



BANQUE DE FRANCE

EUROSYSTEME

Responsible
Investment
Report
2022



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Foreword by Governor

François Villeroy de Galhau

For the last five years, the Banque de France has implemented a responsible investment policy. This fifth report details our commitments and achievements and presents an opportunity to consider how far we have come since the policy was launched back in 2018 and to measure the progress made in our efforts to integrate questions of sustainability into all of our activities.

The Banque de France initially built and expanded its responsible investment strategy around the critical goal of fighting climate change. After aligning the equity components of our own funds and pension liabilities portfolios with a global warming trajectory of well below 2°C, we have now set ourselves the goal of aligning the portfolios with a trajectory of 1.5°C between 2023 and 2025. The success of the *Ambition Net Zéro* symposium¹ held at the Banque de France on 30 January 2023 speaks to the role that we can play in raising awareness and encouraging financial sector participants to meet carbon neutrality goals. Also, in late 2022, in keeping with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), the Banque de France and the Autorité de contrôle prudentiel et de résolution (ACPR – Prudential Supervision and Resolution Authority) published their first climate action report, which provided comprehensive details on how climate challenges are now being integrated into all of our activities. In recognition of our efforts to fight climate change, in November 2022 the Banque de France was awarded the top spot in *The Green Central Banking Scorecard* drawn up by a group of 21 international non-governmental organisations.

Climate challenges are also a key concern for the Eurosystem, as reflected by the initiatives being taken forward under the climate agenda adopted by the European Central Bank (ECB) in 2021 under its new monetary policy strategy. For example, in 2022, the ECB decided to include climate impact criteria in its corporate sector purchase programmes, collateral system, reporting requirements and risk management. A major new step forward is also being taken this year as the Eurosystem stages its first-ever coordinated reporting exercise. The exercise will cover euro-denominated non-monetary policy portfolios and corporate sector purchase programmes, with the disclosure of climate impact indicators covering the constituent assets of these portfolios. Accordingly, this report provides the same indicators as those that will be produced by all euro area central banks as part of this exercise, which covers an extended scope including all of our euro-denominated non-monetary policy portfolios. The idea is for this exercise to be repeated and expanded each year, helping to improve our understanding of the climate impact of central banking activities.

The Banque de France also wants to contribute to efforts undertaken outside the community of central banks and regulators. In November 2022, we became a signatory to the Principles for Responsible Investment (PRI), a United Nations-backed initiative involving thousands of institutional investors and asset managers around the world and aimed at promoting sustainable investment practices. By signing up, we committed ourselves to abiding by recognised standards for the integration of environmental, social and governance (ESG) criteria in our responsible investment strategy. In this way, we are signalling our commitment to join in the global effort and to get central banks playing their part.

¹ <https://www.banque-france.fr/evenement/finance-durable-replay-colloque-ambition-net-zero>

Based on the experience that we have gained in recent years in recognising climate issues more effectively, we are convinced that our commitments need to extend to a number of other major challenges, and particularly that of biodiversity loss. The Fifteenth Meeting of the Conference of the Parties to the United Nations Convention on Biological Diversity (COP15), which was held in Montreal in December 2022, paved the way to reach an initial agreement on a global framework to preserve biodiversity. Keenly aware of the critical challenges posed by a “silent spring”, the Banque de France is supporting work by the Task Force on Nature-related Financial Disclosures, which seeks to establish a globally harmonised financial reporting framework for biodiversity impacts. It is also taking part in the working group set up by the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) on recognising the financial risks linked to environmental damage and biodiversity loss, in the conduct of monetary policy and financial stability mandates. Furthermore, and as part of our responsible investor approach, this year's report provides, for the very first time, a detailed estimate of the biodiversity impact of our portfolios, using methodologies developed by a specialist provider. An initial investment was made in 2022 to contribute to financing solutions to preserve marine biodiversity. We will build on these initiatives over the coming years with the aim of aligning ourselves with the recommendations of recognised standard-setting bodies.

As part of steps to widen the scope of our action, in 2022 we strengthened the social component of our responsible investment policy. The sustainable bond purchase programme thus concentrated on social bonds whose purpose is to fund projects that generate social benefits. At the same time, several new investments were approved and will contribute to affordable housing development and financing for companies operating in the social and solidarity sector. Last but not least, the Banque de France continues to develop its shareholder engagement approach to keep step with society's expectations, particularly on good governance and recognition of sustainability issues in the corporate sector. We pay special attention to the resolutions put forward by certain companies on their climate action plans.

This document reports, for the fifth consecutive year, on the execution by the Banque de France of its responsible investment strategy. The report is also being shared on the Climate Transparency Hub launched in 2021 by the French Environment and Energy Management Agency (ADEME – Agence de la transition écologique) and the General Commissariat for Sustainable Development (CGDD – Commissariat général au développement durable).

2022 HIGHLIGHTS

A NEW COMMITMENT OF ALIGNING OUR EQUITY COMPONENTS WITH A 1.5°C TRAJECTORY BETWEEN 2023 AND 2025

After reaching the goal of aligning all of our equity components with a global warming trajectory of well below 2°C at the end of 2021, the Banque de France has now pledged to achieve alignment with a 1.5°C trajectory. We are targeting end-2023 for the equities of the own funds portfolio and the European equities of the pension liabilities portfolio, and end-2025 for all remaining equities.

DISCLOSURE OF HARMONISED CLIMATE IMPACT INDICATORS WITH EUROSISTEM CENTRAL BANKS

This year, the Banque de France is taking part in the first coordinated reporting exercise organised by Eurosystem central banks to publish harmonised climate impact indicators for all their euro-denominated proprietary non-monetary policy portfolios.¹

These indicators cover not only own funds and pension liabilities portfolios, but also euro-denominated portfolios held against the monetary base.

THE ADOPTION OF NEW SECTORAL EXCLUSIONS

After the announcement made last year to completely exclude coal from its investment and to strengthen the exclusion criteria for hydrocarbons by end 2024, the Banque de France has decided to exclude any company developing new fossil fuel extraction projects by the same deadline. Any company involved in tobacco cultivation or production will moreover be excluded by end 2023.

INTRODUCTION OF DETAILED REPORTING ON THE BIODIVERSITY IMPACT OF OUR PORTFOLIOS

This year, the Banque de France is presenting a reporting on its portfolios' biodiversity impact. This exercise was carried out with data provider Iceberg Data Lab to measure the impact of our equity components. This forms part of steps that we are taking to better recognise biodiversity-related risks and dependencies in the financial sector.

DEVELOPING THE SOCIAL ASPECT OF OUR RESPONSIBLE INVESTMENT POLICY

The Banque de France invested to bring out its total investments in social and sustainable bonds to EUR 160 million. We also contributed to financing affordable housing and gave the green light to investments in 2023 in order to support companies operating in the social and solidarity sector.²

SIGNATURE OF THE PRINCIPLES FOR RESPONSIBLE INVESTMENT INITIATIVE

In November 2022, the Banque de France decided to join the UN-backed Principles for Responsible Investment (PRI) initiative. In joining the as-yet small group of central banks that have signed up to the initiative, the Banque de France is making a pledge to meet responsible investment and transparency objectives in its activities. We encourage our peers to follow suit.

¹ And corporate sector purchase programmes executed within the framework of the asset purchase programme (APP) and pandemic emergency purchase programme (PEPP).

² These investments are made via external funds that invest in unlisted assets.

2022

KEY FIGURES

<2°C

the temperature alignment trajectory of the equity components of the own funds and pension liabilities portfolios

0%

of revenue:
the exclusion threshold that will be introduced by 2024 for holding financial assets of companies involved in coal extraction or coal-based energy production

EUR 1.95 BN

invested in green bonds and funds supporting the environmental and energy transition¹

EUR 22 BN

the size of the portfolios backed by the own funds and the pension liabilities of Banque de France at end-November 2022

EUR 160 M

invested in social and sustainable bonds²

¹ The euro-denominated portfolios held against the monetary base of Banque de France include also EUR 1.1 billion of green bonds, which brings the total amount for this asset class at EUR 3.1 billion for all the non-monetary policy portfolios.

² The euro-denominated portfolios held against the monetary base of Banque de France include also EUR 210 million of social and sustainable bonds, which brings the total amount for this asset class at EUR 370 million for all the non-monetary policy portfolios.

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OVERVIEW

The Banque de France has pursued a responsible investment (RI) approach since 2018. It first adopted an RI Charter, followed by a three-pronged strategy covering climate issues, environmental, social and governance (ESG) questions more generally, and engagement with companies in which it is a shareholder. This approach covers the own funds and pension liabilities investment portfolios, i.e. assets for which the Banque de France is solely and fully responsible. These portfolios were worth EUR 22 billion at 30 November 2022.¹

Responsible investment approach

In 2018, the Banque de France published a **Responsible Investment Charter**, in which the Bank committed itself to including climate issues, and ESG questions more generally, in its investment policy. For this reason, the Bank applies a **double materiality** principle² to its own funds and pension liabilities investment portfolios:³ it thus considers not only the ESG performances of its investments, and particularly their environmental impact, but also the climate-related risks to its portfolio assets. In this way, the Banque de France hopes to improve the overall environmental impact of the assets that it finances through these portfolios by contributing to meeting the UN Sustainable Development Goals (SDGs),⁴ while at the same time mitigating the physical and transition risks to which these portfolios are exposed.

Through its charter, the Banque de France also committed itself to publishing an annual **responsible investment report**, in order to report on its strategy and results. When it published its first report in 2019, the Banque de France became the first central bank to conduct this kind of transparency exercise. This year's report marks the fifth time that the Banque de France has reported

on the execution of its strategy and the extra-financial performance of its portfolios. The report, the Banque de France's Responsible Investment Charter and voting policy are all publicly available on the Banque de France's website as well as on the Climate Transparency Hub⁵ set up by the French Environment and Energy Management Agency (ADEME) and the General Commissariat for Sustainable Development (CGDD).

In addition to reporting on its responsible investment approach, in November 2022 the Banque de France published its first climate action report, in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).⁶ This document details all of the climate-related activities implemented by the Banque de France and the ACPR, particularly in the areas of governance, strategy and climate risk management.

While the Banque de France is not subject to **French and European extra-financial disclosure requirements** for financial institutions, it endeavours to comply with them wherever possible and appropriate. For this reason, the annual responsible investment report incorporates some of the provisions of Article 29 of French Energy and Climate Act No. 2019-1147 and its implementing decree of May 2021 establishing extra-financial reporting obligations for institutional investors. Similarly, the Banque

de France takes into account the requirements set down by Regulation EU 2019/2088 on sustainability-related disclosures in the financial services sector (SFDR) and Regulation EU 2020/852 on sustainable investment (known as the “European Taxonomy” Regulation).⁷

By integrating sustainability factors in the management of assets for own account, the Banque de France’s strategy complies with the recommendation issued in 2019 by the **Network of Central Banks and Supervisors for Greening the Financial System (NGFS)** on sustainable and responsible investment.⁸

Finally, in November 2022, the Banque de France decided to sign up to the UN-backed Principles for Responsible Investment (PRI) initiative. In doing so, the Banque de France signalled its commitment to continue being part of the global drive to fight climate change and recognise sustainability criteria in investment policies. It thus became one of the first central banks to sign up to the initiative, pledging to meet responsible investment and transparency objectives in its activities.

1 These assets exclude securities held for monetary policy purposes under the mission entrusted to the European System of Central Banks by the Treaty on the Functioning of the European Union (TFEU), as well as securities held in foreign reserves portfolios.

2 Double materiality is one of the key principles of the European Directive 2022/2464 on Corporate Sustainability Reporting.

3 Each of these portfolios comprises several asset classes, including sovereign bonds, equities, corporate bonds, cash and unlisted assets.

4 The United Nations adopted the SDGs in 2015. The Banque de France contributes in particular to meeting Goals 7 (energy services) and 13 (climate change prevention).

5 <https://climate-transparency-hub.ademe.fr/>

6 <https://www.banque-france.fr/en/banque-de-france/>

7 The delegated act on technical criteria for climate change mitigation and adaptation was adopted in December 2021.

8 NGFS (2019), *A call for action*, April.

BOX 1: EUROSISTEM CLIMATE REPORTING EXERCISE

In 2021, the 19 central banks of the euro area, which comprise the Eurosystem, established a common framework with a view to applying responsible investment principles to non-monetary policy portfolios they hold individually and for which they are solely and fully responsible. The scope of the framework has since been extended to include the monetary policy corporate sector purchase programmes of these same central banks.¹ As part of this undertaking, and in order to be able to perform harmonised reporting using a base of identical data, the Eurosystem organised a joint call for bids to select climate impact data providers. The call was completed in early 2022 and resulted in the selection of two climate data providers, namely ISS and Carbon 4 Finance. Once the providers were picked, the Eurosystem worked over the course of 2022 to establish shared indicators, based on a single methodology, with the aim of creating a climate reporting system using harmonised indicators. The scope of this common reporting exercise extends to all euro-denominated non-monetary policy portfolios and the corporate sector purchase programmes of Eurosystem central banks. As concerns the Banque de France, this covers the portfolios backed by the pension liabilities and the own funds which were already subject to a climate reporting the previous years, but also and for the first time the other proprietary euro-denominated portfolios. Each national central bank continues to be responsible for calculating and publishing the indicators for non-monetary policy portfolios. With this in mind, the Banque de France is, for the first time, including the common Eurosystem indicators in its responsible investment report for the proprietary euro-denominated portfolios backed by the monetary base, in addition to the portfolios backed by the pension liabilities and the own funds (see Table 1). The idea is for this exercise to be repeated each year and gradually expanded, helping to improve understanding of the climate impact of central banking activities.

1 Corporate sector purchase programmes executed within the framework of the asset purchase programme (APP) and pandemic emergency purchase programme (PEPP).

T1 Climate impact indicators from the 2022 Eurosystem reporting exercise

(portfolio size in EUR million (EURm) ; WACI, carbon footprint and carbon intensity in tCO₂eq/EURm ; total emissions in tCO₂eq)

	Supranational and government agencies	Non-sovereign		Equities	Sovereign		
		Corporate bonds	Covered bonds		Production	Consumption	Government
Pension liabilities portfolio							
Portfolio size		844		4,321	6,899		
WACI		159		120	213	13	163
Total emissions		25,572		195,236	1,467,679	1,750,636	189,811
Carbon footprint		51		45	213	254	28
Carbon intensity		118		109	213	12	135
Own funds portfolio							
Portfolio size				2,284	4,599		
WACI				125	166	10	70
Total emissions				118,373	762,821	1,027,630	71,886
Carbon footprint				52	166	223	16
Carbon intensity				125	166	10	70
Other euro-denominated portfolios held against the monetary base and managed on own account							
Portfolio size	1,612		505	234	28,121		
WACI	5		5	156	152	8	69
Total emissions	784		N.A.	14,391	4,273,214	5,474,246	434,094
Carbon footprint	1		N.A.	61	152	195	15
Carbon intensity	14		N.A.	127	152	8	68

Sources: ISS (Institutional Shareholder Services), Carbon4 Finance, World Bank, Bloomberg, Banque de France calculations.

Notes: WACI – Weighted Average Carbon Intensity.

See the details of the methodology used for the different indicators in Pillar 1, Box 3.

The indicators in the table are calculated on the share of the portfolio that is covered by the data from the providers. The coverage rate may in particular impact the metric on total emissions since its formula doesn't include a normalization factor.

tCO₂eq – tonnes of carbon dioxide equivalent; N.A. – not available.

BOX 2: THE UNPRI INITIATIVE

(UNITED NATIONS-BACKED PRINCIPLES FOR RESPONSIBLE INVESTMENT INITIATIVE)

Founded in 2005 with the support of the United Nations, the Principles for Responsible Investment (PRI) form an internationally recognised platform whose purpose is to develop and promote responsible investment worldwide. The network of signatory investors, which also includes asset managers and financial service providers, currently manages

assets worth EUR 125 trillion. PRI signatories must set responsible investment targets for more than 50% of their assets,¹ appoint a dedicated team to implement these targets, and organise oversight of this work.

