DEUTSCHE BUNDESBANK
EUROSYSTEM

Climate-related disclosures by the Deutsche Bundesbank 2022

Part of the Eurosystem-wide climate-related disclosures on the non-monetary policy portfolios (NMPPs)

Content

Summary

The effects of climate change impact on the whole of society. As a public institution, the Bundesbank is working hard to address the implications of climate change, mainly those of a financial nature. These impacts will be the subject of regular Bundesbank disclosures going forward.

Climate change and climate policy touch upon the Bundesbank's tasks in a variety of ways. To face up to these new challenges, the Bank has steadily expanded its analytical capacities in the field of climate change in recent years. It is also actively involved in implementing the Eurosystem's action plan to incorporate climate change considerations into the monetary policy framework and championing a sustainable financial system at both a national and global level. Climate-related activities within the Bank are being coordinated and steered by the Green Finance Steering Committee in dialogue with the Executive Board.

The consequences of climate change and climate policy can be a source of financial risks to the Bank's own balance sheet, which is why the Risk Control Division routinely analyses these risks. These climate-related risks also have a bearing on the Bank's own, euro-denominated non-monetary policy portfolio (euro portfolio). Measuring and disclosing of greenhouse gas emissions and other climate-related metrics for the Bundesbank's euro portfolio is key to better understanding and analysing climate-related risks.

The first results of these efforts are summarised in this report. The present document is structured around the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), which specifically comprise four pillars: (i) governance, (ii) strategy, (iii) risk management, and (iv) metrics and targets.

Greenhouse gas metrics recommended by the TCFD have been calculated for the Bundesbank's euro portfolio. These include the weighted average carbon intensity (WACI) and carbon footprint of the securities held in this portfolio. The weighted average carbon intensity of the Bank's own portfolio comes to 1.85 tonnes of CO_2e per million euro of gross income, while the carbon footprint amounts to 0.13 tonnes of CO_2e per million euro of investment.

The measured values are comparatively low because of the structure of the Bundesbank's euro-denominated own portfolio, which consists entirely of covered bonds issued by banks. The metrics presented in this report cover only the emissions caused by the covered bond issuers. Because the data situation is inadequate at present, the greenhouse gas emissions financed by the banks (issuers) via their investments and/or loans are not currently included in the calculations. As the data situation improves and allows the financed greenhouse gas emissions to be accounted for, the resulting climate-related metrics calculated for the euro portfolio are likely to be significantly higher. Hence, the current metrics offer limited informative value and comparability.

Future climate-related disclosures will deliver more meaningful insights as the scope and quality of the available greenhouse gas data gradually improve. The Bundesbank is pushing at the national and global level for wider availability of comprehensive, consistent and up-to-date data as a way of creating greater comparability and transparency.

1. Foreword

The implications of climate change and climate policy touch upon almost all of a central bank's core tasks. This insight prompted the Bundesbank to identify "sustainability" as one of four megatrends back in 2020 as part of its in-house strategy review, and led to strategic objectives relating to specific business areas being fleshed out to address this topic. One such initiative as part of Strategy 2024 saw the Bank strengthen its analytical capabilities, particularly in the field of climate change. Towards the end of 2019, the Executive Board created the new capacities needed for this across all the relevant areas. Within its mandate, it is one of the Bundesbank's declared objectives to play a part in boosting market transparency surrounding the financial implications and risks of climate change and to act as a catalyst for sustainable change in the financial system.

The beginning of 2021 saw the Governing Council of the European Central Bank (ECB) agree on a common stance for climate change-related sustainable and responsible investment principles for the euro-denominated non-monetary policy portfolios of the Eurosystem central banks. One aspect of this common stance is the climate-related disclosure and measurement of both carbon emissions and other metrics for these portfolios. Disclosures should be structured around the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and its four pillars: (i) governance, (ii) strategy, (iii) risk management and (iv) metrics and targets, with the fourth pillar being covered as a minimum. Annual disclosures of climate-related information on these portfolios are scheduled to begin in the first quarter of 2023 at the latest. The Bundesbank has decided to present its first report sooner, in the summer of 2022. This disclosure goes beyond the minimum requirements. Besides disclosing climate-related metrics for Bank's own, euro-denominated non-monetary policy portfolio (euro portfolio), this report also shows how internal governance is organised with respect to climate-related risks and opportunities. It also gives an account of the Bundesbank's efforts in the national and global arena to combat climate change and its financial consequences, and presents the strategy for incorporating climate-related criteria into portfolio management. Climate risks are financial risks, too. That is a very important point, especially from the vantage point of a central bank. How the Bundesbank incorporates the risks associated with climate change into its risk management is explained in the relevant section. This report thus covers each of the four core thematic areas recommended for disclosure by the TCFD.

