EUROPEAN CENTRAL BANK

EUROSYSTEM

Climate-related financial disclosures of the ECB's non-monetary policy portfolios

June 2026

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Foreword

2025 was the third hottest year on record. Extreme weather events caused or exacerbated by climate change once again left their mark. The year began with the highly destructive Palisades Fire in California, while in June strong marine heatwaves affected 62% of the Mediterranean Sea – the largest extent ever recorded. While we are already today confronted with these effects of climate change, such events will become even more frequent and severe. At the same time, heightened geopolitical volatility has led to sharp spikes in oil and energy prices, bringing the question of European energy independence back to the fore. These developments underscore the urgency of the transition to a greener economy from a sustainability, security and price stability perspective. Delaying this transition will only increase the costs for the euro area, both financial and societal.

The European Union has made a firm commitment to achieve net zero emissions by 2050. This has been further strengthened by the adoption of the amended European climate law in March 2026, with its binding intermediate climate target of a 90% reduction in net greenhouse gas emissions relative to 1990 levels by 2040. Within the limits of our mandate, the ECB is determined to support these objectives. Our non-monetary policy portfolios, comprising the ECB's staff pension fund and own funds portfolios, can play an important role in supporting the transition. We have set climate targets for both these portfolios, and we are on track to meet them. The carbon footprint of our corporate assets has declined steadily, while we have increased our exposure to green bonds in the own funds portfolio.

80 % of our €2.9 billion staff pension fund is invested in corporate assets that track EU Paris-aligned benchmarks, which feature a 7% year-on-year carbon intensity reduction target. We expect the carbon footprint of these corporate investments, measured in tonnes of CO2 per € million invested, to decrease by at least 40% by 2030 and 70% by 2040, relative to our 2023 baseline. Progress has been good, as it fell by 11% in 2025.

For our €23.1 billion own funds portfolio, the share of green bonds increased by 5 percentage points to 33%, at the end of 2025. Through these investments, we contributed €7.6 billion to the green transition, 92% of which was allocated to EU issuers. For 2026 we have further raised the target to 38%, with at least 35% allocated to green bonds and up to 3% to sustainability bonds. To enhance diversification and optimise returns while aligning the investments to our climate objectives, we have increased our equities exposure through exchange-traded funds that track EU Paris-aligned benchmarks. These amounted to 3% of portfolio value in 2025, and we expect the carbon footprint of the investments to decrease by at least 35% by 2030, relative to our 2024 baseline.

In addition, we have improved our reporting by including, for the first time, a number of inflation-adjusted climate metrics that provide additional insight into emissions performance. Reflecting improvements in data quality and emission reporting standards, we have included scope 3 relative emission metrics in the main body of

the report, also for the first time. While climate change remains our focus, we cannot overlook the risks stemming from nature loss. Climate change and biodiversity loss are deeply interconnected, and ecosystem degradation can give rise to material physical and transition risks for companies, banks and even entire economies. We therefore continue reporting on exposures to the priority sectors identified by the Taskforce on Nature-related Financial Disclosures and regularly reviewing additional nature-related metrics as reporting guidance and data availability improve.

We support the EU's corporate sustainability disclosure framework and appreciate the very significant simplification of the standards. However, we stress the importance of sufficient transparency to ensure high-quality information for sound risk management and financial stability purposes. Such issues come to the fore also in our own reporting, which depends on granular, high-quality investee data but also partly relies on data provider estimates, especially for scope 3 emissions, owing to incomplete reporting.

For the ECB, transparency on the climate considerations of our portfolios continues to be a priority, as we remain committed to ensuring our own accountability and supporting the EU's net zero targets.

Frankfurt am Main, June 2026
Isabel Schnabel
Executive Board Member, European Central Bank

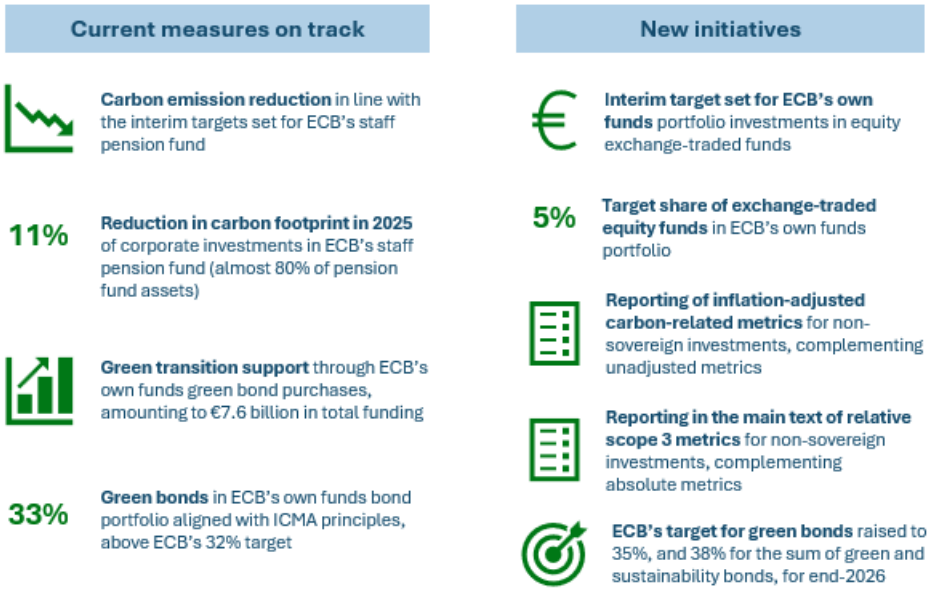
1 Introduction

This report discloses climate-related information about the euro-denominated non-monetary policy portfolios of the European Central Bank (ECB). The report includes investments in the ECB's staff pension fund and its own funds portfolio.

The ECB is on track to reduce carbon emissions in line with the interim targets set for its staff pension fund and own funds portfolio, and to support the green transition through its own funds portfolio's green bond purchases (Figure 1). The corporate bond investments in the ECB's staff pension fund, and equity investments in the ECB's staff pension fund and the ECB's own funds portfolio, track EU benchmarks that are aligned with the Paris Agreement.[1] The share of green bonds in the own funds portfolio increased to 33% in 2025, from 28% in 2024, meaning that the portfolio now provides around €7.6 billion in funding for the low-carbon transition. Over 89% of this funding is allocated to issuers based in the European Union.

Figure 1

Key developments and expanded scope of the ECB's climate-related financial disclosures



Source: ECB.
Note: The International Capital Market Association (ICMA) is the secretariat for the Green Bond Principles, the Social Bond Principles, the Sustainability Bond Guidelines and the Sustainability-Linked Bond Principles, referred to in this report as the "ICMA principles".

This report is structured in accordance with the disclosure recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD).[2] The disclosures in the "Metrics and targets" category shown in Section 5

[1] Paris Agreement to the United Nations Framework Convention on Climate Change of 12 December 2015.

[2] The TCFD was disbanded in October 2023, and since 2024 its recommendations have been incorporated in the standards of the International Sustainability Standards Board (ISSB) within the International Financial Reporting Standards (IFRS) Foundation.

adhere to the updated common disclosure principles developed by the Eurosystem, which also take into account the recommendations of the Partnership for Carbon Accounting Financials and those of the Network of central banks and supervisors for Greening the Financial System (NGFS).[3]

The ECB continues to refine its climate-related financial disclosures, reflecting improvements in climate-related data availability and quality, financial disclosure methodologies and practices and available expertise in handling risks related to climate change, nature degradation and wider sustainability issues. The ECB carefully considers data limitations and availability, and its aim of increasing transparency vis-à-vis its portfolios. This is illustrated by scope 3 emissions, for which relative metrics are being published in this report in addition to the absolute metrics reported last year, despite the continued reliance on data provider estimates rather than investee-reported data. This report is also the first to provide inflation adjustments for several relative carbon metrics (see Box 1). While this report focuses on climate-related disclosures, it again publishes a nature-related metric: exposure to sectors with material nature-related dependencies or impacts, as recommended by the Taskforce on Nature-related Financial Disclosures (TNFD).[4]

The ECB closely monitors developments relating to the EU's Corporate Sustainability Reporting Directive.[5] While the ECB does not fall within the scope of mandatory reporting under this Directive, it does consider it to be highly relevant as a natural reference point for sustainability reporting within the EU.

The report is structured as follows. Section 2 summarises the organisational set-up and decision-making responsibilities underlying the ECB's staff pension fund and own funds portfolio. Section 3 describes how the ECB integrates sustainability considerations into both portfolios. Section 4 explains how the ECB takes climate risks into consideration in the risk management of these portfolios. Section 5 presents the relevant quantitative and qualitative metrics and targets.

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[3] See TCFD, "Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures", October 2021; ECB, "Eurosystem agrees on common stance for climate change-related sustainable investments in non-monetary policy portfolios", February 2021; and NGFS, "Guide on climate-related disclosure for central banks", December 2021.

[4] This is consistent with the expansion of the ECB work into the area of nature loss and degradation; see the "Climate and nature strategy" section of the ECB's website.

[5] Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting (OJ L 322, 16.12.2022, p. 15).

2 Governance

The ECB and each of the national central banks of the Eurosystem manage their non-monetary policy portfolio investments under their own responsibility. These investment activities therefore generally do not fall under monetary policy mandates. Compared with monetary policy portfolios, the ECB has at its disposal a wider range of options to steer its non-monetary policy portfolio investments in a sustainability-conscious manner, while still achieving their specific objectives and abiding by their constraints. The ECB's approach to reporting on its own non-monetary policy portfolios is guided by the Eurosystem common disclosure principles (Annex 1).

The ECB addresses climate change-related considerations within its existing governance structures and investment strategies.[6] The Executive Board is supported in its oversight of climate-related risks and opportunities for its own funds portfolio by the ECB's internal Investment Committee, and for its staff pension fund by the Investment Committee in its Pension Fund composition, which includes two staff representatives. Investment decisions for the ECB's pension fund are also scrutinised by the staff-elected ECB Pension Oversight Committee. Investment strategies incorporating climate change-related considerations are implemented by the ECB's portfolio management experts in the Directorate General Market Operations and Directorate Risk Management for its own funds portfolio, and by external investment managers for the ECB's staff pension fund. The Executive Board approves the investment strategies, as well as interim and long-term sustainability targets, for each of these portfolios, based on the proposals made by the Investment Committee and the Investment Committee in its Pension Fund composition.

Incorporating climate considerations into its non-monetary policy portfolio investment decisions underpins the ECB's overall climate strategy, which is steered by the ECB's climate change centre. The ECB Annual Report provides an overview of its climate strategy and how it is implemented.

The sustainability-related information in this report has not been verified by any external parties.

[6] For a detailed description of the governance structure, see the report entitled "Climate-related financial disclosures of the ECB's non-monetary policy portfolios", ECB, March 2023.

3 Strategy

As an institutional asset owner, the ECB assesses the sustainability-related risks and opportunities underlying its non-monetary policy portfolio investments. The ECB integrates climate-related risks into its overall risk management process as an amplifying factor for existing risk categories, such as credit risk and market risk. To foster knowledge-sharing with peers, the ECB actively participates in international discussions on risks and opportunities relating to climate change and nature degradation under the aegis of the NGFS and within the Eurosystem.

The ECB's strategy is to align its non-monetary policy portfolios with the EU's long-term decarbonisation objective in support of the Paris Agreement and the European Climate Law. Therefore, the ECB takes sustainability considerations into account for its staff pension fund and its own funds portfolio investments, subject to the portfolios' objectives and constraints. Figure 2 summarises the main features of the climate-related investment strategy for both of these portfolios.

The ECB's sustainability strategy for its **staff pension fund** continues to be based on four elements:

- Investment managers are required to be signatories to the United Nations' Principles for Responsible Investment and the United Nations' Global Compact.
- The two external investment managers vote and engage in line with proxy voting and engagement guidelines that incorporate environmental, social and governance principles. Each investment manager applies its guidelines independently and regularly reports to the ECB on the impact of its voting and engagement activities.
- Issuers that violate the United Nations' Global Compact principles or the international treaties and conventions related to controversial weapons are excluded from the investment universe.
- All corporate investments (equity and corporate bonds) track EU Paris-aligned benchmarks (PABs), with the aim of gradually decarbonising the underlying portfolios. The ECB strives to steer the decarbonisation process through the interim emission reduction targets applicable to these holdings.

Investments in the ECB's **own funds portfolio** are subject to an explicit climate objective, which has the same priority level as its financial objectives. As this portfolio predominantly comprises sovereign bonds, the reduction of emissions largely relies on governments to deliver on their decarbonisation plans as signatories to the Paris Agreement and as adopters of the European Climate Law. The ECB's own climate action in terms of this portfolio comprises two elements, as follows:

- By increasing the share of green bonds and sustainability bonds in this portfolio, the ECB pursues a thematic investment strategy that further contributes to the green transition of the real economy. The green and sustainability bond holding

target is achieved via a combination of direct purchases and additional investments in the externally managed Bank for International Settlements (BIS) green bond investment fund for central banks.[7]

- The ECB is steadily increasing the share of its own funds invested in equity exchange-traded funds (ETFs). These track EU PABs, aiming to gradually decarbonise the portfolios. The ECB strives to steer the decarbonisation through the interim emission reduction targets applicable to these holdings.

Figure 2

Climate change strategies for the ECB's staff pension fund and own funds portfolio

ECB's staff pension fund	ECB's own funds portfolio
• Investment manager commitment • Proxy voting framework • Selective exclusions • Carbon footprint reduction through tracking EU PABs for all corporate investments	• Increased green bond and sustainability bond investments through direct purchases and through the BIS green bond fund • Carbon footprint reduction in equity ETFs through tracking of EU PABs

Source: ECB.

Section 5 describes the climate-related metrics used for tracking the progress made in terms of the aforementioned objectives and shows the climate-related targets for the ECB's non-monetary policy portfolios. For corporate investments in the ECB's staff pension fund and for the equity holdings of the ECB's own funds portfolio, these include the interim emission reduction targets, and, among other things, the metric (carbon footprint) applied for these targets (in line with the relevant regulations that apply to benchmarks set for tracking progress). In addition, for the ECB's own funds portfolio, the reporting of the share of green and sustainability bonds tracks the progress made in the thematic investment strategy. The reported asset classes together account for around 94% of the total market value of the ECB's staff pension fund and own funds.[8] Overall, the evolving methodologies and data challenges for some asset classes require careful consideration. The ECB therefore considers it prudent to track progress and report across several complementary metrics.

[7] See "ECB to invest in Bank for International Settlements' green bond fund", ECB, January 2021.

[8] "Other assets", including cash and derivatives, are excluded from climate-related reporting owing to a lack of guidance on their methodological treatment.