¹ In the case of the Banque de France, the 50% target applies to the own funds and pension liabilities portfolios.

The three pillars of the responsible investment strategy

The Banque de France's responsible investment strategy is built on **three pillars**, which are further divided into **seven objectives** (see *Table 2 below*).

The first pillar focuses on climate goals. The Banque de France has committed to aligning itself with the targets set by Article 2 of the 2015 Paris Agreement. It met its initial goal of aligning the equity components of its asset portfolios with a global warming trajectory of well below 2°C relative to pre-industrial levels. The equity component of the own funds portfolio has been aligned since 2019, while the equity component of the pension liabilities portfolio was brought into alignment at the end of 2021, a year ahead of schedule. Now, the Banque de France wants to align its equity portfolios with a 1.5°C trajectory. The aim is to do this by end-2023 for the own funds portfolio and the European equities of the pension liabilities portfolio, and by end-2025 for all remaining equities in the pension liabilities portfolio (Objective No. 1). Achieving this new target will involve rebalancing investment portfolios to prioritise companies with the most virtuous carbon emissions trajectories.

To be able to meet this goal, the Banque de France has expanded its measurement capabilities and created an in-house tool to steer alignment of the equity components with the temperature target, based on information supplied by data providers (see *Box 6 below*). Management decisions relating to portfolios covered by the SRI strategy thus always factor in portfolio temperature pathways.

Aware of the crucial role played by curbing fossil fuel use in meeting the goals of the Paris Agreement,⁹ the Banque de France strengthened and expanded its fossil fuel exclusions policy in 2021 (Objective No. 2). Among other things, by end-2024, it will apply the exclusion thresholds used by Paris-Aligned Benchmarks to oil, gas and unconventional hydrocarbons. In addition, companies involved in coal extraction or coal-based energy production will be totally excluded from end-2024. Since 2021, the exclusion threshold has been set at 2% of revenue. Also, any company working on new fossil fuel extraction projects will be excluded from the same date (see *Infographic "The Banque de France's climate-related alignment and exclusion policies" below*).

Besides these alignment and exclusion objectives, the Banque de France also seeks to contribute directly to financing the energy and ecological transition (EET) and preserving biodiversity by buying green bonds and investing in funds dedicated to these thematic (Objective No. 3). Total purchases of green bonds since 2019 amount to EUR 1.5 billion, while investments in funds dedicated to EET are at EUR 455 million. Through these investments, the Banque de France contributes to financing the production of renewable energies, energy refits for buildings, as well as small and medium-sized enterprises (SMEs) that are EET innovators, e.g. in areas such as energy storage and waste management. To improve its biodiversity impact, in 2022 the Banque de France invested in a fund dedicated to financing solutions to preserve marine biodiversity, and it now wants to explore opportunities for preserving natural capital and terrestrial ecosystems.

The second pillar is focused on integrating ESG criteria more broadly in the management of its proprietary assets. Accordingly, the Banque de France excludes 20% of its equity investment universe based on ESG criteria and scores (Objective No. 4). In this way, it complies with the minimum exclusion ratio required by the Socially Responsible Investment (SRI) label established by the French Ministry for the Economy and Finance. To implement these filters based on ESG scores and criteria, the Banque de France harnesses information supplied by its data providers. In addition to fossil fuel-based exclusions, the Banque de France also applies norm-based exclusions (e.g. compliance with international conventions),¹⁰ sector-based exclusions (tobacco growing and production) and exclusions relating to companies involved in controversies. The social component of the investment policy was also strengthened gradually, notably through an expansion of the bond purchase programme to include social and sustainable bonds as well as green bonds, and via investments in thematic funds prioritising social inclusion (Objective No. 5). Last year, the Bank supported affordable housing initiatives and will start financing companies operating in the social and solidarity sector in 2023.¹¹ Total investments in social and sustainable bonds came to EUR 160 million at end-2022.

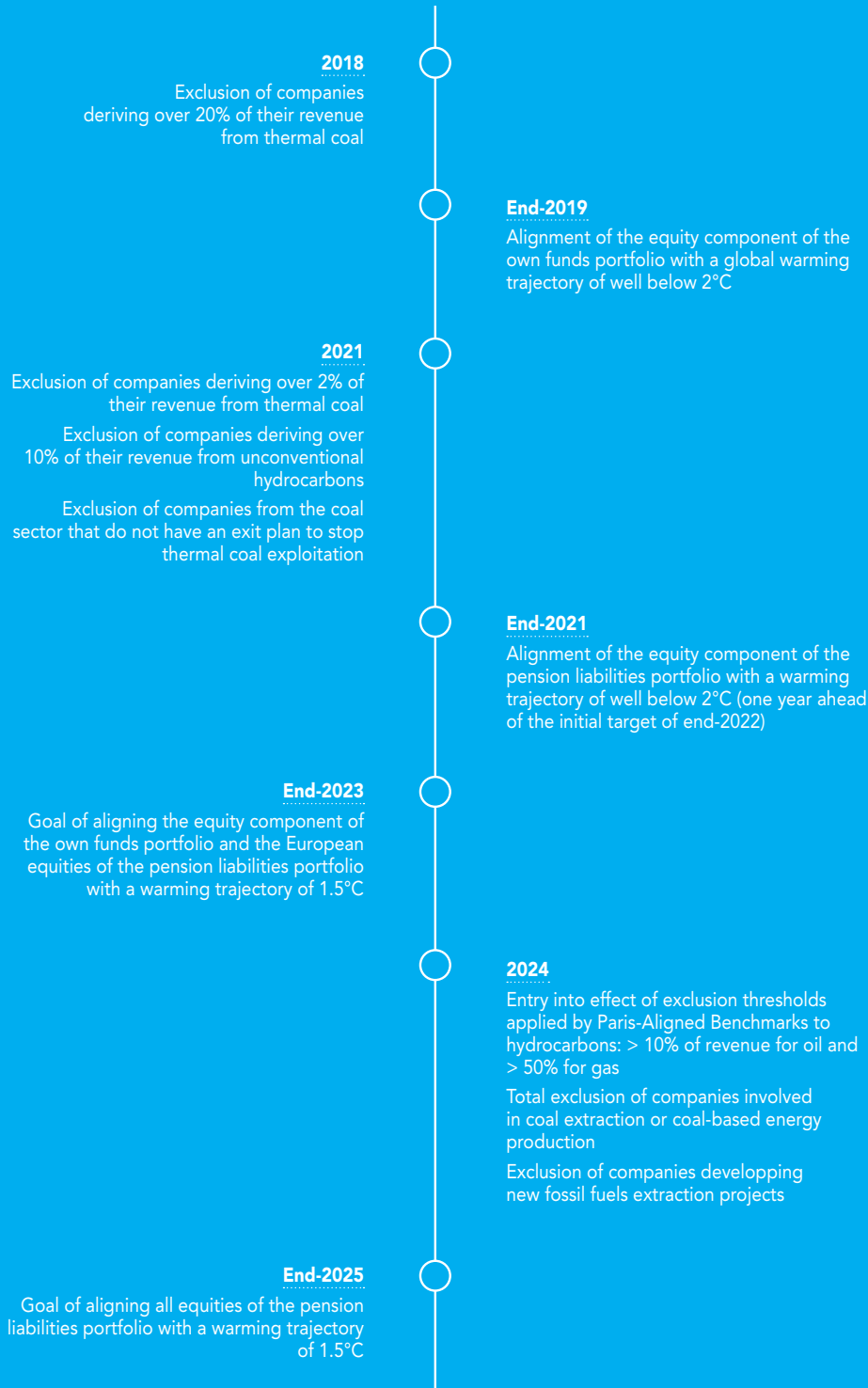
9 The April 2022 report by the Intergovernmental Panel on Climate Change (IPCC) stresses the need to reduce fossil fuel use in order to limit global warming: <https://www.ipcc.ch/2022/04/04/>

10 In particular, the Bank will not invest in companies that do not comply with

the Ottawa Convention (1999) and the Oslo Convention (2010), which ban the production, use, storage, sale and transfer of anti-personnel mines and cluster bombs.

11 These investments are made via external funds that invest in unlisted assets.

THE BANQUE DE FRANCE'S CLIMATE-RELATED EXCLUSION AND ALIGNMENT POLICIES



T2 The Banque de France's responsible investment strategy: three pillars and seven objectives

Pillar 1: Align investments with France's climate commitments

Objective No. 1:

- Align the equity component with a trajectory of well below 2°C. Horizon set at end-2020 for the own funds portfolio and end-2022 for the pension liabilities portfolio
- Align the equity component with a trajectory of 1.5°C. Horizon set at end-2023 for the own funds portfolio and the European equities of the pension liabilities portfolio, and end-2025 for the remainder of the equity component of the pension liabilities portfolio

Objective No. 2: Exclude issuers whose involvement in fossil fuels exceeds the thresholds set by the Paris-Aligned Benchmark

Objective No. 3: Contribute to financing the energy and ecological transition (EET) and the preservation of biodiversity by investing in green bonds and thematic funds

Pillar 2: Include environmental, social and governance (ESG) criteria in asset management

Objective No. 4: Exclude 20% of the equity investment universe based on ESG criteria, in compliance with the requirements of Pillar III of France's Socially Responsible Investment (SRI) label

Objective No. 5: Contribute to tackling social challenges by investing in impact funds and social and sustainable bonds

Pillar 3: Exercise voting rights and engage with issuers

Objective No. 6: Apply a regularly updated voting policy that includes extra-financial provisions

Objective No. 7: Maintain a general meeting attendance rate of at least 80%

Source: Banque de France.

The third pillar concerns the Banque de France's engagement with companies in which it holds shares.

In 2019, the Banque de France adopted a voting policy including provisions on good governance and recognition of extra-financial objectives by companies (Objective No. 6).

The voting policy is a freely accessible document posted on the Banque de France's website.¹² It sets, among other things, independence and diversity criteria for corporate management bodies. The Banque de France also expects companies to disclose information on the environmental impact of their activities and recognise extra-financial performances when awarding executive remuneration. In line with its policy of fossil fuel exclusions, the Banque de France will oppose any new development project involving fossil fuels and will vote against approving the accounts if this requirement is not met. With the rise in recent years of "Say on Climate" resolutions covering corporate climate action plans (see *Pillar 3, Box 1*), the Banque de France now analyses such resolutions on a case by case basis to assess the level of ambition of the climate action plans put forward by businesses. For the 2023 general meeting cycle, the voting policy will incorporate new provisions designed

to oppose the award of excessive remuneration to senior executives. In order to wield maximum influence as a shareholder, the Banque de France is targeting a general meeting attendance rate of at least 80% across all the companies in its portfolios (Objective No. 7).

In 2022, the Banque de France **met all of its commitments and stepped up its approach even further**. As in previous years, it hit its targets, while improving its portfolios' ESG performances and setting even more ambitious goals.

¹² <https://www.banque-france.fr/sites/>

T3 Strategy execution of Banque de France's responsible investment policy at 31 December 2022

Targets	Results
Pillar 1: Align investments with France's climate commitments	
<p>Objective No. 1:</p> <ul style="list-style-type: none"> Align the equity component with a trajectory of well below 2°C. Horizon set at end-2020 for the own funds portfolio and end-2022 for the pension liabilities portfolio Align the equity component with a trajectory of 1.5°C. Horizon set at end-2023 for the own funds portfolio and the European equities of the pension liabilities portfolio, and end-2025 for the remainder of the equity component of the pension liabilities portfolio 	<ul style="list-style-type: none"> 2°C alignment of the equity component of the own funds portfolio by end-2019, and since end-2021 for the pension liabilities portfolio Approval given for new target of aligning own funds with a 1.5°C trajectory by end-2023 and by 2023-2025 for pension liabilities
<p>Objective No. 2: Exclude issuers whose involvement in fossil fuels exceeds the thresholds set by the Paris-Aligned Benchmark</p>	<ul style="list-style-type: none"> Since 2021, issuers deriving over 2% of revenue from thermal coal or 10% from unconventional hydrocarbons have been excluded At end-2024, the coal threshold will be lowered to 0%, and thresholds will kick in for oil (> 10% of revenue) and gas (> 50% of revenue)
<p>Objective No. 3: Contribute to financing the energy and ecological transition (EET) and the preservation of biodiversity by investing in green bonds and thematic funds</p>	<p>At 31 December 2022:</p> <ul style="list-style-type: none"> EUR 1.5 billion invested in green bonds EUR 455 million invested in EET thematic funds Investment in a fund devoted to preserving marine biodiversity
Pillar 2: Include environmental, social and governance (ESG) criteria in asset management	
<p>Objective No. 4: Exclude 20% of the equity investment universe based on ESG criteria, in compliance with the requirements of Pillar III of France's Socially Responsible Investment (SRI) label</p>	<ul style="list-style-type: none"> 20% of equity issuers excluded on the basis of ESG criteria from end-2019
<p>Objective No. 5: Contribute to tackling social challenges by investing in impact funds and social and sustainable bonds</p>	<ul style="list-style-type: none"> 160 EUR million invested in social and sustainable bonds at end 2022 Investment in a fund supporting affordable housing; green light given for a fund to back the social and solidarity sector in 2023
Pillar 3: Exercise voting rights and engage with issuers	
<p>Objective No. 6: Apply a regularly updated voting policy that includes extra-financial provisions</p>	<ul style="list-style-type: none"> Voting policy adopted in 2019 Adjustments made to reflect new fossil fuel exclusions and limit excessive executive pay from 2023
<p>Objective No. 7: Maintain a general meeting attendance rate of at least 80%</p>	<ul style="list-style-type: none"> Attendance rate of 88% in 2022

Source: Banque de France.

In terms of targets (see Table 3), the equity component of the own funds portfolio remained aligned with a trajectory of well below 2°C, as it has been since 2019. The equity component of the pension liabilities portfolio also stayed aligned with the target in 2022, in accordance with the set objective, which was reached at end-2021. Purchases of green bonds came to EUR 1.5 billion and EET-focused investments amounted to EUR 455 million. Moreover, an investment was made in 2022 in a fund dedicated to preserving marine biodiversity. The ESG exclusion ratio was maintained at 20% of the investment universe, total purchases of social and sustainable bonds came to EUR 160 million in 2022, while the green light was given to two investments in social impact funds. Finally, in 2022,

the Banque de France's general meeting attendance rate was 88%, or well above the 80% target.

In addition to achieving these targets, the Banque de France improved the **environmental and ESG performances of its two portfolios**, which it measures through a series of indicators (see Table 4).¹³ These indicators are tracked by portfolio and by asset class (sovereign bonds, equities and

¹³ Pillar 1 and 2 detail the results and methodologies for the sovereign bond, equity and corporate bond components, which form

the portfolios' primary asset classes, making up 90% of the overall value of the portfolios at 30 November 2022.

