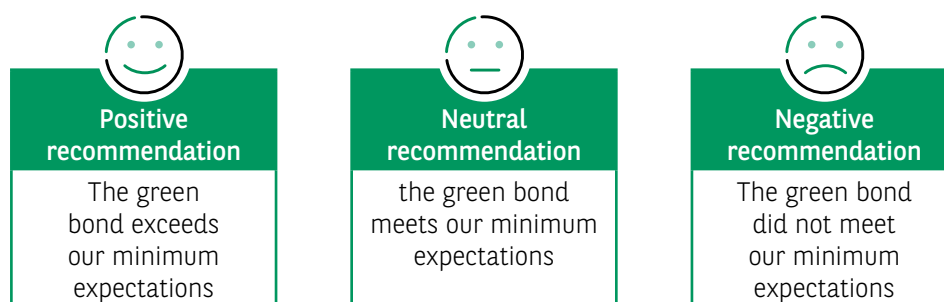
Green bonds are used specifically to raise money for projects with environmental benefits such as renewable energy, energy efficiency, water conservation and climate change adaptation. Green bonds are used to finance or refinance projects that contribute to the ecological transition. They are an essential vehicle to fund the inevitable change to a more sustainable economy.



Based on our BNP Paribas Asset Management (BNPP AM) Green Bond Methodology, we assess each green bond in terms of green-ness, integrity and ambition:

- Green-ness concerns the extent of the environmental benefits that the proceeds generate such as the amount of renewable energy generated, or emissions saved. We use the EU taxonomy to define the green-ness of an activity unless our ESG* analysts decide to apply the stricter criteria that we already use or use alternative criteria in the event no verifiable data exists
- Integrity concerns the processes and management systems governing the allocation of the proceeds, mitigating potential risks, and measuring and reporting
- Ambition concerns the extent of the bond's contribution to the issuer's sustainability ambitions such as their renewable power target

The level of recommendation we give to each green bond that we assess ranges between



For more details of our approach to assess green bonds, please see our [Green Bond methodology](#).

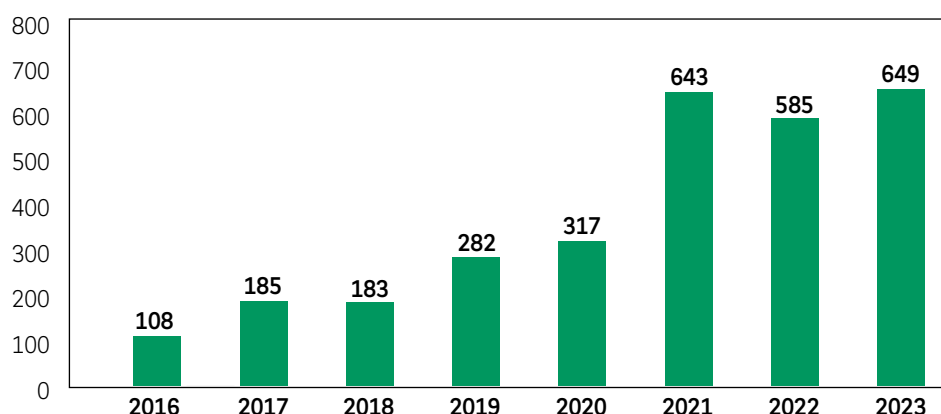
* ESG: Environmental, Social and Governance. ESG assessments are based on BNPP AM's proprietary methodology which integrates all 3 aspects of E, S & G.

In our history of assessing green bonds, we have looked at close to 1 450 green bonds – including those which have already matured by the date of this report. Out of those bonds, slightly more than 200 have Negative recommendations, more than 700 have Neutral recommendations, and more than 500 have Positive recommendations.

This implies our inclusion rate (i.e. those with Positive or Neutral) of about 86%. However, we don't assess all green bonds in the market, rather we tend to assess green bonds from issuers where investment teams already have good impressions including sustainability aspects, so this inclusion rate is likely upwardly biased. When we look at the inclusion rate of our Global Green Bond fund's main benchmark – Bloomberg Barclays MSCI Global Green Bond index – our inclusion rate is closer to 60%, where we consider bonds not assessed as not included.

GREEN BOND ISSUANCE

Annual issuance volume of green bonds (USD billions)



Source: Bloomberg NEF, BNP Paribas Asset Management, April 2024

In 2023, global green bond issuance volumes inched above their previous peak in 2021 to achieve close to USD 649 billion and set a new issuance volume record. While this may not have been the explosive growth we wanted to see, the new issuance volume record was strong in the face of macroeconomic uncertainty and continued interest-rate volatility (the MOVE index – measuring US bond market volatility – 20-year average was 85.8 points, whereas in 2023 it was 118 points).

For us, this indicated the continued conviction of issuers, investors, bond structurers, and other parts of the financial ecosystem in the green bond format within issuers' bond issuance plans and the future of green bonds. Some debut issuers in 2023 include automobile maker, Stellantis, grid operator, Elia Transmission Belgium, and sovereign Republic of Austria. When we look towards 2024, we believe green bonds issuance will remain strong, with macroeconomic conditions in the fixed-income market supporting growth in issuance volumes compared to 2023. The EU Green Bond Standard was also finally adopted by the European Commission in 2023 and we look forward to seeing issuers adopt this in 2024 for their green bond issuances to signal their highest commitment to transparency and green-ness.



BNP PARIBAS FUNDS GREEN BOND

The fund has a sustainable investment objective in accordance with Article 9* of Sustainable Finance Disclosure Regulation. The fund is invested in bonds issued by entities supporting projects, assets and activities that have positive environmental outcomes. The sub-fund invests at least 2/3 of its assets in green bonds denominated in hard currencies. Green bonds are use-of-proceeds bonds issued by corporates, supranationals, central governments, agencies, local entities and local governments.



The fund size was EUR 1,407,247,000 at the end December 2023.

Green bonds are assessed using our Sustainability Centre’s proprietary green bond assessment methodology. Issuers with poor environmental, social and governance (ESG) practices and policies are excluded, as are those whose activities have led to serious ESG controversies. Green bonds may be excluded when their use of proceeds is not aligned with our taxonomy of eligible activities or when strong negative externalities are evident.

Table 1: Fund overview as of end December 2023

	% Weight in portfolio	Number of bonds in portfolio
Green bonds	95.4% ¹	288
Bonds older than 12 months ² on 31 st Dec 2023	76.5%	232
Of which		
Bonds with Trucost research coverage	70.1%	203
Bonds with Trucost research coverage & Avoided Emissions data	47.3%	147

Source: S&P Global Sustainable1 (Trucost)

Avoided emissions and other environmental data presented in this report is derived from data provided by S&P Global Sustainable1 (Trucost).

S&P Global Sustainable1 (Trucost) has developed a Green Bond dataset designed to estimate the potential positive impacts and avoided carbon emissions from green bond investments. S&P Global Sustainable1 believes that the quantification of absolute and avoided carbon emissions offers issuers and investors the opportunity to develop a green bond market that is robust, credible and transparent. By quantifying the environmental benefits of green bonds, all market participants will be able to compare the performance of different issuances on a like-for-like basis and investors will be able to report the positive impact of their green bond portfolio in a consistent manner. S&P Global Sustainable1 avoided emissions methodology is described in the appendix of this report.

