

# Climate-related disclosures of Národná banka Slovenska's non-monetary policy portfolios

Prepared for the Eurosystem TCFD  
disclosures

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# Summary

This climate-related disclosure is part of a joint Eurosystem project that delivers a unified, harmonised, and transparent approach to climate risks. It follows the first ever climate-related disclosure for the euro-denominated non-monetary policy portfolio of Národná banka Slovenska (NBS), published in March 2023. This year, the scope of the disclosure is more robust in terms of the categories recommended by the Task Force on Climate-related Financial Disclosures (TCFD), the portfolios covered, and the reported indicators. The climate-related disclosure now includes bond portfolios denominated in currencies other than the euro, as well as an equity portfolio. In terms of structure, in addition to the TCFD category 'Metrics and targets', the document also addresses the remaining three categories: 'Governance', 'Strategy', and 'Risk management'. Within 'Metrics and Targets', the standard carbon indicators have been supplemented by reporting the share of green bonds.

At present, NBS does not have an officially approved strategy regarding ESG and climate risks. Nevertheless, it actively monitors the ESG rating of its investments, focuses on investing in bonds that positively impact environmental, climate, and social issues, and publishes this climate report, which represents a significant step in the dissemination of climate metrics.

The results for most aggregate carbon metrics for NBS portfolios gradually improved over the 2021–2023 reporting period. However, the challenge for the future remains the total carbon emissions of non-governmental issuers, which reached high levels despite the improving trend. The main reason is the exposure to a South Korean power company and its subsidiaries. Despite relatively high greenhouse gas emissions, this company also finances environmental protection projects. For this purpose, it uses income from the issuance of green bonds, some of which were purchased for NBS portfolios.

NBS actively invests in green bonds, an innovative financial instrument used to finance investments in environmental projects or projects related to climate change. The total volume of green bonds in NBS portfolios grew during the period under review, reaching €265 million in 2023, which represents 3.5% of all bonds in the portfolios.

The remainder of the document is organised according to the recommendations of the TCFD into the following four parts: Governance, Strategy, Risk management, and Metrics and targets.

# 1. Governance

Národná banka Slovenska (NBS) manages foreign exchange reserves on the basis of the Act on Národná banka Slovenska (No 566/1992), as amended<sup>1</sup>: “Národná banka Slovenska shall hold in custody and manage foreign reserve assets in gold and in foreign exchange assets, shall use these reserves, and shall conduct foreign exchange operations; when conducting operations within the Eurosystem, it shall proceed in accordance with the rules applicable to Eurosystem operations”, as well as the rules applicable to Eurosystem national central banks (NCBs).

NBS has set itself a number of objectives for the management of reserves:

- The primary objective of reserve management is to generate the highest possible long-term returns within a defined risk tolerance and chosen investment horizon. These returns aim to help cover operating costs and strengthen NBS’s capital position.
- Holding a portion of foreign reserves in USD is intended to economically and efficiently meet the preliminary commitment to provide additional liquidity for any foreign exchange intervention by the ECB, a task arising from NBS’s membership in the Eurosystem.
- A stable portfolio of gold reserves is managed to ensure security and cost-effectiveness.

To support these objectives, the investment reserves are divided into two tranches: a variable-size tranche based on investment rules and a strategic tranche based on market indices. The strategic tranche also includes an intervention portfolio and a gold reserves portfolio. For the variable-size tranche, NBS primarily purchases government bonds, corporate bonds, and covered bonds denominated in EUR, USD, CAD, AUD, GBP, JPY, and CNY. For the strategic tranche, NBS mainly invests in government bonds denominated in EUR, USD, CAD, AUD, GBP, JPY, and CHF, as well as equity in the form of shares in ETFs.

All framework documents related to reserve management are approved by the Bank Board of Národná banka Slovenska. In 2023 the NBS Bank Board approved an Investment Policy Statement and a new strategic asset allocation. These documents also included proposals to actively address environmental, social and governance (ESG) aspects and climate-related risks, as well as opportunities in reserve management. In its investment process, NBS will adhere to the international obligations of the Slovak Republic and its own policies regarding these areas.

The new investment strategy also led to the establishment of two NBS committees. The first is the Risk Management Committee, which primarily deals with investment policy, strategic asset allocation, and investment rules and limits. The second is the Investment Committee, responsible for tactical benchmarks and decisions on active versus passive asset management. These committees usually meet monthly to discuss various topics,

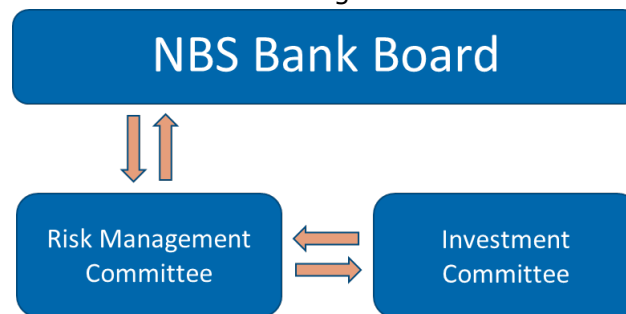
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<sup>1</sup> [Act on Národná banka Slovenska](#) <sup>2</sup> The NGFS is a global network of central banks and banking supervisors that promotes a more sustainable financial system. Its aim is to analyse the consequences of climate change on the financial system and to redirect global financial flows to support economic growth with a low carbon footprint.

including specific decisions regarding climate risks and opportunities, as well as the ESG aspects of investment reserves. Their recommendations are then submitted to the NBS Bank Board as separate documents or incorporated into internal regulations.