4 Risk management

This section outlines how the ECB takes climate risks into consideration in the risk management of its staff pension fund and own funds portfolios. The ECB has adopted the recommendations and terminology originally proposed by the TCFD (now integrated into the International Sustainability Standards Board, or ISSB, standards) for identifying, assessing and mitigating climate-related risks. Risk management is a continuous process of (i) risk identification and assessment; (ii) review of the risk strategy and policies; (iii) implementation of risk-mitigating actions; and (iv) risk monitoring and reporting, all of which are supported by effective methodologies, processes and systems.[9] The ECB actively integrates long-term climate-related risks into the processes governing its non-monetary policy portfolio investments and continues to explore methodological enhancements. To support this work, the central banks of the Eurosystem have jointly identified relevant data sources (Section 5).

As a prominent public institution operating at the centre of the European financial system, the ECB recognises the importance of developing a proper understanding of the climate- and nature-related risks underlying its non-monetary policy portfolios. Work to better understand these risks is ongoing, particularly given the complexity of the impact of nature degradation and limitations concerning existing available data and methodologies.

The ECB's non-monetary policy portfolios are exposed to climate-related risks, which could ultimately lead to adverse outcomes in the event of gradual changes in risk factors or a climate shock. A distinction is made between transition risks and physical risks. Transition risks concern the likelihood and impact of the economic consequences of the transition to a carbon-neutral economy. Physical risks, by contrast, concern the likelihood and impact of acute severe weather events or natural disasters, as well as chronic risks resulting from gradual climate change.

The ECB takes a holistic approach when assessing and managing the potential impact on its balance sheet of climate-related risks underlying its non-monetary policy investments. Carbon intensity metrics are used as a proxy for transition risks with a potential negative impact on the balance sheet, as the policies adopted to align with the goals of the Paris Agreement can also affect the financial position and performance of issuers.

Investment limits are monitored within the tolerance levels set by the risk management framework for the non-monetary policy portfolios. For the ECB's staff pension fund, it is ensured that corporate investments in externally managed investment funds closely follow their PABs. Any breaches detected are investigated by the Directorate Risk Management following a standardised procedure, and appropriate resolutions are examined and implemented. The Directorate Risk

[9] For further details on its financial and non-financial risk management processes, see the ECB Annual Report.

Management reports monthly to the Investment Committee in its Pension Fund composition on the general performance of the investment funds, and benchmark breaches are explicitly discussed by the committee. Similarly, for the ECB's own funds portfolio, it is ensured that the thematic investment and diversification objectives are integrated into the ECB's strategic benchmark in accordance with pre-specified risk budgets.

The climate objective for the ECB's own funds portfolio has the same priority level as the other investment goals for this portfolio. This objective specifies that risks originating from climate change be taken into consideration in risk management, with the aim of aligning the portfolio with a decarbonisation path that is consistent with the goals of the Paris Agreement and the objectives of the European Climate Law. A small share of the portfolio is invested in equity ETFs that track PABs, which offers diversification benefits, enhances the return potential of the ECB's own funds and further aligns its investments with the climate objective.

5 Metrics and targets

The ECB's staff pension fund and its own funds portfolio account for around €26 billion in investments held across different asset classes. The key metrics reported are total carbon emissions, the weighted average carbon intensity (WACI), the carbon footprint and the carbon intensity (see Annex 1 for the definitions of the metrics and formulas).[10] This year's report includes a Box with a set of inflation-adjusted metrics, which complement the unadjusted ones. The inflation adjustments are applied to production emission metrics for sovereign investments and to the WACI for corporate investments. With this Box, the ECB aims to provide further transparency on its climate reporting and respond to growing empirical analysis suggesting that traditional emission metrics may overstate the progress of decarbonisation. The Box is a first approximation based on current standards, which will be updated with new standards and include carbon footprint metrics as a consensus on the inflation adjustments emerges.

High levels of data availability and quality are essential for calculating reliable and relevant climate metrics. Where relevant, data availability has been indicated as a percentage for each metric and asset class. The ECB obtains climate data from Institutional Shareholder Services (ISS), an independent service provider.[11] The ECB promotes transparent disclosures aimed at providing the most relevant and accurate information available. To this end, the Eurosystem regularly discusses improvements in data availability and quality with policymakers, standard setters and climate data providers.

The asset classes covered in this section include sovereign bonds, supranational and agency bonds, corporate bonds and equity. Together they account for around 94% of the total market value of the non-monetary policy portfolios.

Sovereign bond emissions are allocated in two ways: (i) within a country's physical borders (production emissions) and (ii) in relation to domestic consumption (consumption emissions). In accordance with the updated Partnership for Carbon Accounting Financials (PCAF) standard for the Financial Industry, this year's report no longer includes central government emissions (direct emissions from, for example, buildings and vehicles and indirect emissions from, for example, energy consumption).[12]

Production emissions are reported excluding and including the effects of land use, land-use change and forestry (LULUCF). Production emissions are self-reported by

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[10] For a detailed definition of each metric, see Annex 1; for the input definition sources, see Annex 2.

[11] Due to the expiration of the Eurosystem's contract with Carbon4 Finance, sovereign consumption emissions data are also reported on the basis of the data provided this year by the Institutional Shareholder Services. This also affects past historical datapoints, which have been revised in Annexes 3 and 5 for 2020 until 2022. There are no data available prior to 2020.

[12] See PCAF, "The Global GHG Accounting and Reporting Standard for the Financial Industry – Financed Emissions" December 2025, which only defines production emissions (incl. or excl. LULUCF adjustment) and consumption emissions as relevant emission scopes for investors' disclosures for sovereign investments.

sovereigns, while consumption emissions are modelled by the aforementioned data provider. The emission scopes are reported together to provide maximum transparency and are complementary in that they provide a different angle on the emissions associated with sovereign issuers. The latest available sovereign emissions data refer to 2023 and have been applied to sovereign holdings for reporting years 2023 to 2025.

The data reported for supranational, agency and corporate issuers include these issuers' scope 1 and scope 2 emissions. Scope 3 relative metrics are added for the first time in this year's report for non-sovereign issuers (in addition to last year's absolute metrics). The reporting of scope 3 metrics underlines their key importance, given that they account for the largest share of non-monetary policy portfolios (NMPP) issuer emissions. Scope 3 metrics are reported separately from scope 1 and scope 2 metrics, as quality issues affecting scope 3 emissions data continue to limit their reliability and comparability over time, aligning with PCAF guidance.[13] [14] The aggregate metric encompassing all three scopes can be derived from a simple arithmetic sum.[15] The latest available emissions data for non-sovereign holdings refer to 2024 and have been applied to reporting years 2024 and 2025. The cut-off date for the data is 20 March 2026.

In future reports, as the emissions data become available, the ECB will retrospectively update the metrics for all asset classes that were based on data with reference years other than those of the portfolio holdings. Following this logic, this report presents updated metrics for corporate sector assets for the year 2024 and for sovereign assets for the year 2023, compared with the June 2025 report. It also presents updated metrics for corporate sector assets for 2023 and sovereign assets for 2022, to reflect updates to existing climate data from our data providers since the 2025 report.

Macroeconomic developments have contributed significantly to trends in reported values in key climate-related metrics in recent years. The recovery in economic activity following the coronavirus (COVID-19) pandemic led to increases in issuer emissions. At the same time, the recovery also resulted in increases in issuers' economic activity, as measured by corporate revenue and national GDP. On balance, the relative increase in economic activity exceeded that of emissions, leading to improvements in carbon intensities for many issuers. The remainder of this section analyses climate-related developments in the ECB's staff pension fund and own funds portfolio in greater detail. Changes compared with the metrics reported in previous years reflect improved data availability or a retrospective revision of issuer emissions or financial data, as the ECB retrospectively updates the metrics based on data with reference years other than those of the portfolio holdings.

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[13] Underlying issuer emissions are partly self-reported by issuers and partly modelled by the data provider, with scope 3 emissions being estimated more often than scopes 1 and 2. Quality issues with estimation that are especially relevant for scope 3 include (i) the intrinsic estimation uncertainty and (ii) methodological divergences for estimations between different data providers and across time.

[14] See PCAF, op. cit.

[15] This feature is due to the additive power of the selected core climate metrics.

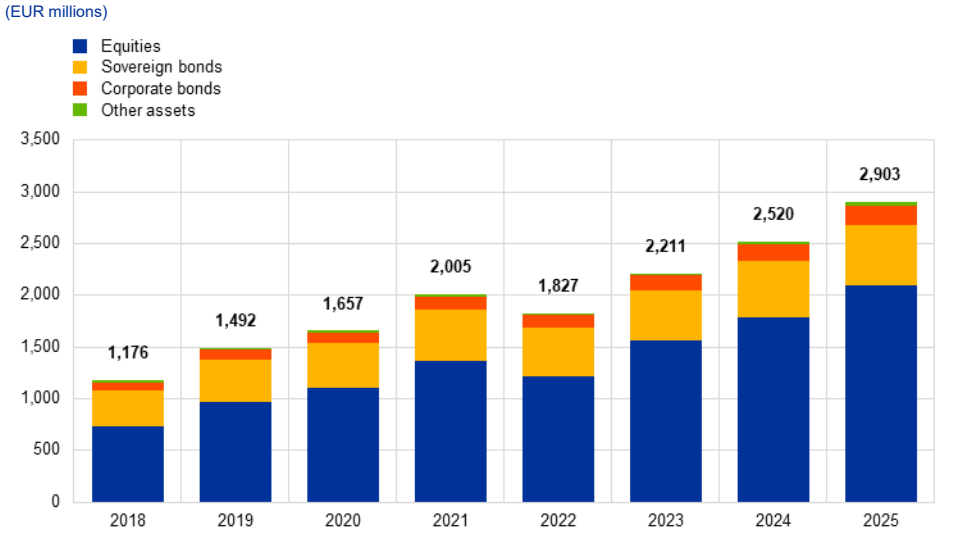
5.1 ECB's staff pension fund

- The carbon footprint metric for corporate investments (scopes 1 and 2), which comprise approximately 80% of total staff pension fund assets, and which track EU PABs, declined by 11% in 2025 compared with 2024.
- At the end of 2025, 18% of corporate bond investments and 22% of equity investments were exposed to the three top sectors considered to have material nature-related dependencies or impacts.

The market value of the ECB's staff pension fund amounted to approximately €2.9 billion at the end of 2025, of which 73% was invested in equities, 20% in sovereign bonds, 6% in corporate bonds and 1% in other assets such as cash and derivatives (Chart 1).[16] Year-on-year changes in portfolio value reflect investment returns and the difference between pay-outs and paid-in contributions of the members of the pension fund and of the ECB. The pension fund invests globally in financial assets across developed and emerging markets.

Chart 1

Portfolio value and asset allocation of the ECB's staff pension fund



Source: ECB calculations.
Note: The portfolio value is the market value expressed in EUR millions.

Tables 1 and 2 show key climate-related metrics for the ECB's staff pension fund in 2025 (the full reporting history is included in Annexes 3 and 4). These metrics indicate the extent to which the pension fund is exposed to climate transition risks through its sovereign and corporate investments. Such risks could result from policy actions designed to reduce emissions at the issuer or portfolio level. The metrics for sovereign and non-sovereign investments are not comparable, owing to the different emission allocation methods, as explained in more detail in Annex 2.

[16] "Other assets" are excluded from the climate-related reporting owing to a lack of guidance on their methodological treatment.

Table 1

Key climate-related metrics for sovereign issuers in the ECB's staff pension fund in 2025

		Sovereign issuers		
		Sovereign and sub-sovereign bonds		
		Production		
		excl. LULUCF	incl. LULUCF	Consumption
Portfolio value	EUR millions	583		
Total carbon emissions	tCO_2e	67,304	62,347	85,506
WACI	tCO_2e per EUR million PPP-adjusted GDP or per capita	109	101	8.1
Carbon footprint	tCO_2e per EUR million invested	109	101	139
Carbon intensity	tCO_2e per EUR million PPP-adjusted GDP or per capita	109	101	8.0

Table 2

Key climate-related metrics for non-sovereign issuers in the ECB's staff pension fund in 2025

		Non-sovereign issuers		
		Total	Corporate bonds	Equities
Portfolio value EUR millions		2,287	188	2,099
Total carbon emissions tCO_2e	scope 1+2 emissions	20,826	3,595	17,231
	scope 3 emissions	700,391	53,708	646,683
WACI tCO_2e per EUR million revenue	scope 1+2 emissions	36	55	35
	scope 3 emissions	972	1,101	960
Carbon footprint tCO_2e per EUR million invested	scope 1+2 emissions	9.3	19	8.4
	scope 3 emissions	312	288	314
Carbon intensity tCO_2e per EUR million revenue	scope 1+2 emissions	32	60	29
	scope 3 emissions	1,082	889	1,102

Sources: Institutional Shareholder Services, the World Bank and ECB calculations.
Note: The portfolio value is the market value expressed in EUR millions, while other metrics are calculated using market values for equities and nominal values for bonds.

5.1.1 ECB's staff pension fund – corporate investments

The ECB's staff pension fund's corporate investments (equity and corporate bonds) continued to reduce their financed scope 1 and 2 emissions in relative terms (Chart 2). This reduction is a result of all corporate investments tracking PABs, which ensures a decarbonisation path in line with the objectives of the Paris Agreement and the European Climate Law.

PABs must meet the minimum standards as defined in the EU Benchmarks Regulation[17] and accompanying Commission Delegated Regulation[18]. Benchmarks labelled as "Paris-aligned" must have a baseline percentage reduction in carbon footprint of at least 50% compared with their parent benchmarks, followed by an average annual reduction of at least 7%.[19] In addition, PABs apply a combination of norms-based as well as activity-based exclusions related to coal, oil and gas.

The carbon footprint of the corporate investments of the ECB's staff pension fund declined by around 11% in 2025 compared with 2024 (scope 1 and 2), surpassing the minimum annual decarbonisation rate of 7% required for PABs.[20] This reflects a shift to more carbon-efficient issuers, as 2024 climate data are used for both years. Between 2018 and 2025, the carbon footprint (scope 1 and 2) fell by 93%. The total carbon emissions of corporate investments increased by 10% in 2025 compared with 2024 (scope 1 and 2), mainly reflecting the increase in the size of these investments of 17% in market value terms. The carbon footprint for scope 3 also declined by 11% in 2025 compared with 2024. Scope 3 total carbon emissions increased by 10% in 2025 and accounted for 97% of the emissions of corporate investments. Data quality issues limit the reliability and comparability of scope 3 emissions over time.

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17 Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds and amending Directives 2008/48/EC and 2014/17/EU and Regulation (EU) No 596/2014 (OJ L 171, 29.6.2016, p. 1).