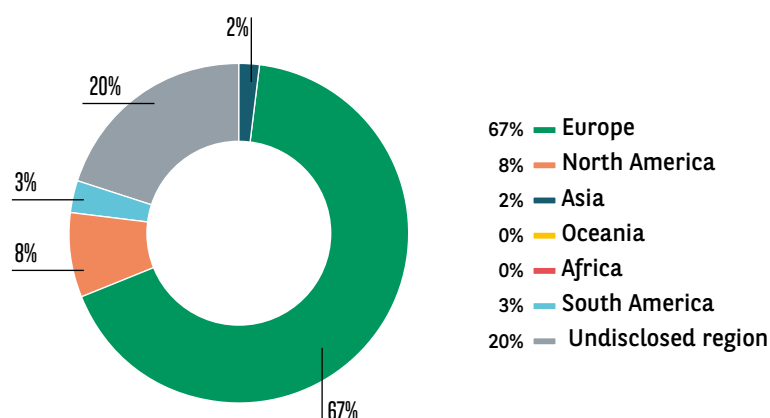
* Article 9 under the Sustainable Finance Disclosure Regulation (SFDR) / Article 9 funds: having a sustainable investment objective.
1 Remaining 4.6% of fund’s assets are in technical assets such as cash, futures.
2 Based on International Capital Markets Association Green Bond Principles, issuers report on the bonds after 12 months

USE OF PROCEEDS (UOP)

Green bonds fund projects, assets, and activities which generate some positive environmental benefits. These are the use of proceeds of the green bond. An issuer of a green bond will publish a green bond framework which describes how the types of projects, assets and activities eligible to receive the green bond proceeds, the process to select these uses, the management of the proceeds, and how they will report actual allocation of the proceeds and the associated environmental benefits. The issuer will report on the use of proceeds in an annual report about 12 to 24 months after the bond is issued.

S&P Global Sustainable¹ collects and analyses public disclosures from issuers, such as green bond, corporate social responsibility, sustainability and other environmental reports, as well as data published on company websites or other public sources. The use of proceeds are then split out by region, project type and technology. The project types and technologies are defined by the Climate Bonds Initiative (CBI) Taxonomy. For more information on the CBI taxonomy please refer to www.climatebonds.net.

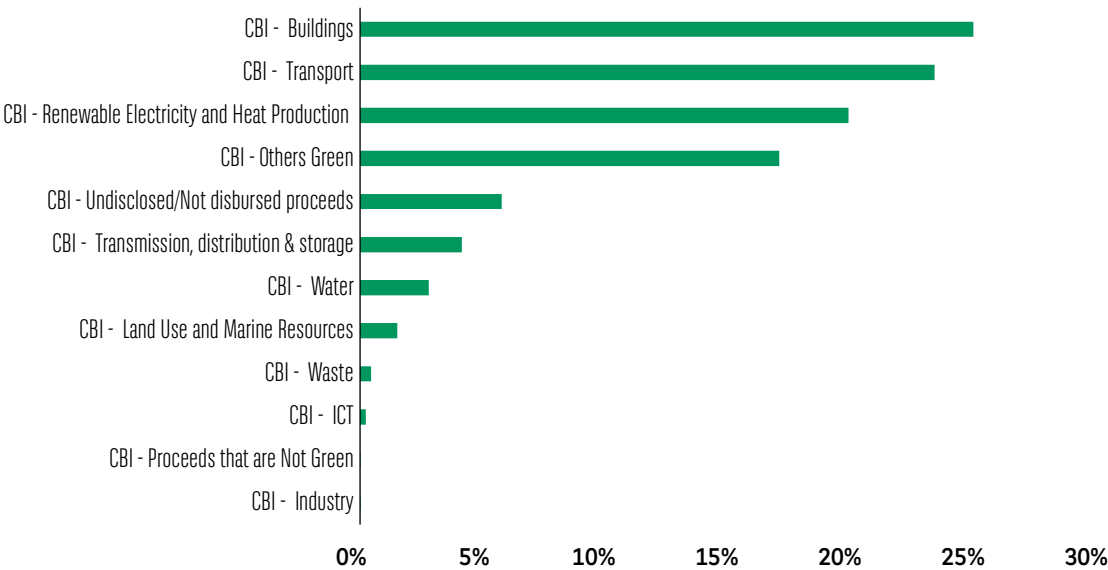
Chart 1: Use of proceeds by geographical region (by market weight) (rebased over bonds with relevant Trucost data)



Source: S&P, BNPP AM, January 2024

Of the bonds older than 12 months on 31 December 2023 with relevant Trucost data (70.1% of the fund's assets), we find that about 67% of their use of proceeds were deployed in Europe, 8.2% in North America, 3.3% in South America, with the rest deployed in other parts of the world. 19.6% of these proceeds could not be identified in terms of geographical deployment. Most of these are related to green bonds from banks where the green bonds fund a pool of eligible loans. Those issuers did not indicate the underlying origin of the borrowers associated with the pool of loans. Other cases involve issuers who do not specify clearly enough where their projects are located even though their activities are primarily located in one country, such as France.

Chart 2: Use of proceeds by Climate Bonds Initiative (CBI) Taxonomy (by market weight) (rebased over bonds with relevant Trucost data)



Source: S&P, BNPP AM, January 2024

Of the bonds older than 12 months on 31 December 2023 with relevant Trucost data (70.1% of the fund’s assets), 24.9% of their use of proceeds were deployed to green buildings (per CBI Taxonomy), 23.3% towards clean transport, 19.8% towards renewable electricity and heat. There are examples of green bonds contributing to these three project types from Orsted, Republic of France, Faurecia, and the European Union.

Orsted’s green bond, issued in September 2022 in the sum of EUR 575 million, funds projects related to renewable electricity and heat production. Specifically, the issuance financed two offshore wind and two solar photovoltaic projects. In its impact report, the issuer says that 160 000 tCO2e per year are avoided from these funded projects.

According to Trucost data, 0.03% of those use of proceeds belong to two bonds where a small portion of the proceeds (2% of one bond and 3% of the other) are not green. The two bonds are issued by a European supranational and were issued in 2014 and 2017, respectively.

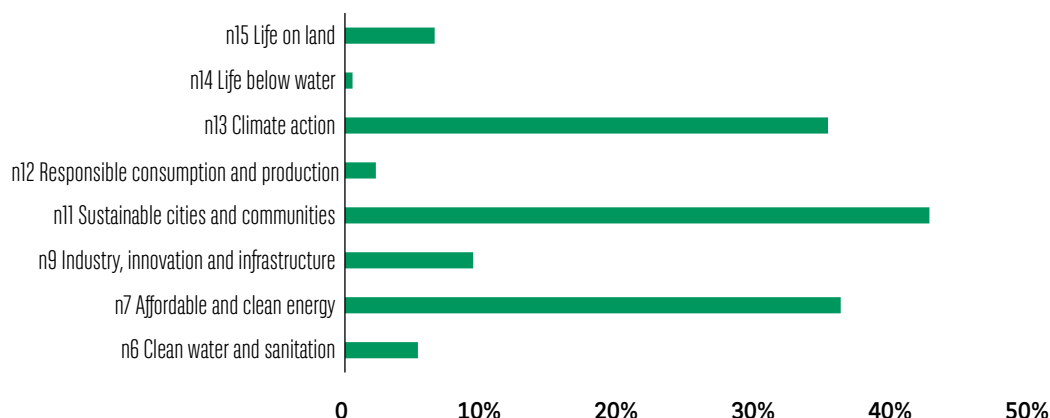
When we checked these two bonds against the issuer’s reports, we identified use of proceeds relating to renewable energy, transmission and distribution of energy, construction of new buildings with green building standards, and building renovations.