**Figure 1**

Investment reserve management scheme



## 2. Strategy

In November 2019 NBS became a member of the international group known as the Network for Greening the Financial System (NGFS),<sup>2</sup> which is dedicated to addressing and analysing the financial risks and opportunities associated with climate change and the transition to a low-carbon economy.

During the 2021 United Nations Climate Change Conference (COP26) in Glasgow, NBS reiterated its commitment to contributing, within its mandate, to the global response to climate change. NBS has pledged to support the collective commitment made through the NGFS and the European Central Bank (ECB) declarations, and it is committed to gradually integrating sustainability into its core functions and internal operations.

In February 2021 the Eurosystem central banks, including NBS, defined a common stance<sup>3</sup> for applying sustainable and responsible investment principles in the euro-denominated non-monetary policy portfolios managed by national central banks (NCBs). The common stance aims to assist all Eurosystem members in advancing the transition to a low-carbon economy and achieving EU climate objectives. Consequently, these climate-related disclosures have been published annually since 2023 as part of this initiative.

In 2023 NBS actively participated in climate change discussions, both within various initiatives and groups it is a part of, and by organising several internal expert seminars on climate change. Notably, NBS co-hosted a conference with the International Sustainable Finance Centre titled 'Climate and Sustainability Risks and Opportunities'. This event brought together managers from key sectors in Slovakia to discuss the

<sup>2</sup> The NGFS is a global network of central banks and banking supervisors that promotes a more sustainable financial system. Its aim is to analyse the consequences of climate change on the financial system and to redirect global financial flows to support economic growth with a low carbon footprint.

<sup>3</sup> [Eurosystem agrees on common stance for climate change-related sustainable investments in non-monetary policy portfolios](#), ECB press release, February 2021.

challenges of climate change and strategies for addressing related risks and opportunities.

In managing investment reserves, a formal strategy for addressing climate risks and opportunities has not yet been established. However, internal discussions are ongoing about the potential implementation of negative screening in bond portfolios and the acquisition of equity ETFs aligned with climate benchmarks. Simultaneously, NBS is negotiating with an external company the possibility of developing a customised solution for equity ETFs that would align with the goal of achieving carbon neutrality.

Additionally, a significant portion of the reserves (about 9%) is invested in green, social, and sustainable bonds denominated in various permitted currencies. These bonds are issued in order to help address environmental and social issues. The funds raised by the issuers are primarily used to finance projects such as affordable housing, renewable energy generation, and access to basic services such as healthcare and financial services.

### 3. Risk management

In managing its reserves, NBS has long been addressing market, credit, and liquidity risks. These risks are monitored, measured, and managed to ensure adherence to prudent investment principles. Climate risks impact all these areas as they can lead to increased costs and financial losses due to extreme weather events related to climate change (physical risk) or the transition towards a low-carbon economy (transition risk).

As part of the Eurosystem, NBS assesses portfolio sensitivity to climate risks using several indicators jointly identified by the Eurosystem. The annual publication of these indicators is included in this climate report in Chapter 4.

Since December 2020, NBS has been assessing the ESG score and rating<sup>4</sup> of its non-monetary policy portfolios, which include bond portfolios in all eligible currencies and the equity portfolio. It also monitors exposure to controversial sectors such as alcohol, gambling, and weapons production, and measures carbon risk. These data are submitted quarterly to the NBS Bank Board for information, and since 2021, some of these metrics have also been published in the NBS Annual Report.

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<sup>4</sup> The ESG score/rating represents the issuer's evaluation based on the application of ESG principles in its activities.

## 4. Metrics and targets

Eurosystem NCBs' annual climate-related disclosures cover at a minimum the following climate metrics: weighted average carbon intensity; total carbon emissions; and carbon footprint. These must be reported for all non-monetary policy portfolios denominated in euro and foreign currencies. Additionally, the share of green bonds in the portfolio is also reported. The climate-related disclosures must also include at least one broadly defined long-term target that is aligned with the goals of the Paris Agreement and EU climate neutrality objectives. Setting additional climate targets based on the ECB's recommendations is encouraged.

The term '**carbon**' in the names of the metrics refers to the definition of greenhouse gases under the Kyoto Protocol. The Kyoto Protocol specifies seven categories of GHG emissions: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF<sub>6</sub>), and nitrogen trifluoride (NF<sub>3</sub>). GHG emissions are expressed in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). This measure compares the emissions of various greenhouse gases based on their global warming potential by converting the amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.<sup>5</sup>

**GHG emissions** are the main input in the calculation of climate-related metrics, and they are measured as the sum of direct GHG emissions (Scope 1) and indirect GHG emissions from purchased energy (Scope 2) for the purpose of climate-related disclosures. Sovereign issuers' GHG emissions can be reported using different methods, such as a production or consumption approach, which enhances transparency in reporting carbon metrics. These approaches are complementary and based on the following types of emissions:

- **Production emissions** are all emissions produced domestically within a country's physical borders, including those from domestic consumption and exports. This definition follows the territorial emissions approach adopted by the UN Framework Convention on Climate Change (UNFCCC) for annual national inventories. Production emissions should be reported both including and excluding land use, land use change and forestry (LULUCF). The LULUCF sector holds significant potential for mitigating climate change, not only through CO<sub>2</sub> reductions, but also by expanding CO<sub>2</sub> sinks.
- **Consumption emissions** encompass all emissions linked to domestic demand and account for trade effects. This metric offers a broader perspective on a sovereign's emissions, addressing the issue of carbon leakage caused by production shifts from countries where goods are consumed later.