18 Commission Delegated Regulation (EU) 2020/1818 of 17 July 2020 supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks (OJ L 406, 3.12.2020, pp. 17).

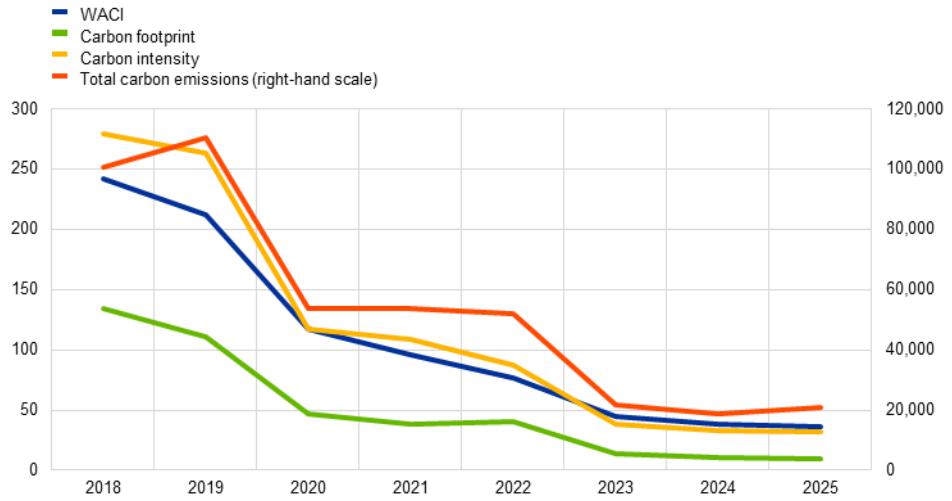
19 The metric used to steer the benchmark's self-decarbonisation depends on the index's securities: for listed equity, the Regulation stipulates use of the carbon footprint ("greenhouse gas intensity" in the legislation) with an adjustment for enterprise value inflation; while for corporate bonds, either the same carbon footprint metric or total carbon emissions ("absolute greenhouse gas emissions" in the legislation) should be used, depending on whether the related issuers are listed.

20 Since the reference metric for PABs used to steer portfolio decarbonisation is the carbon footprint adjusted for enterprise value inflation for equity portfolios and the same carbon footprint or total carbon emissions for corporate bond portfolios, the unadjusted carbon footprint reported here does not necessarily follow the same trajectory. However, it is likely to follow a similar high-level trend when inflation is limited.

Chart 2

Scope 1 and 2 metrics for corporate investments in the ECB's staff pension fund

(left-hand scale: tCO_2e per EUR million; right-hand scale: tCO_2e)



Sources: Institutional Shareholder Services and ECB calculations.
Notes: Metrics are calculated using market values for equities and nominal values for bonds. The WACI and carbon intensity are expressed as tCO_2e per EUR million of revenue and the carbon footprint as tCO_2e per EUR million invested.

A breakdown of total scope 1 and 2 carbon emissions by sector shows a concentration in materials, industrials, information technology and utilities (Chart 3). In 2025 these four sectors collectively contributed 79% of the total carbon emissions associated with the portfolio (panel a), while accounting for roughly half of the holdings (panel b).

The high emissions contribution of the information technology and industrials sectors reflects the significant amounts that the pension fund invests in these sectors. By contrast, the disproportionately large contribution of the utilities and materials sectors to the total carbon emissions is driven by their high carbon intensity (panel c).

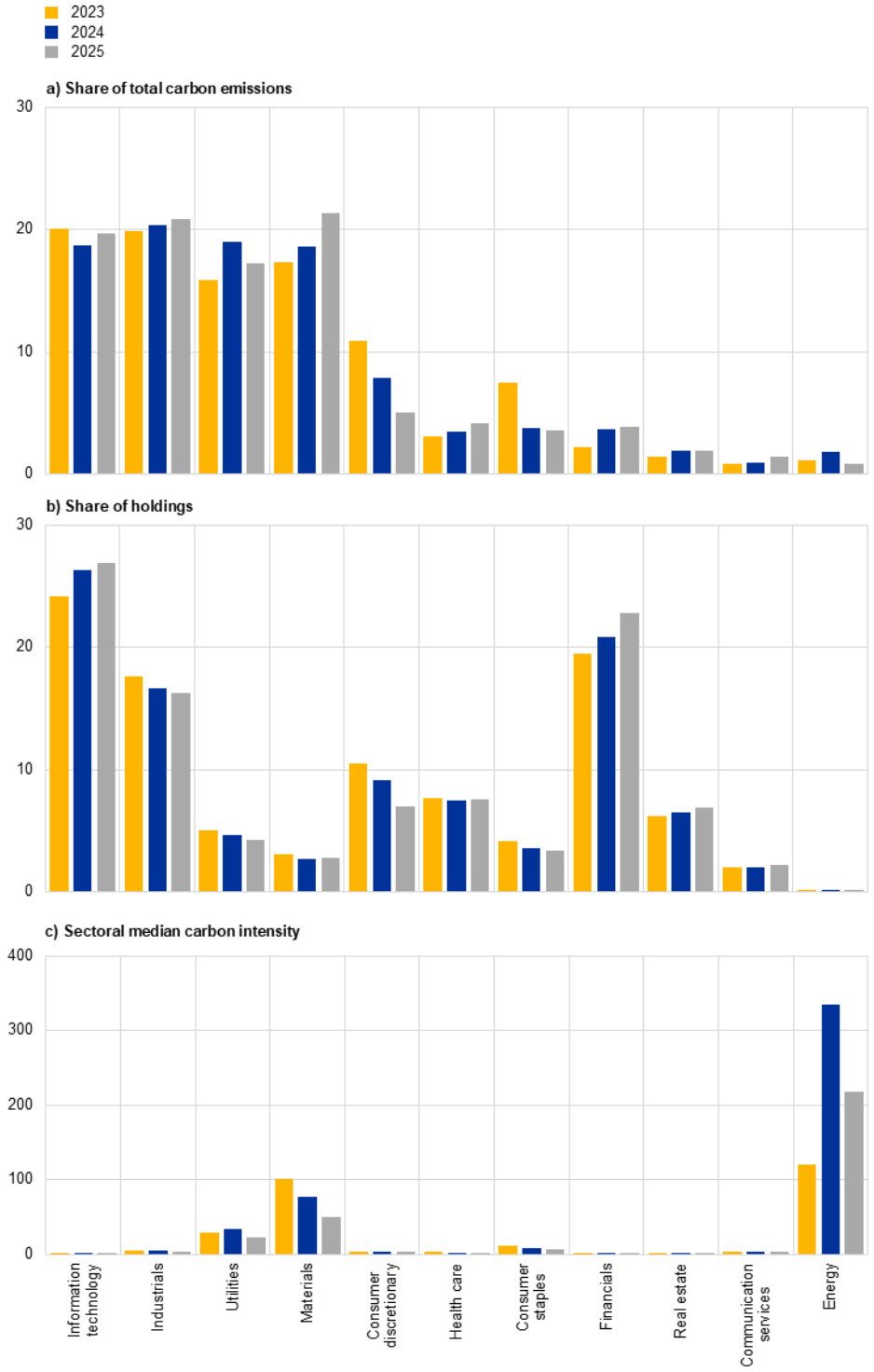
While the adoption of EU PABs in 2023 led to notable changes in the sectoral breakdown, the allocation did not change significantly in 2025[21]. There were some relative increases in holdings in financials and information technology, both low-carbon sectors, and decreases in holdings in consumer discretionary and utilities, while the energy sector remains underweighted due to the exclusions of PABs. The carbon intensity of the portfolio holdings declined across most sectors owing to the "best-in-class approach" of the PAB, which reallocates holdings towards the most carbon-efficient issuers in each sector.

[21] See Chart 3 in the report entitled "Climate-related financial disclosures of the ECB's non-monetary policy portfolios", ECB, June 2025.

Chart 3

Share of total carbon emissions, share of holdings and sectoral median carbon intensity of corporate investments in the ECB's staff pension fund, by sector

(panels a) and b): percentages; panel c): tCO_2e per EUR million EVIC)



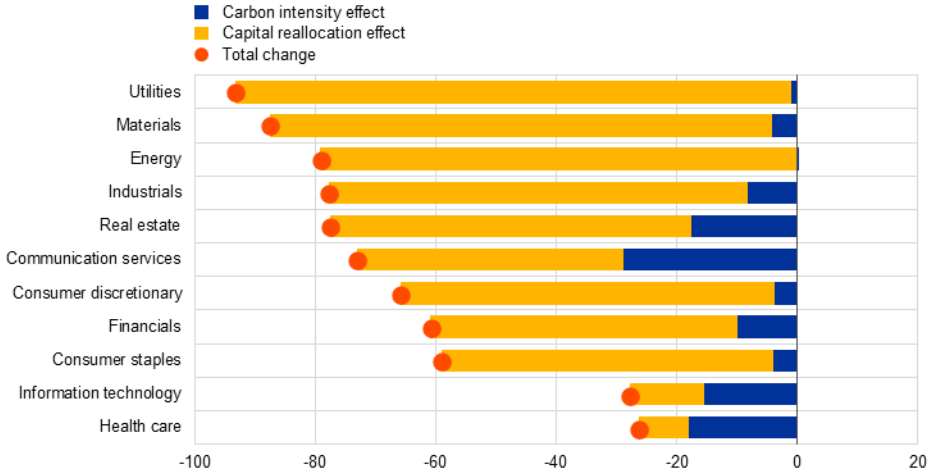
Sources: Institutional Shareholder Services and ECB calculations.
Note: Panel c) shows the sectoral median carbon intensity expressed as scope 1 and 2 emissions (in tCO_2e) divided by enterprise value including cash (EVIC) (in EUR millions).

Chart 4 shows that the best-in-class capital reallocation (together with the reallocation due to the previous broad market-based benchmark) reduced the carbon footprint for all sectors, meaning that the benchmarks were highly effective in decarbonising the ECB's staff pension fund across sectors. In addition, the reduction in carbon intensity of issuers contributed to a decline in the carbon footprint in all sectors (blue bars), with the largest relative decreases being in communication services, healthcare, real estate and information technology.

Chart 4

Attribution of the changes in carbon footprint by sector between 2019 and 2025 to the capital reallocation effect and the carbon intensity effect

(percentages)

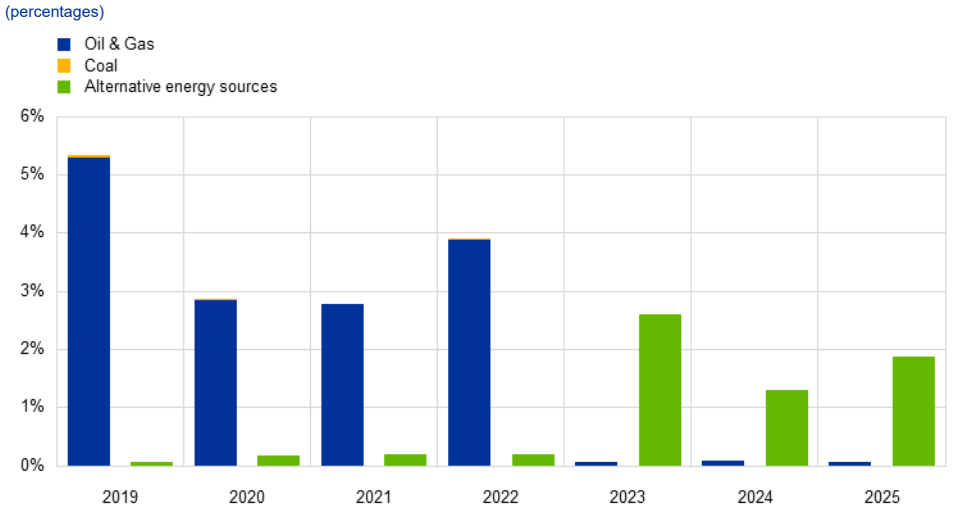


Sources: Institutional Shareholder Services, World Bank, Bloomberg and ECB calculations.
Notes: To isolate the capital reallocation and the carbon intensity effect, we apply a Marshall-Edgeworth-type decomposition, which uses the simple average of the previous and present period values. Carbon intensity is expressed as scope 1 and 2 emissions (in tCO_2e) divided by EVIC (in EUR millions).

The activity-based exclusions of the PABs resulted in a significant decline in the investments of the ECB's staff pension fund in the oil and gas industry, from 3.9% in 2022 to 0.1% in 2025 (Chart 5). Investments in the alternative energy industry, which includes solar and wind energy, increased from 0.2% to 1.9%.

Chart 5

Corporate investments in the fossil fuel and alternative energy industries

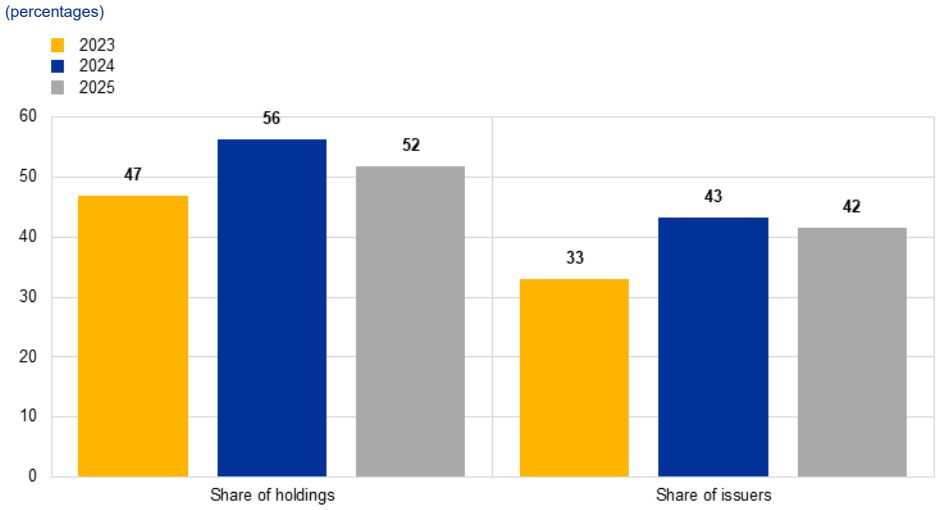


Sources: Bloomberg and ECB calculations.
Notes: The sector classification is based on the Bloomberg "Industry Group" field. The sectors "Oil & Gas", "Oil & Gas Services" and "Gas" have been grouped together into "Oil & Gas". The metric is calculated using market values for equities and nominal values for bonds. Changes may be related to shifts in portfolio investments or changing equity market values.