2. Governance

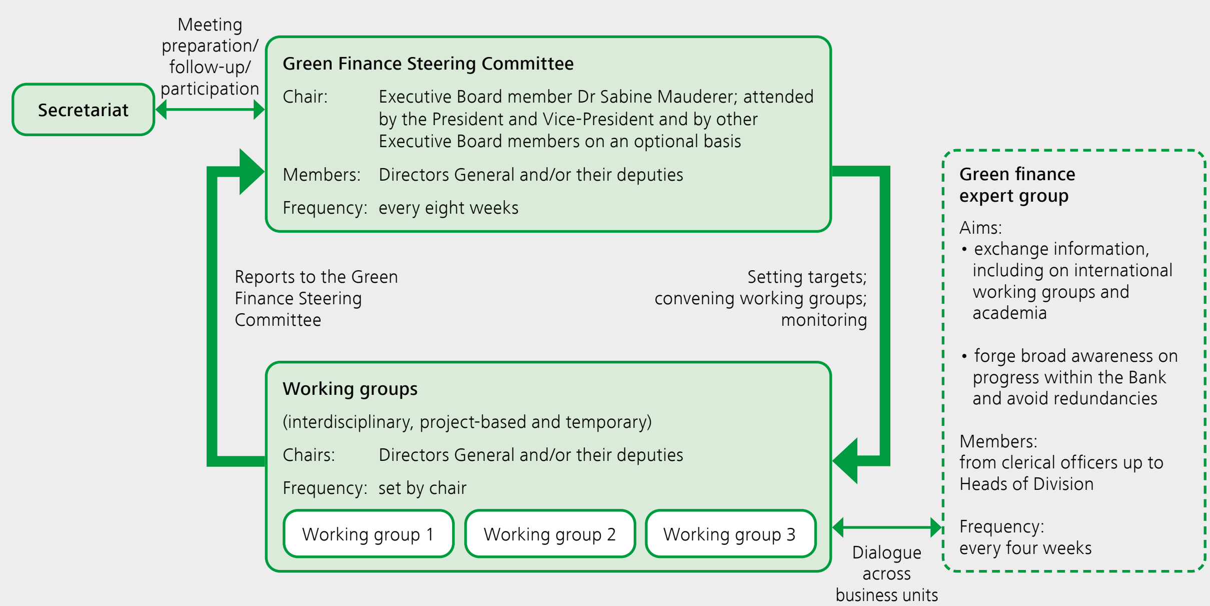
As a way of improving the coordination and steering of work related to the repercussions of climate change and climate policy throughout the Bundesbank, the Executive Board established the Green Finance Steering Committee at the beginning of 2021. This body coordinates and steers the work programme on climate change and climate-related risks, and provides overarching strategic impetus for the Bundesbank as a whole.

Chaired by Executive Board member Dr Sabine Mauderer, the committee convenes roughly every eight weeks. Every second meeting is attended by the Bank's President and Vice-President, while other Executive Board members are regular participants in meetings as well. Management-level representatives from numerous business units also attend committee meetings. [1] The committee uses working groups made up of staff members from different business units to handle specific or temporary climate-related projects (including climate and monetary policy, climate scenario work, defining a bank-wide understanding of sustainability). One or two business units generally lead each of these working groups, meaning they organise and monitor work flows, define priority topics and ensure that work advances as scheduled. The heads of each working group report regularly to the Executive Board members in attendance at the meetings of the Green Finance Steering Committee.

1 Banking and Financial Supervision, Financial Stability, Research Centre, Communications, Markets, Legal Services, Risk Control, Statistics and Economics.

The Green Finance Steering Committee is flanked by a green finance expert group, which is a forum for regular expert-level interaction and dialogue across the Bank. This expert group sets out to facilitate a broad exchange of information on work ongoing within and outside the Bank, promote interdisciplinary networking across the institution and prevent the duplication of work. Figure 1 sketches out the structure of the Green Finance Steering Committee and the role it plays.