The methodology of the climate-related disclosures aims to minimise the double counting of emissions to the extent possible. However, double counting of emissions remains an unavoidable aspect of climate-related reporting.

Acquiring accurate GHG emission data is pivotal for such disclosures. These data are available directly from issuers' reports or from third-party providers' databases. NBS

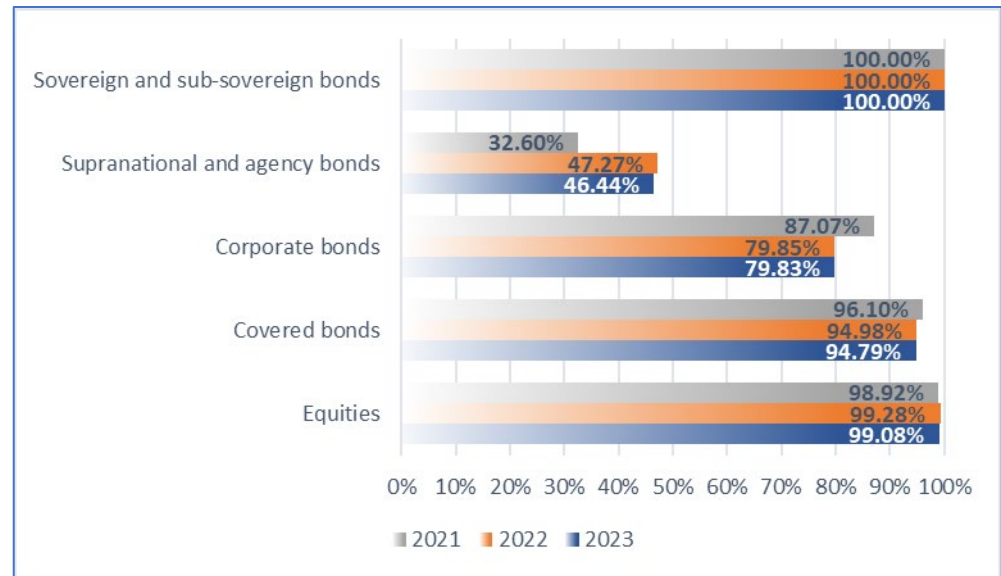
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<sup>5</sup> For more information: [Eurostat: Statistics Explained](#).



uses the services of two data providers, **Institutional Shareholder Services (ISS)** and **Carbon4 Finance (C4F)**, which either gather reported data or model missing GHG emission data. The primary challenge lies in achieving comprehensive GHG emission data coverage for all portfolio holdings. Chart 1 shows the high data coverage from 2021 to 2023 for all asset classes other than supranational and agency bonds.

**Chart 1**  
Data coverage in 2021–2023



Sources: ISS, C4F, and NBS calculations.

## 4.1 Metric definitions

The Eurosystem’s joint disclosures include at least the following metrics, detailed in Tables 1, 2 and 3 in the Annex:

- a) **Weighted average carbon intensity (WACI):** This metric assesses a portfolio’s exposure to carbon-intensive issuers. The carbon intensity of each issuer is computed by standardising their GHG emissions relative to their economic output. The portfolio’s WACI is determined by weighting each issuer’s carbon intensity by their respective share of holdings in the portfolio. Data normalisation, extensive data coverage, and broad application across the financial industry ensure comparability across portfolios and time. WACI provides an ‘outside-in-perspective’ (i.e. financial materiality), serving as a proxy for portfolio exposure to transition risks.
- b) **Total carbon emissions (TCEs):** This metric quantifies the carbon emissions attributed to a portfolio and is expressed in tonnes of CO<sub>2e</sub>. The emissions of each issuer are weighted by their investment contribution to the corporate enterprise value including cash (EVIC), or by the sovereign issuer’s gross domestic product adjusted by purchasing power parity (PPP adj. GDP). It offers an ‘inside-out-perspective’ (i.e. environmental materiality), acting as a proxy for a portfolio’s environmental footprint. Because it is non-normalised, its comparability across

portfolios and over time is limited. Given its sensitivity to portfolio size, it should be complemented by the carbon footprint metric.

- c) **Carbon footprint (CF):** This metric normalises the TCE metric value by portfolio size and is expressed in tonnes of CO<sub>2</sub>e per € millions invested. Unlike TCEs, the carbon footprint metric enables comparability across portfolios and time.

All three TCFD-recommended metrics are enhanced by a standardised methodology and are widely used in climate-related reporting within the financial sector. Normalised metrics (such as WACI and CF) and absolute metrics (such as TCEs) complement each other, providing a comprehensive view of portfolios' climate risk exposure and their overall climate impact.

In general, data on securities, GHG emissions, and financial data included in the calculation of these metrics should have identical reference years. While data on securities holdings are available on a timely basis, there is a natural lag in the disclosure of GHG emissions and financial data. Consequently, there is a mix of reference dates over the past year, or two years for sovereign bonds. This discrepancy will be corrected in the next climate-related disclosure reports once the data become available.

