



Bank of Finland's Annual Report on Responsible Investment

2022



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The report contains information on the principles guiding the Bank of Finland's investment activities and their practical impact. The report focuses, in particular, on climate impacts.

The report meets the minimum disclosure requirements set out in the Eurosystem's common stance agreed on 8 January 2021, and also contains elements that go beyond them.

The figures and tables mentioned in this report have already been partially discussed in the Bank of Finland's annual report. Due to the scope of the topic, it is appropriate to produce a separate report in which the impacts of investment activities can be described in more detail. A link to this report is provided for readers in the Annual Report.

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1 Introduction

The foundations of the Bank of Finland's sustainability lie in its core activities. The Bank's task is to contribute to ensuring price stability, a reliable financial system, and secure and accessible payment systems.

The Bank of Finland has a role in building a socially and ecologically sustainable society. In our activities, we take into account the expectations of stakeholders and changes in the operating environment. The Bank's sustainability programme focuses on promoting sustainable growth and wellbeing, exercising influence through information and cooperation, and managing climate risks.

Through its investment activities, the Bank of Finland secures the value of its financial assets and its ability to support the liquidity of the banking system, whenever necessary. The Bank of Finland invests and manages its financial assets in accordance with central bank objectives and taking into account the risks and sustainability aspects related to investment activities. Responsible investment generally means the appropriate recognition of environmental, social and corporate governance issues in investment activities.



The objective of the Bank of Finland's investment activities is to meet the liquidity, security and return requirements placed on the central bank in respect of the assets managed. In 2021, sustainability was added to the investment activity objectives.

The sustainability aspects considered by the Bank of Finland in its investment activities are based, on the one hand, on the objective to meet the sustainability requirements for investment activities and, on the other hand, on the objective to improve the management of various risks. The Bank of Finland has had responsible investment practices in place for several years. The Bank has its own working group on responsible investment, which includes the Head of Market Operations, the Asset Management Division and Risk Management. The group convenes regularly to discuss responsible investment issues and the Bank of Finland's investments from a sustainability perspective. In practice, all portfolio

managers of the Bank of Finland's own financial assets engage in responsible investment activities, as the Bank's responsible investment strategy is applied in all of its investment decisions.

[By signing the UN backed Principles for Responsible Investment \(PRI\) in December 2019](#), the Bank of Finland has publicly committed itself to incorporating environmental, social responsibility and corporate governance issues into its investment decisions as well as its ownership policies and practices. With the signing of the PRI, in the management of its financial assets the Bank of Finland committed itself to sustainability, to the active development of responsible investment practices and to providing annual progress reports on this.

Most of the Bank of Finland's financial assets consists of fixed-income investments, which are held mainly in the debt instruments of governments and government-related issuers. The Bank of Finland also makes direct fixed-income investments in covered bonds and corporate bonds.

Table 1. Allocation of Bank of Finland's financial assets

The Bank of Finland's financial assets, EUR million	31 Dec 2022	31 Dec 2021
Gold	2 690	2 537
Foreign reserves	6 861	6 719
SDR	933	690
US dollar-denominated fixed-income	4 274	4 256
Sterling-denominated fixed-income	718	777
Yen-denominated fixed-income	684	732
Fixed-income funds	252	264
Euro-denominated fixed-income	0	0
Equity funds	1 328	1 513
Real estate funds	156	176
Total	11 035	10 946

Source: Bank of Finland.

The issuers of these bonds are required to comply with international standards. The Bank of Finland does not invest in issuers that do not comply with the principles of corporate sustainability defined in the United Nations Global Compact.

The principles are derived from the United Nations' Universal Declaration of Human Rights, the International Labour Organisation's Declaration of Fundamental Principles and Rights at Work and declarations for the environment and against corruption. The Bank of Finland, moreover, does not make direct fixed-income investments in companies that deal in weapons prohibited by international conventions.

As part of its investment activities, the Bank of Finland makes investments in green, social and sustainability bonds and in bonds issued by development banks.

In the planning and execution of its investment activities, the Bank of Finland utilises analyses by an external service provider on the responsibility of issuers with regard to compliance with international standards. Final decisions on the exclusion of issuers from investment activities on the basis of sustainability criteria are made by the Bank of Finland's internal working group on responsible investment.