Work on green finance – governance structure Figure 1



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In addition, the business units are responsible for flagship projects of their own (such as a model for analysing climate policies, climate risk disclosures, and data management). The Green Finance Steering Committee secretariat keeps a running list of these flagship projects, and the business units report once a quarter on how the projects are progressing. These quarterly meetings also see the Green Finance Steering Committee advise on the priorities and relevance of such work, provide leadership and guidance for ongoing projects, and offer impetus and inspiration for possible new projects.

The existence of the Green Finance Steering Committee ensures that various business units across the Bundesbank are well-informed about the many different activities and are networked internally, while the Executive Board remains in the loop about the wide range of activities and has the opportunity to intervene, should the need arise. This way, the analyses and projects in the various business units can be steered with precision by the Executive Board members.

3. Strategy

Addressing climate change is a global challenge. Even if the Bundesbank is already doing a great deal on this front and stepping up its efforts all the time, it is also crucial to cooperate with others. The Bundesbank breathes life into this collaborative strategy by getting involved as an institution at many levels and in various bodies – in Germany, at the European level and worldwide. At the same time, the Bundesbank takes its responsibilities seriously as far as its own financial investments are concerned, which is why it considers sustainability criteria in its euro portfolio.

3.1. Climate risk committee work

3.1.1 International bodies

Network for Greening the Financial System (NGFS):
Many central banks around the world are aware of their responsibilities and take them seriously. More and more of them are looking to align their activities with climate-related considerations. The Bundesbank was one of the founding members of the Network for Greening the Financial System (NGFS), which now brings together over 110 central banks and supervisory authorities worldwide. The NGFS is pushing to make the financial system more sustainable. Its goal is to analyse the implications of climate change for the financial system and mobilise global financial flows towards climate-friendly, low carbon economic growth in a way that supports compliance with the Paris Climate Agreement targets. The NGFS thus makes a valuable contribution, not just to the activities of central banks and supervisory authorities, but also to the global debate on the impact of climate change on the economy and financial markets. Besides facilitating joint analysis, the network mainly serves as a platform for sharing best practices for identifying climate-related financial risks and improving the way they are managed. It also explores ways to promote the consideration of sustainability aspects as a factor in investment decisions and to thus play a part in establishing the most uniform possible global standards.

A long-standing member of the NGFS Steering Committee, Bundesbank Executive Board member Dr Sabine Mauderer was named Vice-Chair of the NGFS at the start of 2022, making her a key player in defining the network's strategic focus. The year 2024 will see Dr Mauderer take over as Chair of the NGFS for a two-year term. Dr Mauderer's new role underlines the Bundesbank's intention to make even more of a contribution to the debate on incorporating climate change considerations into the range of tasks performed by central banks and, above all, into its own actions going forward. Since back in 2018, the Bundesbank has been chairing the NGFS workstream Scaling up green finance, which looks in detail at various topics concerning financial markets and has produced and published a large number of reports and analyses. For example, this workstream has performed crucial groundwork with its analyses of the implications of climate change for central banks' operational frameworks and for the implementation of monetary policy in practical terms. In addition, a "how-to" guide helping central banks to disclose their own climate-related risks in compliance with the TCFD recommendations was published at the end of 2021. The idea behind this guide is to enable central banks to lead by example in matters of disclosure. Transparency, green taxonomies and the verification of sustainability standards for financial products are crucial for greening the financial system, which is why they also feature prominently in the current work programme. In addition, the Bundesbank is sharing its expertise within the numerous other NGFS working groups as well, whether the activities concern the analysis of prudential issues or the enhancement of scenario analyses for assessing climate-related risks to financial stability.

German G7 Presidency:
Germany holds the G7 Presidency in 2022. Climate change is a major topic, just as it was during the UK's Presidency last year. The Bundesbank is cooperating very closely with all its partners in this area, especially with Federal ministries. The Finance Track saw the creation of a dedicated G7 Working Group on Climate Change

Mitigation, which started its work this year under the German Presidency. The central banks and finance ministries of the G7 countries as well as global institutions are making major contributions to this working group with the aim of achieving global comparability across different climate policies and reduction paths. The working group is also looking to strengthen the analytical capabilities needed to gain a clearer understanding of how climate action impacts on key macroeconomic and financial variables and interpret them better using more sophisticated methodologies. The Bundesbank is enriching these efforts with its analytical expertise.