Achieving the goals of the Paris Agreement requires a significant reduction in absolute emissions, and issuers are required to deliver on their self-imposed emission reduction targets. The ECB's staff pension fund allocates a large share of its corporate investments to issuers that set science-based targets (Chart 6). In 2025, 52% of corporate investments and 42% of the number of issuers set science-based targets. The slight decrease in these shares in 2025 compared with 2024 is due to changes in the portfolio composition. In nominal terms, total portfolio holdings in issuers with targets increased to €1.21 billion (from €1.06 billion at end-2024) due to the growth in the size of the portfolio.

Chart 6

Share of holdings and of issuers with science-based targets in the corporate investments of the ECB's staff pension fund

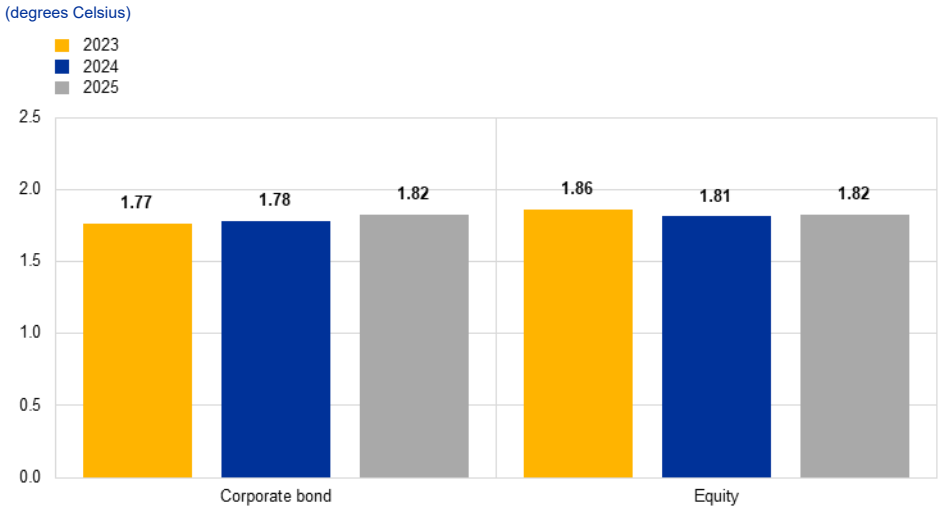


Sources: Institutional Shareholder Services and ECB calculations.
Notes: Metrics are calculated using market values for equities and nominal values for bonds. Calculations are based on the latest available data for the most recent year and on historical data for previous years.

Forward-looking analysis based on the ISS's proprietary issuer temperature score suggests that the current corporate bond and equity investments of the ECB's staff pension fund are in line with a global warming scenario of 1.8ºC (Chart 7). The results should only serve as a rough indication, as forward-looking analysis is subject to considerable uncertainty.

Chart 7

Weighted average issuer temperature score of corporate investments in the ECB's staff pension fund



Sources: Institutional Shareholder Services and ECB calculations.
Notes: Weighting is calculated using bonds' nominal values and equities' market values. Issuer temperature score data were available for 92% of corporate bond investments and 98% of equity investments. The forward-looking analysis underlying the score considers the latest International Energy Agency Sustainable Development Scenarios, projected future emissions and science-based targets. Calculations are based on latest available data for the most recent year and on historical data for previous years.

Following its introduction last year, the ECB again reports on the exposure of its corporate portfolios to sectors with material dependencies or impacts on nature, based on the priority sectors outlined by the TNFD classification framework.[22] For the corporate bond holdings, at the end of 2025, the three priority sectors with the highest exposure were: (i) utilities and commercial and professional services (7%), (ii) food and beverages (6%) and (iii) transportation (5%). For equity holdings, the three sectors with the highest exposure were (i) semiconductors and semiconductor equipment (14%), (ii) real estate, consumer durables and apparel and capital goods (4%) and (iii) utilities and commercial and professional services (4%). In total, 25% of corporate bond investments and 35% of equity investments were exposed to the sectors that are considered to have material nature-related dependencies or impacts.

The corporate exposure metric provides an overview of potential, rather than actual, dependencies of or impacts on nature. Although companies within the priority sectors are more likely to have impacts and dependencies, these are influenced by various factors, such as company locations, actions taken to limit them and the robustness of supply chains. Identifying actual dependencies, and measuring the financial implications that nature-related risks may have, require further analysis, which can be guided by an initial identification of priority sectors.

5.1.2 ECB's staff pension fund – sovereign investments

All sovereign issuers whose assets are held in the ECB's staff pension fund are signatories to the Paris Agreement and have committed to reduce their emissions by submitting climate action plans. The sovereign emissions shown in Chart 8 have been normalised, i.e. adjusted relative to a specific metric such as GDP or population, to provide a comparable measure of environmental performance over time or against other sovereigns, regardless of changes in size. The data source used for the sovereign consumption emissions metrics changed in this year's report, and the metrics for the past years have also been recomputed in the Annexes for comparability.[23] The normalised emissions associated with sovereign bond investments have declined since 2018. Between 2023 and 2025, the WACI based on production emissions (which is equal by design to the carbon footprint and the carbon intensity metrics) and on consumption emissions declined slightly.

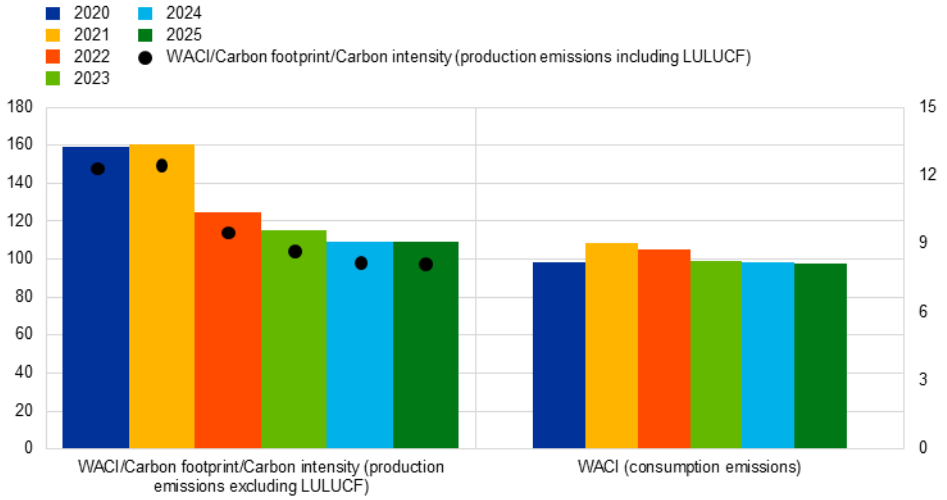
[22] The metric disclosed is the "Financial institution core disclosure metric (FI.C0.0) – Exposure to sectors" from TNFD, "Additional guidance for financial institutions", June 2024. The metrics are calculated with the NACE 2.0 classification.

[23] The new computed metrics change on average less than 3 percentage points for the recomputed years of 2020 until 2022, included in Annexes 3 and 5. The change in the data source is due to the expiration of the Eurosystem's contract with Carbon4 Finance, and sovereign consumption emissions metrics are now calculated based on data from ISS.

Chart 8

Developments in key metrics for sovereign bond investments in the ECB's staff pension fund

(left-hand scale: tCO_2e per EUR million; right-hand scale: tCO_2e per capita)



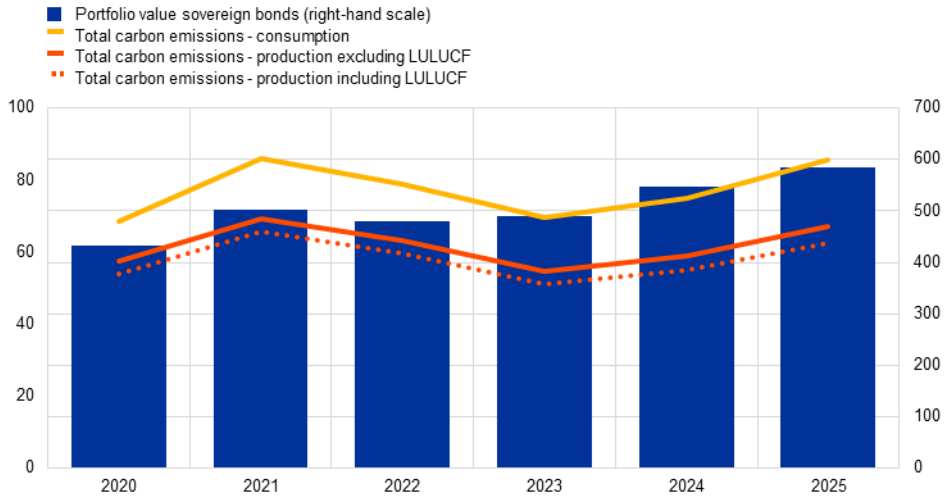
Sources: Institutional Shareholder Services, World Bank, United Nations Framework Convention on Climate Change and ECB calculations.
Notes: WACI and carbon intensity are expressed as tCO_2e per EUR million and GDP adjusted for purchasing power parity (PPP) (production emissions; left-hand scale), or per capita (consumption emissions, right-hand scale). Carbon footprint is expressed as tCO_2e per EUR million invested (left- hand scale). Metrics are calculated using bonds' nominal values.

Between 2023 and 2025, the market value of the sovereign holdings in the ECB's staff pension fund increased by 19%. With the 2023 emissions data being applied to all three years (owing to data availability lags), this results in the total carbon emissions, based on production emissions (excluding and including LULUCF) and consumption emissions all increasing by around 23% over the same period (Chart 9). The level of consumption emissions exceeds that of production emissions, which shows that those sovereigns whose issuance is held in the ECB's staff pension fund (mainly the euro area Member States) are, in aggregate, net carbon importers.

Chart 9

Total carbon emissions of sovereign bond investments in the ECB's staff pension fund

(left-hand scale: thousands tCO_2e; right-hand scale: EUR millions)



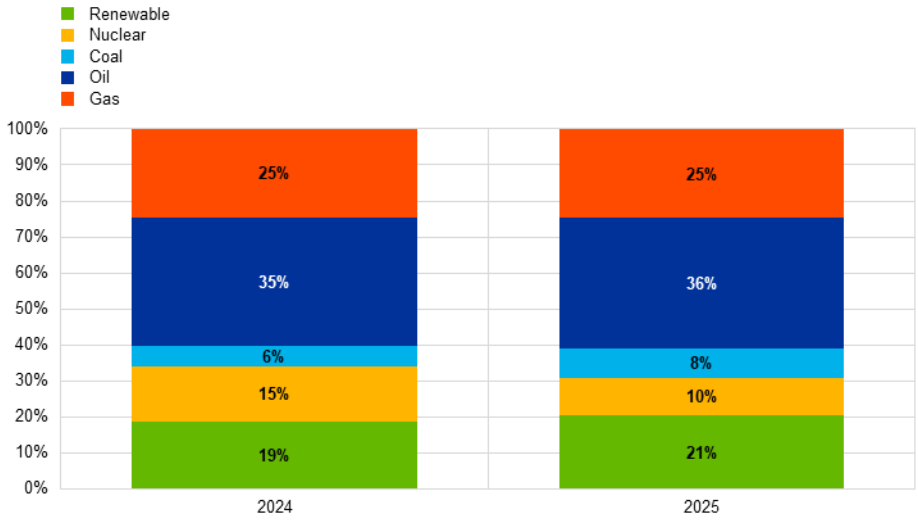
Sources: Institutional Shareholder Services, World Bank, Bloomberg, United Nations Framework Convention on Climate Change and ECB calculations.
Note: The portfolio value is calculated at the market value, while other metrics are calculated using bonds' nominal values.

Developments in a country's energy mix can provide insights into the progress made in transitioning the energy system. The weighted average share of renewable energy continued to increase in 2025 to 21% (vs 19% in 2024 and 17% in 2023) at the expense of nuclear energy in the total energy mix of sovereign bond issuers (Chart 10). The shares of coal and oil also increased slightly this year.

Chart 10

Weighted average energy supply mix of sovereign bond issuers in the ECB's staff pension fund

(percentages)



Sources: Institutional Shareholder Services and ECB calculations.
Notes: Weighting is done using bonds' nominal values. The total energy supply is the quantity of all energy necessary to satisfy inland consumption. It is defined as production + imports - exports - international marine bunkers - international aviation bunkers +/- stock changes. Calculations are based on the latest available data for the most recent year and on historical data for previous years.

5.1.3 ECB's staff pension fund – green, social, sustainability and sustainability-linked bond investments

The ECB's staff pension fund also contributes to financing the low-carbon transition by investing in green bonds. In 2025. green bond investments amounted to approximately €42 million, which is a share of around 5.1% of total bond investments, an increase of 0.2% compared with 2024. Of the green bond investments, around one-third were held in sovereign issuers and two-thirds in corporate issuers. Around two-thirds of green bond investments were held in bonds with a maturity exceeding five years, providing long-term funding for the transition to a low-carbon economy. In total, 84% of green bond issuers were located in the euro area, and 5% in other EU countries, with the remaining 11% located outside of the EU.

The ECB's staff pension fund also invests in social, sustainability and sustainability-linked bonds. By purchasing such bonds, the ECB provides funding for projects that facilitate the transition towards a low-carbon economy. Combining environmental and social aspects, such funding aims to support the transition by driving changes in sectors critical to achieving global climate targets, while striving for economic growth to remain inclusive. In 2025, the aggregate share of social, sustainability and sustainability-linked bonds, as aligned with the relevant ICMA principles and guidelines, amounted to 0.5% of the total fixed income part of the ECB's staff pension fund. This low share reflects both the slower growth and the market share of these types of labelled bonds and portfolio characteristics.

Box 1
Inflation-adjusted metrics

There is a growing consensus in the academic literature that attribution and normalisation factors should be adjusted for inflationary effects to preserve their integrity.[24] Some empirical analysis suggests that traditional emission metrics non-trivially overstate decarbonisation progress. The ECB reiterates its commitment to transparent climate reporting, and is publishing for the first time a set of inflation-adjusted metrics to complement the unadjusted ones. The inflation adjustments are applied to production emission metrics for sovereign investments and to the WACI for corporate investments. This is a first approximation based on current standards, which will be updated with new standards and include carbon footprint metrics as a consensus on the adjustments emerges.

For sovereign production emissions metrics, the adjustment is based on PPP-adjusted real GDP at constant 2021 prices based on World Bank data. For corporate holdings, the WACI is adjusted using the reference inflation index of the relevant monetary area with a baseline year of 2021.[25] This is consistent with the adjustment of sovereign production emissions and with the monitoring of the progress towards the interim reduction target for corporate sector purchase programme (CSPP) corporate bond holdings, which also takes into account the impact of inflation.

ECB's staff pension fund inflation-adjusted metrics

Table A shows the inflation-adjusted sovereign production emissions metrics for the ECB's staff pension fund in 2023, the latest year for which sovereign emissions data are available. The inflation-adjusted metrics are 9.5% higher than the non-adjusted figures presented in Annex 3, reflecting the accumulated effect of inflation since 2021.