We engaged with the issuer to clarify the use of proceeds related to these bonds. The issuer confirmed that at the time of bond issuance, they included energy efficiency-related projects for social housing assets.

We also checked with Trucost on their categorisation of the use of proceeds. They had selected to use Social instead of Green as the nature of the assets was social housing even though the loans were for energy efficiency purposes. Hence the data shows that a small portion of the proceeds are non-green, but they are social related.

Given the above information, we maintain the two bonds’ eligibility in the green bond fund given that their use of proceeds are as much as green as they are social.

Chart 3: Contribution to the UN's Sustainable Development Goals (by market weight) (rebased over fund ex-technical assets)



Source: BNPP AM, January 2024

Chart 3 shows the split of the fund's contributions towards the SDGs, using our own proprietary data. In our database for green bonds, we specify two main SDGs per bond. For Chart 3, we associate the entire bond's weight in the fund to that of two SDGs, and then calculate the maximum weight of bonds in the fund associated with each SDG. Hence the sum of market weight associated across SDGs can exceed 100%.

- 42.7% of the fund (ex-technical assets) contributed towards SDG 11 – Sustainable cities and communities – mainly through green buildings and clean transport related use of proceeds. Examples of such green bonds are from Ile-de-France, Berlin Hyp, Community of Madrid, FS Italia.
- 36.2% contributed towards SDG 7 – Affordable and clean energy – mainly through renewable energy, transmission and distribution upgrading related use of proceeds. Examples of such green bonds are from Iberdrola, KFW, AIB Group, and Eurogrid.

Iberdrola issued a green bond in the sum of EUR 1 000 million in 2021. The issuance aims to finance renewable energy production. The bond exclusively financed wind energy projects in Europe. The total financed low carbon energy production by this specific bond is 23 188 GWh. We consider the projects to contribute towards SDG 7 Affordable and clean energy.

- 35.3% contributed towards SDG 13 – Climate action – through various projects such as renewable energy, energy efficiency improvements, or national level climate action. Examples of such green bonds are from Republic of Italy, Kommunekredit, and European Investment Bank.

The European Investment Bank issued a EUR 500 million green bond in May 2018. 85% of its proceeds were focused on renewable electricity and heat production, 5% on transmission, distribution & storage. We consider the projects financed to contribute towards SDG 13 Climate action.

PHYSICAL OUTPUTS AND IMPACTS

Where sufficient information relating to a bond’s UOP is available, S&P Global Sustainable1 may also be able to produce a number of metrics that quantify the physical impacts of different projects. These include green energy produced, area covered for green buildings, passenger km travelled on green transport, and energy saved through green products. In the table below, we show the apportioned contribution by the bonds older than 12 months on 31st December 2023 with relevant Trucost data (70.1% of the fund’s assets).

Green energy	Renewable Electricity and Heat Production (GWh)	7,129.43
Green buildings	Area (m2)	80,776.14
Green transport	Passenger (km)	326,837,898.29
Energy savings	Energy savings (MWh)	1,027,652.27

According to Eurostat, the electricity consumption per capita among households in Europe in 2021 was 1.7MWh³. This suggests that that the amount of renewable electricity and heat production associated with the fund (7129 GWh) could power about 4.2 million European households’ electric-ity consumption in 2021. The energy savings associated with the fund could power about 604 000 European households’ electricity consumption in 2021.

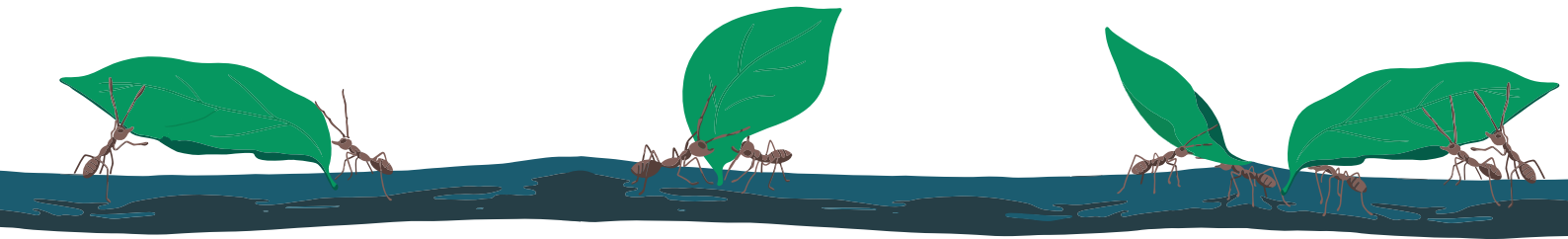
The fund’s largest contributions to green energy production comes from green bonds issued by Energias de Portugal, Netherlands, European Investment Bank, and Alliander.

The fund’s largest contributions to green buildings comes from green bonds issued by Societe Generale SFH, ING Groep, and KfW.

The fund’s largest contributions to passengers on green transport comes from green bonds issued by AIB Group, and Toyota Motor Credit Corp.