One key prerequisite for all this analytical work, however, is the existence of sufficient, informative climate data to conduct a meaningful assessment of risks that climate change presents to the financial system. Numerous regulatory disclosure requirements in the years ahead will produce an increasing flow of new data. One of the challenges in this respect will be to establish clear, consistent and comprehensible ways of processing and providing these data. Within the context of this additional G7 priority topic, the Bundesbank is working on improving access to both existing and prospectively available climate data. Work is ongoing in this regard to build up and maintain an online climate data repository, and the Bundesbank is liaising closely with the NGFS and others on this front.

3.1.2 National bodies

The Bundesbank has been a permanent observer of the Federal Government's Sustainable Finance Committee (SFC) since the committee's early days. By playing a constructive role in the SFC's discussions and negotiations, the Bank has helped lay the foundations for Germany's Sustainable Finance Strategy, which was built around the SFC's final report. The SFC is continuing its work under the new Federal Government, and the Bundesbank will remain a committee member, providing advisory services for the relevant institutions on the SFC to make Germany a leading centre for sustainable finance in keeping with its commitment to preserving financial stability.

There is another national forum – the Green and Sustainable Finance Cluster Germany (GSFCG) – of which the Bundesbank has been a member for far longer. As the main platform for dialogue and cooperation among private and public market participants on the topic of sustainable finance in Germany, the GSFCG pools resources, facilitates the exchange of views and best practices, produces its own assessments and opinions, offers training courses and organises expert-level dialogue for the German financial centre.

3.2. Eurosystem action plan to incorporate climate change considerations into the monetary policy framework

Being part of the Eurosystem, the Bundesbank, alongside the other Eurosystem central banks, plays a part in implementing the ECB Governing Council's landmark strategy decision of July 2021. This decision underlines a commitment to more systematically reflect environmental sustainability considerations in monetary policy implementation, in line with the specific Eurosystem mandate enshrined in the EU Treaties. The aim is to gradually implement this decision together with the other central banks of the Eurosystem. This is another mission the Bundesbank is working on with a great deal of commitment.

The ECB Governing Council's decision was a key outcome of the Eurosystem's monetary policy strategy review concluded in the summer of 2021. That review saw the ECB Governing Council acknowledge that combatting climate change is a global challenge. While it is up to governments and parliaments, in the first instance, to take action against climate change, the Eurosystem central banks – and thus also the Bundesbank – see the need to incorporate climate change considerations into their monetary policy framework, within their mandate. One aspect of the new strategy is an action plan to further incorporate climate change into the monetary policy framework.

This action plan covers three broad thematic areas. First, it is important to pave the way forward with reliable data. That means collecting the data needed to analyse risk, not least with a view to aligning the models with climate change. Second, the Eurosystem is performing climate stress tests to gauge how far climate risks are accounted for on market participants' balance sheets – and that also means the Eurosystem central banks' own balance sheets. Third, consideration is being given to the possibility going forward that the Eurosystem should, for monetary policy purposes, purchase securities or accept them as collateral on a preferential basis if their issuers meet certain climate-related disclosure obligations. In addition, the Eurosystem is adding certain climate-related criteria to the rules governing the purchase programmes, in line with its mandate.

Eurosystem action plan

Figure 2

Pave the way forward with reliable data	Knowledge: the driving force	Base action on robust data and well-founded knowledge
1. Collect data needed to analyse climate change risks 2. Align our models with climate change	1. Perform climate stress tests 2. Check our own balance sheet for climate-related risks 3. Probe firm and bank balance sheets for climate-related risks 4. Ensure climate-related risks are incorporated into internal and external ratings	1. Incorporate climate-related risks into our collateral framework 2. Incorporate climate protection considerations into purchase programmes

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Work is currently centred around finding solutions to numerous conceptual and technical issues concerning the implementation of the action items. The Bundesbank is an active player in the relevant Eurosystem working groups. Further details on this topic were published recently by the ECB Governing Council.