Table A
Inflation-adjusted production emission metrics for sovereign issuers in the ECB's staff pension fund in 2023

		Sovereign production emissions	
		Inflation-adjusted	*% difference*
Total carbon emissions	excl. LULUCF	59,922	*9.5*
	incl. LULUCF	55,837	*9.5*
WACI/CF/CI	excl. LULUCF	126	*9.5*
	incl. LULUCF	118	*9.5*

Source: Institutional Shareholder Services, World Bank, Bloomberg, United Nations Framework Convention on Climate Change and ECB calculations.
Notes: LULUCF for land use, land-use change and forestry. Total carbon emissions are expressed as tonnes of carbon dioxide equivalent (tCO_2e). The weighted average carbon intensity (WACI) is expressed as tCO_2e per 2021 constant EUR millions GDP, adjusted for purchasing power parity (PPP). Production emissions are those produced domestically within a country's physical borders. Given the specifications for the three emissions metrics, the WACI, carbon footprint and carbon intensity for sovereigns yield the same figure for both the adjusted and unadjusted metrics. Consequently, only one is reported in the comparison table. The percentage difference column shows the effect of accumulated inflation since the baseline year.

Table B shows the inflation-adjusted WACI for corporate and equity holdings in the ECB's staff pension fund in 2024, the latest year for which emissions and revenue data are available. The inflation-adjusted WACI for the corporate bond holdings are 15.1% higher than the unadjusted

[24] See Climate change-related statistical indicators, *Statistics Paper Series*, ECB, 2021; Cajic, M., How inflation and exchange rates impact carbon accounting — and how to fix it, 2025; Jenssen, A., Botzen, W., Dijk, J. and Duijm, P., Overcoming misleading carbon footprints in the financial sector, 2022; and Nagy, Z., Giese, G. and Wing, X., A Framework for Attributing Changes in Portfolio Carbon Footprint, MSCI, 2023.

[25] The mathematical formulae for computing the adjusted metrics can be found in Annex 1.

metrics presented in Annex 3 for both scope 1 and 2 and scope 3 emission metrics. For equity holdings, the scope 1 and 2 and scope 3 WACI are 12.1% and 15.5% higher, respectively.

Table B

Inflation-adjusted WACI metrics for corporate and equity holdings in the ECB's staff pension fund in 2024

			Non-sovereign issuers	
			Inflation-adjusted	***% difference***
WACI	Corporate bonds	Scope 1+2 emissions	60	*15.1*
		Scope 3 emissions	1,226	*15.1*
	Equity	Scope 1+2 emissions	41	*12.1*
		Scope 3 emissions	1,098	*15.5*

Source: Institutional Shareholder Services, World Bank and ECB calculations.
Notes: The weighted average carbon intensity (WACI) is expressed as tonnes of carbon dioxide equivalent (tCO_2e) per 2021 constant EUR million revenue. The percentage difference column shows the effect of accumulated inflation since the baseline year.

ECB own funds portfolio inflation-adjusted metrics

The inflation-adjusted sovereign production emission metrics for the ECB's sovereign holdings in the ECB's own funds portfolio in 2023 (Table C) are 9.0% higher than the corresponding non-adjusted figures (Annex 5), reflecting the accumulated inflation affecting the underlying holdings.

Table C

Inflation-adjusted production emission metrics for sovereign issuers in the ECB's own funds portfolio in 2023

		Sovereign production emissions	
		Inflation-adjusted	***% difference***
Total carbon emissions	excl. LULUCF	2,295,389	*9.0*
	incl. LULUCF	2,200,893	*9.0*
WACI/CF/CI	excl. LULUCF	127	*9.0*
	incl. LULUCF	122	*9.0*

Source: Institutional Shareholder Services, World Bank, Bloomberg, United Nations Framework Convention on Climate Change and ECB calculations.
Notes: LULUCF stands for or land use, land-use change and forestry. Total carbon emissions are expressed as tonnes of carbon dioxide equivalent (tCO_2e). The weighted average carbon intensity (WACI) is expressed as tCO_2e per 2021 constant EUR millions GDP, adjusted for purchasing power parity (PPP). Production emissions are those produced domestically within a country's physical borders. Given the specification for the three production emission metrics, the WACI, carbon footprint and carbon intensity for sovereigns yield the same figure for both the adjusted and unadjusted metrics. Consequently, only one is reported in the comparison table. The percentage difference column shows the effect of accumulated inflation since the baseline year.

Table D shows the inflation-adjusted WACI for corporate holdings in the ECB's own funds portfolio in 2024. The inflation-adjusted figures are 15.1% higher than the unadjusted metrics presented in Annex 5, due to the effect of three years of accumulated inflation on the underlying revenue figures.

Table D

Inflation-adjusted WACI metrics for corporate issuers in the ECB's own funds portfolio in 2024

			Non-sovereign issuers	
			Inflation-adjusted	***% difference***
WACI	Corporate bonds	Scope 1+2 emissions	50	*15.1*
		Scope 3 emissions	1,141	*15.1*

Source: Institutional Shareholder Services, World Bank and ECB calculations.
Notes: The weighted average carbon intensity (WACI) is expressed as tonnes of carbon dioxide equivalent (tCO_2e) per 2021 constant EUR million revenue. The percentage difference column shows the effect of accumulated inflation since the baseline year.

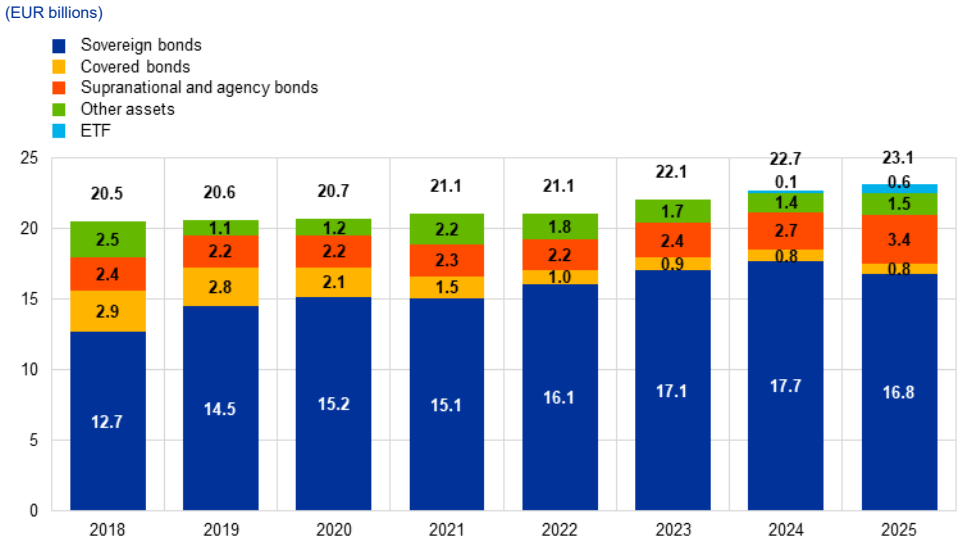
5.2 ECB's own funds portfolio

- The portfolio's green bond investments provide €7.6 billion of funding for the low-carbon transition, with 92% allocated to EU issuers.
- The green bond share of the portfolio increased by five percentage points to 33% in 2025 compared with 2024.
- The ECB expanded its share of its own funds in equity ETFs that track PABs to 2.5%. By tracking PABs within these equities, the ECB further aligns its investments with a decarbonisation path consistent with the goals of the Paris Agreement and the European Climate Law.

The ECB's own funds portfolio value stood at €23.1 billion at the end of 2025, an increase of €0.4 billion since 2024. Of this amount, 73% was invested in sovereign bonds, 15% in supranational and agency bonds, 3% in covered bonds, 3% in equity ETFs and 6% in other assets including cash (Chart 11). These disclosures cover all asset classes in the portfolio, except cash and derivatives. The fixed income assets are predominantly invested in euro area issuers. The ECB's own funds portfolio is subject to an explicit climate objective, which is of equal priority to its financial objectives and incorporated through green bonds and investments into equity ETFs that track PABs. The ECB's own funds benchmark that is calculated internally steers the monthly portfolio rebalancing.

Chart 11

Portfolio value and asset allocation of the ECB's own funds portfolio



Source: ECB calculations.
Note: The portfolio value is the market value expressed in EUR billions.

Tables 3 and 4 summarise the key emission metrics for the ECB's own funds portfolio in 2025. Sovereign bonds account for the largest share of the portfolio's associated emissions and its exposure to climate risks. This is because sovereign bonds account for most investments.

Recent developments in the ECB's own funds metrics are further explained in the following sections. The full history of the metrics is presented in Annex 5 (scope 1 and 2 emissions) and Annex 6 (scope 3 emissions). Tables 1 and 2 show the key climate-related metrics for the ECB's staff pension fund in 2025.

Table 3

Key climate-related metrics for sovereign issuers in the ECB's own funds portfolio in 2025

		Sovereign issuers		
		Sovereign and sub-sovereign bonds		
		Production		
		excl. LULUCF	incl. LULUCF	Consumption
Portfolio value	EUR billions	16.8		
Total carbon emissions	tCO_2e	2,035,874	1,984,520	2,548,167
WACI	tCO_2e per EUR million PPP-adjusted GDP or per capita	113	110	8.8
Carbon footprint	tCO_2e per EUR million invested	113	110	141
Carbon intensity	tCO_2e per EUR million PPP-adjusted GDP or per capita	113	110	8.6

Table 4

Key climate-related metrics for non-sovereign issuers in the ECB's own funds portfolio in 2025

		Non-sovereign issuers			
		Total	Supranational and agency bonds	Covered bonds	Equities
Portfolio value EUR billions	Total	4.8	3.4	0.8	0.6
Total carbon emissions tCO_2e	scope 1+2 emissions scope 3 emissions	9,334 810,661	798 301,655	60 278,245	8,475 230,761
WACI tCO_2e per EUR million revenue	scope 1+2 emissions scope 3 emissions	9.4 1,920	3.7 2,128	0.4 1,900	46 1,049
Carbon footprint tCO_2e per EUR million invested	scope 1+2 emissions scope 3 emissions	2.4 210	0.3 123	0.1 351	14 373
Carbon intensity tCO_2e per EUR million revenue	scope 1+2 emissions scope 3 emissions	19.2 1,669	5.1 1,928	0.5 2,356	40 1,092

Sources: Institutional Shareholder Services, World Bank, and ECB calculations.
Notes: The portfolio value is the market value expressed in EUR billions. Other metrics are calculated using market values for equities and nominal values for bonds.

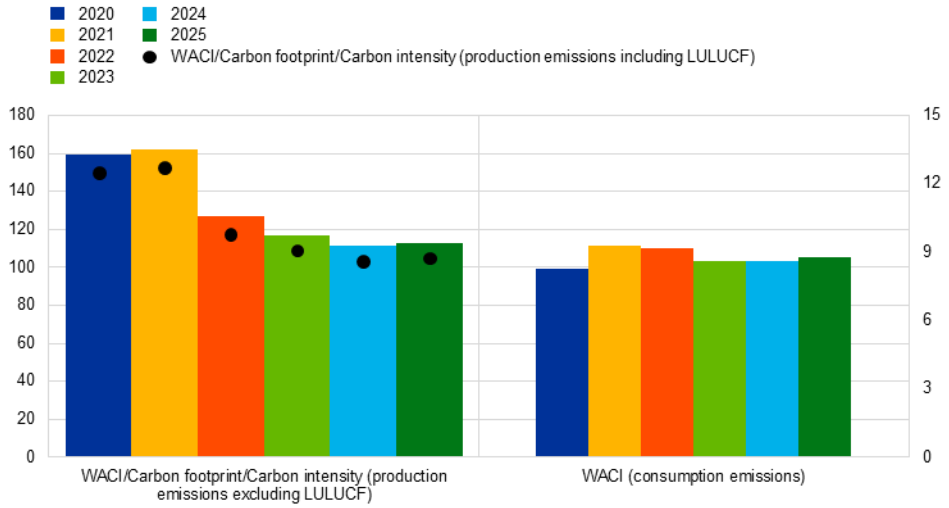
5.2.1 ECB's own funds portfolio – sovereign investments

All sovereign issuers of securities held in the ECB's own funds portfolio are signatories to the Paris Agreement and are committed to decarbonising their economies in line with its goals. The largest share of investments in the ECB's own funds portfolio (73%) consists of sovereign bonds, for which the GDP-normalised metrics have decreased since 2021 and the population-normalised metric (WACI consumption emissions) has remained stable (Chart 12).

Chart 12

Developments in key metrics for sovereign bond investments in the ECB's own funds portfolio

(left-hand scale: tCO_2e per EUR million; right-hand scale: tCO_2e per capita)



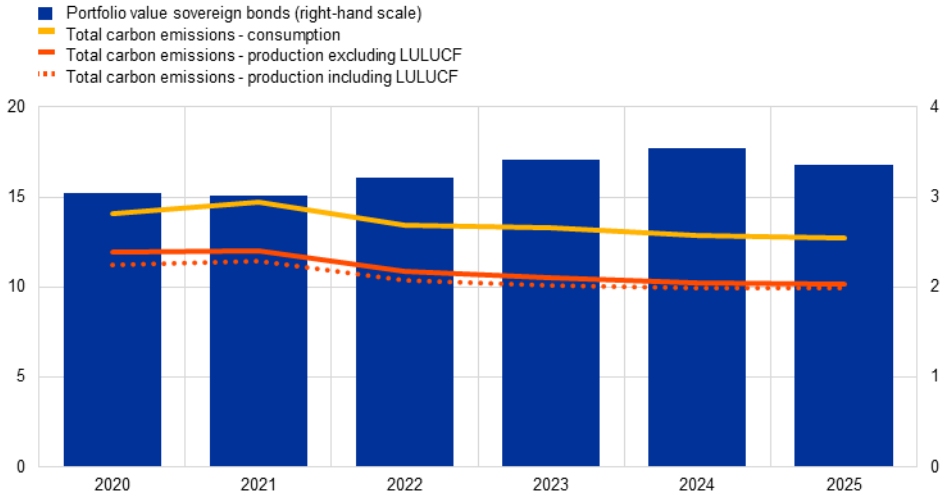
Sources: Institutional Shareholder Services, World Bank and ECB calculations.
Notes: Production emissions are reported excluding and including the effects of LULUCF. The WACI and carbon intensity are expressed as tCO_2e per EUR million PPP-adjusted GDP (production emissions; left-hand scale), or per capita (consumption emissions, right-hand scale). The carbon footprint is expressed as tCO_2e per EUR million invested (left-hand scale). Metrics are calculated using bonds' nominal values.