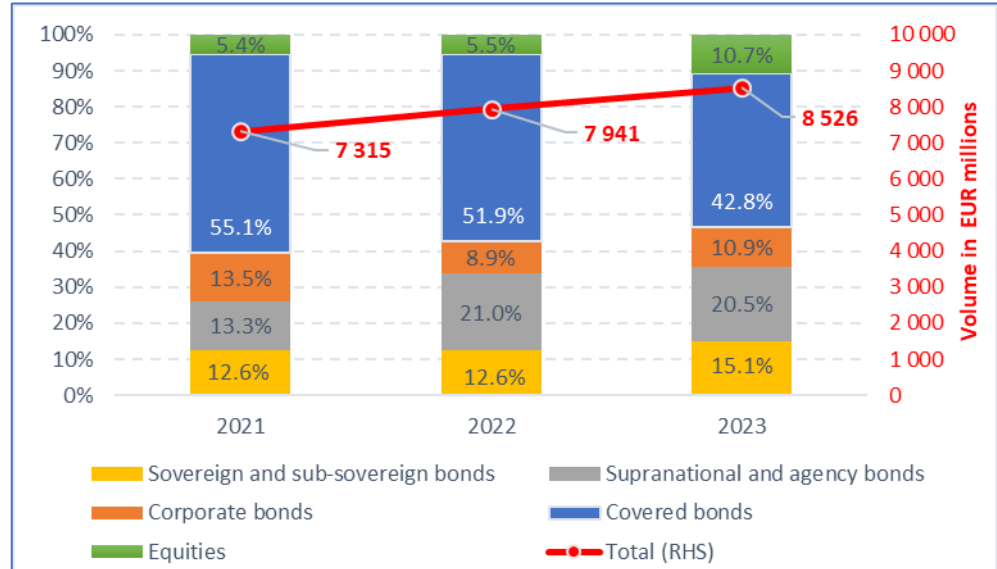
In addition to carbon indicators, the report also discloses the **proportion of green bonds** in the portfolio. Green bonds are financial instruments with positive environmental benefits, funding environmental projects or those focused on mitigating the impact of climate change. Despite their significant role in environmental financing, these securities do not affect carbon metric outcomes, as GHG emissions are reported based on issuer-level data and are not differentiated by the type of security issued.

## 4.2 Metric results

The above-described metrics are disclosed by NBS for its bond and equity portfolios across both tranches. The total market value of these portfolios fluctuates over time depending on financial market conditions and investment opportunities, as illustrated in Chart 2. Since 2021, the total market value of these portfolios has risen by 16%. This increase was primarily driven by the adoption of a new investment strategy starting in November 2023, which led to a higher allocation in sovereign bonds and the equity portfolio.

**Chart 2**

Evolution of the total market value of securities (EUR millions) and asset composition (percentages) from 2021 to 2023



Source: NBS calculations.

All climate-related metrics for the non-monetary policy portfolios are calculated and reported:

- at the **asset class level**, which includes sovereign and sub-sovereign bonds, supranational and agency bonds, corporate bonds, covered bonds, and equity. For simplicity, all metrics are reported at the level of sovereign issuers (including sub-sovereign entities) and non-governmental issuers;
- for the **most recent year (2023) and the two preceding years (2022 and 2021)** (see Table 4 and Table 5 in the Annex).

Chart 3 depicts the historical evolution of climate metrics (WACI, TCE, CF), presenting each metric separately for sovereign and non-sovereign issuers.

For both sovereign and non-sovereign issuers, there was nearly complete data coverage using both production and consumption approaches, which enhances the informative value of the metrics.

- All metrics calculated using the production approach, including those incorporating the LULUCF sector, demonstrate lower values across the entire reporting period compared to when this sector was excluded. This trend indicates the net carbon absorption effect of the LULUCF sector for governments whose bonds are held in the portfolios.
- The TCE metric calculated using the production approach consistently registers lower values than under the consumption approach across all years. This implies that governments are importing goods with higher greenhouse gas emissions from other countries.
- During the period under review, the volume of sovereign and sub-sovereign issuances in portfolios grew, correlating with an increase in the TCE metric. In 2022 and 2023, newly purchased sovereign and sub-sovereign bonds included countries with lower ratios of GHG emissions relative to normalisation factors

(e.g. Germany and the UK). These acquisitions notably contributed to the reduction of most normalised indicators (WACI and CF).

For **non-sovereign issuers**, all aggregate metrics gradually improved throughout 2022 and 2023, including TCEs.