In the case of equity and property fund investments, the selection of funds and fund managers plays a key role in the implementation of the responsible investment strategy. Only actors who are strongly committed to sustainability and the promotion of their own practices in terms of both corporate responsibility and the sustainability of the fund are selected as fund managers. The Bank of Finland also expects fund management companies to pursue an active ownership strategy and engage with the companies they invest in, so that sustainability aspects are fully taken into account.

In addition to maintaining responsible practices in the investment of our own financial assets, we endeavour to promote responsible investment by being active in various networks and by participating in social debate. This work is carried out, for example, in the various Eurosystem working groups. In addition, the Bank of Finland is a member of the Network for Greening the Financial System (NGFS), a global forum formed by central banks and supervisors, where it contributes to the debate on sustainable finance and cooperates with other authorities and financial sector participants. The Bank of Finland is also a member of Finsif (Finland's Sustainable Investment Forum). Finsif's purpose is to promote responsible investment in Finland.

In our activities and reporting, we adhere to a selection of international reporting recommendations, within the limits of our tasks as a central bank. We report annually on responsible investments concerning our financial reserves, not only in our annual report but also in accordance with the PRI reporting framework.

Climate change has also become one of the main issues to be considered in responsible investment. By analysing the effects of climate change, new types of risks and opportunities can be identified in the asset portfolio. This report highlights the climate impact of the Bank of Finland's own investment assets, both in accordance with the Eurosystem's commonly agreed reporting templates and utilising the recommendations of the NGFS and TCFD ([Task Force on Climate-Related Financial Disclosures](#)), where applicable. The report comprises the TCFD sections: [governance](#) (chapter 2), [strategy](#) (chapter 3), [risk management](#) (chapter 4) and [metrics and targets](#) (chapter 5), including several metrics. The appendix contains [calculation formulas for metrics](#) and [a table for 2022 and 2021](#) of metrics in accordance with the Eurosystem's minimum climate-related disclosures.

TCFD recommendations overview



Source: TCFD.

2 Governance and approaches to responsible investment

Responsible investment is an essential part of the Bank of Finland's investment activities. In 2021, sustainability was added as the fourth objective guiding investment activities. The other objectives are liquidity, security and return.

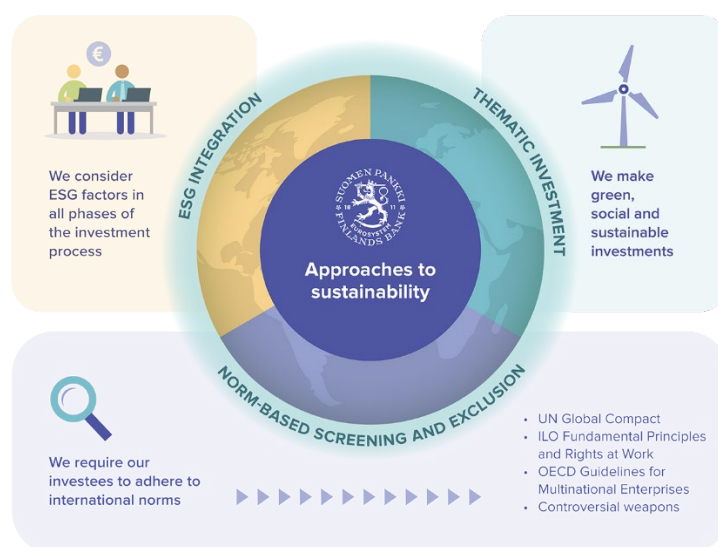
The Board of the Bank of Finland takes decisions on the principles and targets for responsible investment, including the intermediate targets. The public [responsible investment principles](#) were last updated in November 2022. The Asset Management Division is responsible for the practical implementation of the principles and reports regularly to the Board on responsible investment measures.

In the case of individual issuers, the interpretation of the adequacy of responsibility is made by the Bank's internal working group on responsible investment. The working group includes representatives from both the Market Operations Department and Risk Management. All portfolio managers and the responsible investment specialist are also members of the group. The working group is responsible for norm-based screening interpretations and for assessments of the adequacy of issuers' climate programmes.

To avoid conflicts of interest, cases are prepared and investigated collaboratively and the decision to exclude an issuer from the investment universe is a joint decision of the working group. Decisions are not based on the views of a single person.