Both production (including and excluding LULUCF) and consumption total emissions decreased slightly between 2021 and 2025, despite the portfolio value increasing over the same period (Chart 13). The level of consumption emissions exceeds that of production emissions, which shows that those euro area countries in which the ECB's own funds portfolio holds assets are, in aggregate, net carbon importers.

Chart 13

Total carbon emissions of sovereign bond investments in the ECB's own funds portfolio

(left-hand scale: millions tCO_2e; right-hand scale: EUR billions)



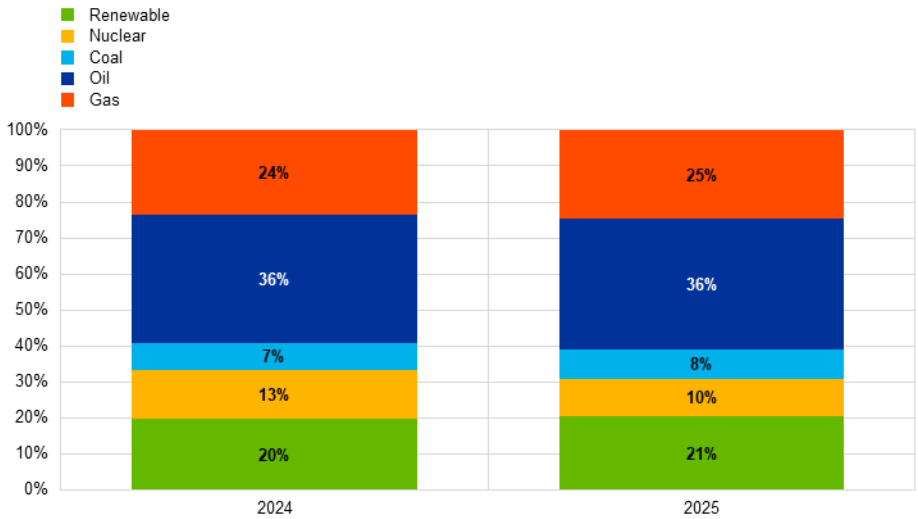
Sources: Institutional Shareholder Services, World Bank, Bloomberg, United Nations Framework Convention on Climate Change and ECB calculations.
Note: The portfolio value is expressed in market value, while other metrics are calculated using bonds' nominal values.

Chart 14 shows that the energy mix in the sovereign bond issuers stayed relatively stable during 2025, except for a small decrease in the share of nuclear power.

Chart 14

Weighted average energy supply mix of sovereign bond issuers in the ECB's own funds portfolio

(percentages)



Sources: Institutional Shareholder Services and ECB calculations.
Notes: Weighting is done using bonds' nominal values. The total energy supply is the quantity of all energy necessary to satisfy inland consumption. It is defined as production + imports - exports - international marine bunkers - international aviation bunkers +/- stock changes. Calculations are based on the latest available data for the most recent year and on historical data for previous years.

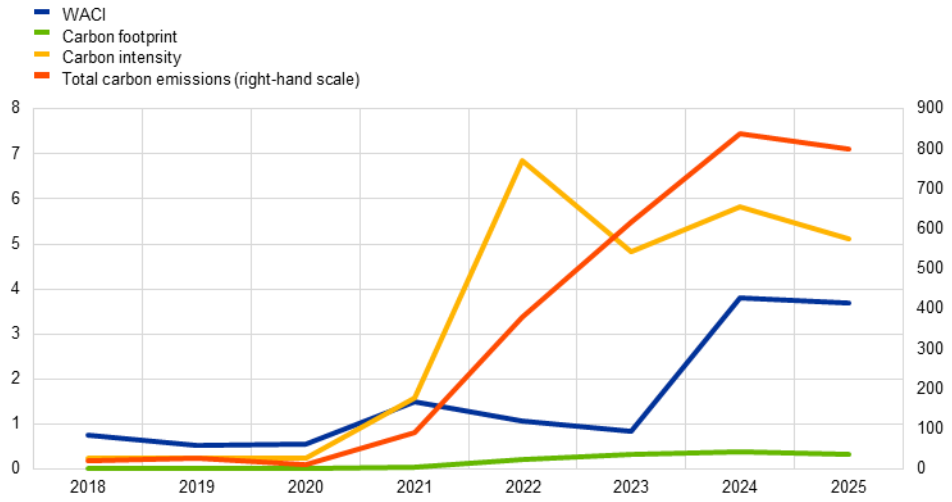
5.2.2 ECB's own funds portfolio – supranational and agency investments

Chart 15 shows the key emission metrics for supranational and agency bond investments, which represent around 15% of the ECB's own funds portfolio. The increase in the scope 1 and 2 emission metrics (WACI, carbon intensity and total carbon emissions) in 2024 was mostly driven by an investment in green bonds from a carbon-intensive issuer for which climate data became available in 2024. This increase highlights the potential trade-off for investors between funding the transition of high-emitting issuers through green bond purchases and targeting a reduction of the overall emissions associated with their investment portfolios. Interpreting the evolution of carbon emission metrics is also complicated by the sensitivity of trends to individual investments and changes in the availability of emissions data.

Chart 15

Scope 1 and 2 emission metrics for supranational and agency bond investments in the ECB's own funds portfolio

(left-hand scale: tCO_2e per EUR million; right-hand scale: tCO_2e)



Sources: Institutional Shareholder Services, World Bank, Bloomberg and ECB calculations.
Note: Metrics are calculated using bonds' nominal values.

Scope 3 emissions accounted for nearly 100% of the total carbon emissions of the supranational and agency bond investments. This reflects the nature of the business operations of these issuers, which tend to be institutions with large financial portfolios. As such, the emissions from their own operations (scope 1) and energy usage (scope 2) are typically much lower than scope 3 emissions, which include emissions resulting from their financed projects and activities. Scope 3 total carbon emissions increased by 11% between 2024 and 2025, in line with the increase in holdings of 14.1%. Both scope 3 WACI and carbon footprint increased slightly over the same period.

5.2.3 ECB's own funds portfolio – corporate investments

By the end of 2025, a small share of the ECB's own funds total portfolio value was invested in corporate assets, namely in covered bonds and equity ETFs, accounting for 3% each.

A breakdown of the total carbon emissions by sector, resulting from the ECB's ETF investments, shows a concentration in materials, utilities and industrials (Chart 16). In 2025, these three sectors collectively contributed 88% to the total scope 1 and 2 carbon emissions of this portfolio (panel a), compared with a 29% share of total holdings (panel b).

The relatively substantial contribution from the industrial sector to total carbon emissions reflects the significant amounts invested in this sector by ETFs.[26] By contrast, the large contribution of the utilities and materials sectors to total carbon emissions is driven by their high carbon intensity (panel c), as measured by sectoral median carbon intensity based on the EVIC). The median carbon intensity decreased for most sectors from 2024 to 2025, including utilities, which remains the highest emitting sector, with the notable exception being materials.

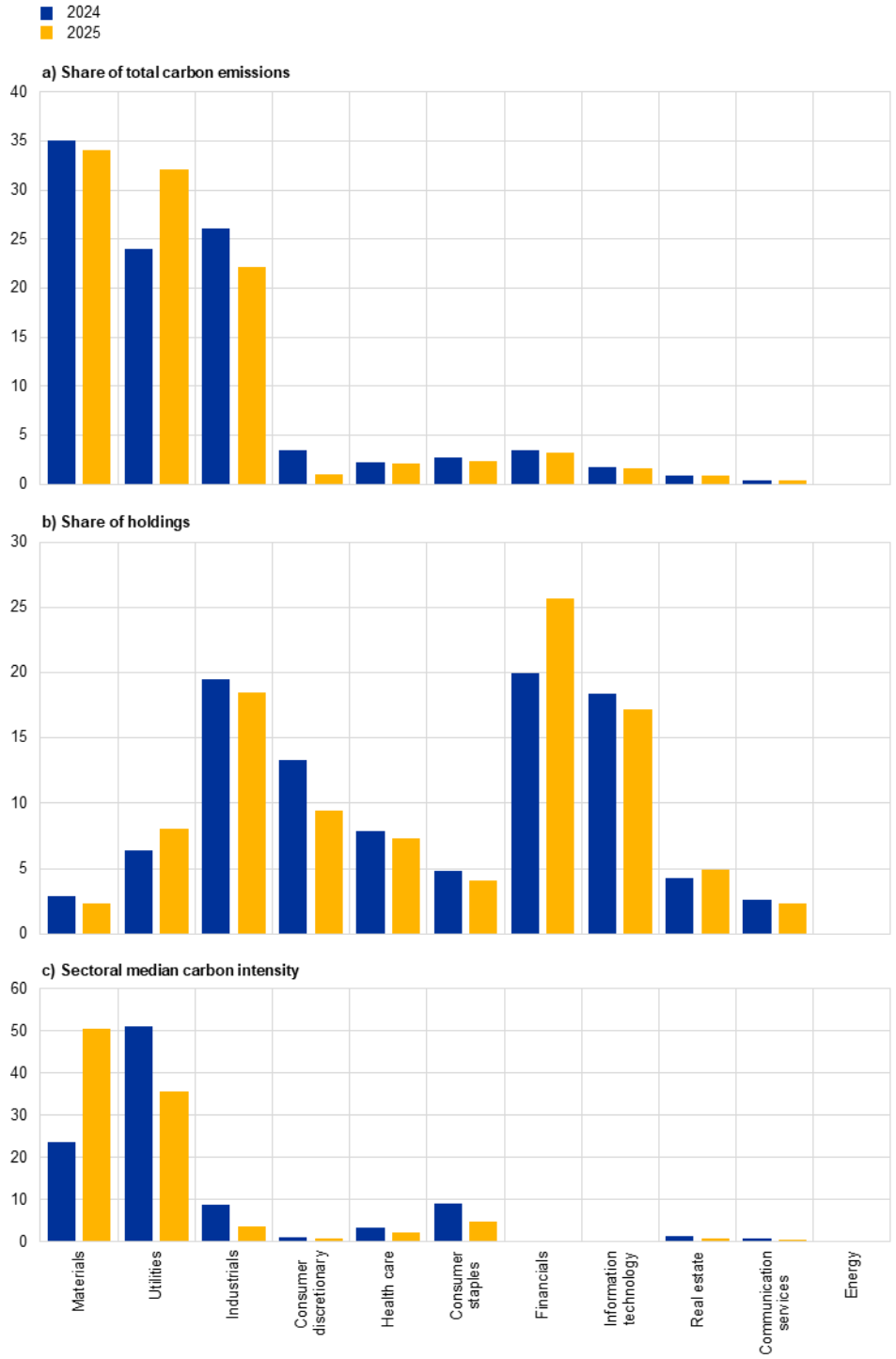
Scope 3 total carbon emissions accounted for 96% of the total carbon emissions of equity ETF investments and increased in line with the increased investments. The scope 3 carbon footprint decreased by 4% from 2024 to 2025.

[26] The ECB invests in equity ETFs that track PABs. These types of benchmarks apply tilting to meet the ambitious decarbonisation objectives set by EU legislation, as well as norm-based and activity-based exclusions. By investing in these ETFs, the ECB further aligns its investments with a decarbonisation path that is consistent with the goals of the Paris Agreement and the European Climate Law.

Chart 16

Share of total carbon emissions, share of holdings and sectoral median carbon intensity associated with ETF investments in the ECB's own funds portfolio

(panels a) and b): percentages; panel c): tCO_2e per EUR million EVIC)



Sources: Institutional Shareholder Services and ECB calculations.
Note: Panel c) shows the sectoral median carbon intensity expressed as scope 1 and 2 emissions (in tCO_2e) divided by EVIC (in EUR millions).

Achieving the goals of the Paris Agreement requires a significant reduction in absolute emissions and issuers to deliver on their self-imposed emission reduction targets. In 2025, 68% of the corporate issuers held in the ETFs set science-based targets (up from 63% in 2024), accounting for 73% of holdings.

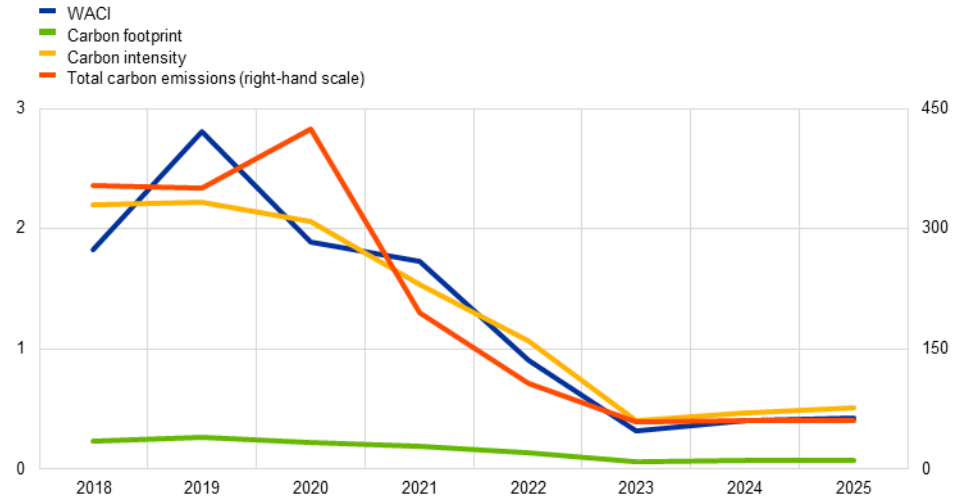
Forward-looking analyses based on the proprietary issuer temperature score of the data service provider, ISS, suggest that the ETF investments from the ECB's own funds in 2025 are in line with a global warming scenario of 1.68ºC. This result should be regarded as a rough estimate, since any forward-looking analysis is subject to considerable uncertainty.

Chart 17 shows the key emission metrics for covered bond investments, which represent only around 3% of the ECB's own funds portfolio. The scope 3 total carbon emissions accounted for nearly 100% of the total carbon emissions of the covered bonds. As is the case for supranational and agency issuers, this reflects the nature of these issuers' business operations, with typically low scope 1 and 2 emissions resulting primarily from administrative operations, but high scope 3 emissions resulting from their financed projects and activities. Scope 3 WACI and carbon footprints decreased by 4% and 7% respectively from 2024 to 2025.

Chart 17

Scope 1 and 2 emission metrics for covered bonds in the ECB's own funds portfolio

(left-hand scale: tCO_2e per EUR million; right-hand scale: tCO_2e)



Sources: Institutional Shareholder Services, World Bank, Bloomberg and ECB calculations.
Note: Metrics are calculated using bonds' nominal values.

At the end of 2025, the three TNFD priority sectors with the most material nature-related exposure in the equity ETF were: (i) semiconductors and semiconductor equipment (9%), (ii) utilities and commercial and professional services (8%) and (iii) consumer durables and apparel (6%). In aggregate, 39% of equity investments were exposed to the most material nature-related sectors.