T4 Portfolio climate and ESG performance indicators at end-2022

a) Own funds portfolio

Asset class	Indicator category	Indicator	Portfolio		Coverage (% of total assets)	Benchmark ^{a)}
			2022	2021		
Sovereign bond component	Climate	Exposure to physical risks	58.5/100	67.7/100	100	65.4/100
	ESG	ESG score	79/100	79/100	98	79/100
Equity component	Climate	Implied temperature rise	1.5°C-2°C	1.75°C-2°C	100	1.5°C-2°C
		Green share EU taxonomy	28%	25%	98	36%
		Exposure to physical risks	43.7/100	48.4/100	100	41.7/100
	Biodiversity	Total absolute biodiversity impact	-76 km ² .MSA	-91 km ² .MSA	99	-107 km ² .MSA
		Biodiversity footprint	-0.03 km ² .MSA/EURm invested	-0.04 km ² .MSA/EURm invested	98	-0.05 km ² .MSA/EURm invested
		Weighted average biodiversity intensity	-0.10 km ² .MSA/EURm capital employed	-0.11 km ² .MSA/EURm capital employed	99	-0.82 km ² .MSA/EURm capital employed
	ESG	ESG score	61.2/100	60.1/100	100	61.1/100
		Economic and social development	57.6/100	59.2/100	88	58.4/100
		Societal impact of products-services	54	53.9/100	50	56.8/100
		Workplace health and safety	65.8/100	62.6/100	100	63.9
	Non-discrimination	72.3/100	70.6/100	100	72.4	

b) Pension liabilities portfolio

Asset class	Indicator category	Indicator	Portfolio		Coverage (% of total assets)	Benchmark ^{a)}
			2022	2021		
Sovereign bond component	Climate	Exposure to physical risks	77.9/100	80.7/100	100	68.3/100
	ESG	ESG score	71/100	70/100	100	79
Equity component	Climate	Implied temperature rise	1.5°C-2°C	1.75°C-2°C	100	2°C-3°C
		Green share EU taxonomy	36%	28%	99	34%
		Exposure to physical risks	51.9/100	54.7/100	99	55.2/100
	Biodiversity	Total absolute biodiversity impact	-170 km ² .MSA	-222 km ² .MSA	95	-152 km ² .MSA
		Biodiversity footprint	-0.04 km ² .MSA/EURm invested	-0.05 km ² .MSA/EURm invested	95	-0.04 km ² .MSA/EURm invested
		Weighted average biodiversity intensity	-0.60 km ² .MSA/EURm capital employed	-0.37 km ² .MSA/EURm capital employed	95.2	-0.56 km ² .MSA/EURm capital employed
	ESG	ESG score	49.5/100	49.6/100	98	46.7/100
		Economic and social development	45.7/100	47.2/100	77	42.3/100
		Societal impact of products-services	43/100	44.2/100	60	40.4/100
		Workplace health and safety	50.2/100	49.4/100	98	46.4/100
Non-discrimination		63.2/100	61.5/100	98	61.2/100	
Corporate bond component	Climate	Implied temperature rise	1.5°C-2°C	/	84	1.5°C-2°C
		Exposure to physical risks	45.7/100	/	99	35.7/100
	Biodiversity	Total absolute biodiversity impact	-10 km ² .MSA	/	33	-13 km ² .MSA
		Biodiversity footprint	-0.04 km ² .MSA/EURm invested	/	33	-0.07 km ² .MSA/EURm invested
		Weighted average biodiversity intensity	-0.07 km ² .MSA/EURm capital employed	/	66	-0.07 km ² .MSA/EURm capital employed
	ESG	ESG score	57.3/100	/	93	53.3/100
		Economic and social development	58.2/100	/	84	49.4/100
		Societal impact of products-services	50.5/100	/	51	49.4/100
		Workplace health and safety	55.8/100	/	93	54/100
		Non-discrimination	71.7/100	/	93	67.4/100

Sources: S&P Global Sustainable1, Moody's ESG, Iceberg Data Lab.

Notes: In green: performances are better than or in line with those of the benchmark; in orange: performances are below those of the benchmark.

ESG – environmental, social and governance; MSA – Mean Species Abundance; EURm for million euros.

a) See Pillar 2, Box 2 below.

BOX 3: THE BANQUE DE FRANCE RANKED FIRST AMONG G20 CENTRAL BANKS FOR ITS CLIMATE ACTION

The Banque de France topped the Green Central Banking Scorecard published in November 2022. The ranking, which is drawn up by a group of 21 international NGOs, identifies the G20 central banks that are doing the most in terms of climate action.¹ France took the top spot thanks to its goal of aligning its equity components with a 1.5°C trajectory and its exclusion policy for the fossil fuels sector.

Rank	Country	Aggregate score	Grade (A+ to F)	Research and advocacy (out of 10)	Monetary policy (out of 50)	Financial policy (out of 50)	Leading by example (out of 20)
1	France	70	B-	10	12	31	17
2	Italy	61	C+	10	12	31	8
3	Germany	60	C+	10	12	30	8
4	European Union	58	C	10	12	28	8
5	United Kingdom	56	C	10	10	27	9
6=	Brazil	53	C	10	18	18	7
6=	China	53	C	10	12	31	0
8	Japan	35	D+	10	6	14	5
9	Indonesia	30	D+	10	1	14	5
10	Canada	28	D	10	2	14	2
11	Mexico	23	D	10	4	4	5
12	India	21	D	10	0	10	1
13	South Korea	19	D-	10	1	6	2
14	Russia	18	D-	8	0	8	2
15	Australia	17	D-	10	0	4	3
16	United States	16	D-	10	0	6	0
17	Turkey	14	D-	10	0	2	2
18	South Africa	13	D-	10	0	2	1
19	Argentina	6	F	6	0	0	0
20	Saudi Arabia	0	F	0	0	0	0

Source: Positive Money, [Green Central Banking scorecard 2022](https://greencentralbanking.com/scorecard/).
Note: Scorecard drawn up in 2022 by a group of 21 NGOs.

¹ <https://greencentralbanking.com/scorecard/>

corporate bonds),¹⁴ and compared against benchmarks. This year, the Banque de France also teamed up with data provider Iceberg Data Lab to set up an in-depth reporting covering the biodiversity impact of its portfolios (see *Pillar 1 below*). Overall:

- **The carbon impact** of the pension liabilities and own funds portfolios is measured for the first time using the data and methodologies put in place for the Eurosystem reporting exercise (see *Box 1 and Table 1 above*). In 2022, overall, the equity and corporate bond components of the pension liabilities portfolio had a smaller impact than their benchmarks, with the sole exception of the indicator measuring weighted average carbon intensity (see *Pillar 1*). The equity component of the own funds portfolio had a greater impact than its benchmark across all metrics, which may be partly due to the benchmark's alignment this year with "Paris-Aligned Benchmark" requirements. The sovereign bond components also had a greater impact than their benchmarks. This reflected the components' exposure to US securities, whereas their benchmarks are exposed only to the euro area, where the average level of measured CO₂ emissions is lower.
- **Exposure to physical risks**, which measures the physical climate-related risks to which portfolios are exposed, fell slightly for all portfolios in 2022. This improvement paved the way for the sovereign bond component of the own funds portfolio and the equity component of the pension liabilities portfolio to outperform the benchmarks. However, the sovereign bond component of the pension liabilities portfolio has the greatest physical risk exposure, driven in particular by the risk of flooding and rising sea levels, to which France is especially exposed, and by the risk of storms and forest fires to which the United States is exposed. These two countries account for the lion's share of the portfolio.
- In terms of **biodiversity**, new biodiversity footprint indicators measured for the equity components point to improved performances in 2022 relative to the retrospective estimate prepared for 2021. The own funds portfolio and the corporate bond component of the pension liabilities portfolio beat their benchmarks, while the equity component of the pension liabilities portfolio underperformed.
- In terms of **ESG performances**, the various components either maintained or improved their scores. Improvements were seen in 2022 for the equity component of the own funds portfolio and the sovereign bond component of

the pension liabilities portfolio. However, the sovereign bond component still underperformed its benchmark, while other components posted similar or superior scores.

Governance

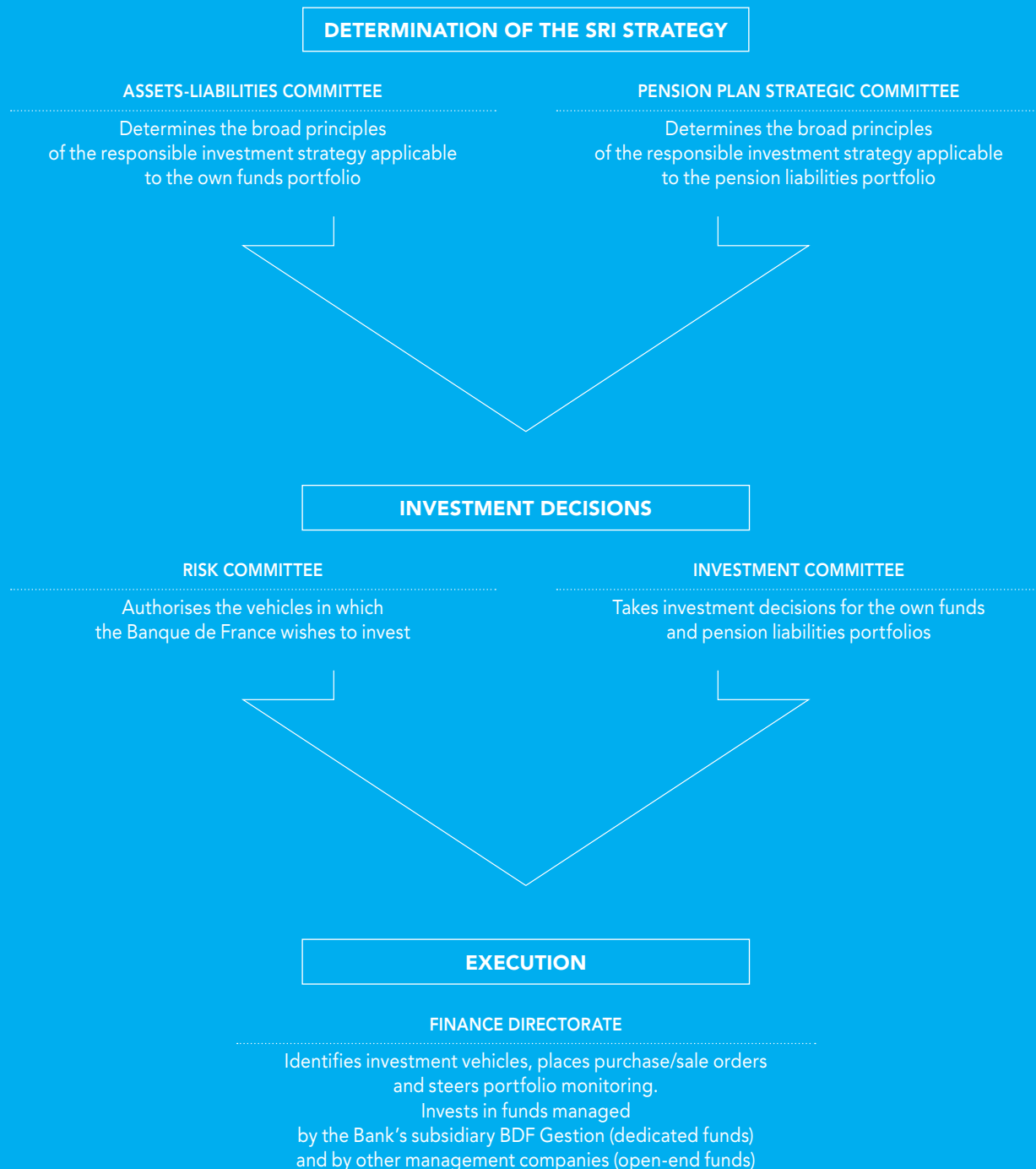
The Banque de France's responsible investment strategy is implemented by its Finance Directorate, which is part of the General Secretariat. The bulk of the assets are invested in dedicated funds in which the Banque de France is the sole investor and that are managed by the Bank's asset management subsidiary BDF Gestion,¹⁵ while a minority share goes to external open-end funds.¹⁶ Direct securities holdings play a marginal role. Given its role as supervisor and guarantor of financial stability, the Banque de France refrains from directly owning equity in the companies that it supervises – banks or insurance undertakings – in order to avoid any risk of conflict of interest between its supervisory activities and its investment activities.

¹⁴ We present only the 2022 indicators for the corporate bond component of the pension liabilities portfolio, since this component represented an insignificant portion of the allocation in previous years.

¹⁵ BDF Gestion was created on 27 December 1995 and manages 30 collective investment schemes (dedicated, open to the public and employee savings schemes) as well as a number of individual mandates for institutional investors. Its activities are separated from those of the Banque de France by a strict Chinese wall and it does not benefit from any insider information on the economic sectors covered by the supervisory missions of the Banque de France.

¹⁶ Thirteen external open-end index (i.e. passive) funds. These funds are included in the calculation of the temperature pathway for Banque de France portfolios, but since they are open to other customers, they cannot be subject to application of the Banque de France's climate and ESG filters or specific voting policy. At 30 November 2022, they accounted for 7.6% of the total equity and bond assets (compared with 7% at end-2021). To ensure consistency with its responsible investment policy, the Banque de France now seeks to target investments in external funds that comply with the "Paris-Aligned Benchmarks" standard.

RESPONSIBLE INVESTMENT GOVERNANCE



Source: Banque de France.

The responsible investment strategy is presented at least once a year to the General Council and determined by the Banque de France's decision-making bodies, namely the Assets-Liabilities Committee and the Pension Plan Strategic Committee.¹⁷ Operational execution of the responsible investment strategy is steered by a quarterly investment committee on which the Risk Directorate sits alongside the Finance Directorate, under the chairmanship of the Secretary General.

The responsible investment strategy is integrated more broadly in the governance and discussion bodies set up within the Banque de France to accompany the rising importance of sustainable finance considerations. As part of this, a Responsible Investment Steering Committee was set up in 2020. It meets quarterly within the General Secretariat, bringing together the Finance Directorate, the Strategy Directorate and the Corporate Social Responsibility (CSR) Task Force for a detailed discussion of extra-financial issues affecting the own funds and pension liabilities portfolios. The General Secretariat also participates in the Banque de France's Strategic Committee for Sustainable Finance and in the Executive Committee on Climate Change, which bring together all of the General Directorates to coordinate the Bank's sustainable finance strategy. The General Secretariat is additionally part of the Banque de France's climate expert networks on research and financial supervision.

The Finance Directorate also takes part in the Eurosystem's Responsible Investment Task Force, which coordinates efforts at an operational level by euro area central banks to set up climate reporting for their euro-denominated non-monetary policy portfolios. This year's *Responsible Investment Report* by the Banque de France was adapted to integrate these new harmonised climate performance indicators. Work by the task force is set to continue in 2023 aimed at improving and expanding this reporting exercise.

Risk management

In accordance with the double materiality principle, the Banque de France's responsible investment strategy involves **monitoring and steering the climate-related risks** (physical and transition risks) to which the asset portfolios are exposed (*see Pillar 1 below*). Physical risks, such as heat stress, are measured using a composite forward-looking indicator covering sovereign issuers and the entire value chain of portfolio companies. Exposure to transition risk is measured based on the share of revenue that portfolio companies derive from fossil fuels.

In addition, the responsible investment strategy is integrated in the three lines of defence of the Banque de France's **risk management system**.¹⁸ In particular, the Risk Committee regularly monitors the recognition of climate risks in the Bank's risk management system, with a view to strengthening the integration and monitoring of these risks in the portfolios of assets managed for own account (non-monetary policy). Furthermore, all listed and unlisted vehicles in which the Bank invests are submitted for approval to the Risk Committee.

¹⁷ For more details, see the governance section of the Banque de France's 2022 annual report: <https://publications.banque-france.fr/rapport-annuel-2022>

¹⁸ First line: Financial Management Division; second line: General Secretariat Risk and Permanent Control Manager; third line: Internal Audit.

PILLAR 1: CLIMATE

The Banque de France has committed itself to incorporate global warming issues into its investment strategy by setting three objectives:

- Reduce the climate impact of its portfolios by aligning the equity components of its own funds and pension liabilities portfolios with a greenhouse gas emissions trajectory compatible with global warming of less than 1.5°C above pre-industrial levels between 2023 and 2025. This objective is designed to build on the efforts already made to align the equity components of these portfolios with a 2°C trajectory, which was achieved at end-2021 (Objective No. 1);
- Exclude issuers whose involvement in fossil fuels exceeds the thresholds applied by Paris-Aligned Benchmarks (Objective No. 2);
- Contribute to financing the energy and ecological transition (EET) and the preservation of biodiversity by investing in green bonds and thematic funds (Objective No. 3).

To this end, the Banque de France monitors the climate impacts of its portfolios and their exposure to climate-related risks. The following results cover the period to 30 November 2022.