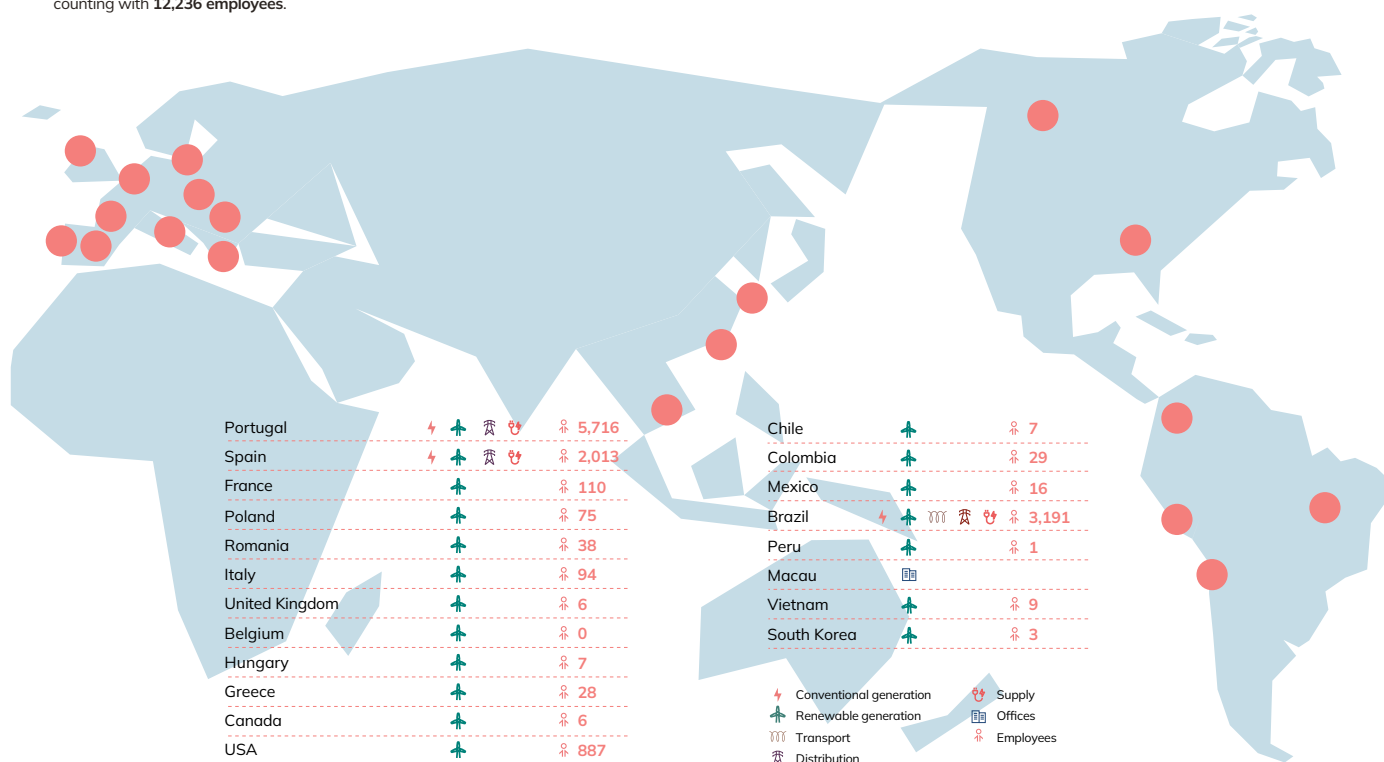
The fund’s largest contributions to energy savings comes from green bonds issued by SFIL, Generali, CNP Assurances, and ABN Amro Bank.

Energias de Portugal issued a EUR 750 million green bond in February 2021, all of which was allocated towards renewable electricity and heat production. Most financed projects are located in Europe, the rest in North and South America. The financing encompassed 90% wind energy and 10% solar energy. These projects are estimated to produce 148 535 GWh of low carbon energy. The Use of Proceeds of the green issuance supports the overall sustainability strategy of the issuer. Energias de Portugal, S.A. has published an updated Strategic Plan 2023-2026 that has the ambition to reach Net Zero by 2040, including Scope 3 emissions in the targets. This target is set versus a 2020 baseline and approved by the SBTi under the Net Zero Standard.



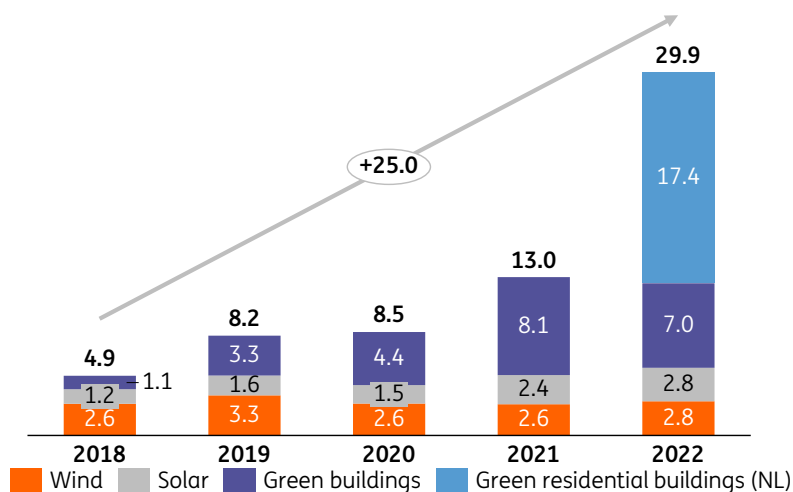
3 [Electricity and heat statistics - Statistics Explained \(europa.eu\)](#)

EDP is present in 20 markets and 4 continents counting with 12,236 employees.



Source: Energias de Portugal Sustainability Report 2021

In its Climate Report 2023, ING Groep sets out an ambitious strategy comprising three main goals. ING aims to reach Net Zero in its own operations and sets targets to achieve a positive climate impact with its portfolios. The third goal is to manage climate and environmental risks. The issuer has underlined these commitments by joining the Net Zero Banking Alliance (NZBA) as well as by issuing green bonds to help finance its ambitious climate strategy. For example, ING Groep issued a EUR 500 million green bond in June 2021, of which 51% of the Use of Proceeds financed renewable electricity and heat production projects, while 49% of UoP was allocated towards buildings. The proceeds of the bond financed a green building floor area totalling 141 503 square metres.



Source: ING Groep Investor Presentation 2023

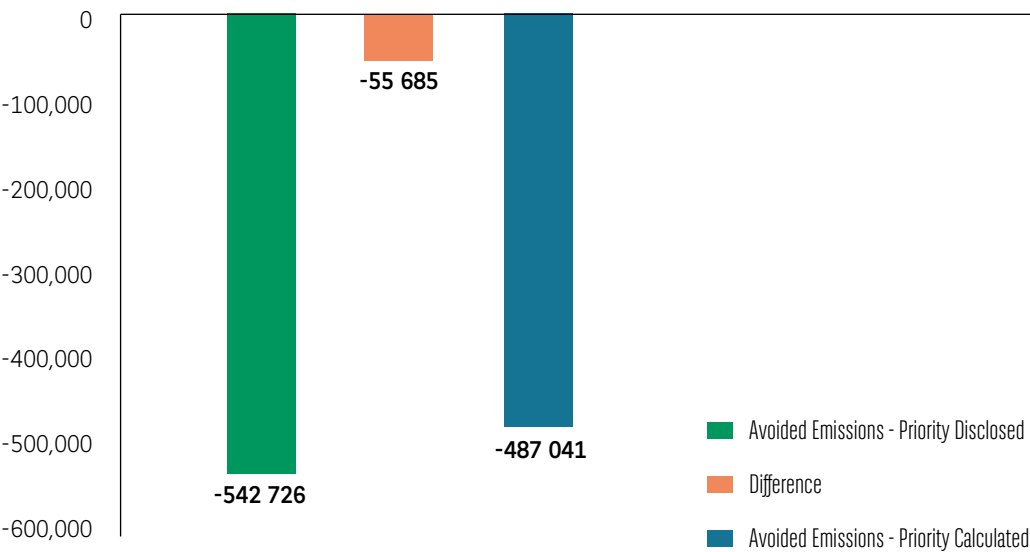
The above mentioned securities are for illustrative purpose only and do not constitute any investment recommendation.

AVOIDED EMISSIONS

Trucost calculates a green bond’s avoided emissions (annualised tCO₂e) by comparing the lifecycle emissions of each project funded by the green bond – including the construction, operation and disposal of the assets financed – to a business-as-usual scenario. Details on S&P Global Sustainable1 (Trucost) Avoided Emissions methodology can be found in the appendix of this report. At the same time, according to ICMA Green Bond Principles, issuers should report annually on the environmental benefits from the projects funded by their green bonds. Thus, we potentially obtain two sets of avoided emissions data – one calculated by Trucost, and the other disclosed by the issuer.