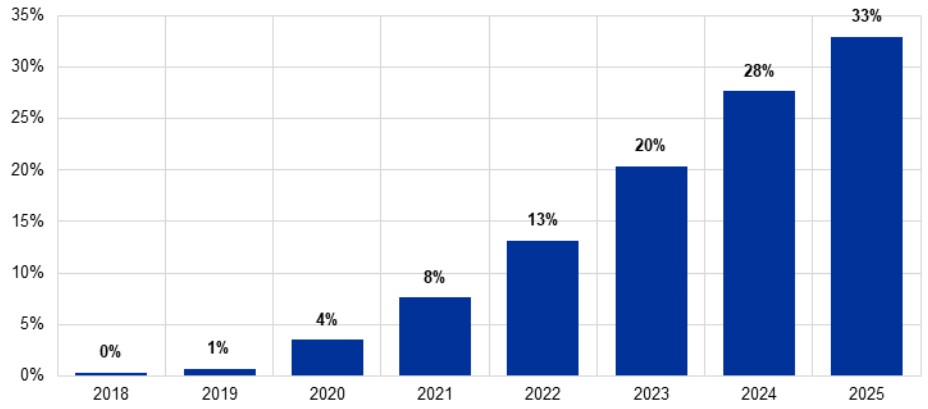
5.2.4 ECB's own funds portfolio – green, social, sustainability and sustainability-linked bond investments

The ECB supports the European Green Bond Standard (EUGB), a voluntary green bond standard that was adopted by the Council in October 2023 and became applicable at the end of 2024. As part of its investments in green bonds to support the funding for the low-carbon transition, the ECB's own funds portfolio can also invest in EUGBs. The share of green bonds continued to rise steadily in 2025, to 33% (Chart 18), amounting to €7.6 billion by the end of 2025. This implies an increase of five percentage points in 2025 compared with 2024.[27]

Chart 18

Share of green bonds in the ECB's own funds portfolio

(percentages)



Sources: ICMA, Bloomberg and ECB calculations.
Notes: The ECB relies on the ICMA labelling to identify green bonds. The calculation is based on bonds' nominal values and excludes cash and equity ETF holdings. The calculation is based on the latest available data for the most recent year and on historical data for previous years.

Chart 19 illustrates the green bond holdings in 2025 categorised by issuer type, maturity profile and issuer location. Of the €7.6 billion green bond investments, 65% were held in sovereign issuers, 31% in supranational and agency issuers and 4% in corporate issuers. Around 48% of green bond investments were held in bonds with a remaining maturity exceeding five years, providing long-term funding for the transition to a low-carbon economy. Green bond investments were heavily concentrated in euro area issuers (89%) but also benefited other EU issuers (3%).

[27] The share in green bonds is calculated based on the fixed income holdings in the ECB's own funds, thus excluding cash and equity ETF holdings.

Chart 19

Green bonds in the ECB's own funds portfolio by issuer type, maturity profile and issuer location in 2025

(percentages)

Sources: ICMA, Bloomberg and ECB calculations.
Notes: The ECB relies on the ICMA labelling to identify green bonds. The calculation is based on bonds' nominal values.

The ECB's own funds portfolio also invests in social, sustainability and sustainability-linked bonds. In 2025, the aggregate share of these labelled bonds, as aligned with the relevant ICMA principles and guidelines, amounted to 0.2% of the fixed income part of its own funds. This comparatively low share reflects the portfolio's focus on green bonds, as well as the slower growth and market share of these bond types.

5.3 Targets

The ECB strives to reduce the emissions associated with its staff pension fund and its own funds portfolio, in line with the goals of the Paris Agreement and the European Climate Law. This translates into aiming for carbon neutrality for these portfolios by 2050.

Since the corporate investments for the ECB's staff pension fund track the EU PABs, their carbon footprint or total carbon emissions are expected to further decrease by an average annual amount of at least 7%, as measured by the carbon footprint or total carbon emissions (based on scope 1, 2 and 3 emissions).[28] The base year for this reduction is 2023, the year in which all corporate investments in the ECB's staff pension fund began tracking the PABs. At this pace, the ECB expects the carbon footprint of the corporate investments in its staff pension fund to further decline by at least 40% by 2030 and by at least 70% by 2040, compared with 2023.[29]

In its own funds portfolio, the ECB aims to further reduce the carbon footprint of its equity investments, as measured by the carbon footprint (based on scope 1, 2 and 3 emissions) by at least 7% on average per annum from 2024 onwards, in line with the minimum requirements for EU PABs. At this pace, the ECB expects the carbon footprint of its equity investments to decline by at least 35% until 2030, compared with 2024.

These interim targets will support the gradual reduction of the exposure of the ECB pension fund and of the ECB's own funds portfolio to climate transition risks, aligning with the objectives of the European Climate Law. These interim targets do not apply to sovereign bond holdings, which are expected to decarbonise over time, as sovereigns deliver on their commitments as signatories to the Paris Agreement.

In addition, in its own funds portfolio the ECB aims to further step up its funding for the low-carbon transition by increasing the share of green bonds and sustainability bonds. By the end of 2026, the ECB aims to increase the share of green bonds to at least 35% and the combined share of green and sustainability bonds to at least 38%. In addition, the ECB intends to increase its equity ETF investments that track PABs up to a share of 5% of its total own funds portfolio over the course of 2026, after which this target will be reviewed again.

The ECB will continue to monitor evolving climate science and guidance on (interim) target-setting. It reserves the right to apply full flexibility in terms of adjusting its

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[28] The metric used to steer the benchmark's self-decarbonisation depends on the index' securities: for listed equity, the regulation stipulates the use of the carbon footprint ("greenhouse gas intensity" in the relevant legislation), with an adjustment for enterprise value inflation; for corporate bonds, either the same carbon footprint metric or total carbon emissions ("absolute greenhouse gas emissions" in the relevant legislation) should be used, depending on whether the associated issuers are listed.

[29] The investments' carbon footprint is technically measured by the carbon footprint or total carbon emissions, depending on the asset class (see Annex 2). As the reference metric for PABs' decarbonisation differs from the carbon footprint disclosed in this report, their respective decarbonisation trajectories are not necessarily the same. However, they are likely to follow a similar trend when inflation is limited (see also footnote 15). The external investment managers for the ECB's staff pension fund might use a different data source from the ECB, which could further hinder the comparison of the figures disclosed here and those used to steer the decarbonisation of the corporate investments – an impact that could become particularly relevant when integrating scope 3 emissions.

existing targets and allowing additional asset classes to be included in the future, reflecting the Eurosystem's growing experience with climate-related financial disclosures.

Targets will continue to reflect portfolio-specific objectives and constraints, including the target for the portfolio's duration, expected green and sustainability bond issuance volumes, liquidity conditions and issuer and bond specific risk limits.

Annexes

Annex 1

Eurosystem common disclosure principles for the "Metrics and targets" category

Element	Details
Weighted average carbon intensity (WACI)	$= \sum_{i=1}^{n} \left(\frac{\text{current value of investment}_i}{\text{current portfolio value}} \right) \text{x} \left(\frac{\text{issuer's carbon emissions}_i}{\text{issuer's revenue, PPP-adjusted GDP, or population}_i} \right)$
Total carbon emissions	$= \sum_{i=1}^{n} \left(\frac{\text{current value of investment}_i}{\text{EVIC or PPP-adjusted GDP}_i} \text{x issuer's carbon emissions}_i \right)$
Carbon footprint	$= \frac{\sum_{i=1}^{n} \left(\frac{\text{current value of investment}_i}{\text{EVIC or PPP-adjusted GDP}_i} \right) \text{x issuer's carbon emissions}_i}{\text{current portfolio value}}$
Green bond share	Share of fixed income portfolios based on ICMA's Green Bond Principles.
Aggregate share of sustainability, sustainability-linked and social bonds	Share of fixed income portfolios based on ICMA's Sustainability Bond Guidelines, Sustainability-linked Bond Principles and Social Bond Principles.
Portfolio size	Expressed in EUR billions.
Asset classes	All asset classes of the portfolio, with metrics to be shown by asset class.
Data availability	Indicated in brackets as a percentage for each metric and asset class.
Emissions scope	Scope 1 and 2 emission metrics, and scope 3 (reported separately) subject to possible exemptions for some asset classes (covered bonds, supranationals and agencies) under a "comply or explain" approach.
Scope 3 emissions metrics' specifications	Most recent data on all non-sovereign asset classes included starting with 2026 reports; additionally, the historical record in the charts and the text of the main report are limited to trends since 2023.
Data sources	Such as the names of the (climate) data providers.
Target	All Eurosystem members strive to ensure that the non-monetary policy portfolios under their management are on a path that supports the goals of the Paris Agreement and the EU's climate neutrality objectives as set out in the European Climate Law. Concretely, this consists in setting at least one broadly defined long-term target covering all non-monetary policy portfolio investments under the management control of the respective central bank, which is aligned with the goals of the Paris Agreement and the EU's climate neutrality objectives. Targets can be set at the portfolio level, the central bank level, or a combination of both. Targets should ideally be quantitative, and long-term targets should ideally be enriched by interim targets.

Notes: The formulae of the Task Force on Climate-related Financial Disclosures are provided here. For the Eurosystem disclosure framework, they have been adjusted, where necessary, to reflect the latest guidance from the Partnership for Carbon Accounting Financials and cover additional asset classes.

In addition to aspects of the Eurosystem common disclosure principles, the ECB publishes the carbon intensity metric and corporate exposure to nature-related priority sectors, which are defined as follows:

Carbon intensity

$$= \frac{\sum_{i=1}^{n} \left(\frac{\text{current value of investment}_i}{\text{EVIC or PPP-adjusted GDP}_i} \right) \text{x issuer's carbon emissions}_i}{\sum_{i=1}^{n} \left(\frac{\text{current value of investment}_i}{\text{EVIC or PPP-adjusted GDP}_i} \text{x} \begin{matrix} \text{issuer's revenue, PPP adj. GDP} \\ \text{or population} \end{matrix}_i \right)}$$

Corporate exposure to nature-related priority sectors

$$= \frac{\sum_{i=1}^{n} \text{current value of investment}_i \text{ x issuer's sector TNFD priority}_i}{\text{current portfolio value}}$$

where "*issuer's sector TNFD priority*" equals 1 if the issuer's sector is listed in the TNFD priority sectors list, and 0 if it is not listed.

Inflation-adjusted metrics

The inflation adjusted sovereign production emissions metrics are calculated as follows:

$$\text{WACI}\begin{pmatrix}\text{or carbon footprint}\\ \text{or carbon intensity}\end{pmatrix} = \sum_{i=1}^{n}\left(\frac{\text{current value of investment}_i}{\text{current portfolio value}}\right)\text{x}\left(\frac{\text{issuer's carbon emissions}_i}{\text{PPP adj. real GDP}_i}\right)$$

$$\text{TCE} = \sum_{i=1}^{n}\left(\frac{\text{current value of investment}_i}{\text{PPP adj. real } GDP_i}\text{x issuer's carbon emissions}_i\right)$$

The inflation adjusted WACI for corporate holdings is calculated as follows:

$$\text{WACI}_t = \sum_{i=1}^{n}\left(\frac{\text{current value of investment}_i}{\text{current portfolio value}}\right)\text{x}\left(\frac{\text{issuer's carbon emissions}_i}{\text{issuer's revenue}_{i,t} * \frac{\text{Ref index}_{2021}}{\text{Ref index}_t}}\right)$$

Annex 2

Carbon emission allocation methods, normalisation factors and attribution factors

Allocation

Issuer type	Factor	Remarks	Unit
Corporate Supranational and agency	Scope 1, 2 and 3 emissions	Scope 1 comprises direct carbon emissions emanating from sources that are controlled or owned by an organisation (e.g. emissions associated with fuel combustion in boilers, furnaces, vehicles). Scope 2 comprises indirect carbon emissions associated with the purchase of electricity, steam, heat or cooling. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions. Scope 2 emissions do not differentiate between market-based and location-based emissions, and the data providers used for the report prioritise market-based emissions when both are available.	tCO_2e
Sovereign	Production emissions	Emissions produced domestically within a country's physical borders, including domestic consumption and exports. This definition follows the territorial emissions approach adopted by the United Nations Framework Convention on Climate Change for annual national inventories. Production emissions are reported including and excluding the effects of LULUCF, because the rate of build-up of carbon dioxide in the atmosphere is affected by changes to vegetation and soils in terrestrial ecosystems.	tCO_2e
	Consumption emissions	Emissions related to domestic demand, accounting for trade effects. This metric provides a broader view of a sovereign's emissions and tackles the issue of carbon leakage that arises due to production shifts from countries where goods are consumed later.	tCO_2e

Normalisation

Issuer type	Factor	Remarks	Unit
Corporate Supranational and agency	Revenue	The total amount of income generated by the sale of goods and services related to the primary operations of the business. Commercial revenue may also be referred to as sales or as turnover.	EUR millions
Sovereign	Production: PPP-adjusted GDP	GDP is the sum of gross value added by all resident producers plus any product taxes and minus any subsidies not included in the value of the products. The purchasing power parity (PPP) conversion factor is a spatial price deflator and currency converter that eliminates effects of differences in countries' price levels.	EUR millions
	Consumption: population	Total population of a country.	People

Attribution

Asset class	Factor	Remarks	Unit
Sovereign bonds	PPP-adjusted GDP	See description of "PPP-adjusted GDP" factor under "Normalisation".	EUR
Equities **Supranational and agency bonds** **Corporate bonds** **Covered bonds**	EVIC	The sum of the market capitalisation of ordinary shares at fiscal year-end, the market capitalisation of preferred shares at fiscal year-end and the book values of total debt and minorities' interests.	EUR

Fluctuation adjustments

Asset class	Factor	Remarks	Unit
Sovereign bonds	Production: PPP-adjusted real GDP	GDP is the sum of gross value added by all resident producers plus any product taxes and minus any subsidies not included in the value of the products. The purchasing power parity (PPP) conversion factor is a spatial price deflator and currency converter that eliminates effects of differences in countries' price levels. PPP-adjusted real GDP is expressed in constant prices, meaning that the series has been adjusted to account for price changes over time. The reference year for this adjustment is 2021.	EUR millions
Corporate	Revenue adjustment factor	Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly.	units

Annex 3

Emission metrics for the ECB's staff pension fund

Portfolio value (EUR millions)