Approaches to responsible investment

From the various approaches to responsible investment, investors can select those most suited to their own investment strategies. We have selected ESG integration, international norm-based screening and thematic investments as components in the Bank of Finland's responsible investment activities. Currently, we do not invest directly in equities, so the themes of active ownership, voting and engagement are emphasised particularly in the integration of sustainability when selecting and monitoring of asset managers.



ESG integration

ESG integration means taking sustainability criteria into account alongside the traditional financial factors when making investment decisions. Our portfolio managers consider ESG factors and utilise both external and internal resources when assessing the sustainability of investments and potential investments. In indirect investments, our emphasis is on assessing asset managers from the perspective of sustainability. Active ownership is assessed on a fund-by-fund basis. In asset management meetings, individual investments may be discussed, if necessary. The Bank of Finland's own questionnaire or a questionnaire already widely used in the sector is sent to asset managers each year. The questionnaires assist in monitoring consideration of the sustainability of the funds we invest in as well as asset managers' general measures to develop sustainability.

ESG integration also includes the identification of opportunities and risks associated with climate change as well as impact analysis. Climate change has become one of the main issues to be considered in recent years.

The Bank of Finland participated in a joint Eurosystem competitive selection process, which has resulted in comprehensive climate data being made available during 2022, both to support the work of portfolio managers and for reporting on impacts. This data has already been used in the development of climate goals.

In September 2021, the Bank of Finland published climate targets for its own investment activities, which were supplemented during 2022 by adding investment limits for companies engaged in the production of unconventional fossil fuels¹ production. The goal is to achieve carbon neutrality by 2050 at the latest for the entire portfolio, excluding gold investments, for which no international calculation standard exists.

Norm-based screening and exclusion

In addition to adherence to regulations, the minimum requirement for our direct investments is compliance with internationally accepted standards, or 'norms'. In this context, the international norms are, for example, the United Nations Global Compact principles, the International Labour Organisation's fundamental principles and rights at work and the OECD Guidelines for Multinational Enterprises. Moreover, we do not make direct investments in companies that manufacture prohibited/controversial weapons as defined in international treaties.

Our portfolio managers use external service provider analyses to screen direct investments, asset managers and counterparties. Although norm-based screening does not extend to the portfolios of external asset managers, we carry out such screening of asset management companies and counterparties whenever possible. Norm-based screening is also one element of the selection of external asset managers.

If there is a company among our direct investments that does not meet our sustainability criteria under norm-based screening, we refrain from new investments in the company. If a company in our portfolio has initiated active corrective measures, we may maintain our investment in the company. A divestment process will be initiated where a company has not initiated corrective measures. Further investments may be made once confirmation is received that the company has taken corrective action and is no longer in breach of the

¹ Unconventional forms of fossil fuels production include: Arctic drilling, deep-sea drilling, shale gas, shale oil and oil sands.

standards. Final decisions on the exclusion of an issuer on the basis of sustainability criteria are made by the Bank of Finland's internal working group on responsible investment.

Thematic investment

In addition to the aforementioned approaches, we make fixed-income investments in green, social and sustainability bonds and bonds issued by development banks. For an investment to be included in the thematic investment category, it must fulfil third-party assessment criteria.

3 Strategy

Sustainability is an integral element of the work undertaken by the authorities. Our sustainability work is based on the Bank of Finland's values and sustainability programme, which builds on the competence and expertise of our experts. The Bank of Finland's activities are guided by ethical rules, principles of sound governance and transparency.

The foundations of the Bank's sustainability lie in our core activities. The Bank's task is to contribute to ensuring price stability, a reliable financial system, and secure and accessible payment systems. The Bank of Finland also has a role in building a socially and ecologically sustainable society. By carrying out our tasks in accordance with our objectives, we make the best possible contribution to Finnish society.

The Bank's sustainability programme focuses on promoting sustainable growth and wellbeing, exercising influence through information and cooperation, and managing climate risks.

In the Bank of Finland's own operations, the biggest impacts come via its investment activities. The objective of the Bank's investment activities is to meet the liquidity, security and return requirements placed on the central bank in respect of the assets managed. The sustainability aspects considered by the Bank of Finland in its investment activities are based, on the one hand, on the objective to meet the sustainability requirements for investment activities and, on the other hand, on the objective to improve the management of various risks.