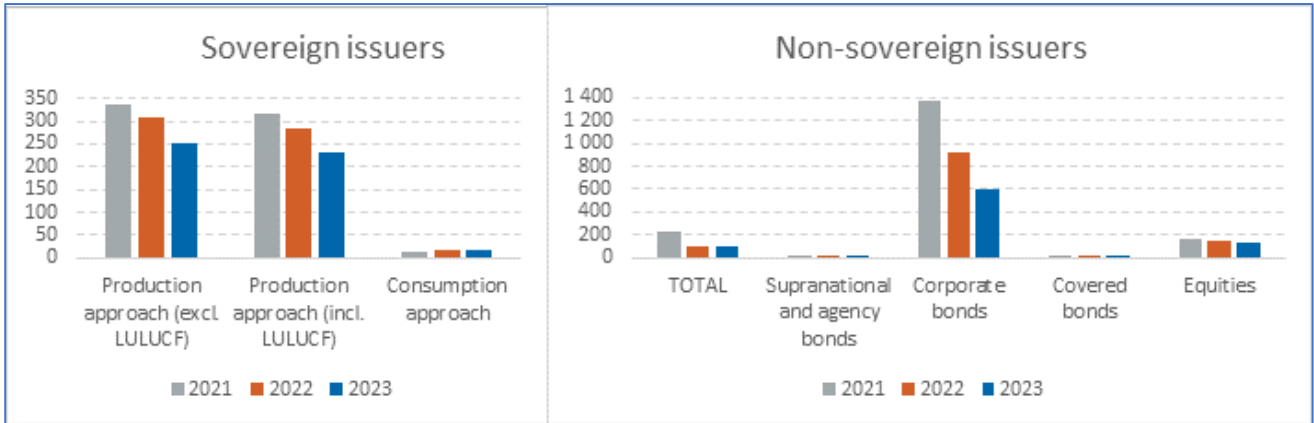
- As portfolios grow in size, TCEs are expected to increase as well, as observed in equities and supranational and agency bonds. However, this trend was outweighed by corporate bonds, which significantly influenced the overall outcome.
- The corporate bond class exhibited exceptionally high values across all monitored metrics. The significant impact in the corporate bond class can be attributed to exposure to a South Korean power company and its subsidiaries, which have relatively high GHG emissions alongside lower revenues and EVIC compared to similar companies with comparable GHG emissions. In 2021 this exposure accounted for 2.3% (decreasing to 1.6% in 2022 and 1.5% in 2023) of all non-sovereign issuers for which metrics are reported. Despite its minor share, this company accounted for as much as 90% of TCEs (87% in 2022, 77% in 2023). The paradox lies in the fact that all green bond issuances within the corporate bond asset class originated from this South Korean power company.
- At the same time, the reduced exposure to this company led to a significant decline in normalised WACI (by 58%) and CF (by 55%) metrics compared to 2021.

### Chart 3

Evolution of minimum climate-related metrics from 2021 to 2023

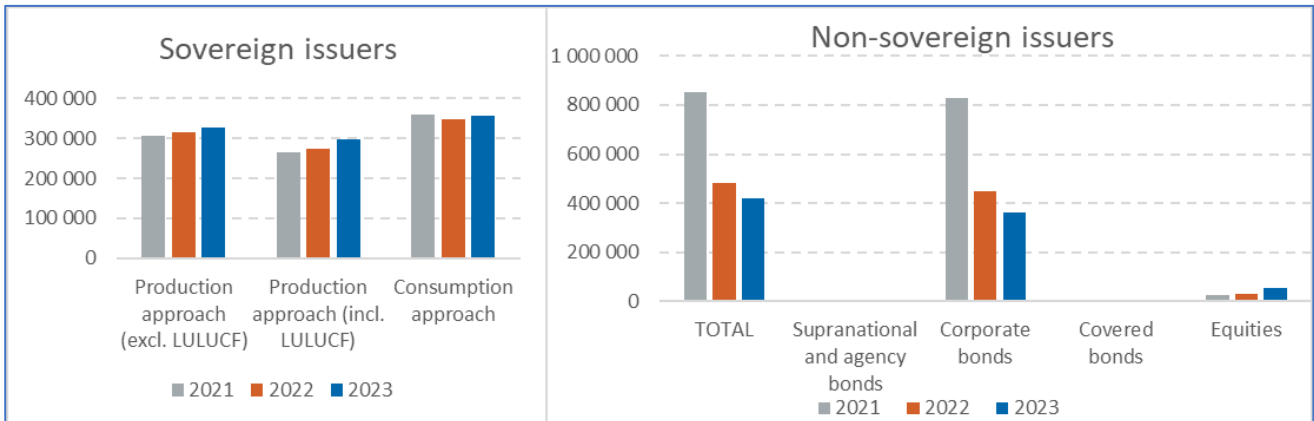
#### Chart 3.1

Weighted average carbon intensity (tCO<sub>2</sub>e/revenue in EUR millions or PPP adj. GDP in EUR millions or per capita)