3.3. SRI data procurement project

Late February 2022 saw the Bundesbank, acting on behalf of all the central banks that belong to the European System of Central Banks (ESCB), sign contracts with two dedicated providers of climate-related data, ISS ESG and Carbon 4 Finance. This marked a key step towards implementing the ECB action plan to incorporate climate change considerations to a greater extent. Under these agreements, all the ESCB central banks are now able to access these newly procured climate-related data.

The tender procedure was one outcome of the Eurosystem's common stance on climate change-related disclosures and the application of sustainable and responsible investment principles for the non-monetary policy portfolios. Looking ahead, these data also pave the way for the disclosure of potential climate-related financial risks in monetary policy portfolios or other Eurosystem tasks, such as banking supervision.

Harmonised data use across the Eurosystem offers many advantages. The common set of data means that Eurosystem central banks can produce uniform, transparent and comparable climate-related analyses. What is more, it provides broader coverage of data and metrics, closing data gaps. The procurement project may have been successfully concluded, but the Bundesbank will continue to liaise closely with the data providers so that certain aspects of the data delivery, such as the coverage ratios, can be permanently aligned with Eurosystem requirements and, if necessary, advanced in consultation with the providers.

"The availability of comprehensive, consistent and timely data is the key to everything we do. The better the data situation, the more targeted our actions can be."

Dr. Sabine Mauderer
Executive Board Member, Deutsche Bundesbank

3.4. Sustainable investment strategy for the euro portfolio

The Bundesbank is also looking to tackle climate-related risks head on by systematically accounting for them in its own non-monetary policy investments. The first step in this direction is being taken this year in the Bank's euro portfolio, which is invested in an effort to improve the risk/reward profile. In accounting terms, this portfolio is a counterpart to the Bundesbank's capital, statutory reserves and long-term provisions for civil servant pensions and health-care assistance, and is therefore limited to a certain volume accounting for only a small share of the Bundesbank's balance sheet. Within the scope of its statutory mandate, the Bundesbank is aiming to add sustainability to the criteria it applies in the management of its euro portfolio, alongside the improvement of earnings, safety and liquidity. Investments in the euro portfolio are to focus on climate change and the transition to a low carbon economy.

The euro portfolio consists exclusively of fixed income euro-denominated covered bonds, which are generally held to maturity. These covered bonds are purchased only from Germany, France, Finland, the Netherlands and Belgium.

To invest in a sustainable manner, the Bundesbank began by developing its own understanding of sustainability for its euro portfolio. This understanding was prepared by the Green Finance Steering Committee and agreed upon by the Executive Board. It stakes out general criteria for the euro portfolio's sustainable investment strategy and defines its objectives. This strategy excludes issuers that have committed systematic, serious breaches of globally recognised minimum standards – specifically, the UN Global Compact, the OECD Guidelines for Multinational Enterprises, the ILO core labour standards and international treaties on prohibited weapons. If an issuer breaches these criteria, its securities or the issuer itself are excluded from the investable universe.

The Bundesbank has opted to implement a sustainable investment strategy at the issuer level for its euro portfolio. This approach consists of two steps. In the first step, negative screening is used to find issuers that have committed systematic, serious breaches of the minimum standards mentioned above. The Bundesbank bases this assessment on selected ratings from ISS ESG, a data provider. A second step sees the focus switch to climate change and the low carbon economy, with issuers being analysed in terms of their climate-related sustainability profile. The sustainability profile is based on a combination of two ratios which the sustainability data provider ISS ESG produces for all the eligible issuers: the carbon risk rating (CRR) and the greenhouse gas intensity. Those issuers with the best sustainability profile are then overweighted in the benchmark portfolio[2] and the worst are underweighted. In effect, then, a tilting approach is followed. The plan is to gradually expand the investment strategy pursued in the euro portfolio and regularly review its suitability. This is also particularly important if the quality of the available data improves to such an extent

2 The benchmark portfolio is replicated by the euro portfolio. The constraints caused by limited data availability are discussed on pp. 14 ff.

4. Risk management

The Bundesbank is exposed to various financial risks in the performance of its statutory tasks. In addition to the credit, market, interest rate and liquidity risks that individual balance sheet assets are exposed to, the Bank also needs to account for reputational risks resulting from financial losses. Responsibility for risk management generally lies with the Executive Board. Risks from lending related to monetary policy operations and to securities portfolios held for monetary policy purposes, however, are managed primarily according to Eurosystem rules, which are based on decisions by the ECB Governing Council. If these are assets that are subject to loss sharing according to the capital key, the risk perspective in this case looks beyond the Bank's own balance sheet to the loans provided or securities portfolios purchased by Eurosystem central banks as a whole.