In its investment activities, the Bank of Finland has had responsible investment practices in place for several years. In this context, the Bank of Finland's internal working group on responsible investment convenes regularly to discuss responsible investment issues and the Bank of Finland's investments from a sustainability perspective. In practice, all of the Bank of Finland's portfolio managers engage in responsible investment activities, as the Bank's responsible investment strategy is applied in all of its investment decisions.

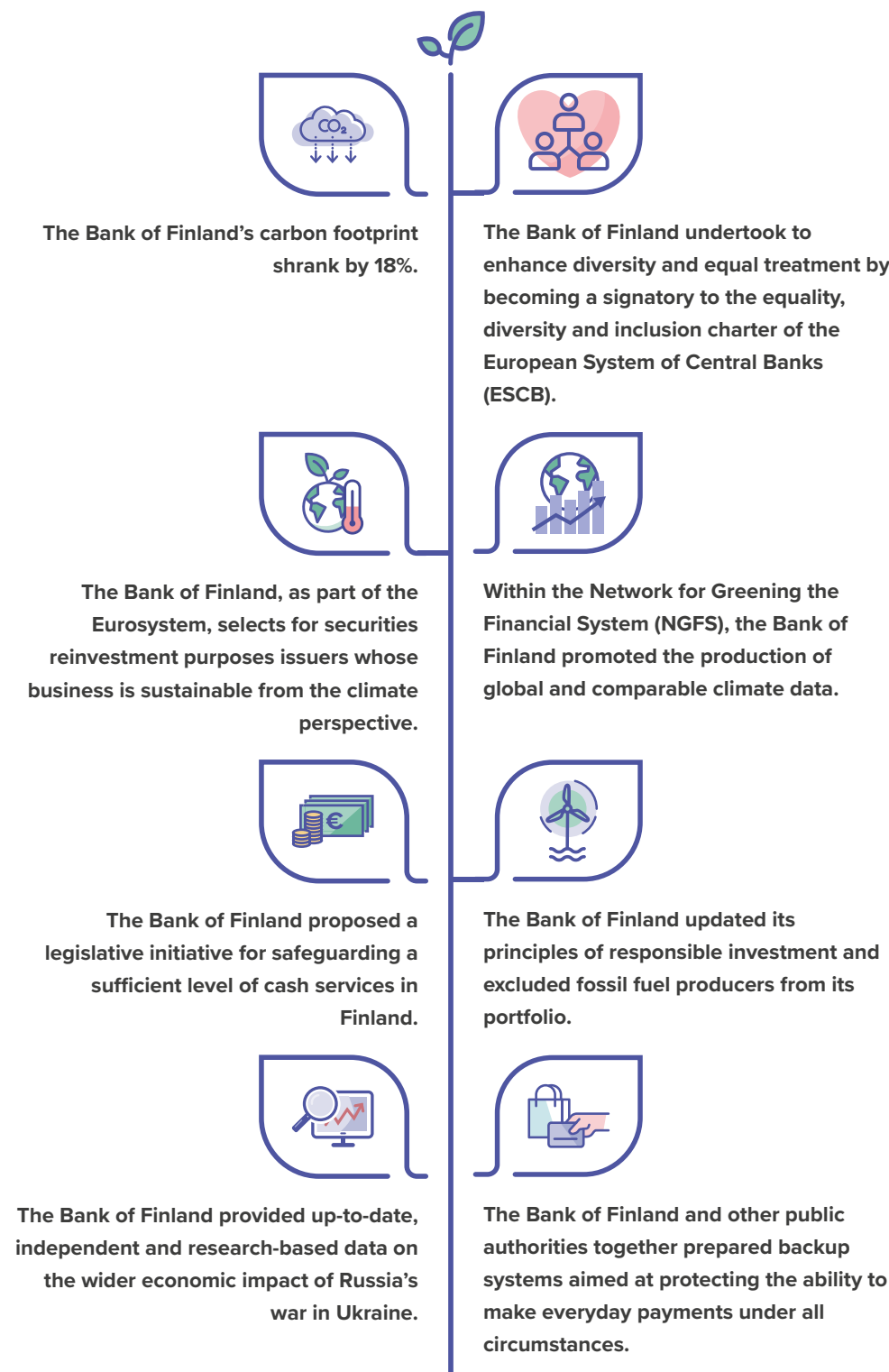
By signing the UN-backed Principles for Responsible Investment (PRI) in December 2019, the Bank of Finland has publicly committed itself to incorporating environmental, social responsibility and corporate governance issues into its investment decisions. With the signing of the PRI, in the management of its financial assets the Bank of Finland committed itself to sustainability, to the active development of responsible investment practices and to providing annual progress reports on this.