	Sovereign issuers			Non-sovereign issuers (scopes 1+2)		
	Sovereign and sub-sovereign bonds					
	Production					
	excl. LULUCF	incl. LULUCF	Consumption	Total	Bonds	Equities
2025	583			2,287	188	2,099
2024	546			1,947	164	1,783
2023	489			1,703	144	1,559
2022	479			1,331	119	1,212
2021	502			1,482	121	1,361
2020	433			1,204	103	1,101
2019	402			1,070	97	973
2018	343			813	81	732
2017	323			825	76	749

WACI (tCO_2e per EUR million PPP-adjusted GDP or per capita)

2025	109	101	8.1	36	55	35
	100%	100%	100%	99%	89%	100%
2024	109	102	8.2	38	52	37
	100%	100%	100%	99%	92%	100%
2023	115	108	8.2	44	70	41
	100%	100%	100%	99%	99%	99%
2022	125	118	8.8	77	82	77
	100%	100%	100%	100%	98%	100%
2021	160	152	9	96	149	92
	100%	100%	100%	99%	95%	100%
2020	159	149	8.2	118	174	112
	100%	100%	100%	99%	95%	100%
2019	166	155		213	214	213
	100%	100%		96%	63%	99%
2018	195	183		243	147	250
	100%	100%		95%	60%	100%
2017	199	191		238	158	244
	100%	100%		95%	60%	99%

Total carbon emissions (tCO_2e)

2025	67,304	62,347	85,506	20,826	3,595	17,231
	100%	100%	100%	98%	84%	99%
2024	59,021	54,911	74,972	18,860	3,525	15,335
	100%	100%	100%	98%	87%	99%
2023	54,731	51,011	69,508	21,847	2,641	19,206
	100%	100%	100%	98%	90%	99%
2022	63,106	59,888	78,999	51,994	5,802	46,192
	100%	100%	100%	99%	94%	100%
2021	69,363	65,669	86,005	53,642	6,978	46,663
	100%	100%	100%	99%	88%	100%
2020	57,568	53,869	68,675	53,842	8,338	45,504
	100%	100%	100%	99%	90%	100%
2019	56,394	52,816		110,586	7,768	102,818
	100%	100%		96%	62%	99%
2018	59,369	55,739		100,910	6,342	94,568
	100%	100%		94%	59%	99%
2017	55,457	53,067		111,090	6,413	104,677
	100%	100%		95%	60%	99%

Carbon footprint (tCO_2e per EUR million invested)

2025	109	101	139	9	19	8
	100%	100%	100%	98%	84%	99%
2024	109	102	139	10	21	9
	100%	100%	100%	98%	87%	99%
2023	115	108	147	14	18	13
	100%	100%	100%	98%	90%	99%
2022	125	118	156	40	42	40
	100%	100%	100%	99%	94%	100%
2021	160	152	199	38	64	36
	100%	100%	100%	99%	88%	100%
2020	159	149	190	47	87	43
	100%	100%	100%	99%	90%	100%
2019	166	155		111	118	111
	100%	100%		96%	62%	99%
2018	195	183		135	112	137
	100%	100%		94%	59%	99%
2017	199	191		146	123	148
	100%	100%		95%	60%	99%

Carbon intensity (tCO_2e per EUR million PPP-adjusted GDP or per capita)

2025	109	101	8.0	32	60	29
	100%	100%	100%	98%	84%	99%
2024	109	102	8.1	33	63	30
	100%	100%	100%	98%	87%	99%
2023	115	108	8.1	39	46	38
	100%	100%	100%	98%	90%	99%
2022	125	118	8.6	88	113	86
	100%	100%	100%	99%	94%	100%
2021	160	152	8.9	109	167	104
	100%	100%	100%	99%	88%	100%
2020	159	149	8.0	117	222	108
	100%	100%	100%	99%	90%	100%
2019	166	155		264	287	262
	100%	100%		96%	62%	99%
2018	195	183		279	249	282
	100%	100%		94%	59%	99%
2017	199	191		266	248	267
	100%	100%		95%	60%	99%

Sources: Institutional Shareholder Services, World Bank, Bloomberg and ECB calculations.
Notes: The portfolio value is the market value expressed in EUR millions. The percentages below each metric indicate data availability, calculated as the percentage of investments for which all required data (i.e. emissions data and financial data) are available. For non-sovereign issuers, the coverage includes scope 1 and 2 emissions. Where available and reliable, the Eurosystem uses scope 2 emissions data following the market-based approach, which reflects emissions from electricity, steam, heat or cooling that companies have purposefully chosen (or their lack of choice) and derives emission factors from contractual instruments. Sovereign consumption emissions metrics have been recomputed for 2020 until 2025 in this report using data from Institutional Shareholder Services, whereas there are no available metrics for the years 2018 and 2019.

Annex 4

Scope 3 emission metrics for non-sovereign investments of the ECB's staff pension fund

WACI (tCO_2e/EUR million revenue)

	Total	Corporate bonds	Equities
2025	972	1,101	960
	99%	89%	100%
2024	962	1,065	951
	99%	92%	100%
2023	827	1,139	792
	99%	99%	99%
2022	1,120	1,095	1,123
	100%	98%	100%
2021	1,003	1,097	994
	99%	95%	100%
2020	882	1,056	865
	99%	95%	100%

Total carbon emissions (tCO_2e)

2025	700,391	53,708	646,683
	98%	84%	99%
2024	634,487	54,326	580,142
	98%	87%	99%
2023	505,000	68,948	436,052
	98%	90%	99%
2022	807,514	51,888	755,626
	99%	94%	100%
2021	673,005	53,771	619,234
	99%	88%	100%
2020	570,881	47,219	523,662
	99%	90%	100%

Carbon intensity (tCO_2e/EUR million revenue)

2025	1,082	889	1,102
	98%	84%	99%
2024	1,125	966	1,142
	98%	87%	99%
2023	895	1,208	859
	98%	90%	99%
2022	1,365	1,007	1,399
	99%	94%	100%
2021	1,371	1,285	1,379
	99%	88%	100%
2020	1,239	1,260	1,237
	99%	90%	100%

Carbon footprint (tCO_2e per EUR million invested)

2025	312	288	314
	98%	84%	99%
2024	350	322	353
	98%	87%	99%
2023	317	460	302
	98%	90%	99%
2022	627	377	657
	99%	94%	100%
2021	478	493	477
	99%	88%	100%
2020	498	493	499
	99%	90%	100%

Sources: Institutional Shareholder Services, World Bank, Bloomberg and ECB calculations.
Notes: The percentages below each metric indicate data availability, calculated as the percentage of investments for which all required data (i.e. emissions data and financial data) are available. Scope 3 emissions are reported only as of 2020 owing to a methodological change in that year that prevents cross-year comparison.
Disclaimer: Scope 3 emissions are reported on a best-effort basis to aid transparency. Scope 3 emissions data remain subject to considerable quality issues that limit the reliability of the metrics. Substantial revisions to the disclosures are therefore possible in the future.

Annex 5

Emission metrics for the ECB's own funds portfolio

Portfolio value (EUR billions)

	Sovereign issuers			Non-sovereign issuers (scopes 1+2)			
	Sovereign and sub-sovereign bonds						
	Production						
	excl. LULUCF	incl. LULUCF	Consumption	Total	Supranational and agency bonds	Covered bonds	Equities
2025	16.8			4.8	3.4	0.8	0.6
2024	17.7			3.6	2.7	0.8	0.1
2023	17.1			3.3	2.4	0.9	
2022	16.1			3.2	2.2	1.0	
2021	15.1			3.8	2.3	1.5	
2020	15.2			4.3	2.2	2.1	
2019	14.5			5.0	2.2	2.8	
2018	12.7			5.3	2.4	2.9	
2017	13.2			5.2	2.7	2.5	

WACI (tCO_2e per EUR million PPP-adjusted GDP or per capita)

2025	113	110	9	9.4	3.7	0.4	45.9
	100%	100%	100%	98%	97%	99%	99%
2024	111	108	9	4.6	3.8	0.4	43.8
	100%	100%	100%	99%	99%	99%	99%
2023	117	112	9	0.7	0.8	0.3	
	100%	100%	100%	98%	98%	100%	
2022	126	121	9	1.0	1.1	0.9	
	100%	100%	100%	93%	89%	100%	
2021	162	154	9	1.6	1.5	1.7	
	100%	100%	100%	98%	96%	100%	
2020	159	150	8.3	1.3	0.6	1.9	
	100%	100%	100%	93%	90%	96%	
2019	167	157		1.6	0.5	2.8	
	100%	100%		76%	95%	62%	
2018	203	192		1.3	0.8	1.8	
	100%	100%		75%	91%	63%	
2017	203	192		0.5	0.5	0.7	
	100%	100%		51%	83%	20%	

Total carbon emissions (tCO_2e)

2025	2,035,874	1,984,520	2,548,167	9,334	798	60	8,475
	100%	100%	100%	93%	89%	98%	99%
2024	2,044,923	1,984,212	2,581,652	2,791	838	61	1,893
	100%	100%	100%	94%	92%	97%	99%
2023	2,105,480	2,019,696	2,656,261	676	617	59	
	100%	100%	100%	92%	90%	96%	
2022	2,160,683	2,064,563	2,694,656	488	380	108	
	100%	100%	100%	80%	84%	73%	
2021	2,401,327	2,288,745	2,940,459	286	91	195	
	100%	100%	100%	77%	81%	72%	
2020	2,392,300	2,244,635	2,820,973	437	13	424	
	100%	100%	100%	89%	82%	95%	
2019	2,335,855	2,200,898		376	26	350	
	100%	100%		68%	95%	49%	
2018	2,480,330	2,348,659		377	22	354	
	100%	100%		70%	91%	55%	
2017	2,585,769	2,439,367		79	38	41	
	100%	100%		51%	83%	20%	

Carbon footprint (tCO_2e per EUR million invested)

2025	113	110	141	2.4	0.3	0.1	13.7
	100%	100%	100%	93%	89%	98%	99%
2024	111	108	140	0.9	0.4	0.1	14.0
	100%	100%	100%	94%	92%	97%	99%
2023	117	112	148	0.2	0.3	0.1	
	100%	100%	100%	92%	90%	96%	
2022	126	121	157	0.2	0.2	0.1	
	100%	100%	100%	80%	84%	73%	
2021	162	154	198	0.1	0.1	0.2	
	100%	100%	100%	77%	81%	72%	
2020	159	150	188	0.1	0.0	0.2	
	100%	100%	100%	89%	82%	95%	
2019	167	157		0.1	0.0	0.3	
	100%	100%		68%	95%	49%	
2018	203	192		0.1	0.0	0.2	
	100%	100%		70%	91%	55%	
2017	203	192		0.0	0.0	0.1	
	100%	100%		51%	83%	20%	

Carbon intensity (tCO_2e per EUR million PPP-adjusted GDP or per capita)

2025	113	110	9	19.2	5.1	0.5	40.1
	100%	100%	100%	93%	89%	98%	99%
2024	111	108	8	8.7	5.8	0.5	39.1
	100%	100%	100%	94%	92%	97%	99%
2023	117	112	8	2.5	4.8	0.4	
	100%	100%	100%	92%	90%	96%	
2022	126	121	9	3.1	6.8	1.07	
	100%	100%	100%	80%	84%	73%	
2021	162	154	9	1.5	1.6	1.5	
	100%	100%	100%	77%	81%	72%	
2020	159	150	8.0	1.7	0.3	2.1	
	100%	100%	100%	89%	82%	95%	
2019	167	157		1.4	0.2	2.2	
	100%	100%		68%	95%	49%	
2018	203	192		1.5	0.2	2.2	
	100%	100%		70%	91%	55%	
2017	203	192		0.5	0.4	0.8	
	100%	100%		51%	83%	20%	

Sources: Institutional Shareholder Services, World Bank, Bloomberg and ECB calculations.
Notes: The portfolio value is the market value expressed in EUR billions. The percentages below each metric indicate data availability, calculated as the percentage of investments for which all required data (i.e. emissions data and financial data) are available. For non-sovereign issuers, the coverage includes scope 1 and 2 emissions. Where these are available and reliable, the Eurosystem uses scope 2 emissions data following the market-based approach, which reflects emissions from electricity, steam, heat or cooling that companies have purposefully chosen (or their lack of choice) and derives emission factors from contractual instruments. Sovereign consumption emissions metrics have been recomputed for 2020 until 2025 in this report using data from ISS, whereas there are no available metrics for the years 2018 and 2019.

Annex 6

Scope 3 emission metrics for the non-sovereign investments of the ECB's own funds portfolio

WACI (tCO_2e/EUR million revenue)

	Total	Supranational and agency bonds	Covered bonds	Equities
2025	1,920	2,128	1,900	1,049
	98%	97%	99%	99%
2024	2,035	2,116	1,974	991
	99%	99%	99%	99%
2023	1,349	1,301	1,458	
	98%	98%	100%	
2022	1,353	1,353	1,353	
	93%	89%	100%	
2021	487	317	727	
	98%	96%	100%	
2020	470	343	587	
	93%	90%	96%	

Total carbon emissions (tCO_2e)

2025	810,661	301,655	278,245	230,761
	92%	89%	98%	99%
2024	638,277	271,016	314,877	52,384
	94%	92%	97%	99%
2023	399,764	171,417	228,347	
	92%	90%	96%	
2022	201,068	73,602	127,466	
	80%	84%	73%	
2021	100,379	18,917	81,462	
	77%	81%	72%	
2020	116,667	17,313	99,354	
	89%	82%	95%	

Carbon intensity (tCO_2e/EUR million revenue)

2025	1,669	1,928	2,356	1,092
	93%	89%	98%	99%
2024	1,987	1,882	2,446	1,081
	94%	92%	97%	99%
2023	1,458	1,343	1,559	
	92%	90%	96%	
2022	1,287	1,325	1,266	
	80%	84%	73%	
2021	542	326	640	
	77%	81%	72%	
2020	455	345	482	
	89%	82%	95%	

Carbon footprint (tCO_2e per EUR million invested)

2025	210	123	351	373
	93%	89%	98%	99%
2024	201	123	379	387
	94%	92%	97%	99%
2023	141	88	256	
	92%	90%	96%	
2022	79	41	164	
	80%	84%	73%	
2021	36	11.0	79	
	77%	81%	72%	
2020	33	10.9	52	
	89%	82%	95%	

Sources: Institutional Shareholder Services, World Bank, Bloomberg and ECB calculations.
Notes: The percentages below each metric indicate data availability, calculated as the percentage of investments for which all required data (i.e. emissions data and financial data) are available. Scope 3 emissions are reported only since 2020 owing to a methodological change in that year that prevents cross-year comparison.
Disclaimer: Scope 3 emissions are reported on a best-effort basis to aid transparency. Scope 3 emissions data remain subject to considerable quality issues that limit the reliability of the metrics. Substantial revisions to the disclosures are therefore possible in the future.

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For specific terminology please refer to the ECB glossary (available in English only).

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