2°C alignment

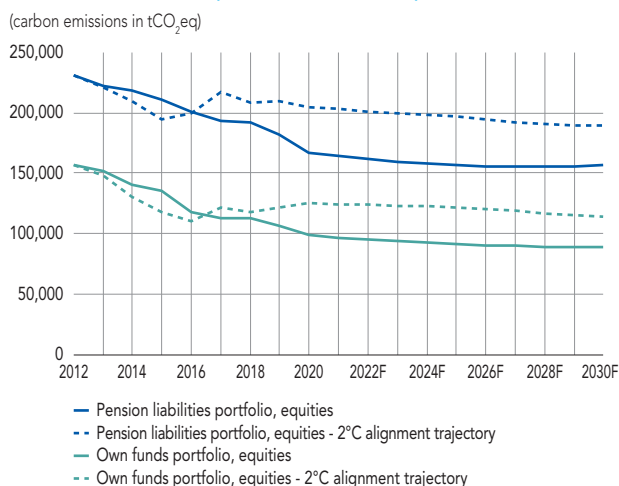
The Banque de France has made a commitment to progressively align its proprietary portfolios with a global warming trajectory of well below 2°C. Accordingly, it ensures that its investments comply with the commitment made by France under the 2015 Paris Agreement. The Banque de France initially set and then achieved the goal of aligning the equity component of its own funds investment portfolio with a sub-2°C target by 2019. **In 2022, this component remained aligned with the 2°C target** as its implied temperature rise was between 1.75°C and 2°C. The target was extended to the equity component of the pension liabilities portfolio in 2021. In 2022, the target was once again reached, with the implied temperature rise for this component also sitting at between 1.75°C and 2°C at end-2022. The implied temperature rise of the corporate bond component of the pension liabilities portfolio, which was measured for the first time in 2022,

is also aligned with the 2°C target and was between 1.5°C and 2°C at end-2022.

To assess the alignment of its portfolios, the Banque de France considers the past and future annual greenhouse gas emissions trajectories of companies in its investment universe. By comparing companies against a benchmark trajectory, it is possible to assess each firm's alignment with a target sub-2°C warming trajectory. Alignment of the portfolio is then measured by aggregating and comparing past and future emissions, on the one hand, and the benchmark emissions of portfolio companies, on the other hand, which are allocated on a proportional basis reflecting the share of the investment relative to the company's value.

To align its portfolios, the Banque de France takes a two-stage approach: (i) it applies a filter that prevents it from investing in companies whose trajectories are least compatible with the 2°C target; and (ii) it gives preference to companies that are aligned with the target. By applying a climate filter, the Banque de France excludes approximately

C1 2°C alignment of portfolio equity components



Source: S&P Global Sustainable1.

Notes: A portfolio is aligned with a 2°C trajectory if cumulative emissions over the 2012-2030 period attributable to it are below the cumulative emissions over the same period that are compatible with 2°C alignment.

On the x-axis, F denotes forecast.

tCO₂eq: tonnes of carbon dioxide equivalent.

5% of the worst-performing companies from its investment universe, under a best-in-universe approach. Exceptionally, some of these companies may be retained in the portfolio if (i) they implement a strategy that contributes significantly to the energy transition¹ and (ii) the equity component remains aligned with the 2°C target overall. The climate filter is applied in addition to the ESG exclusions under Pillar 2 of the strategy, on which basis the Banque de France excludes from all of its portfolios some companies involved in fossil fuels (see *Pillar 2 below*).

Carbon alignment data are provided by S&P Global Sustainable1 (see *Box 6 below*). These cover Scope 1 and Scope 2 greenhouse gas emissions (see *Box 1 below*) over the 2012-2030 period. For this period, S&P Global Sustainable1 calculates a carbon emissions trajectory for each company, which it compares against a theoretical emissions trajectory that would enable compliance with sub-2°C global warming. Company carbon emissions trajectories are obtained from historical data and the targets set by firms themselves, or, failing that, from estimates and projections. The theoretical trajectory for 2°C alignment is calculated using the two methodologies recommended by the Science Based Targets Initiative (SBTi):²

- In the case of companies that emit the most greenhouse gases and whose business activities are homogeneous, S&P Global Sustainable1 refers to the sector carbon

budgets established by the International Energy Agency (IEA),³ then applies the “sectoral decarbonization approach” (SDA): within each sector, every company is assigned a carbon sub-budget based on its carbon intensity, production and market share. A company whose carbon intensity trajectory is above its theoretical budget is therefore not 2°C aligned.

- When considering other companies, S&P Global Sustainable1 uses the 2°C scenario for global carbon emissions of the Intergovernmental Panel on Climate Change (IPCC),⁴ then applies the greenhouse gas emissions per unit of value added (GEVA) approach: all companies must reduce their carbon intensity at the same pace (5% a year), irrespective of their sector. Companies that do not lower their carbon intensity at this pace are therefore not 2°C aligned.

This methodology, which was developed by S&P Global Sustainable1, is in line with the recommendations issued by the Task Force on Climate-related Financial Disclosures (TCFD) in 2021 on portfolio alignment.⁵

From 2023, the Banque de France plans to step up its efforts to steer its temperature alignment target and has set the goal of a global warming trajectory of 1.5°C for its equity components. The aim is to achieve this target by end-2023 for the own funds portfolio and the European equities of the pension liabilities portfolio, and by end-2025 for the remainder of the equity component of the pension liabilities portfolio.

¹ This criterion is assessed using several data sources, including Carbon4 Finance and Carbon Disclosure Project (CDP) sources, as well as through interviews with broker analysts specialised in the relevant sectors.

² The Science Based Targets initiative (SBTi) is a partnership between the United Nations Global Compact, the CDP, the World Resources Institute (WRI) and the World Wide Fund for Nature (WWF). It aims to help companies to lower their greenhouse gas emissions and thus target sub-2°C global warming, based on scientific data.

³ Scenario from the *Energy Technology Perspectives 2017* and the *Beyond 2°C Scenario* from the IEA.

⁴ Scenario from the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathways 2.6. The RCP 2.6 scenario is the most optimistic amongst the four trajectories defined by the IPCC. This scenario entails very low emissions with a peak before 2050.

⁵ TCFD (2021), *Measuring portfolio alignment: technical supplement*, June.

BOX 1: SCOPES 1, 2 AND 3 OF GREENHOUSE GAS EMISSIONS

The 2001 Greenhouse Gas (GHG) Protocol on measuring company GHG emissions distinguishes between three levels or “scopes” of emissions:

- Scope 1 corresponds to a company’s direct emissions from sources that are owned or controlled by the firm, such as GHG emitted by vehicles owned by the company;
- Scope 2 corresponds to indirect emissions linked to the consumption of energy provided by other companies, such as GHG emitted during the generation of electricity consumed by the company;
- Scope 3 corresponds to indirect emissions linked to the upstream (supplier emissions) and downstream (emissions linked to the use of goods sold) portions of the company’s value chain: for example, in the case of an auto manufacturer, this would include GHG emitted not only by suppliers but also by the vehicles produced and sold by the company.

Participation in the energy transition through the exclusion of issuers involved in fossil fuels

Since 2018, in accordance with its RI Charter, the Banque de France has excluded from its portfolios companies that derive over 20% of their revenue from thermal coal (extraction or coal-based energy production). The Banque de France updated its charter in 2021 to strengthen and widen these exclusions:

- Thermal coal: the Banque de France will exit the sector completely (extraction or coal-based energy production) by the end of 2024 and lowered its exclusion threshold to 2% of revenue at the end of 2021.

- Oil and gas: the Banque de France will align itself by 2024 with the exclusion thresholds provided for by European Regulation 2019/2089 on sustainability benchmarks, and more specifically with the thresholds applicable to Paris-Aligned Benchmarks. The European Commission’s Delegated Act of 17 July 2020 introduced the obligation for this type of benchmark to exclude companies that derive over 10% of their revenue from oil or over 50% from gas.
- Unconventional hydrocarbons: since the end of 2021, the Banque de France has excluded companies that derive over 10% of their revenue from these hydrocarbons, including shale oil, shale gas, oil sands or Arctic or deepwater exploration-development.

In 2022, the Banque de France further stepped up its commitment to the energy transition by deciding to exclude all companies developing new fossil fuel extraction projects. This requirement, which will come into effect from end-2024, is intended to ensure alignment with the IPCC and IEA assumptions in order to achieve a sub-1.5°C climate warming trajectory by 2050.

To implement these exclusions, the Banque de France relies on the data provided by Moody’s ESG and S&P Global Sustainable¹ and on the data available to its asset management subsidiary, BDF Gestion (ISS). At 30 November 2022, the own funds portfolio contained only one company involved in thermal coal, while just 0.3% of the total assets of the equity component of the pension liabilities portfolio was exposed to thermal coal, down from 0.4% in 2021. These exposures result exclusively from investments by the Banque de France in external open-end funds to which the Bank’s fossil fuel exclusion thresholds cannot be applied.

Contribution to financing the energy and ecological transition and the preservation of biodiversity

Under Pillar 1 of its strategy, the Banque de France also aims to make a contribution to financing the energy and ecological transition (EET) and the preservation of biodiversity. It measures this contribution through its purchases of green bonds and its investments in thematic funds with a focus on EET and ecosystem preservation.

At end-2022, **the total amount of purchases of green bonds came to EUR 1.5 billion**. These securities include sovereign and quasi-sovereign bonds, such as green *obligations assimilables du Trésor* (OAT – French Treasury bonds) (see Boxes 2 and 4 below). Green bonds finance green public spending, such as investments in public transport, organic farming or waste recycling.

The Banque de France continued investing in thematic funds, **with total investments reaching EUR 455 million at end-2022**. The Banque de France also continued to diversify the types of projects that it finances: in addition to financing the production of renewable energies (e.g. solar and wind farms), it funds energy refits for buildings, reduction of pollution linked to marine infrastructure (blue finance) as well as SMEs that are EET innovators, e.g. in areas such as energy storage, smart cities and waste management. The Banque de France prioritises funds that have been awarded the Greenfin label created in 2015 by the Ministry for the Ecological Transition to guarantee the green qualities of activities financed by certified funds (see Pillar 2, Box 1 below), as well as the LuxFLAG, SRI and Finansol certifications, which are other benchmark labels for the certification of sustainability funds.

BOX 2: GREEN OATS – FRENCH SOVEREIGN GREEN BONDS

Since 2017, the French State has issued sovereign bonds that are earmarked for financing green government expenditures. The framework document of 10 January 2017 covering the issuance of green OATs by Agence France Trésor (AFT) set four objectives for these securities: mitigate climate risk, adapt to climate change, protect biodiversity and reduce air, soil and water pollution. Accordingly, green OATs finance “eligible green expenditures” in the budgets of different ministries. A second opinion, provided by Moody’s ESG, is obtained to determine whether a green OAT qualifies as responsible.

Carbon footprint and intensity

In addition to the temperature pathway of its assets, the Banque de France measures the carbon impact of its portfolios, i.e. the greenhouse gas emissions⁶ linked to issuers included in its investments. From 2022 onwards, the carbon impact is going to be measured using four harmonised indicators calculated by all Eurosystem member countries (see Boxes 3 and 6) and offering complementary views of this impact. They are absolute carbon emissions, capital carbon footprint, carbon intensity per unit of revenue (or GDP for sovereigns) and weighted average carbon intensity (see Charts 2, 3 and 4 below). These metrics are calculated using common data for all Eurosystem central banks provided by ISS and Carbon 4 Finance. Until now, the carbon footprint indicators published in this report came from data provider S&P Global Sustainable1. The change in supplier has caused a break in the methodological procedures used to calculate these indicators, with the result that, exceptionally for 2022, the historical change in these metrics cannot be provided. For companies, Scope 1 and 2 emissions are covered. For states, each indicator is broken down into three approaches that consider different scopes, namely emissions produced by the country,⁷ emissions consumed by the country⁸ and emissions attributed to the country’s public sector.⁹ The statistics and charts that follow are based on the consumption approach. The way that carbon emissions are aggregated at the portfolio level does not address the risk of multiple counting, but this issue is mitigated by the exclusion of Scope 3.

The carbon footprint of a portfolio corresponds to the carbon emissions of issuers that may be attributed to the portfolio. These emissions are allocated on a proportional basis according to the share of the investment relative to the value of the company (or, in the case of a sovereign issuer, on a proportional basis according to the share of the investment in the GDP of the corresponding country).

⁶ The calculated indicators include GHGs besides carbon dioxide (CO₂), such as methane (CH₄) and nitrous oxide (N₂O). These are aggregated and expressed in tonnes of carbon dioxide equivalent (tCO₂eq).

⁷ Produced emissions include all emissions generated within the country’s borders, both for domestic consumption but also for exports.

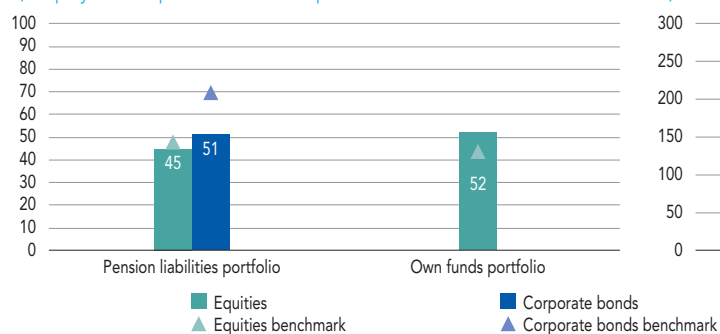
⁸ This approach includes all emissions consumed within the framework of the country’s domestic demand, included imported emissions.

⁹ This approach considers direct emissions (buildings, vehicles) and indirect emissions (energy consumption, subsidies, etc.) attributable to the country’s public sector.

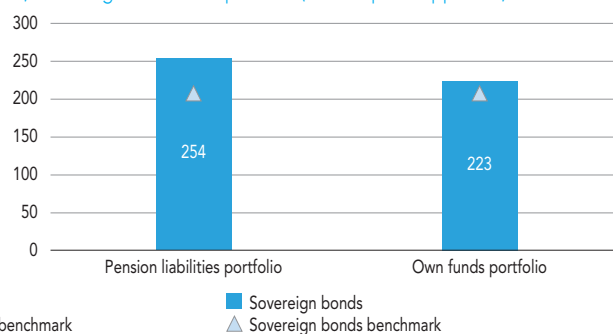
C2 Capital carbon footprint at end-November 2022

(in tCO₂eq/EUR million invested)

a) Equity and corporate bonds components



b) Sovereign bonds components (consumption approach)



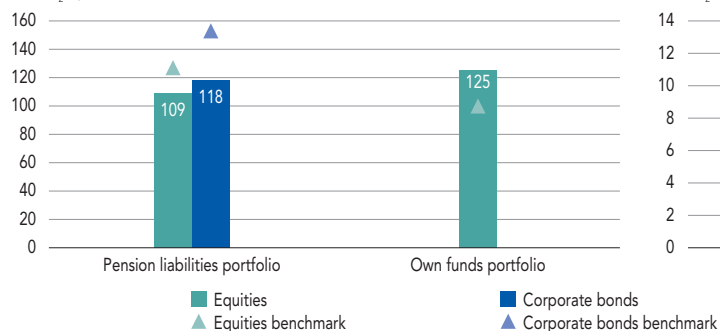
Sources: ISS (Institutional Shareholder Services), Carbon4 Finance, Bloomberg, World Bank, Banque de France calculations.

Note: tCO₂eq: tonnes of carbon dioxide equivalent.