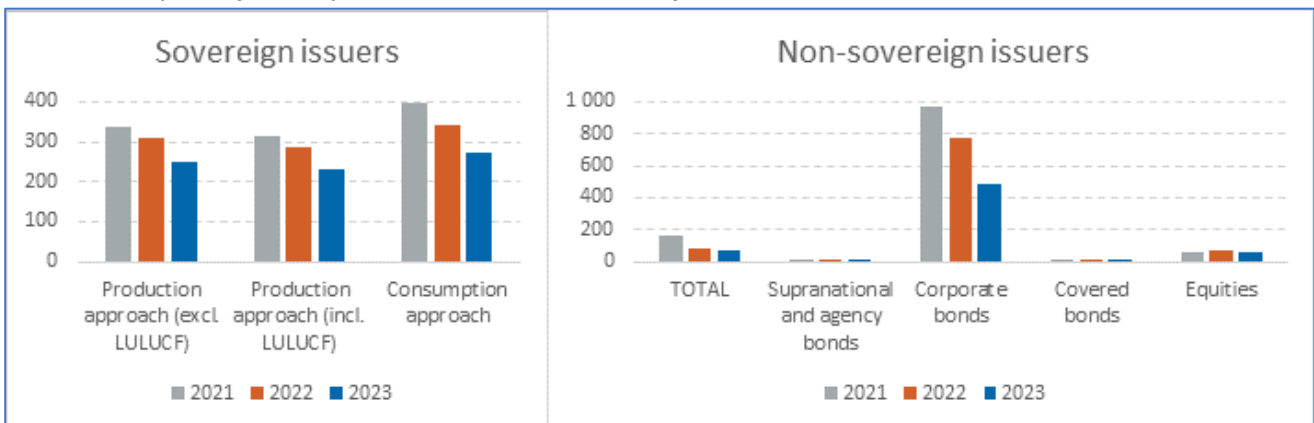
#### Chart 3.2

Total carbon emissions (Scope 1 and Scope 2 in tCO<sub>2</sub>e)



#### Chart 3.3

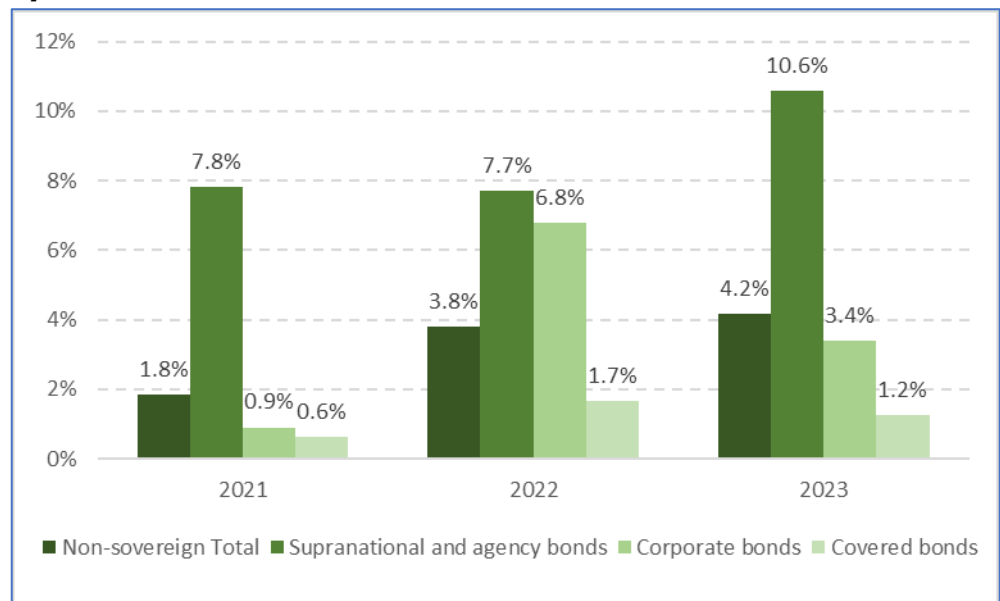
Carbon footprint (tCO<sub>2</sub>e per EUR millions invested)



Sources: ISS, C4F, World Bank, Bloomberg, UNFCCC, and NBS calculations.

An additional metric is the **share of green bonds** in portfolios broken down by asset class. The evolution of this metric is depicted in Chart 4. In 2023 the share of green bonds in all non-sovereign bonds reached 4.2%, with the largest component found in the supranational and agency bond class. This metric increased by 2.4 percentage points compared to 2021. There was no exposure to green bonds issued by sovereign issuers over the reporting period.

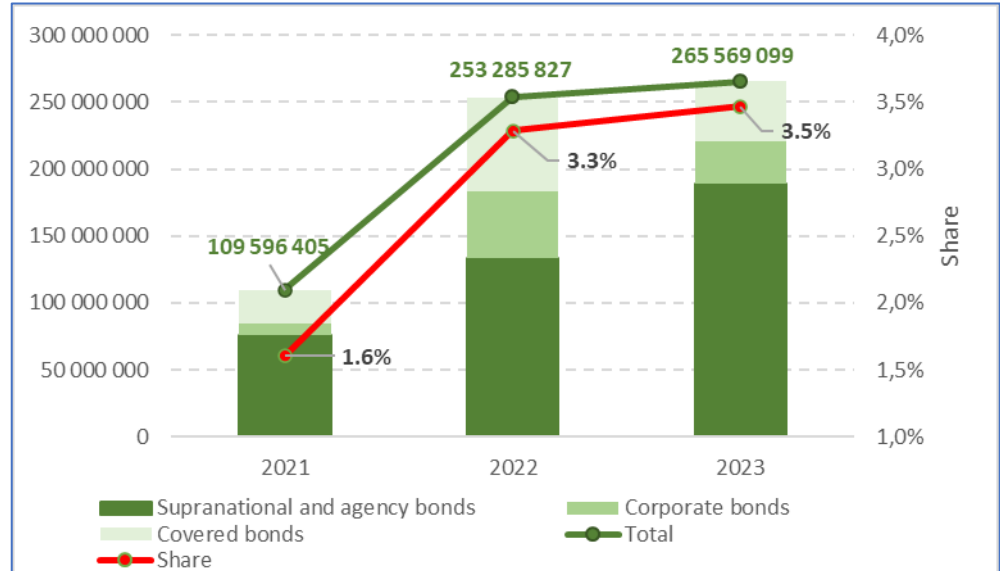
**Chart 4**  
**Evolution of the portfolio's green bond share from 2021 to 2023 by asset class**



Sources: Bloomberg, and NBS calculations.