In Chart 4 below, we show in the left-hand bar the fund’s contribution to avoided emissions (based on the bonds older than 12 months on 31 December 2023 with relevant Trucost data - 70.1% of the fund’s assets) when we prioritise disclosed avoided emissions, and using calculated values in instances where disclosures are absent. The right-hand bar shows the fund’s contribution to avoided emissions (based on the bonds older than 12 months on 31 December 2023 with relevant Trucost data - 70.1% of the fund’s assets) when we prioritise Trucost calculated avoided emissions. The centre bar shows the net difference in cases where both disclosures and calculated data are available.

Chart 4: Apportioned annualized avoided emissions (tCO₂e) by bonds with relevant Trucost data



Source: S&P, BNPP AM, January 2024

The fund’s contribution to avoided emissions is 487,041 tCO₂e annually if we prioritise calculated values from Trucost. The fund’s contribution to avoided emissions is 542 726 tCO₂e annually if we prioritise disclosed values from issuers. Based on International Energy Agency (IEA) estimates⁴, CO₂ emissions per capita in Europe in 2021 was 5.37 tCO₂e.



Avoided emissions associated with the fund could be equivalent to about 90 000 to 101 000 Europeans’ emissions in 2021.

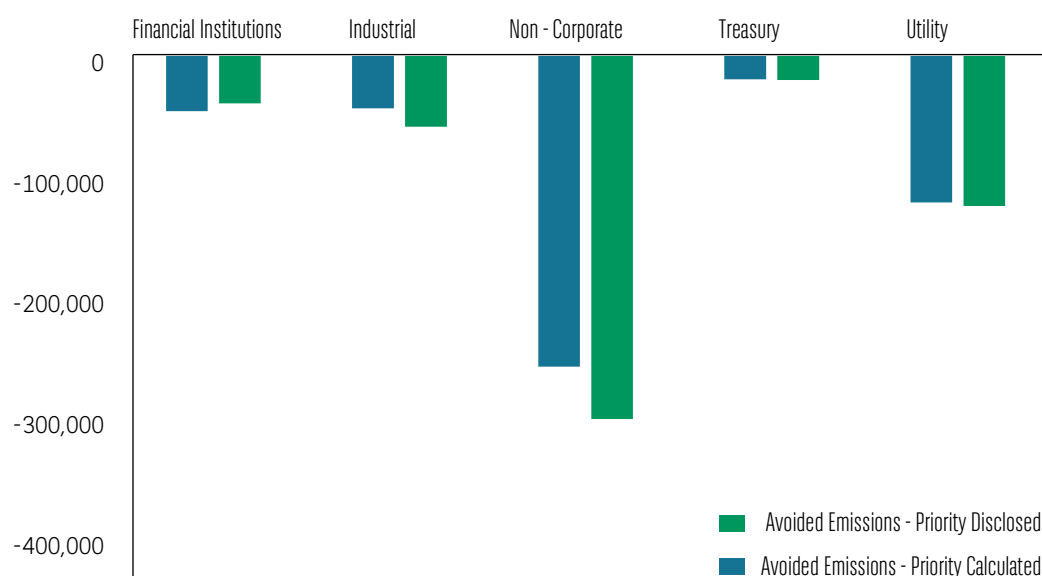
The difference between those two scenarios is 55 685 tCO₂e, which indicates that disclosed values from issuers are higher than those calculated by Trucost.

4 [Europe – Countries & Regions - IEA](#)

However, this does not imply that issuers inflate their disclosed impact from their green bonds. One of the limitations to Trucost's calculated values is that they can calculate avoided emissions from four categories over 130 technologies. These four categories are green energy, green transport, green buildings and energy efficiency. Examples of the technologies covered are solar PV, urban rail, residential housing and LED lighting. Where green bond projects are not covered by Trucost's four categories and 130 technologies, Trucost is unable to calculate avoided emissions. In those instances, issuers may have their own approach to estimating their avoided emissions, and therefore would disclose a higher avoided emissions value against that from Trucost.

An example is a green bond from Enxsis where proceeds were used to fund grid expansions and improvements to increase stability, flexibility and availability for the transmission and distribution of renewable electricity. Enxsis also used proceeds to fund smart meter installations in its network. The issuer disclosed about 1.07 million tCO₂e avoided annually from the green bond, with almost all of the environment benefits derived from transmission and distribution, whereas Trucost calculated only 120 tCO₂e. This is because Trucost does not cover transmission and distribution activity and is hence unable to estimate the avoided emissions from such activities.

Chart 5: Apportioned annualised avoided emissions by bonds with relevant Trucost data across Barclays sub-sectors



Source: S&P, BNPP AM, January 2024

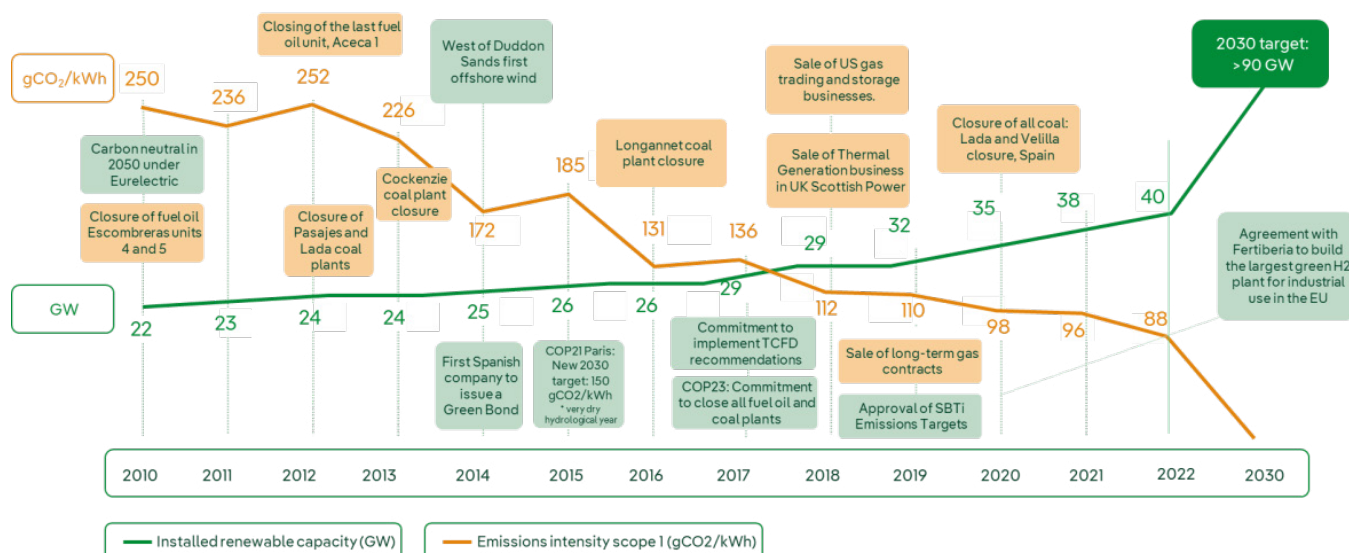
Chart 6: Apportioned annualised avoided emissions intensity (per 1% of fund's assets) by bonds with relevant Trucost data across Barclays sub-sectors



Source: S&P, BNPP AM, January 2024

We see that green bonds from issuers in the utilities sector, according to Barclays sub-sector classification, has the highest avoided emissions intensity (avoided emissions per each percent of fund's assets) of about 15 200 to 15 600 tCO₂e depending on calculated or disclosed values. Though on an absolute basis, in Chart 5, we see that green bonds from issuers in that sector is the second highest contributor of about 121 to 124 ktCO₂e. This is mainly because of the relative weight in the fund's assets (3.7% without rebasing, and 7.9% rebased). Examples of issuers in this sector include Iberdrola, Engie, and Terna.