C3 Carbon intensity per unit of revenue and GDP at end-November 2022

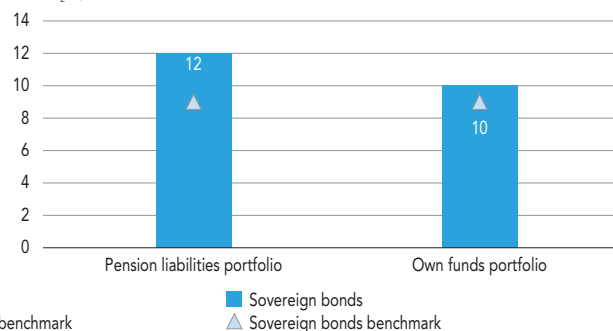
a) Equity and corporate bonds components (per unit of revenue)

(in tCO₂eq/EUR million of revenue)



b) Sovereign bonds components (consumption approach, per unit of GDP)

(in tCO₂eq/EUR million of GDP)



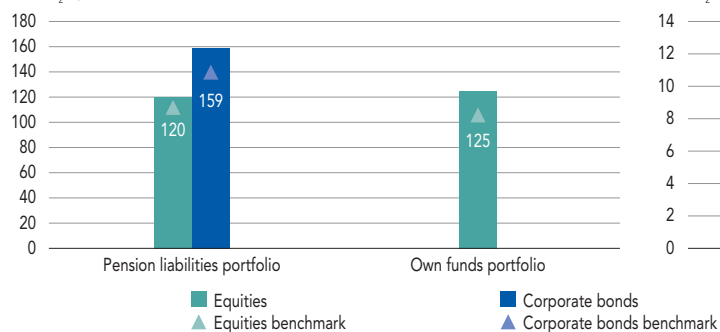
Sources: ISS (Institutional Shareholder Services), Carbon4 Finance, Bloomberg, World Bank, Banque de France calculations.

Note: tCO₂eq: tonnes of carbon dioxide equivalent.

C4 Weighted average carbon intensity at end-November 2022

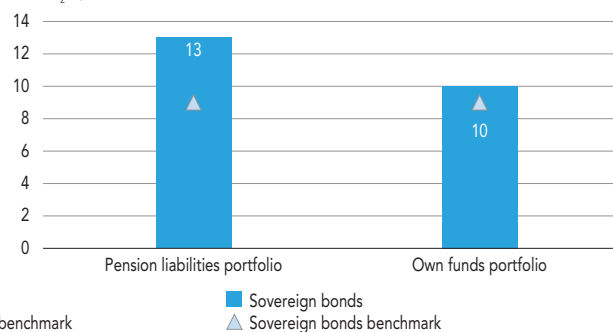
a) Equity and corporate bonds components (per unit of revenue)

(in tCO₂eq/EUR million of revenue)



b) Sovereign bonds components (consumption approach, per unit of GDP)

(in tCO₂eq/EUR million of GDP)



Sources: ISS (Institutional Shareholder Services), Carbon4 Finance, Bloomberg, World Bank, Banque de France calculations.

Note: tCO₂eq: tonnes of carbon dioxide equivalent.

- The capital carbon footprint compares the carbon footprint of the portfolio to the amount invested by the Banque de France and thus measures tonnes of carbon equivalent per EUR million invested. In 2022, **the carbon capital footprints of the equity (45 tCO₂eq per EURm invested) and corporate bond (51 tCO₂eq/EURm) components of the pension liabilities portfolio were inferior to those of their benchmarks. The equity component of the own funds portfolio had a capital carbon footprint of 52 tCO₂eq/EURm, higher than that of its benchmark, which was recently aligned with PAB criteria (44 tCO₂eq/EURm). The sovereign bond components of the pension liabilities portfolio (254 tCO₂eq/EURm) and the own funds portfolio (223 tCO₂eq/EURm) had larger carbon footprints than their benchmark. This is notably due to the portfolios' exposure to US bonds, whereas the benchmark is exposed to euro area issuers, which have a lower level of CO₂ emissions on average.**
- Carbon intensity per unit of revenue (or GDP) compares the portfolio's total emissions to the share of revenue (or GDP) of issuers allocated to the portfolio (on a proportional basis according to the ownership share). It gauges the carbon efficiency of companies and states, measured in tCO₂eq per EUR million of revenue (or GDP). In 2022, **the carbon intensity per unit of revenue of the equity (109 tCO₂eq per EURm of revenue generated) and corporate bond (118 tCO₂eq/EURm) components of the pension liabilities portfolio was below that of the benchmarks. Conversely, as with the carbon footprint, the carbon intensity of the equity component of the own funds portfolio exceeded that of its benchmark, which was updated in 2022 to integrate Paris alignment criteria. Here again, the sovereign bond components (12 tCO₂eq/EURm for pension liabilities and 10 tCO₂eq/EURm for own funds) had a larger impact than their benchmark owing to exposure to US securities, which have a higher level of emissions relative to GDP compared with the average for the European countries that make up the benchmark.**
- Weighted average carbon intensity weights the carbon intensity of issuers (emissions/revenue or GDP) according to their weight in the portfolio. This indicator does not include the factor that prorates emissions according to the Banque de France's stake in the issuer's value/debt. It is recommended by the Task Force on Climate-related Financial Disclosures (TCFD). In 2022, **the weighted average carbon intensity of the equity component**

stood at 125 tCO₂eq per EURm of revenue for the own funds portfolio and 120 tCO₂eq/EURm for the pension liabilities portfolio. In the case of the corporate bond component, it stood at 159 tCO₂eq/EURm for the pension liabilities portfolio. The averages for both portfolios are higher than those of the benchmarks. As with the other indicators mentioned above, the sovereign components have a larger impact than their benchmark owing to US exposure (13 tCO₂eq/EURm for pension liabilities and 10 tCO₂eq/EURm for own funds).

Share of activities eligible for the EU taxonomy

In 2022, for the first time, the Banque de France calculated the share of activities in its equity and corporate bond components eligible for alignment with the EU taxonomy. In June 2020, the European Union (EU) adopted a regulation on a taxonomy of environmentally sustainable activities (see Box 5 below).¹⁰ Under the terms of this regulation, activities may be considered to be sustainable if they are likely to contribute substantially to at least one of the EU's six environmental objectives, do not cause significant harm to the other objectives,¹¹ and meet the minimum social standards of the Organisation for Economic Cooperation and Development (OECD).

As at the end of 2022, some of the delegated acts required to clarify the regulation had yet to be adopted. In fact, only the criteria for the EU's first two environmental objectives, namely climate change mitigation and climate change adaptation, had been published. These criteria have been applicable since January 2022. The delegated act dealing with the four other objectives covered by the Taxonomy Regulation is expected to be adopted some time in 2023. Consequently, the indicator calculated by S&P Global Sustainable1 is an estimate covering only the first two objectives. Besides the activities that contribute to

¹⁰ Regulation EU 2020/852 on the establishment of a framework to facilitate sustainable investment.

¹¹ Climate change mitigation; climate change adaptation; the sustainable

use and protection of water and marine resources; the transition to a circular economy; pollution prevention and control; and the protection and restoration of biodiversity and ecosystems.

BOX 3: CALCULATING THE CARBON FOOTPRINT AND INTENSITY

$$\begin{aligned} \text{Weighted average carbon intensity} &= \sum_n^i \left(\frac{\text{Amount invested}_i}{\text{Total value of portfolio}} \right) \times \left(\frac{\text{Carbon emissions}_i}{\text{Revenue or GDP, population, consumer spending}_i} \right) \\ \text{Total carbon emissions} &= \sum_n^i \left(\frac{\text{Amount invested}_i}{\text{Enterprise value or GDP}_i} \times \text{Carbon emissions}_i \right) \\ \text{Capital carbon footprint} &= \frac{\sum_n^i \left(\frac{\text{Amount invested}_i}{\text{Enterprise value or GDP}_i} \right) \times \text{Carbon emissions}_i}{\text{Total value of portfolio}} \\ \text{Carbon intensity per unit of revenue or gross domestic product (GDP)} &= \frac{\sum_n^i \left(\frac{\text{Amount invested}_i}{\text{Enterprise value or GDP}_i} \times \text{Carbon emissions}_i \right)}{\sum_n^i \left(\frac{\text{Amount invested}_i}{\text{Enterprise value or GDP}_i} \times \frac{\text{Revenue or GDP, population, consumer spending}_i}{\text{Enterprise value or GDP}_i} \right)} \end{aligned}$$

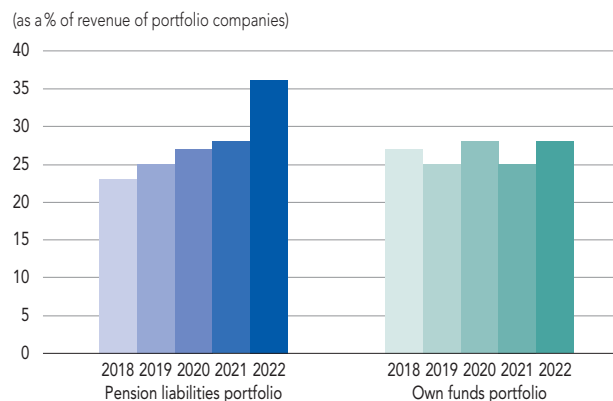
Note: Enterprise value = market capitalisation + total debt + total preferred equity + minority interest.

these two objectives substantially and directly, transitional activities that contribute to the transition to a low-carbon economy or enabling activities that allow other activities to lower their emissions are also considered to be sustainable.

Accordingly, the Banque de France estimates the average share of the revenue of portfolio companies (equity and corporate bond components)¹² that is eligible for EU taxonomy alignment, weighting according to the percentage represented by each company in total assets. This indicator provides information about the ability of the portfolio, through its exposure to sustainable sectors, to contribute to the EU’s first two climate change-related environmental objectives. However, unlike other indicators, it cannot be used to assess the portfolio’s actual climate performances. For example, since the European Commission included the gas sector in the taxonomy,¹³ owing to its transition potential, increased portfolio exposure to the sector raises the portfolio’s share of sustainable activities but also its carbon footprint. In 2022, **on average, 28% of the revenue of companies in the equity component of the own funds portfolio was eligible for inclusion in sustainable sectors, bringing the average up three points compared with 2021 to match the highest level recorded in 2020. In the case of companies in the equity component of the pension liabilities portfolio, the average share was 36%, up six points on 2021 to reach the highest level**

ever recorded for this indicator. In the case of the corporate bond component of the pension liabilities portfolio, for which the metric was calculated for the first time, the average share was 32%, on a par with that of the equity component.

C5 Share of sustainable activities, equity components



Source: S&P Global Sustainable1.

BOX 4: GREEN BONDS AND CARBON IMPACT

The carbon impact of portfolio companies and states is calculated at the level of the companies and states themselves, and not at the level of the securities that they issue, including in the case of green bonds. Accordingly, when an investor buys green bonds, that investment does not cause the carbon impact of a portfolio to go up by less than the purchase of conventional bonds would. But in the medium and long term, assuming like-for-like activities, green bonds may help to lower the carbon impact of issuers, as long as they finance investments that make it possible to reduce the carbon emissions linked to the activities of the company or state. In practice, to date we have seen no correlation between green bond issuance and a decline in the carbon intensity of companies issuing these bonds.¹ The Banque de France buys almost exclusively sovereign or quasi-sovereign green bonds. Market standards have been developed to provide a framework for green bond issues. The European Commission published a draft regulation establishing an EU green bond standard in July 2021. The standard includes strict oversight of the use of funds, which is checked by a third-party reviewer. Following adoption of the report on the draft regulation by the European Parliament in June 2022, negotiations on adoption of the final document are currently ongoing under the trilogue procedure.

¹ T. Ehlers, E. Mojon and F. Packer (2020), "Green bonds and carbon emissions: exploring the case for a rating system at the firm level", Bank for International Settlements, *Quarterly Review*, September.

BOX 5: WORK BY THE EUROPEAN COMMISSION ON SUSTAINABLE FINANCE

The European Commission's 2018 sustainable finance action plan included the adoption of a European taxonomy of sustainable activities (Regulation EU 2020/852), sustainability-related disclosures by market participants (Regulation EU 2019/2088) and the creation of new climate benchmarks (Regulation EU 2019/2089). Other ongoing projects include the adoption of a European ecolabel, the establishment of a framework for green bonds, and the review of Directive 2014/95/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups.

In July 2021, the Commission adopted a renewed strategy to finance the transition to a sustainable economy. The strategy covers the financing not only of activities that are already considered to be sustainable but also transition activities. It also addresses the need for an inclusive transition, integration by the financial sector of ESG risks, and international activity in the area of sustainable finance.

In April 2022, the Commission adopted a technical standard applicable to Regulation EU 2019/2088 (SFDR), which requires market participants, starting in 2023, to publish a series of 18 indicators covering climate, environmental, social, human rights and anti-corruption aspects.¹

¹ Principle Adverse Impact (PAI) indicators.

¹² This indicator does not integrate green bonds or investments in thematic funds with an EET focus.

¹³ A European Commission delegated act adopted in March 2022 includes, under strict conditions, certain activities linked to the gas and nuclear sector in the list of activities covered by the European taxonomy.

Exposure to physical and transition risks

Climate-related risks include physical risks and transition risks.¹⁴ Physical risks can result from one-off events such as droughts or floods, and also from gradual changes such as rising temperatures. They result in property damage, drops in productivity, and even disruptions to the global supply chains of portfolio companies. Transition risks are the financial risks that can result from the regulatory changes, technological transformations and market developments associated with the process of shifting towards a low-carbon economy.

In the case of physical risks, the Banque de France tracks a composite indicator calculated by specialised provider Moody's ESG, which analyses the exposure of each issuer to this type of risk. The indicator is scored from zero to 100, where zero is the lowest risk and 100 is the highest. In the case of companies, the score is based on ten underlying indicators, which are themselves grouped into three pillars: operations risk, supply chain risk and market risk. In this way, the Moody's ESG analysis covers the entire value chain of issuers. Regarding sovereign bonds, the indicator reflects the proportions of the population, GDP and farmland exposed to physical risks.

The exposure to physical risks of the own funds and pension liabilities portfolios fell overall over the year 2022. In the own funds portfolio, values were sharply down for the equity and sovereign bond components (by 9 and 5 points respectively), and slightly up for the corporate bond component (by 0.6 of a point). In the pension liabilities portfolio, exposure to physical risks was also down across all portfolio components (sovereign bonds, corporate bonds and equities). Among the factors accounting for the across-the-board decrease in the exposure to physical risks of equity components, a key element was the decline in exposure to the risk of heat stress, forest fires and droughts due to the reduced presence of operational facilities of investee companies in the United States. The same factor also drove down exposure to the risk of hurricanes and tropical storms.

The sovereign bond components, meanwhile, are chiefly exposed to the risks of rising sea levels and floods. These risks are especially high in Europe and North America (see Chart 7 below).

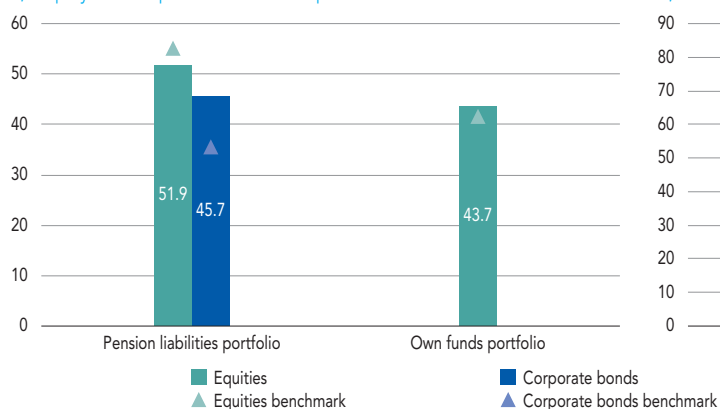
¹⁴ Mark Carney added liability risks to this list in his 2015 speech entitled "Breaking the tragedy of the horizon – climate change and financial stability".

This concept refers to future losses that could result from legal actions aimed at obtaining financial compensation for the effects of climate change.