The share of green bonds in bond portfolios (issued by both sovereign and non-sovereign issuers) is depicted in Chart 5. This indicator demonstrated an upward trend over the reporting period, rising to 1.6% in 2021, 3.3% in 2022, and reaching 3.5% in 2023. The total volume of green bonds in 2023 increased by approximately €156 million compared to 2021, marking a significant rise of 143%.

**Chart 5**  
**Evolution of the bond portfolios' green bond share from 2021 to 2023**



Sources: Bloomberg, and NBS calculations.

### 4.3 Targets

NBS's long-term target for its non-monetary policy portfolios is aligned with the EU's decarbonisation and carbon neutrality objectives as set out in the Paris Agreement. This includes holding the global average temperature increase in this century to well below 2°C above pre-industrial levels, striving to limit the increase to 1.5°C above pre-industrial levels, and contributing to achieving carbon neutrality by 2050 at the latest.

## Conclusion

This year's climate-related disclosure from NBS comprehensively addresses all categories of TCFD recommendations, representing a standard approach to disclosing climate risks. The calculations of carbon metrics encompassed all bond portfolios denominated in eight currencies and the equity portfolio, marking a substantial increase in disclosed information compared to the previous year. The published metrics may undergo retrospective revision in the coming years to update calculations and reduce discrepancies among reference years for individual input data.

# Annexes

**Table 1**

Elements of the Eurosystem's common minimum disclosures

Element	Details
Weighted average carbon intensity (in tCO <sub>2</sub> e/revenue in EUR millions, or PPP adj. GDP in EUR millions, or per capita)	$WACI = \sum_n^i \left( \frac{\text{current value of investment}_i}{\text{current portfolio value}} \right) \times \left( \frac{\text{issuer's carbon emissions}_i}{\text{issuer's revenue, PPP adj. GDP, or population}_i} \right)$ <p>Note: For non-sovereign issuers, the calculation uses revenue; for sovereign issuers, PPP adj. GDP (production approach), or population (consumption approach). The current value of investment is calculated using the nominal value of bond holdings and market value of equities.</p>
Total carbon emissions (Scope 1 and Scope 2 in tCO <sub>2</sub> e)	$TCE = \sum_n^i \left( \frac{\text{current value of investment}_i}{\text{enterprise value including cash (EVIC) or PPP adj. GDP}_i} \times \text{issuer's carbon emissions}_i \right)$ <p>Notes: For non-sovereign issuers, the calculation uses EVIC; for sovereign issuers, PPP adj. GDP. The current value of investment is calculated using the nominal value of bond holdings and market value of equities.</p>
Carbon footprint (tCO <sub>2</sub> e per EUR millions invested)	$CF = \frac{\sum_n^i \left( \frac{\text{current value of investment}_i}{\text{EVIC or PPP adj. GDP}_i} \right) \times \text{issuer's carbon emissions}_i}{\text{current portfolio value (EUR millions)}}$ <p>Notes: For non-sovereign issuers, the calculation uses EVIC; for sovereign issuers, PPP adj. GDP. The current value of investment is calculated using the nominal value of bond holdings and market value of equities.</p>
Green bond share	The share of green bonds is expressed as the share of the nominal value of the purchased green bonds in the total nominal value of the bonds in the portfolios (excluding the volume of equity); the Bloomberg classification is used.
Portfolio size	Portfolio size is expressed as the market value of the securities holdings in EUR millions as at 31 December of the respective year. Positions in other financial instruments (e.g. derivatives, repo trades, cash) are not included. Portfolio size may vary from year to year due to NBS's investment strategy.
Asset classes	Sovereign and sub-sovereign bonds, supranational and agency bonds, corporate bonds, covered bonds, and equities.
Data availability	Data availability is indicated as a percentage below each metric and asset class.
Historical data	Metric disclosures for the most recent year and two previous years.

**Table 2**

Information on inputs for the metric calculations

Asset class	GHG emissions (tCO <sub>2</sub> e)	Normalisation factor	Attribution factor
Sovereign and sub-sovereign bonds	Production emissions incl./excl. LULUCF	PPP adj. GDP (EUR millions)	PPP adj. GDP (EUR)
	Consumption emissions	Population	PPP adj. GDP (EUR)
Supranational and agency bonds	Scope 1 and Scope 2 emissions	Revenue (EUR millions)	EVIC (EUR)
Corporate bonds			
Covered bonds			
Equities			



**Table 3**

Data sources used in the metric calculations

Data	Source
GHG emissions	ISS, C4F, UNFCCC
PPP adj. GDP, population	The World Bank
Enterprise value including cash (EVIC)	ISS
Revenue	ISS
Green bond indicators	Bloomberg