Iberdrola green hybrid bond issued in February 2021 in the sum of EUR 1,000 million funded renewable energy projects in Europe. The bond overall financed 23 188 GWh of low carbon energy. Trucost calculated avoided emissions associated with the low carbon energy production to be about 224 837 tCO₂e annually. The fund's share of the bond's environmental benefits is 494 tCO₂e. The issuance of green financing instruments supports Iberdrola's Climate Action Plan targets, which are verified by the Science Based Targets initiative (SBTi). The targets include achieving carbon neutrality for Scopes 1 and 2 by 2030 and achieving net-zero emissions before 2040. The net-zero emissions target includes Scope 1, 2 and 3 emissions.

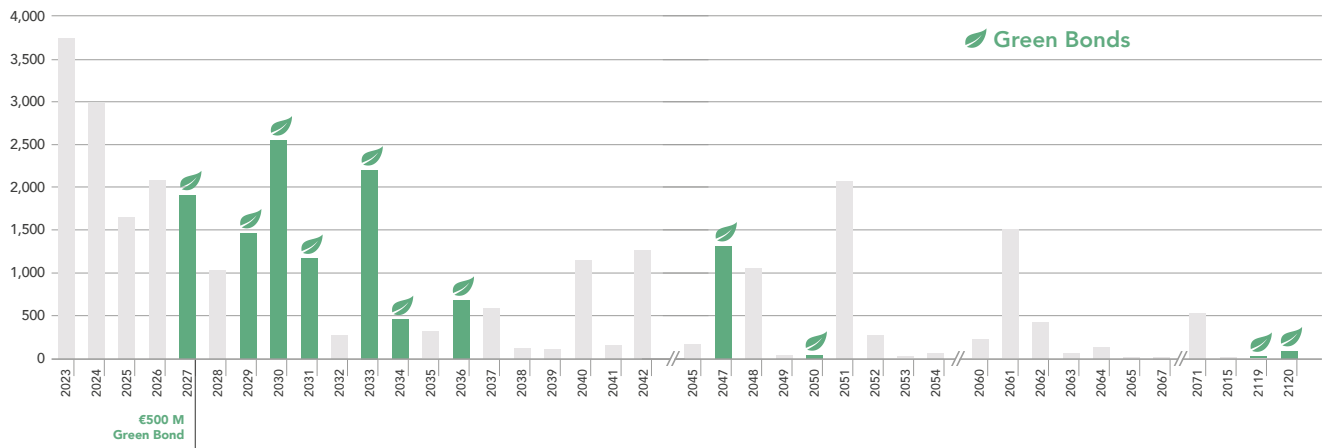


Source: Iberdrola Green Finance Framework December 2023

Green bonds from issuers in the non-corporate sector according to Barclays sub-sector classification make up the largest relative weight in the fund at about 21.8% (only bonds with relevant Trucost data), or rebased at 46.2% of the bonds with the relevant Trucost data. They contribute about 257 ktCO₂e to the fund's absolute avoided emissions depending on calculated or disclosed values. On an intensity basis, they are second overall, just slightly higher than green bonds from issuers in the industrial sector, at 5 570 to 6 510 tCO₂e per each percent of the fund's assets. Examples of issuers in this sector include Nordic Investment Bank, SNCF, and KfW.

In 2021, SNCF announced that it commits to a 100% Sustainable Finance Strategy which aims at converting all financing and investment products to responsible investment criteria by 2025. In support of this target, SNCF issued a green bond in April 2020 of EUR 1 250 million which funds clean transport projects in Europe – specifically electrified rail and related infrastructure. According to the issuer, it reported an annual avoided emissions of 131 421 tCO₂e from their projects. The fund's share of the bond's environmental benefits is 10.5 tCO₂e.

SNCF Group Green Bond Issues (€ millions - 31 December 2022)



Source: SNCF Green Securities Report 2022

TOP TEN BONDS RANKED BY CONTRIBUTION TO FUND'S ABSOLUTE AVOIDED EMISSIONS

Issuer Name	Year of issue	ISIN	Original weight in fund	SDG 1	SDG 2	Avoided Emissions - Priority Disclosed	Avoided Emissions Intensity (tCO2e/USD million invested) - Priority Disclosed	Nature of value
SPAIN (KINGDOM OF)	2021	ES00000012J07	2.3%	n°11 Sustainable cities and communities	n°6 Clean water and sanitation	-66467	-1286	Disclosed
E.ON SE	2020	XS2103014291	0.2%	n°7 Affordable and clean energy	n°13 Climate action	-51236	-13502	Disclosed
SNCF RESEAU	2019	XS2022425024	0.4%	n°11 Sustainable cities and communities	n°13 Climate action	-37869	-4776	Disclosed
JOHNSON CONTROLS INTERNATIONAL PLC	2020	US47837RAA86	1.0%	n°9 Industry, innovation and infrastructure	n°13 Climate action	-34467	-1921	Disclosed
ALLIANDER NV	2016	XS1400167133	0.5%	n°7 Affordable and clean energy	n°9 Industry, innovation and infrastructure	-30141	-3400	Disclosed
EUROPEAN INVESTMENT BANK	2017	AU3CB0245884	0.8%	n°7 Affordable and clean energy	n°13 Climate action	-47811	-3386	Disclosed
EDP FINANCE BV	2020	XS2233217558	1.3%	n°7 Affordable and clean energy	n°13 Climate action	-32218	-1419	Disclosed
E.ON SE	2019	XS2047500926	0.1%	n°7 Affordable and clean energy	n°13 Climate action	-19408	-13697	Disclosed
SNCF RESEAU	2019	XS1938381628	0.2%	n°13 Climate action	n°15 Life on land	-18393	-4778	Disclosed
NETHERLANDS (KINGDOM OF)	2019	NL0013552060	1.4%	n°9 Industry, innovation and infrastructure	n°6 Clean water and sanitation	-16227	-531	Disclosed

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OUR ENGAGEMENTS WITH GREEN BOND ISSUERS

We aim to participate in ex-ante investor meetings with thematic bond issuers either via the roadshow related to a specific issuance or 'non-deal roadshows' where issuers sound out investors' comments or expectations.

Our engagement can focus on:

- Information discovery – gathering information that is not expressed in documentation that can help us form a more complete assessment of the proposed thematic bond.
- Encouraging improvements in the structure of the thematic bond that could lead to 'greener' assets being selected, or 'less desirable' assets being dropped from the eligible portfolio.



In 2023, we engaged with 28 thematic bond issuers, including five sovereigns.

NETHERLANDS

One of the sovereigns is the Kingdom of Netherlands, with whom we met in November 2023. The focus of our engagement was on a small allocation to expenditures related to hydrogen activities, particularly the retrofitting of existing gas pipelines with the intention that the infrastructure could transport hydrogen in the future.