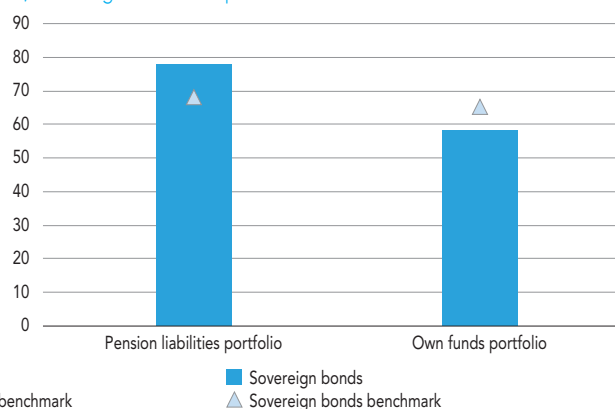
C6 Portfolio exposure to physical risks at 30 November 2022

(score of physical risks out of 100)

a) Equity and corporate bonds components



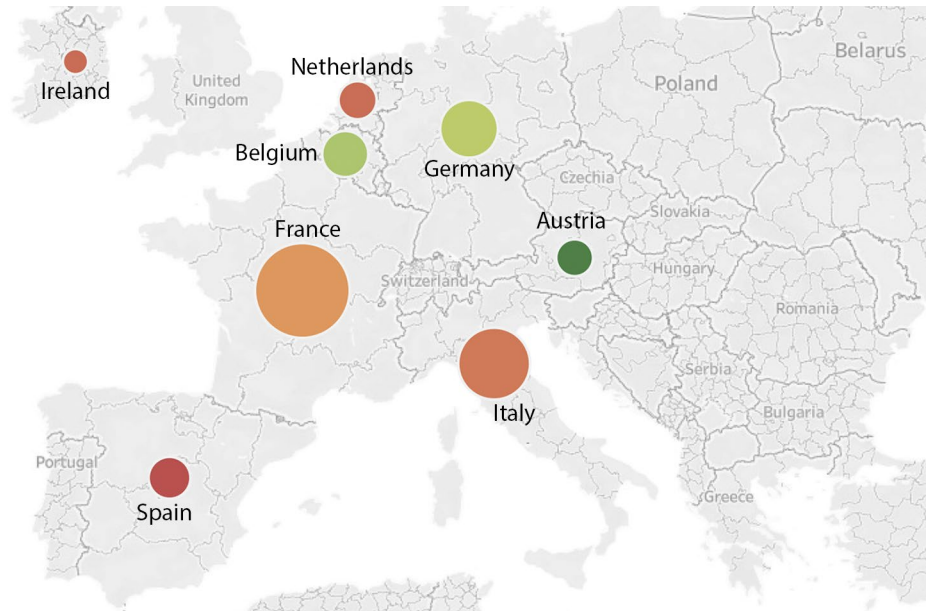
b) Sovereign bonds components



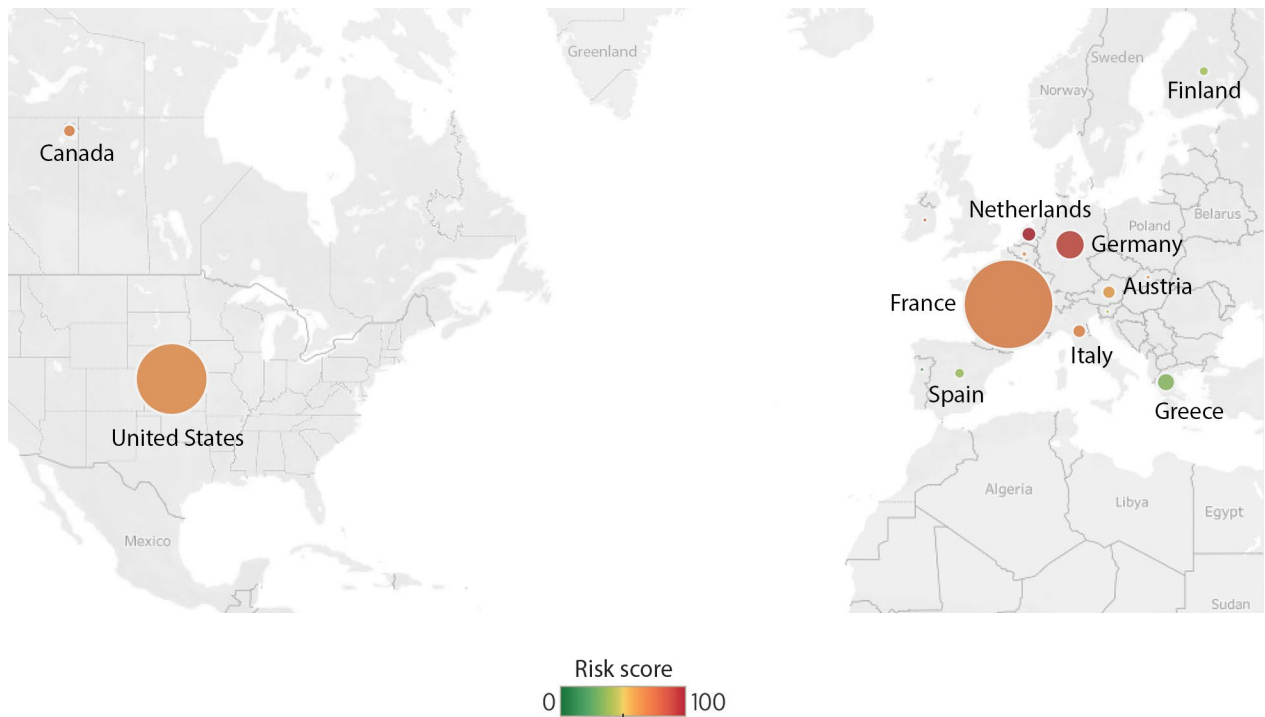
Source: Moody's ESG.

C7 Maps showing the exposure to risks of rising sea levels and flooding of portfolios' sovereign bond components at 30 November 2022

a) Exposure of the sovereign bonds component of the own funds portfolio to the risk of rising sea levels

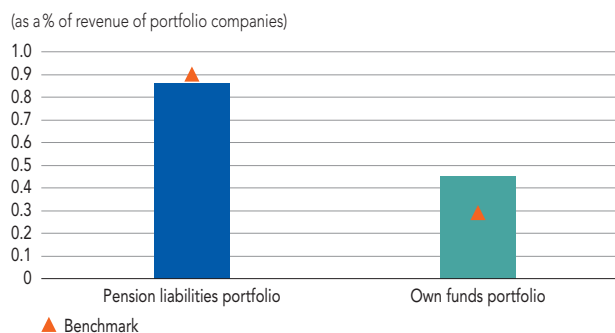


b) Exposure of the sovereign bonds component of the pension liabilities portfolio to flooding risk



Source: Moody's ESG.

C8 Portfolio brown shares, equity components at 30 November 2022



Source: S&P Global Sustainable1.

To track transition risks, the Banque de France has chosen to monitor an indicator of exposure to fossil fuels, i.e. extraction of fossil fuels or the production of electricity using fossil fuels. It thus measures its exposure to highly polluting assets that could become stranded owing to the energy and ecological transition.¹⁵

The Banque de France calculates the average revenue share of portfolio companies that is linked to brown activities.¹⁶ This corresponds to the average share weighted by the percentage represented by each company in the component's total assets. **The average fossil fuel exposure of the equity component of the own funds portfolio was 0.45% of revenue, compared with 0.29% for the benchmark¹⁷ (see Chart 8).** This was slightly up on 2021's level of 0.33%. **The average fossil fuel exposure of the equity component of the pension liabilities portfolio was 0.86%**, compared with 0.90% for the benchmark. This was also slightly up on 2021's level of 0.68%. Despite the slight increase, the Banque de France is continuing to gradually implement its decisions to exit companies that are heavily involved in fossil fuels, while also moving ahead with the transfer of assets held in several index funds to vehicles that track Paris-Aligned Benchmarks.¹⁸ The new exclusion rules for fossil fuels that are scheduled to come into effect at end-2024 will help to improve portfolio performances for this indicator.

BOX 6: DATA SUPPLIERS SELECTED BY THE BANQUE DE FRANCE AND LIMITS ASSOCIATED WITH INDICATORS

Climate and ESG indicators are based on the data published by issuers, e.g. carbon emissions of companies and sovereigns, and on calculation methodologies and models, e.g. allocation of carbon emissions to a portfolio of financial assets. There is some debate over these data and methodologies, which are supplied to investors by specialised providers. Several indicators, such as Scope 3 emissions or the temperature alignment of portfolios, provide markedly different results depending on the data provider.¹ The Banque de France uses several data providers (S&P Global Sustainable1, Moody's ESG² and Iceberg Data Lab), which it selected after reviewing the quality of their data and methodologies. Furthermore, the Banque de France is also using two new data providers – Institutional Shareholder Services (ISS) and Carbon4 Finance – selected following a call for bids organised by the Eurosystem aimed at promoting harmonised reporting of climate indicators across Europe.

List of Banque de France extra-financial data providers for 2022

Indicator type	Provider
<ul style="list-style-type: none"> Temperature alignment European Union taxonomy alignment 	S&P Global Sustainable1
Carbon emissions data	ISS (Institutional Shareholder Services), Carbon4 Finance
Biodiversity impact data	Iceberg Data Lab
<ul style="list-style-type: none"> ESG scores Physical risks 	Moody's ESG

Source: Banque de France.

1 Institut Louis Bachelier (2020), *The Alignment Cookbook*.
 2 In 2021, Moody's ESG acquired providers Vigeo Eiris and Four Twenty Seven.

Biodiversity impact

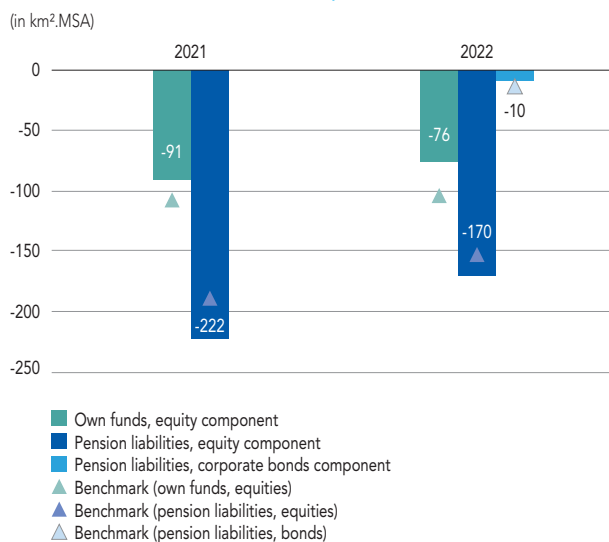
To establish an aggregate measure of the biodiversity impact of its equity and corporate bond portfolios, the Banque de France wanted to choose aggregation methodologies and metrics that were consistent with the carbon footprint indicators calculated for its portfolios (see Box 7 below for a detailed presentation of the Corporate Biodiversity Footprint [CBF], the metric measuring the biodiversity impact of corporates). This report therefore presents three indicators: total absolute biodiversity impact, biodiversity footprint, and weighted average biodiversity intensity. Following the same philosophy as that used for GHG emissions, the CBF metric may be divided into three scopes, covering the company’s direct impact (Scope 1), the impact linked to its energy consumption (Scope 2) and the impact linked to its upstream and downstream value chain (Scope 3). The CBF metric used here integrates the sum of the three scopes, enabling it to capture the key role played by value chains in companies’ biodiversity impacts. The decision to include the three scopes creates an overestimation bias due to the potential for double counting within a portfolio containing several companies from the same value chain (upstream and downstream footprints counted twice). Finally, and again in keeping with the approach used for climate impact indicators, the biodiversity impact of each company is allocated to the portfolio on a proportional basis according to the share of the investment relative to enterprise value¹⁹ in the case of the total absolute biodiversity impact and biodiversity footprint indicators.²⁰

- Portfolio total absolute biodiversity impact

$$\sum_{i=1}^n \frac{\text{Amount invested}_i}{\text{Enterprise value}_i} \times \text{CBF}_i$$

The portfolio’s total absolute biodiversity impact aggregates the total biodiversity footprint (CBF) that may be attributed to the Banque de France’s investments: it thus measures the negative biodiversity impact of portfolio companies in km².MSA. The total impact came to –170 km².MSA for the equity component of the pension liabilities portfolio in 2022 and –76 km².MSA for the own funds portfolio. These scores were sharply lower than in 2021, when they stood at –222 km².MSA and –91 km².MSA respectively. The estimated impact of the corporate bond component of the pension liabilities portfolio is –10 km².MSA.

C9 Total absolute biodiversity impact



Source: Iceberg Data Lab, Banque de France calculations.
Note: MSA – mean species abundance.

- Biodiversity footprint

$$\frac{\sum_{i=1}^n \frac{\text{Amount invested}_i}{\text{Enterprise value}_i} \times \text{CBF}_i}{\sum_{i=1}^n \text{Amount invested}_i}$$

Biodiversity footprint is a metric that compares the total absolute biodiversity impact to the total value of the portfolio. It expresses the biodiversity footprint

15 Other sectors, such as automotive or air transport, could see the value of their assets severely impacted by new regulations, changes in market conditions or technological breakthroughs. However, the Banque de France uses the definition of the brown share established by its data provider S&P Global Sustainable 1, which includes only companies involved in the extraction of fossil fuels (conventional or otherwise) or the production of electricity using fossil fuels.

16 “Brown” activities include the extraction of crude oil, natural gas, oil sands, coal and lignite, oil and gas drilling and support activities, and electricity production using coal, oil or natural gas.

17 Note that changes to the benchmarks, which have been aligned with the Paris Agreement since this year, have had a significant downward impact on the “brown” activities of these indices. The own funds portfolio is particularly concerned: the index decreased from 0,98% to 0,29%.

18 Paris-Aligned Benchmarks are required to exclude companies that derive over 1% of revenue from coal, 10% from oil and 50% from gas from their investment universe.

19 For the sake of consistency, we use the same allocation factor as that calculated for the alignment trajectories.

20 Because of how it is constructed, the weighted average biodiversity intensity indicator does not apply an allocation factor.

generated per EURm of value in the portfolio. It offers a way to draw comparisons between portfolios of different sizes. The biodiversity footprint per unit of capital of the equity and bond components of the pension liabilities portfolio totalled $-0.04 \text{ km}^2.\text{MSA}$ per EURm invested and $-0.03 \text{ km}^2.\text{MSA}$ for the equities in the own funds portfolio. The footprint of the equity components was thus down compared with 2021, when it stood at $-0.05 \text{ km}^2.\text{MSA}$ for the pension liabilities portfolio and $-0.04 \text{ km}^2.\text{MSA}$ for own funds.

- Weighted average biodiversity intensity

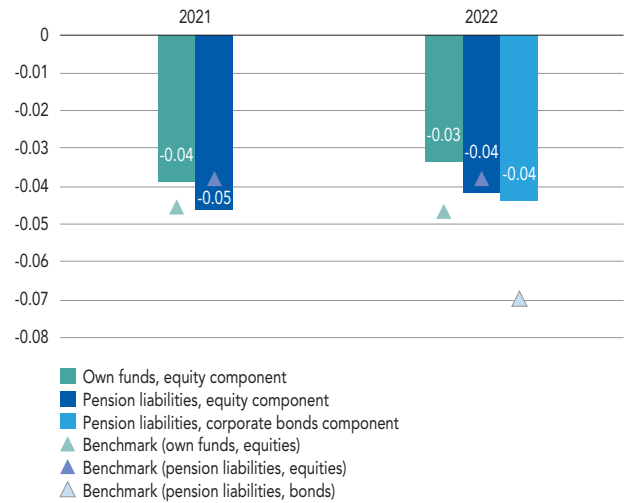
$$\sum_{i=1}^n \text{Weight}_i \times \frac{\text{CBF}_i}{\text{Capital employed}_i}$$

Weighted average biodiversity intensity weights the intensity of issuers' biodiversity impacts (CBF divided by capital employed²¹ by the company) according to their share of the portfolio. This indicator thus provides a measure of the portfolios' exposure to companies with a high biodiversity impact relative to the capital that they employ. This average increased in 2022 for the equity component of the pension liabilities portfolio to $-0.6 \text{ km}^2.\text{MSA}$ per EURm of capital employed from $-0.37 \text{ km}^2.\text{MSA}/\text{EURm}$ in 2021. The reading for the equity component of the own funds portfolio was more or less unchanged at $-0.10 \text{ km}^2.\text{MSA}/\text{EURm}$ in 2022 compared with $-0.11 \text{ km}^2.\text{MSA}/\text{EURm}$ in 2021. The corporate bond component of the pension liabilities portfolio is less exposed to high-impact issuers and scored $-0.07 \text{ km}^2.\text{MSA}$.