In 2021, the Bank of Finland published [a longer term climate target for its investment assets](#). Carbon neutrality must be achieved by 2050 at the latest. At the same time, the Bank set [the first intermediate targets](#), to monitor progress towards the long-term goal of carbon neutrality. These intermediate targets were updated in 2022 by adding investment limits for companies engaged in production of unconventional fossil fuels.

The intermediate goals will be reviewed regularly and they will also be used for operational development and learning to better identify the climate risks and opportunities of the Bank of Finland's investment assets.

The Bank's [responsible investment principles](#) outline the definitions and operating practices of responsible investment.

Sustainability at the Bank of Finland: key examples



4 Risk management

Implementing monetary policy and safeguarding the stability and functioning of the financial system are core central bank tasks. They involve financial risks, for which the Bank of Finland prepares by ensuring the strength of its balance sheet. In 2022, the risks associated with monetary policy and financial assets increased.

At the end of 2022, the Bank of Finland's financial assets amounted to approximately EUR 11 billion. The financial assets do not include items connected with the implementation of monetary policy, such as monetary policy loans to banks or securities acquired in monetary policy operations. Foreign reserves include liquid fixed-term investments. The amount of foreign reserves has been scaled to a level required in order for the Bank of Finland to perform its central banking tasks. A significant proportion of the Bank of Finland's financial assets are debt securities purchased for monetary policy purposes and claims on banks resulting from monetary policy implementation. The Eurosystem's monetary policy measures are implemented on a decentralised basis among the different Member States and the ECB, but the risks and returns are largely shared among the national central banks. The risk relating to monetary policy assets corresponds, in principle, to each national central bank's 'capital key' share of the aggregate monetary policy assets of the national central banks. At the end of 2022, the Bank of Finland's share was 1.837%.

However, the risks associated with government debt instruments and government-related debt instruments purchased under the public sector purchase programme (PSPP) and the pandemic emergency purchase programme (PEPP) are borne individually by each national central bank involved.

The Bank of Finland's financial risks consist of market, credit and liquidity risks. Market risk refers to the possibility of financial loss as a result of fluctuation in, for example, exchange rates, interest rates and stock prices. Exchange rate risk is the source of most volatility in the value of the financial assets. The Bank of Finland diversifies its exchange rate risk by investing in the US dollar, the pound sterling and the Japanese yen. Exchange rate risk is also diversified with investment in the Chinese yuan, since the Bank of Finland has receivables from the International Monetary Fund (IMF).

The strategic allocation of investments is determined by means of a benchmark index. This, together with a highly detailed limits framework, acts as a guide to taking on interest rate and credit risks. In this way, the Bank ensures that its investments are highly liquid and are adequately diversified across various asset classes, countries, maturities and issuers. The Bank's investment focus is on debt securities with high credit ratings.

The Bank of Finland invests a proportion of its financial assets in the international equity and real estate markets. The investments are made through funds and diversify the other risks on the Bank's balance sheet.

In the implementation of monetary policy purchase programmes, the Bank of Finland, in the same way as the other central banks, complies with the Eurosystem eligibility criteria and other risk-management rules.

The Bank of Finland manages its financial assets responsibly. It restricts its direct fixed-income investments using specific sustainability criteria. Responsibility and reliability assessments of service providers are also emphasised in the Bank's indirect investment activities.

Setting climate targets and limits is aimed at reducing the climate risks to the investment portfolio. Issuers excluded for climate reasons are also excluded from the benchmark index.

In addition to these measures, in 2022 the Bank of Finland continued to examine the impact of climate change on the financial system. Climate change and extreme weather events present risks for banks and other financial sector companies. The transition to greener technology may also bring risks if borrowers' fossil energy-based investments are unused. The financial markets have an important role to play in tackling climate change, because the transition to carbon neutrality requires large investments that need to be financed. The Bank of Finland analysed Finnish banks' transition risks by examining the composition of their credit portfolios and claims on corporate sectors. In terms of transition risks, the most significant industry is energy supply. In this industry, too, the risks in Finland are moderate and smaller than in many other countries. The results of the analysis were discussed in the Bank of Finland Bulletin article '[Climate change must be tackled – What does PACTA say about banks' transition risks?](#)' (in Finnish).