**Table 4**

Climate-related TCFD metrics of the non-monetary policy portfolios for 2023

2023	Sovereign			Non-sovereign					
	Sovereign and sub-sovereign bonds				TOTAL	Supranational and agency bonds	Corporate bonds	Covered bonds	Equities
	Production approach		Consumption approach						
	excl. LULUCF	incl. LULUCF							
Portfolio size (EUR millions)	1 286.25			7 239.39	1 751.93	928.91	3 644.86	913.69	
WACI (tCO <sub>2</sub> e/ revenue in EUR millions or PPP adj. GDP in EUR millions or per capita)	251.02	229.46	16.34	95.67	2.00	596.65	1.54	128.07	
Coverage	100.00%	100.00%	100.00%	81.53%	46.44%	79.83%	94.79%	99.08%	
Total carbon emissions (Scope 1 and Scope 2 in tCO <sub>2</sub> e)	326 465.95	298 421.33	356 179.23	421 873.75	541.30	364 071.23	866.85	56 394.37	
Coverage	100.00%	100.00%	100.00%	81.53%	46.44%	79.83%	94.79%	99.08%	
Carbon footprint (tCO <sub>2</sub> e per EUR millions invested)	251.02	229.46	273.87	71.16	0.65	488.27	0.25	62.62	
Coverage	100.00%	100.00%	100.00%	81.53%	46.44%	79.83%	94.79%	99.08%	
Green bond share	0.00%			4.17%	10.58%	3.39%	1.24%	-	

Sources: ISS, C4F, World Bank, Bloomberg, UNFCCC, and NBS calculations.

Note: The percentage data below the metrics represent data availability calculated as a percentage of the investments for which all required data are available.

**Table 5**

Climate-related TCFD metrics of the non-monetary policy portfolios from 2021 to 2023

	Sovereign			Non-sovereign				
	Sovereign and sub-sovereign bonds			TOTAL	Supranational and agency bonds	Corporate bonds	Covered bonds	Equities
	Production approach		Consumption approach					
	excl. LULUCF	incl. LULUCF						
<b>Portfolio size (EUR millions)</b>								
2023	1 286.25			7 239.39	1 751.93	928.91	3 644.86	913.69
2022	1 004.02			6 936.71	1 669.88	704.56	4 124.23	438.04
2021	921.74			6 393.64	976.59	986.81	4 033.15	397.09
<b>WACI (tCO<sub>2</sub>e/ revenue in EUR millions or PPP adj. GDP in EUR millions or per capita)</b>								
2023	251.02 100.00%	229.46 100.00%	16.34 100.00%	95.67 81.53%	2.00 46.44%	596.65 79.83%	1.54 94.79%	128.07 99.08%
2022	309.73 100.00%	284.92 94.49%	16.33 100.00%	103.33 82.07%	1.66 47.27%	915.83 79.85%	1.32 94.98%	141.39 99.28%
2021	338.11 100.00%	316.55 92.48%	12.53 100.00%	229.72 85.14%	2.95 32.60%	1 369.15 87.07%	2.07 96.10%	160.13 98.92%
<b>Total Carbon Emissions (Scope 1 and Scope 2 in tCO<sub>2</sub>e)</b>								
2023	326 465.95 100.00%	298 421.33 100.00%	356 179.23 100.00%	421 873.75 81.53%	541.30 46.44%	364 071.23 79.83%	866.85 94.79%	56 394.37 99.08%
2022	315 965.39 100.00%	274 642.96 94.49%	347 907.12 100.00%	480 082.17 82.07%	53.01 47.27%	450 269.43 79.85%	855.27 94.98%	28 904.45 99.28%
2021	306 230.40 100.00%	265 144.24 92.48%	360 805.87 100.00%	851 660.15 85.14%	29.78 32.60%	826 784.44 87.07%	977.24 96.10%	23 868.69 98.92%
<b>Carbon footprint (tCO<sub>2</sub>e per EUR millions invested)</b>								
2023	251.02 100.00%	229.46 100.00%	273.87 100.00%	71.16 81.53%	0.65 46.44%	488.27 79.83%	0.25 94.79%	62.62 99.08%
2022	309.73 100.00%	284.92 94.49%	341.04 100.00%	82.11 82.07%	0.06 47.27%	769.09 79.85%	0.21 94.98%	66.66 99.28%
2021	338.11 100.00%	316.55 92.48%	398.36 100.00%	158.03 85.14%	0.09 32.60%	970.54 87.07%	0.26 96.10%	60.87 98.92%
<b>Green bond share</b>								
2023	0.00%			4.17%	10.58%	3.39%	1.24%	-
2022	0.00%			3.79%	7.71%	6.77%	1.66%	-
2021	0.00%			1.85%	7.80%	0.90%	0.63%	-

Sources: ISS, C4F, World Bank, UNFCCC, Bloomberg, and NBS calculations.

Note: The percentage data below the metrics represent data availability calculated as a percentage of the investments for which all required data are available.

# Abbreviations

C4F	Carbon4 Finance
CF	carbon footprint
CO <sub>2</sub> e	carbon dioxide equivalent
COP	Conference of Parties
ECB	European Central Bank
ESG	environmental, social and governance
EU	European Union
EVIC	enterprise value including cash
ISS	Institutional Shareholder Services
LULUCF	land use, land use change and forestry
NBS	Národná banka Slovenska
NGFS	Network for Greening the Financial System
PPP adj. GDP	purchasing power parity-adjusted gross domestic product
TCE	total carbon emissions
TCFD	Task Force on Climate-related Financial Disclosures
UNFCCC	United Nations Framework Convention on Climate Change
WACI	weighted average carbon intensity