Climate-related financial risks comprise not just the effects of climate policy, like the imposition of a carbon tax, say, but also changes in consumer preferences such as the switch to electric cars (transition risk drivers). These exist alongside the actual repercussions of climate change itself, such as floods, droughts and other extreme weather events, as well as long-term developments, such as rising sea levels (physical risk drivers).

The Risk Control Division measures, monitors, analyses and communicates financial risks internally. In organisational terms – including at Executive Board level – it is segregated from the risk-taking units in Markets. Risk monitoring results are documented in regular Risk Control reports to the Executive Board. These reports now also include information on climate-related financial risks.

A broad "double materiality" perspective is often taken in the sustainability and climate debate. "Double materiality" means considering two factors: the impact of climate change and climate policy on the intrinsic value of an entity's own reported assets (outside-in perspective), and the direct or indirect impacts of the entity's own activities in terms of promoting or mitigating climate change (inside-out perspective). When it comes to risk assessments in the narrower sense of the term, however, the only approach that matters is the outside-in perspective – that is, an assessment that is concerned with protecting the balance sheet from financial risks, including climate-related financial ones. However, risk management in the broader sense can also take a wider perspective: if climate-related aspects of an entity's own activities are not accounted for to any great degree, this could garner a negative public response, damaging the entity's reputation.

The challenge in analysing and assessing climate-related risks is, in particular, that it stretches the use of traditional risk models to its limits. These models are based on probability distributions, which are calculated using a longer data history and assuming constant structural relationships. Yet that assumption is problematic given that forecasts of climate change dynamics, climate policy measures and the responses of economic agents have very long horizons and are highly uncertain. While the collection of data relevant to financial climate risks is gradually getting started, substantial improvements in their quality and standardisation are still needed. Scenario-based climate and climate impact models appear to be highly suitable but it is currently difficult to break them down to the level of individual exposures or debtors.

The analysis of climate-related risks can, for example, start by looking at the different underlying conditions that exist among corporate, bank and sovereign debtor groups. Data on greenhouse gas emissions are often used as an indicator, especially for non-financial corporations. They can be linked to an approach that identifies belonging to a given economic sector as a key indicator of how sensitively companies' business models will respond to the transition to a low-carbon economy. For banks, the available data on greenhouse gas emissions cover only a limited part of their ongoing business operations, which also accounts for comparatively little of the financial sector's overall climate impact. Greenhouse gas data which also include emissions funded by lending or by securities portfolios held (scope 3) are not yet being recorded across the board. As explained in Section 5 on climate-related metrics, this considerably reduces their informative value.

Irrespective of this, it can be said that broadly diversified loan and banking books as well as short loan maturities limit the impact of climate-related risk drivers. The impact of climate change on the solvency of sovereign debtors is very complex. Expenditure on adaptation and mitigation measures as well as the costs of natural disasters, for example, represent a direct burden on government budgets. Transitioning away from fossil fuels may lead to structural changes in an economy that affect the country's long-term growth potential and thus the resilience of its public finances. For the group of sovereign debtors, another source of uncertainty when assessing transition risks lies in the fact that climate policy is not an externally prescribed framework but is shaped by governments themselves, i.e. it can be pursued with varying levels of ambition.

5. Metrics

5.1 Greenhouse gas emissions of the euro portfolio

On the reference date of 31 December 2021, the euro portfolio consisted exclusively of covered bonds. These are bonds issued by banks, which are mainly backed by real estate mortgages. The greenhouse gas metrics (GHG metrics) were selected on the basis of the TCFD recommendations; they are the weighted average carbon intensity (WACI) and the carbon footprint. They are calculated on the basis of the scope 1 and scope 2 GHG emissions generated by the bond issuers in 2020. The calculations use data derived from banks' disclosures (such as sustainability reports), which are mostly obtained from the ESG data provider ISS ESG.