We were concerned about such activities because usually gas pipelines today still transport only fossil gas, with very little hydrogen being blended or transported separately from the fossil gas. In addition, hydrogen today is still mainly produced using fossil fuel feedstock, though pilot projects to produce green hydrogen (electrolysis of water, and powered by renewable electricity) are in progress. Finally, companies' and countries' decarbonisation plans, which hinge on hydrogen displacing fossil gas, have a high execution risk in our view – meaning that the risk of failure is high, and therefore pose a heightened reputation risk.

Even though the planned allocation to hydrogen activities by Netherlands was small, our strict approach to green-ness means that we must be assured of the green-ness of all projects funded by the green bond.

In our call with representatives from the Dutch Treasury, we requested further details about the hydrogen-related expenditures and the nature of the project. We found out that the project involved gas pipelines from a recently decommissioned gas field, and that there was no more fossil gas being transported from the fields. The expenditures were to retrofit the existing pipelines and building new ones to transport only hydrogen in the future. We also asked the Dutch Treasury to provide more information about the expenditures related to hydrogen in its impact report to give us a clearer picture in the future. With the above engagement, we had enough confidence in the green bond from the Kingdom of Netherlands to meet our green bond expectations.

The above mentioned securities are for illustrative purpose only and do not constitute any investment recommendation.

ELECTRICITÉ DE FRANCE

Another issuer we met was Electricité de France (EDF). We have regular dialogues with EDF, which has been a regular green bond issuer since 2015 with about EUR 7.5 billion nominal outstanding in green bonds as of end 2023.

In view of the inclusion of nuclear-related activities in the EU Taxonomy, and where EDF's nuclear-related activities appear to align with EU Taxonomy requirements, we wanted to discuss how EDF will approach its future green bond issuances. In particular we were keen to have EDF green bonds indicate clearly if each specific bond had allocations to its nuclear-related activities. This level of transparency will help us decide what green bonds will be suitable for end investors who prefer to include or exclude nuclear-related activities in/from their investments.

EDF welcomed the feedback and also decided to provide this level of transparency in its future green bonds, in addition to other best practices in disclosing relevant information of its green bonds (such as allocation timeline and refinancing portions).

We believe that regardless of whether investors are supporters of nuclear activities or not, we and other investors can have a positive view of EDF's efforts to be transparent about its green bonds.

SWEDEN

One of our most interesting engagements was a dialogue over the course of a number of calls with the Sveriges Riksbank – Sweden's central bank – about Sweden's green bond. We followed the Swedish government's announcements in the fourth quarter of 2023 about its revised budget plan including the reduction of taxes on automobile fuel as part of its new fiscal programme. This suggested that Sweden would deviate from its CO2 emissions reduction pathway set out in 2021 – to reduce its carbon footprint by 70% by 2030 relative to 2010 emissions. Instead of emitting about five million tons of annual CO2 emissions by 2030, the Swedish government was forecasting the country would emit somewhere in the range of 11 to 15 million tons instead.

We initiated an engagement with the Riksbank to understand the implication of the current changes on the green bond issued in 2020 and overall, in the climate change mitigation commitments and targets as part of Sweden's National Determined Contribution.

During the engagement, the Riksbank representatives advised they were having some discussions with the government offices since the central bank does not set government policy. Riksbank also updated us on the discussed Swedish climate targets for 2030, and confirmed that the Swedish Government's 2045 targets will remain the same as before.

In addition, Riksbank was interested in how we integrated climate-related information into sovereign level assessments and the connection to sovereign debt. We showed how we at BNPP AM integrate and assess countries' climate-related key performance indicators (KPIs) at the issuer level and also at the thematic bonds level. Riksbank representatives believed that such investor practices can help to influence government offices in their policies related to sustainability and would share our practices with their colleagues in government.

Internally, this engagement gave us information and context which was used to make recommendations to sovereign level ESG scores.

CONCLUSION



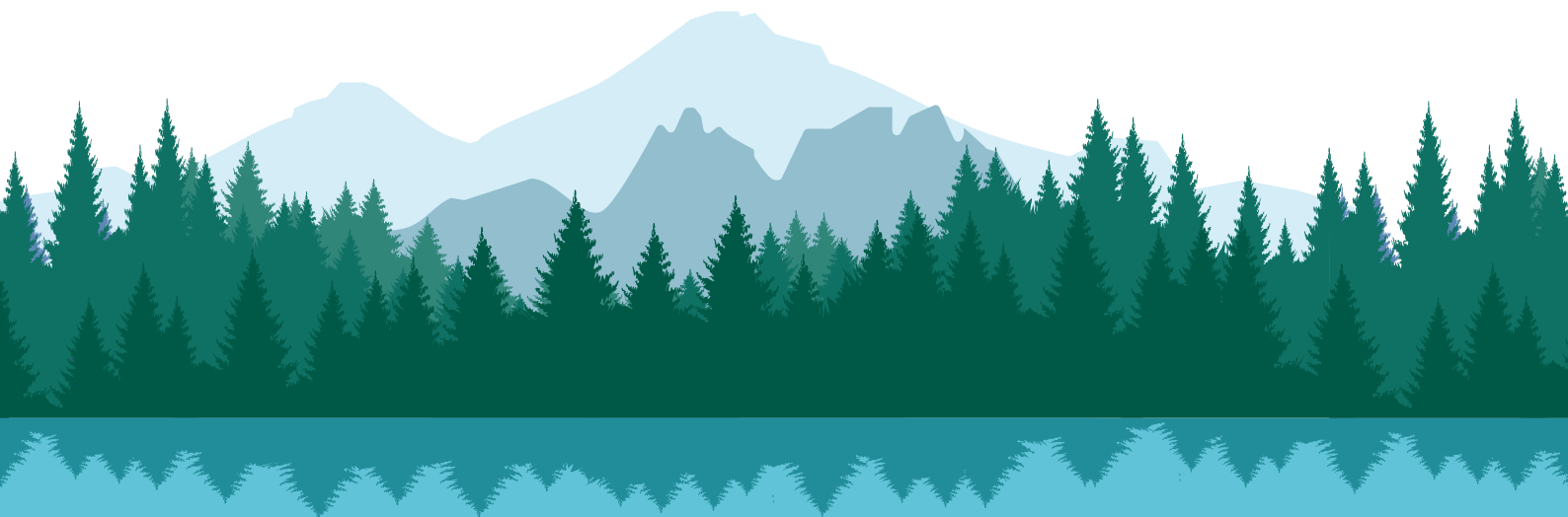
Arnaud-Guilhem Lamy,
Portfolio Manager of the fund

"With our green bond fund, investors can have an effective opportunity to support green projects. We're proud to share in this report the main projects we invested in and their outcomes.

BNP Paribas Funds Green Bond is invested in green bonds which fund projects, assets and activities in renewable energy, clean public transportation and energy efficient buildings – supporting the climate transition dynamics over different sectors. This year, in addition to the data on environmental impact and output metrics such as renewable electricity, passengers using clean transportation, energy savings, square meters of renovated buildings, avoided green-house-gas emissions, we have also shared some examples of the actual green bonds and their green use of proceeds. We decided also to share some insights around our active engagement with green bond issuers.