The Bank of Finland is a member of the Network for Greening the Financial System (NGFS), which published new climate scenarios in September 2022. The scenarios provide an illustration of climate change and its implications in the decades ahead. The new scenarios take into account new technologies and reflect the most recent country-level emission-reduction commitments. The modelling of physical risks caused by heatwaves, drought, storms, excessive rainfall and other extreme weather events has been improved compared to the scenarios published in June 2021. The models can be used, for example, for assessing the impact of the materialisation of climate risks on the financial system.

In 2022, the Bank of Finland also started to pay greater attention to biodiversity loss and its prevention. This is more difficult to measure and analyse than climate change, and central banks have previously paid relatively little attention to it. An article on [biodiversity loss](#) (in Finnish) was published in the Bank of Finland Bulletin in November 2022.

Climate change creates two types of financial stability risks: material losses resulting from extreme weather events and transition risks caused by exit from high-emission business models.

The financial stability risks caused by climate change may be significant if financial losses increase due to, for example, more frequent and severe extreme weather events. Insurance companies, banks and investors will bear their share of these losses. On the other hand, if climate policies, technological innovations or changes in consumer preferences make high-emission business models financially unprofitable, investors may have to recognise losses on their assets. This is called transition risk. Transition risk is significant from the perspective of the financial sector as a whole: not all entities will be able to divest their carbon-intensive investments without incurring losses.

Sustainable finance has a fundamental role in the achievement of energy and climate targets. The Bank of Finland raises awareness and promotes dialogue on sustainable finance and climate risks and cooperates with other authorities and financial market participants in this field.

5 Metrics and targets

The Bank of Finland has adopted a climate target for its own investment activities: carbon neutrality to be achieved by 2050 at the latest. In this context, carbon neutrality refers to the greenhouse gas emissions defined in the Kyoto Protocol. The target applies to all asset classes except gold, for which no international calculation standard exists.

In the initial phase, the calculation includes issuers' direct emissions (Scope 1) and emissions from purchased electricity and energy (Scope 2). At a later stage, as the calculation methodology develops, indirect emissions may also be included (Scope 3).

As the main target is far in the future, various intermediate targets have been developed to monitor progress towards the target and to increase the credibility of activities by regular reporting of results.

Intermediate climate targets and their development by asset class

The role of the intermediate targets is to serve as a roadmap towards the more extensive carbon neutrality target. The Bank of Finland's investment activities comprise several asset classes, for each of which the Bank has developed a qualitative or quantitative first phase intermediate target. The interim targets will be reviewed in 2025 at the latest, at which time intermediate targets will be set for the next phase.

Globally, only a few countries have committed themselves to a carbon neutrality target faster than the Paris Climate Agreement. As a significant proportion of the Bank of Finland's financial assets is invested in government bonds, it is not therefore possible to set a tighter timetable for the entire portfolio. In equities and corporate bonds, it is possible to reach the carbon neutrality goal faster than in government bonds.

Achieving the carbon neutrality target set for the Bank of Finland's investment activities by 2050 will require active measures by states to comply with their Paris Climate Agreement commitments. The Bank of Finland will continue to contribute to public discussion in order to increase the coverage and comparability of the information required to combat climate change and support decision-making.

In addition to public sector bonds, the Bank of Finland also invests its financial assets in corporate bonds, covered bank bonds, and equity and real estate funds. Achieving the carbon neutrality target will therefore require successful climate measures not only by states, but also by the corporate and banking sectors. For this reason, regular monitoring of investment activities is essential in order to ensure the direction and sufficient speed of progress towards the target.

Table 2. Intermediate targets for government bond investments

Qualitative target	The Bank of Finland contributes to public discussion on climate change, thereby encouraging governments to set adequate national targets in line with the Paris Climate Agreement
Quantitative target	No quantitative target

Six articles on sustainable finance were published on the Bank of Finland's website during 2022. Speeches by the Governor and members of the Board of the Bank of Finland, three of

which include climate change or green development in their titles, can also be found on the website. In addition, various experts have given their own speeches and presentations, and have participated in panel discussions and various working groups during the year.