Euro portfolio as at 31 December 2021	
Portfolio holdings	€10.4 billion
WACI (Coverage)	1.85 tCO_2e per million euro of gross income (86,6%)
Carbon Footprint (Coverage)	0.13 tCO_2e per million euro of investment (86,4%)
Carbon Risk Rating (Coverage)	64,3 (100,0%)
Sources: ISS ESG, Bloomberg, enterprises' sustainability reporting, Bundesbank data and calculations	

The WACI of the euro portfolio amounts to 1.85 tonnes of CO_2e per million euro of gross income (scope 1 emissions make up 0.59 tonnes of CO_2e per million euro of gross income and scope 2 emissions account for 1.26 tonnes of CO_2e per million euro). Compared with the 39 largest European banks by market capitalisation (according to the STOXX Europe 600 Banks index), the euro portfolio has a lower average GHG intensity (WACI of 2.80; scope 1: 0.84; scope 2: 1.95), particularly in the case of scope 2 emissions.[3] The carbon footprint of the euro portfolio amounts to 0.13 tonnes of CO_2e per million euro of investment.

However, both GHG metrics represent only a small part of the GHG emissions relating to the euro portfolio. This is because neither scope 1 nor scope 2 emissions include bank-financed GHG emissions (see the info box in Section 5.4). The latter fall under scope 3 emissions, which are not yet adequately recorded. Consequently, the WACI and carbon footprint do not show the extent to which the bonds were used to finance energy-efficient real estate, for example. The informative value of the metrics is therefore significantly limited in regard to the euro portfolio. In

3 Own calculation based on the composition of the STOXX Europe 600 Banks index on 1 June 2022 and ESG data from ISS ESG. Here, the calculated WACI corresponds to the average GHG intensity of the 39 banks.

particular, the results are not comparable to those for portfolios containing securities issued by non-financial corporations or governments.

5.2. Negative screening for breaches of international standards and involvement in controversial weapons

Following the sustainable investment strategy for the euro portfolio, issuers of the securities held in the portfolio are screened for compliance with minimum standards on an ongoing basis. The negative screening for breaches of international standards is grounded in the norm-based assessment of companies by the ESG data provider ISS ESG. As at the reference date of 31 December 2021, the euro portfolio did not include any securities issued by companies for which ISS ESG had detected proven (e.g. legally), serious breaches of international standards. Nor did ISS ESG identify any involvement in controversial weapons for any of the companies.

The euro portfolio thus meets the minimum standards set out in the sustainable investment strategy.

5.3. Green and brown shares of the euro portfolio

The green and brown shares of a portfolio are calculated from companies' business activities that are financed by the portfolio, taking into account the (percentage) shares of corporate revenue deemed by ISS ESG to be beneficial (green) or harmful (brown) to the environment. If the funded companies are banks (as in the case of the euro portfolio), it is the relevant shares of business volume (including lending and investment) rather than shares of revenue that feed into the calculation.

The green share of the Bundesbank's euro portfolio amounts to just under 2% (compared with 0.4% for STOXX Europe 600 Banks).[4] This green share is largely accounted for by the shares of banks' business volumes that are used to fund renewable energy sources or buildings certified as energy-efficient. By contrast, the brown share of the euro portfolio stands at just over 0.1% (compared with 0.8% for STOXX Europe 600 Banks). The recorded brown business activities of the banks are connected to the financing of vehicles with combustion engines.

ISS ESG does not count the majority of financing as beneficial or even harmful to the environment.[5] However, the extent to which environmental impact can be captured depends on the level of transparency exhibited by banks, which also varies widely in relation to the euro portfolio. Nevertheless, the metrics provide an initial indication of how environmentally friendly financing activities are. However, their informative value could benefit considerably from greater transparency on the issue of sustainability in the financial markets.

4 Own calculations. Average based on the composition of the STOXX Europe 600 Banks index on 1 June 2022 and business activities recorded by ISS ESG.
5 For the majority of banks, ISS ESG notes that, although there are further financing activities with a positive or negative environmental impact, where their volumes are very small, these activities are not quantified by ISS ESG and are not counted towards the green or brown shares.