We hope our investors will enjoy this report and the details about the green bonds' projects and assets – which is financed by our clients' investments in the fund.

We also aim to continuously improve our report each year, so we welcome any feedback that will help us achieve that."



RISKS MATERIALLY RELEVANT TO THE PRODUCT

- **Capital risk:** The investments are subject to market fluctuations and the risks inherent in investments in securities. The value of investments and the income they generate may go down as well as up and it is possible that investors will not recover their initial outlay.
- **Interest rate risk:** The value of an investment may be affected by interest rate fluctuations. Interest rates may be influenced by several elements or events, such as monetary policy, the discount rate, inflation, etc.
- **Credit risk:** This is the risk that may derive from the rating downgrade of a bond issuer to which the sub-funds are exposed, which may therefore cause the value of the investments to go down. Sub-funds investing in high-yield bonds present a higher-than-average risk due to the greater fluctuation of their currency or the quality of the issuer.
- **Liquidity risk:** There is a risk that investments made in sub-funds may become illiquid due to an over-restricted market (often reflected by a very broad bid-ask spread or by substantial price movements), or if their "rating" declines or their economic situation deteriorates.
- **Derivatives risks:** Risks include the lack of secondary market liquidity, valuation risks, the lack of standardisation and regulation, the risk of leverage, the risk of the counterparty.
- **Counterparty risk:** this risk relates to the quality of the counterparty with whom the funds do business or enter into various transactions. This risk reflects the counterparty's ability to honour its commitments (payment, delivery, repayment, etc).
- **Operational and Custody Risk:** Some markets are less regulated than most of the international markets; hence, the services related to custody and liquidation for the subfund on such markets could be more risky.
- **Environmental, Social and Governance (ESG) Investment Risk:** The lack of common or harmonized definitions and labels integrating ESG and sustainability criteria at EU level may result in different approaches by managers when setting ESG objectives. This also means that it may be difficult to compare strategies integrating ESG and sustainability criteria to the extent that the selection and weightings applied to select investments may be based on metrics that may share the same name but have different underlying meanings. In evaluating a security based on the ESG and sustainability criteria, the Investment Manager may also use data sources provided by external ESG research providers. Given the evolving nature of ESG, these data sources may for the time being be incomplete, inaccurate or unavailable. Applying responsible business conduct standards in the investment process may lead to the exclusion of securities of certain issuers. Consequently, the Sub-Fund's performance may at times be better or worse than the performance of relatable funds that do not apply such standards.

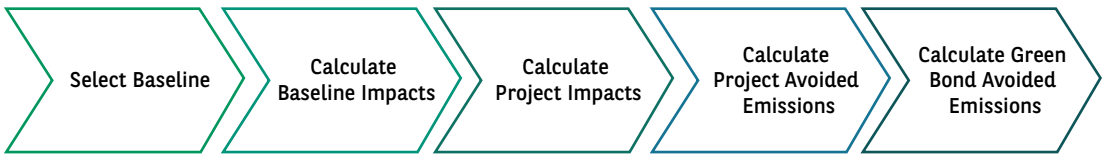
For additional details regarding the risks, please refer to the prospectus.

APPENDIX

AVOIDED EMISSIONS CALCULATIONS

Trucost calculates the life cycle impacts of each project versus a location-specific business-as-usual (BAU) scenario. Life cycle impacts include the emissions from the construction, operation, and decommissioning of the project(s).

Figure 1: steps in the calculation process



Source: S&P Global Trucost (2021)

The BAU scenario impacts include the emissions that occur during the normal operations of the technology or project that the new investment is expected to replace. For instance, for an investment in onshore wind power in Spain, the BAU scenario would be purchased electricity from the Spanish national grid which would include carbon emissions from operations. The investment scenario would include the lifetime emissions from the wind power construction or manufacture, operation, and disposal. The net benefit is the difference between the emissions from the project financed and the avoided BAU emissions.

Lifetime Avoided Emissions (tCO₂e) = [Alternative Project Construction Lifetime GHG Emissions (tCO₂e) + Alternative Project Operational Lifetime GHG Emissions (tCO₂e)] - BAU Operational Lifetime GHG Emissions (tCO₂e - GHG: Greenhouse gas)

Trucost considers both project refinancing and the investment contributing to the project by the bond to estimate the green bond financed avoided emissions. For refinancing, the annual avoided emissions that are allocated would represent the full life cycle of the project. However, the lifetime avoided emissions are allocated only for the duration of the bond. The impacts are then apportioned according to the issuer's stake in the project (as a percentage of the total project value, i.e., equity and debt). For example, if the issuer owns 50% of the total project value then the issuer will be held accountable for 50% of the net impact generated by the project.

The avoided emissions have been calculated for over 130 technologies:

Table 2: Technologies included in the dataset

Category	Green Energy	Green Transport	Green Buildings	Energy Efficiency
Single technologies available	43	32	18	38
Type	<ul style="list-style-type: none">Onshore & offshoreSolar PVHydro PowerAnaerobic Digestion	<ul style="list-style-type: none">Electric carsTrucksNational railUrban RailBusesTrams	<ul style="list-style-type: none">WarehousesOfficesResidential HousingFactoriesRetail Outlets	<ul style="list-style-type: none">LED LightingElectronicsInsulationIndustrial

Source: S&P Global Trucost (2021)

In the final step of the calculation process, the avoided emissions are aggregated at the green bond level.

Trucost estimates impacts based on issuer disclosure of the use of proceeds and of relevant project-related data, as well as life-cycle analysis (LCA) data. Data comes from a variety of sources that can either be technology specific, country specific or regional average values.

ASSUMPTIONS

A number of key assumptions are taken when calculating the environmental performance of a project. These are summarized below:

- The emissions are estimated only for projects relating to Green Energy, Green Buildings, Energy Efficiency and Green Transport covering over 130 technologies using full life cycle assessment.
- After the end of the asset life, the asset is deemed to be decommissioned and the benefits from this asset end. For instance, if a solar PV plant is decommissioned in 2040, the company would then revert to purchasing the equivalent amount of electricity from the national grid.
- The energy produced by the asset directly replaces energy produced by another source, such as the national grid. Therefore, no additional electricity is produced.
- However, the planned evolution of the national grid is taken into account including increases in capacity and changes in the generation mix.
- The efficiency of the asset being deployed, and the asset being replaced do not change over time (with the exception of the national grid).
- The regional granularity for the assessment only goes up to the country-level from global/regional levels but not further into sub-regions within the country.
- Due to data availability, the planned evolution of the national grid in each country is forecasted up until 2050. Beyond that year, the grid mix is deemed constant.

LIMITATIONS

Given the assumptions that have been taken, there are also some limitations in calculating the environmental performance of a project. These are summarized below:

- For emissions from the national grid, each country has a unique factor up until 2050 that accounts for the anticipated changes in grid mix – normally a shift towards the deployment of more renewable technologies. As there is no forecast data beyond this point, the grid mix beyond 2050 is assumed to remain the same.
- Estimated avoided emissions may not be directly replicated in the real world. This can be due to increasing or decreasing efficiencies of project performance, or changing external factors, such as the amount of sunlight a solar farm receives for instance.



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Trucost

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VIEWPOINT



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