Furthermore, and in order to better understand the source of the biodiversity impact of its portfolios, the Banque de France is presenting a metric showing the contribution from each of the three CBF scopes and from each of the four environmental pressures to its biodiversity footprint indicator. Scope 3 (> 90% of the score), especially Scope 3 Upstream (60%), accounts for a large share of the footprint, while land use is the main environmental pressure driving the Bank's biodiversity impact (65%).

C10 Biodiversity footprint

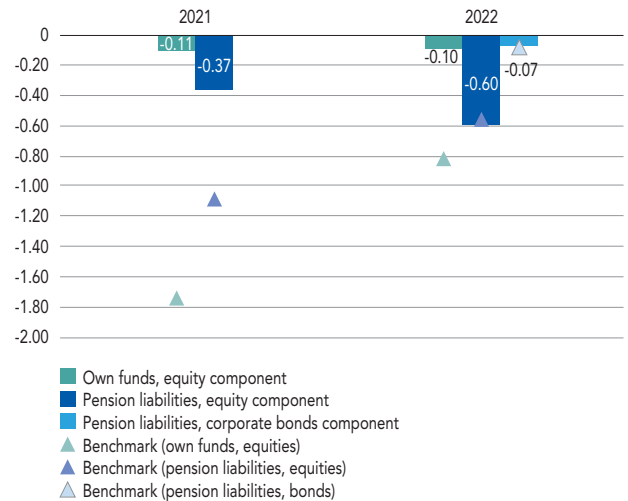
(in $\text{km}^2.\text{MSA}$ per EUR million invested)



Source: Iceberg Data Lab, Banque de France calculations.
Note: MSA – mean species abundance.

C11 Weighted average biodiversity intensity at end-November 2022

(in $\text{km}^2.\text{MSA}$ per EUR million of capital employed)



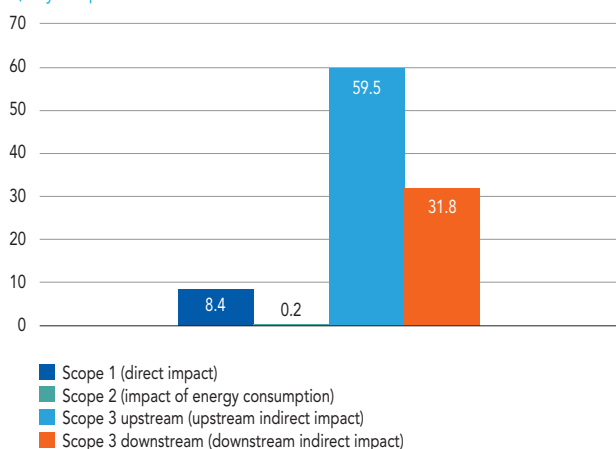
Source: Iceberg Data Lab, Banque de France calculations.
Note: MSA – mean species abundance.

21 Capital employed = total fixed assets + working capital requirement.

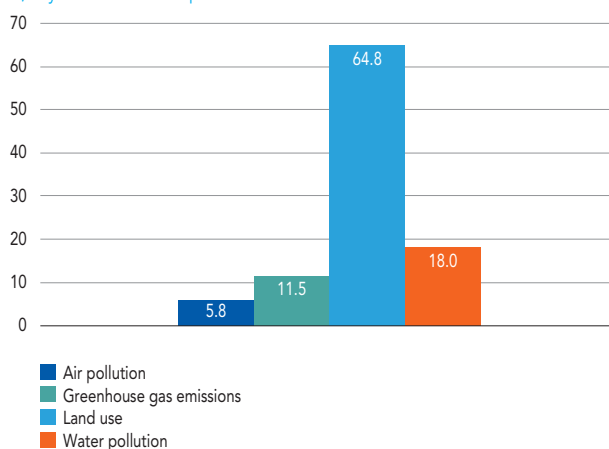
C12 Relative contributions to the biodiversity footprint across all portfolios at end-November 2022

(% of total footprint in km².MSA/EURm)

a) By scope



b) By environmental pressure



Source: Iceberg Data Lab, Banque de France calculations.
 Note: MSA – mean species abundance; EURm for million euros..

BOX 7: MEASURING THE BIODIVERSITY FOOTPRINT OF INVESTMENT PORTFOLIOS

Accelerated biodiversity loss today poses a major risk to the integrity of natural ecosystems and the survival of human societies.¹ While awareness of the impacts linked to climate change has increased considerably in recent years, even if efforts still fall well short of what is required, less attention has been paid to the dangers associated with what scientists are calling the “sixth mass extinction”. Yet biodiversity loss has a direct impact on services that are critical to well-functioning societies. These “ecosystem” services include, for example, the provision of essential resources such as food, wood and water, as well as regulating functions such as climate regulation, water purification, soil fertilisation and pollination. Keenly aware of the critical challenges posed by a “silent spring”, the Banque de France wants to prioritise biodiversity issues, focusing on dependencies and risks for the financial system.²

There has been a proliferation of initiatives in recent years to raise awareness among decision-makers of biodiversity issues and to better understand interdependencies with the

economy and the financial sector. The Fifteenth Meeting of the Conference of the Parties to the United Nations Convention on Biological Diversity (COP15), which was held in Montreal in December 2022, paved the way to reach an initial agreement on a global framework to preserve biodiversity.³ This framework will make it possible to establish initial quantitative targets for ecosystem protection and financing to support biodiversity. While the agreement does not go as far as the bold climate goals set by the Paris Agreement, it is an important first step towards achieving a global commitment to ambitious, binding targets. The agreement also underlines the need to develop strengthened reporting arrangements for the private sector about its biodiversity impact. In this regard, work by the Task Force on Nature-related Financial Disclosures (TNFD) will be critical to establishing a globally harmonised financial reporting framework for biodiversity impacts, modelled on the TCFD arrangements.

The Banque de France is determined to be part of these efforts to develop and formalise an impact reporting and

¹ <https://www.banque-france.fr/en/intervention/>

² <https://publications.banque-france.fr/en/>

³ The most important targets set under the agreement for the 2020-2030 period include protecting at least 30% of the world's lands, oceans and coastal areas, cutting by half the risks posed by pesticides and highly hazardous chemicals, reducing subsidies that harm biodiversity by at least USD 500 billion per year, and raising international financial flows to developing countries to at least USD 30 billion per year.

.../...

measurement framework that can be subsequently used to help to set credible targets in these areas. Under its responsible investment policy, the Banque de France therefore decided this year to publish new indicators to assess the biodiversity impact of its portfolios. This decision reflects the Bank's resolve to align itself with the requirements set out by the implementing decree for Article 29 of the Energy and Climate Act on the use of a biodiversity impact metric by financial sector participants. To this end, the Banque de France has teamed up with Iceberg Data Lab, a data provider, whose Corporate Biodiversity Footprint (CBF) methodology is being applied to the equity and corporate bond components of the Bank's own funds and pension liabilities portfolios.

Corporate Biodiversity Footprint methodology

The CBF is based on a methodology that makes it possible to harness data on businesses' value chains and to model different environmental pressures due to inputs and outputs of the company's production process.

To our knowledge, it is the most robust methodology currently available to estimate the impact of a company's activity on biodiversity, given that this impact is not directly observable and measurable. The CBF is used to quantify the impact of a company's activity in four different areas that have been identified as among the main pressures on nature,⁴ namely land use change, air pollution, water pollution and climate change. By aggregating these pressures and converting them⁵ into a common measure of pressure on biodiversity, a negative impact expressed in km².MSA (Mean Species Abundance) is obtained. This result can then be used to convert the estimated negative impact on biodiversity into an equivalent metric that expresses total loss of species diversity over a given area. Thus, a company whose activity results in a CBF score of -1,000 km².MSA is responsible for an annual impact equivalent to the complete loss of biodiversity over an area covering 1,000 km² of undisturbed ecosystem. Put another way, the company's activity over the year was equivalent to converting 1,000 km² of an originally pristine ecosystem into artificial surfaces.

⁴ These four pressures are among the five factors identified by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) as being drivers of environmental pressures. The five factors are changing use of sea and land, direct exploitation of organisms, climate change, pollution and invasive non-native species.

⁵ The conversion is performed using the Globio model: <https://www.globio.info/> Globio's goal is to model the impacts of human activity on biodiversity and ecosystems.

PILLAR 2: ENVIRONMENTAL, SOCIAL AND GOVERNANCE CRITERIA

Under the second pillar of its strategy, the Banque de France is committed to including environmental, social and governance (ESG) criteria in its asset management.

At the upstream stage, it excludes at least 20% of its equity investment universe based on ESG criteria and scores. Downstream, each year it calculates the ESG performances of its portfolios (composition as at 30 November 2022) by means of a series of indicators, which are presented below. Since 2021, the integration of ESG issues has also led to impact investing through thematic funds and social bonds.

ESG filter

To integrate ESG criteria in its asset management, the Banque de France has chosen to apply one of the requirements of the Socially Responsible Investment (SRI) label supported by the French Ministry for the Economy and Finance (see Box 1): specifically, it reduces its corporate investment universe (equities and bonds) by at least 20% based on ESG criteria and scores. The Banque de France therefore ensures that ESG factors have a real impact on its asset management.

The ESG filter is constructed using three types of exclusions: norm-based, sector-based and ESG score-based.

First, **norm-based exclusions** featured in the 2018 Responsible Investment Charter, which was updated in 2022. They cover the entire investment universe, not just equity components. The Banque de France does not invest in:

- Controversial weapons, i.e. companies involved in the production, use, storage, sale and transfer of anti-personnel mines and cluster bombs, which are banned under the Ottawa Convention (1999) and the Oslo Convention (2010).

- Companies and states that do not comply with anti-money laundering and counter terrorist financing (AML/CTF) regulations: states under embargoes, non-cooperative states and regions with regard to tax information exchange according to the Financial Action Task Force (FATF), and companies involved in AML/CTF controversies.
- Companies that do not comply with the principles of the International Labour Organization, including respect for the freedom of association and the right to collective bargaining, and elimination of forced labour, child labour and employment discrimination.

Second, **sector-based exclusions** concern fossil fuels (see details in Pillar 1, Climate) and tobacco. Tobacco was included in the expanded scope of exclusions in 2022, which will entail exiting all companies that are involved in growing and producing tobacco by end-2023. To implement these exclusions, the Banque de France relies on the data provided by Moody's ESG and on the data available to its asset management subsidiary, BDF Gestion.

To achieve the 20% threshold, the Banque de France supplements its norm-based and sector-based exclusions by **applying a best-in-class approach to exclude companies with the lowest ESG scores on a sector-by-sector basis**. This is a composite score prepared by Moody's ESG for each company based on 330 underlying indicators.

Regarding the environment, indicators cover, for example, the existence of an environmental strategy, prevention of risks of harm to biodiversity, and pollution control. Social indicators cover workplace health and safety, the absence of discrimination, and employee training. Governance indicators cover areas such as the prevention of conflicts of interest or executive remuneration arrangements. The scores for each of the criteria are then weighted according to the company's sector of activity so that the final score reflects management of the company's most material ESG risks. For example, the criterion covering the establishment of an environmental strategy accounts for a larger share of the final score for a company in the energy sector than for a company involved in personal services.

In addition to selecting securities based on ESG scores calculated by Moody's ESG, the Banque de France monitors the average ESG score for each portfolio, by asset class. For companies, the ESG score is calculated using the methodology described above. For states, the ESG score is based on 172 underlying ESG indicators divided into three areas: environmental protection, social protection and solidarity, and governance responsibility (including ratification of international conventions, press freedom and tax cooperation). Issuers' individual scores are then aggregated (average weighted by total assets) to calculate the portfolios' average scores.

BOX 1: FRENCH LABELS

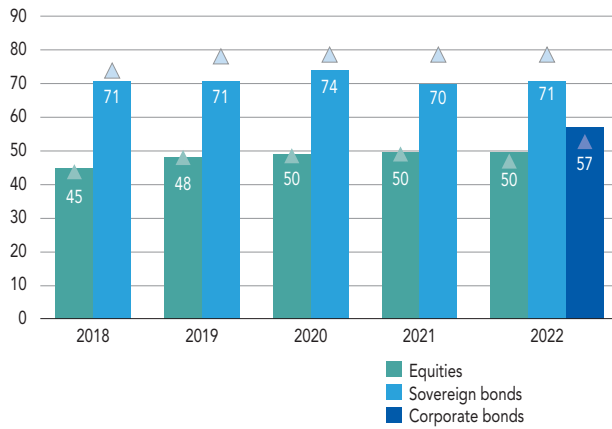
In France, four responsible investment labels have the backing of the public authorities: the Banque de France prioritises funds that have been awarded these labels, and especially Greenfin, the Socially Responsible Investment (SRI) label and Finansol when choosing sustainable funds under Objectives 3 and 5:

- **Greenfin label:** created in 2015 by the Ministry for the Ecological Transition to certify the green credentials of investment funds, this label primarily covers the nature of funded activities. Some activities, such as nuclear power and fossil fuels, are banned, while the green share – based on eight designated eco-friendly sectors – must account for the majority of the fund's assets. Funds must also take account of ESG criteria and measure the impact of their financing on the EET.
- **Socially Responsible Investment (SRI) label:** created in 2016 by the Finance Ministry, this label applies to the ESG practices of investment funds. A reference framework, which was updated in 2020, covers funds' ESG objectives, as well as their methodologies for conducting extra-financial analyses of companies, their engagement with financed companies, their transparency and their measurement of sustainability impacts. Changes to this label, aimed at strengthening eligibility criteria to enhance the certification's credibility, are under way and should be completed in 2023. The Banque de France applies the most restrictive principle of the SRI label to its equity and corporate bond components, which means that it excludes 20% of its investment universe based on ESG criteria.
- **Finansol:** created in 1997 to identify solidarity-based savings products, this label focuses on funds and saving products that finance social activities, such as access to employment or housing, or that regularly donate a portion of their interest payments to beneficiary entities.
- **Relance (Relaunch):** created in 2020 by the Ministry for the Economy, Finance and the Recovery, this label is aimed at funds that quickly raise new resources to support the equity and quasi-equity of French small and medium-sized enterprises (SMEs) and mid-tier firms. Funds that are awarded the label must also comply with a set of ESG criteria, including a ban on financing coal-based activities and a requirement to monitor an ESG score or indicator.

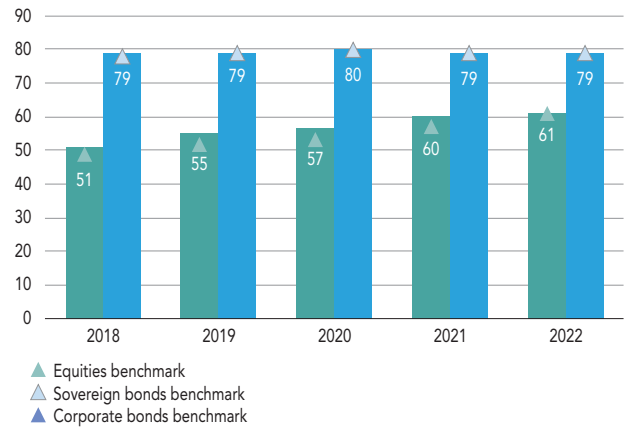
C1 Portfolios average ESG scores at 30 November 2022

(score out of 100)

a) Pension liabilities portfolio



b) Own funds portfolio



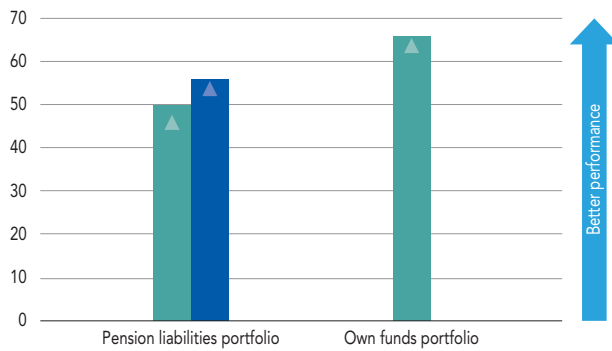
Source: Moody's ESG

Note: ESG scores range from 0 to 100. ESG stands for environmental, social and governance criteria.