5.4. Methodology for metrics used

Info box on scope 1, scope 2 and scope 3 GHG emissions

Scope 1, scope 2 and scope 3 GHG emissions			
	Scope 1	Scope 2	Scope 3
Description	A company's direct greenhouse gas emissions.	A company's indirect greenhouse gas emissions from the generation of energy (electricity, heat) purchased from energy producers.	A company's indirect greenhouse gas emissions that are not included in scope 2. Encompasses all other upstream and downstream processes along the company's value chain.
Unit of measurement	Tonnes of CO_2 equivalents (tCO_2e)		
Source	Companies' disclosures (e.g. sustainability reports); modelling by ESG data providers		
Included in GHG metrics	Yes	Yes	No (Data availability and quality insufficient so far)

GHG intensities	
Description	A company's greenhouse gas intensity gives its GHG emissions per unit of revenue or, for banks, gross income. So far, only GHG emissions that fall under scope 1 and scope 2 have been included when calculating the GHG intensity, as data on scope 3 emissions are not collected across the board. The GHG intensity indicates transition risks to which a debtor could be exposed as a result of climate policy measures (e.g. higher taxation or sanctioning of greenhouse gas emissions).
Unit of measurement	tCO_2e per million euro of revenue or gross income (banks)

Metric: Weighted average carbon intensity (WACI)

$$\sum_{n}^{i}\left(\frac{\textbf{Market value of the investment}_{\mathbf{i}}}{\textbf{Market value of the portfolio}} \times \frac{\textbf{GHG emissions of the company}_{\mathbf{i}}}{\textbf{Revenue of the company}_{\mathbf{i}}}\right)$$

First, the greenhouse gas intensities of individual companies are calculated by setting a company's greenhouse gas emissions (currently scope 1 and scope 2) in relation to its revenue (sales revenue in the case of non-financial corporations; gross income in the case of financial corporations). The share of the portfolio that the investment in a company represents is then multiplied by the company's greenhouse gas intensity.

This gives the weighted average carbon intensity (WACI) for the entire portfolio. The result provides an indication of whether a portfolio invests in more GHG-intensive companies in comparison with other portfolios or with a benchmark.

Metric: Carbon footprint

$$\frac{\sum_{n}^{i}\left(\frac{\textbf{Market value of the investment}_{\mathbf{i}}}{\textbf{Total assets of the company}_{\mathbf{i}}} \times \textbf{GHG emissions of the company}_{\mathbf{i}}\right)}{\textbf{Market value of the portfolio}}$$

To determine the carbon footprint, the shares of companies' greenhouse gas emissions financed by the portfolio are calculated. The value of the investment is therefore set in relation to the value of the company. For the latter, this report uses total assets.

The share of the financed company value is multiplied by the company's greenhouse gas emissions (currently scope 1 and scope 2) in order to calculate the quantity of greenhouse gas emissions financed. The latter is set in relation to the market value of the portfolio in order to calculate the carbon footprint. The carbon footprint thus reflects the greenhouse gas emissions financed per million euro of investment.

Carbon risk rating (CRR) assigned by ISS ESG

The carbon risk rating (CRR) assigned by the ESG data provider ISS ESG reflects how well a company is prepared for the low carbon economy of the future. The CRR is a value between 0 and 100, with 100 being the best rating. It is derived from a sector-specific baseline and a number of sector-dependent climate-related indicators. For example, a bank's range of green finance products has a positive influence on its CRR.

6. Outlook

This report represents a first step towards increasing the Bundesbank's transparency on issues surrounding the consideration and analysis of climate risks. Looking ahead, the Bundesbank intends to gradually expand its reporting on climate-related metrics and provide additional information on the sustainability of its assets.

Assets held for monetary policy purposes (loans and securities portfolios) make up a particularly large share of the Bundesbank's overall balance sheet. Since monetary policy operations are the shared responsibility of the Eurosystem, the data and methods needed to calculate climate-related metrics are jointly defined in collaboration with the ECB and the other Eurosystem central banks. The initial focus is on the publication of climate-related metrics for the corporate sector purchase programme (CSPP), which will take place for the first time in the first quarter of 2023. In addition, the Governing Council of the ECB recently decided, in future, to incorporate criteria for bond purchases under the CSPP which will reduce potential climate-related financial risks and support the transition to a low-carbon economy.

Future climate-related disclosures will deliver deeper insights as the scope and quality of the available greenhouse gas data for issuers of securities gradually improve. Adding scope 3 data is particularly important, as this would largely eliminate the aforementioned limitations of the metrics in their current form.