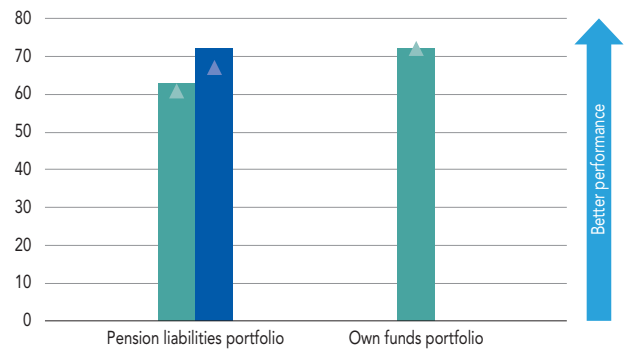
C2 Portfolio social scores, equity and corporate bond components at 30 November 2022

(score out of 100)

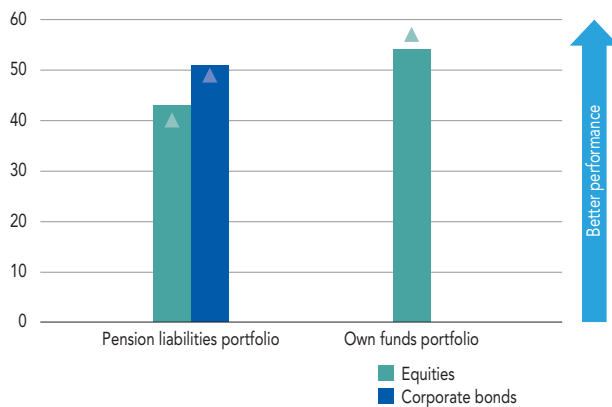
a) Workplace health and safety score



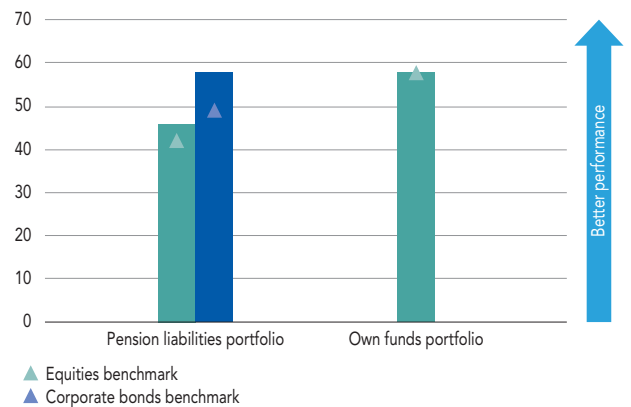
b) Non-discrimination score



c) Societal impact score



d) Economic and social development score

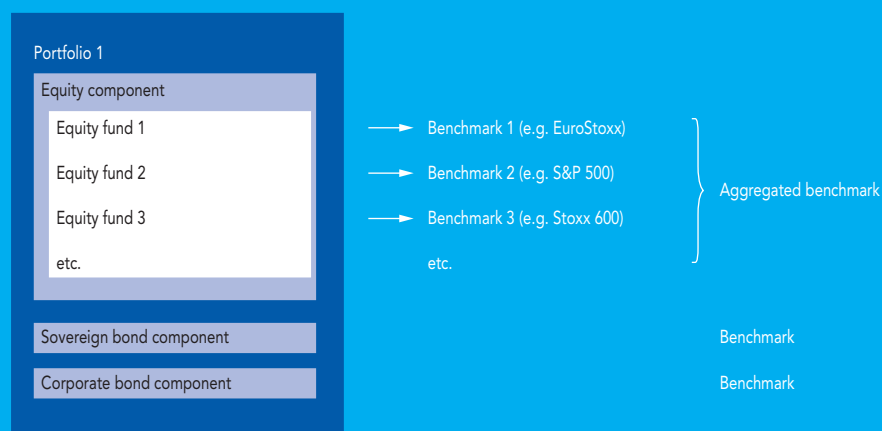


Source: Moody's ESG.

BOX 2: BENCHMARKS

Asset management compares portfolio results against those of their benchmarks. These benchmark indices are representative of the markets in which the portfolios are invested and are built from a composition of the main stock market indices. The Banque de France's portfolios are composed of several funds, each of which comprises one or more asset classes (equities, sovereign bonds or corporate bonds) and has its own benchmark. To monitor its assets' extra-financial performances, the Banque de France decomposes each portfolio into different components, which contain funds from the same asset class. For example, the equity component of the own

funds portfolio contains funds from the portfolio that are invested in equities. Each component is then compared against a composite benchmark that aggregates the indices for the funds in the component. The aggregation process involves weighting each index by the percentage of the component's total assets represented by the fund. In 2022, the Banque de France updated the strategic benchmarks for its non-monetary policy portfolios to ensure that they reflected the integration of ESG criteria. For example, the S&P500 index, which is representative of the US equity universe, was replaced by its net-zero Paris-aligned equivalent.



In 2022, **the ESG scores of the equity components continued to improve for the own funds portfolio and were stable for the pension liabilities portfolio, which underwent extensive geographical diversification over the year. In both cases, performances continue to beat those of the benchmarks, even though these indices now incorporate a significant ESG dimension (see Box 2). For the first time, in 2022, monitoring included a specific component for corporate bonds in the pension liabilities portfolio. The new component reported a robust ESG score (57), beating its benchmark (53). The sovereign bond components of both portfolios have posted advanced and stable performances since 2021.**

Social indicators

The Banque de France is progressively strengthening the social side of its responsible investment strategy. To do this, it tracks the social performance of its equity and corporate bond portfolios through four indicators:

- **Workplace health and safety.** This indicator concerns the working environment of people employed by portfolio companies and includes factors such as a safe working environment, safe working conditions, protection of physical and mental well-being, and accident frequency and severity.

- **Non-discrimination.** This indicator assesses the way in which the company prevents discrimination in the workplace, including through training and awareness raising, whistleblowing and/or reporting procedures, monitoring of wage gaps, the percentage of women in management positions, inclusion of disabled people, and more.
- **Societal impact of goods and services produced.** This indicator reflects the measures taken by companies to prevent and/or mitigate the risks linked to harmful products (e.g. by cutting sugar or saturated fats in the agrifood sector) or facilitate access by vulnerable or needy people to beneficial products (e.g. by providing affordable products or distribution channels for isolated people).
- **Contribution by companies to the economic and social development of the regions where they operate.** This indicator reflects the investments made by companies in their local areas, job creation and management of restructuring measures within local labour catchment areas, skills and technology transfers, and proper payment of taxes and levies.

At 30 November 2022, the social performance of the portfolios was assessed as robust (> 50) or advanced (> 60) by Moody's ESG across all indicators with the exception of the societal impact and economic and social development scores of the equity component of the pension liabilities portfolio. This underperformance is chiefly attributable to the geographical diversification of this component in 2022 into companies operating in Asia and emerging countries. However, the scores for these two indicators remain above those of the benchmark.

The creation of a separate component for corporate bonds in the pension liabilities portfolio came with the integration of a significant number of ESG constraints. As a result, the new component recorded a robust social performance score in its first extra-financial audit.

Impact investing

To strengthen the social side of its responsible investment strategy, the Banque de France has also diversified the themes covered by its impact investments. Accordingly, since 2021 it has expanded its purchases of green bonds to include social and sustainable bonds.¹ At 30 November 2022, the total amount of social and sustainable bonds in the portfolio stood at EUR 160 million.

The Banque de France also supports the growth of thematic funds whose investment thesis includes achieving a significant social and societal impact as well as fighting global warming. For example, the Banque de France invests in a real estate fund whose assets are partially used to rehouse people who find themselves in difficult circumstances (by providing free accommodation). In early 2023, it decided to invest in a fund that finances companies from the social and solidarity sector operating in the following areas: assisted housing, employment, health, education and training, preservation of natural resources and international solidarity.

¹ Sustainability bonds may finance green and social activities.

PILLAR 3: VOTING POLICY

In order to fulfil its role as a responsible shareholder, the Banque de France exercises its voting rights by applying a tailor-made voting policy,¹ promoting better recognition of ESG issues by the companies in which it invests. This is one important driver through which the Banque de France intends to act on the “governance” side of ESG, by setting requirements for corporate best practices in this area. The Banque de France has set itself the goal of doing its utmost to exercise its voting rights at the general meetings of companies in which it is a shareholder.

The Banque de France’s voting policy

In 2019, the Banque de France adopted a voting policy including provisions covering good governance and recognition of extra-financial objectives at portfolio companies. Among other things, the provisions deal with independence and gender balance in decision-making bodies, transparency about companies’ environmental impacts, and recognition of extra-financial performances in executive remuneration. The voting policy, which is published on the Banque de France’s website, details the Bank’s expectations for the companies in which it is a shareholder.

In 2020, the Banque de France bolstered its extra-financial requirements by adding two provisions on fossil fuels to its voting policy. First, between now and when it exits coal completely in late 2024, the Banque de France expects companies involved in this sector to have a full exit plan. Second, the Banque de France will oppose any new project to develop fossil fuels. **The Banque de France cannot approve the financial statements of companies that do not meet these two requirements.**

Further, with the remuneration of some senior executives reaching unprecedented levels in 2022, the Banque de France decided to adopt new provisions to limit excessive remuneration awards. In addition to the existing cap on variable remuneration, the Banque de France will oppose proposals if the fixed portion of remuneration deviates excessively from the median observed for comparable companies. These new provisions will apply from the 2023 general meetings cycle onwards.

The Banque de France’s expectations can be summed up by the following principles, which are organised according to the types of resolutions proposed to shareholders:

- **Approval of financial statements and management: integrity of management and financial and extra-financial information.** The Banque de France expects companies to publish extra-financial disclosures on their climate strategy, especially in sectors with a major environmental impact.
- **Profit distribution, management of own funds and capital transactions: a distribution policy geared towards long-term investment.** For example, the Banque de France is in favour of paying bonus dividends as long as they reward long-term shareholder loyalty.
- **Board of directors or supervisory board: independence of the board, diversity and separation of powers.** In particular, the Banque de France aims to ensure gender balance (at least 40% for each) on boards.
- **Executive remuneration and employee share ownership: a transparent, consistent and moderate remuneration policy.** In particular, the variable remuneration of executives must take into account companies’ extra-financial performances, and the fixed portion should not depart too far from the median observed for comparable companies.
- **Amendments of company articles and shareholder rights: respecting shareholder rights.** For example, the Banque de France opposes head office transfers to legal and tax havens.

- **External resolutions:² improving environmental, social and governance practices.** In particular, the Banque de France supports external resolutions aimed at reducing the carbon intensity of activities and minimising the risks associated with climate change.

The Banque de France applied this voting policy for the first time during the general meetings that took place in 2020 on the 2019 financial year. In 2020, the voting policy of BDF Gestion, the asset management subsidiary, was aligned with that of the Banque de France.

Voting statistics in 2022

In 2022, the Banque de France and BDF Gestion took part in a total of 527 general meetings, giving an attendance rate of 88% across the scope covered,³ or well above the target of 80%. Votes were cast on approximately 8,000 resolutions. Of these, about 2,500 were votes against resolutions, meaning that the Banque de France and BDF Gestion voted against 31% of resolutions, up sharply on the 25% recorded in 2021. Votes against (*see chart*) particularly concerned programmes to issue and buy back equity securities (49%), executive remuneration resolutions (40%) and appointments to corporate bodies (35%). In all, the percentage of votes cast in opposition to the management was 33%.⁴

SAY ON CLIMATE RESOLUTIONS

“Say on Climate” resolutions are a new kind of resolution that has appeared in recent years in Europe. The goal of these resolutions, which may be submitted by management bodies or shareholders, is to allow shareholders to have a say on companies’ climate and environmental policies. They have a purely consultative function and are intended to foster shareholder dialogue on these issues. Proinvest, a voting advisory firm, recorded 32 “Say On Climate” resolutions tabled by management at European companies in 2022, up from 17 in 2021. Of these, approximately 75% were in France and the United Kingdom.

The Banque de France was able to vote on 18 “Say on Climate” resolutions in 2022. In one instance, it voted against a resolution because the climate action plan put forward by the company was insufficiently ambitious and credible. The Banque de France analyses this type of vote on a case by case basis and assesses in particular the credibility and ambition of the carbon reduction targets proposed by companies. It also pays close attention to the transparency and detail of information provided in plans. This type of resolution helps to meet the Banque de France’s transparency and reporting requirements concerning the climate impact attributable to the activities of companies in which it invests.

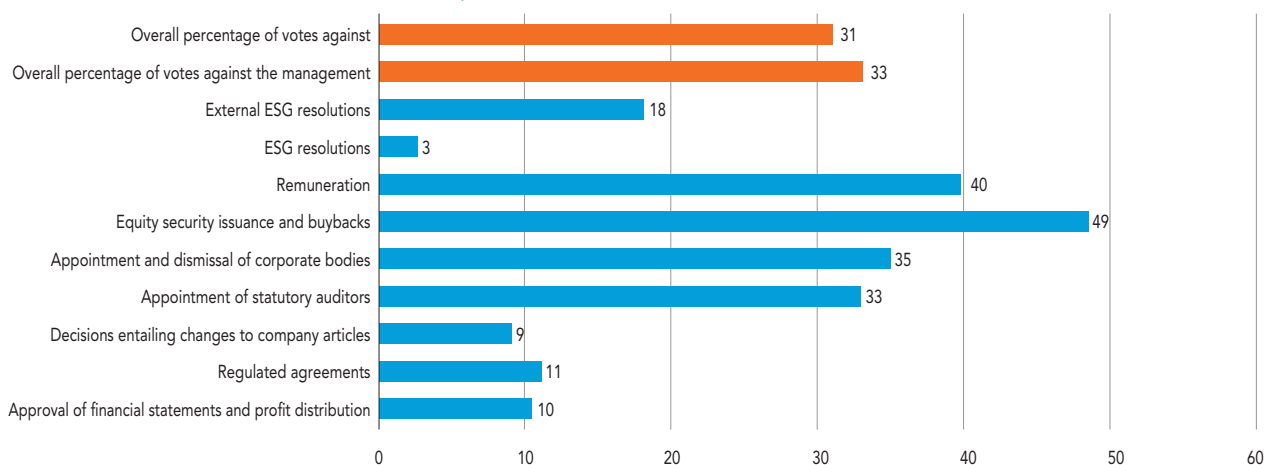
1 The Banque de France’s voting policy is available on the Banque de France’s website: https://www.banque-france.fr/sites/default/files/media/2023/03/27/bdf_politique_de_vote_2023.pdf

2 Resolutions tabled by shareholders. Over recent years, the climate has been a favoured theme for external resolutions.

3 The participation rate is calculated on the basis of funds managed by asset management subsidiary BDF Gestion. In the case of external funds (7.6% of assets), the relevant management company’s voting policy applies.

4 The ratio of opposition to the management takes account of votes against resolutions submitted by management and votes in favour of external resolutions tabled by shareholders.

Distribution of votes “against” by resolution type in 2022 (%)



Source: BDF Gestion.

Note: ESG – environmental, social and governance.

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