Table 3. Intermediate targets for investments in government-related issuers

Qualitative target	Encourages government-related issuers to set climate targets for their own investment activities
Quantitative target	No quantitative target at this stage, but it will be possible to add one as more information becomes available on the results of the first phase

The Bank of Finland's Asset Management Division launched a new operating practice, issuer meetings, during 2022. The meetings will continue during 2023.

Table 4. Intermediate targets for corporate bond investments

Qualitative target	No qualitative target
Quantitative target	Sector-specific limits: <ul style="list-style-type: none"> - A maximum 2% of revenue from thermal coal by the end of 2022 - A maximum 5% of revenue from use of coal energy by the end of 2022 - A maximum 10% of revenue from oil drilling by the end of 2022 - A maximum 40% of revenue from gas production by the end of 2022 - Investments in Arctic drilling, oil sands, deep-sea drilling, shale gas and shale oil (i.e. unconventional forms of oil and gas production) are, as a rule, prohibited

The aforementioned limits have been adopted in the Bank of Finland's investment activities during 2022. Excluded issuers are also excluded from investment activity benchmark indices.

Exceptions to the sector-specific limits can be applied only on reasonable grounds. Such grounds include, for example, a credible plan to achieve a target. The achievement of the target is monitored regularly and the Bank of Finland's internal working group on responsible investment may refuse to grant an exemption if the issuer's performance does not develop as expected.

It is, however, possible to invest in a green bond of an issuer excluded based on the Bank of Finland's climate targets if the bond fulfils, for example, the ICMA or Green Bond standard, and it can be concluded that the investment promotes the green transition. Allowing an exception as described above enables the financing of the green transition. A wind farm or solar power plant could be a concrete example of this, but simply increasing energy efficiency is not in itself sufficient justification for investment.

Table 5. Intermediate targets for equity investments

Qualitative target	The asset manager or product has a sufficiently comprehensive and ambitious climate target/impact (applies to current and new asset managers)
Quantitative target	50% emission intensity reduction target for the entire portfolio by the end of 2025 compared with the figure for Q1 2021.

With the aid of an annual survey of asset managers, the Bank of Finland monitors, among other things, the implementation of asset managers' active ownership through general meeting votes and engagement processes. The information obtained from the survey is reviewed in the working group on responsible investment.

Table 6. Emission reduction results for equity investments (calculated on USD revenue)

	2022	2021	Q1 2021
WACI (Scope 1+2 tCO₂e)	110	140	150
Emission reduction from the initial situation	-29%	-11%	-

Table 7. Intermediate targets for real estate funds

Qualitative target	The asset manager or product has a sufficiently comprehensive and ambitious climate target/impact (applies to current and new asset managers)
Quantitative target	No quantitative target at this stage, but it will be possible to add one later

Of the current real estate managers, all have an existing long-term climate target.

Table 8. Intermediate targets for other investments managed by asset managers

Qualitative target	The asset manager or product has a sufficiently comprehensive and ambitious climate target/impact (applies to current and new asset managers)
Quantitative target	No quantitative target at this stage, but it will be possible to add one later

The Bank of Finland has made an investment in a fund that invests in green bonds. Although the asset manager itself does not have an ambitious climate target for its entire operation, the investment product has a measurable and significant climate impact, as the fund invests only in green bonds. Other external asset managers or investment products have a climate

target or impact. During 2022, the Bank of Finland invested approximately USD 450 million in two ESG and climate funds.

Results for entire portfolio

Climate data and the related calculation still contain many challenges in terms of data coverage, quality and methodologies. In accordance with the Eurosystem's common stance, Table 9 contains the minimum disclosure requirement metrics, with commonly agreed calculation methods and allocation classification. The calculation has been made partly manually by combining data from different data sources and using an issuer breakdown that differs from the Bank of Finland's own portfolio distribution. For example, government-related issuers including local governments have been allocated the total emissions of respective countries. This has resulted in a high level of data coverage but, on the other hand, the emissions allocated to the portfolio have also been calculated, in some cases, multiple times. The official exchange rates for both the reporting year and for the final day of the last available emissions year (2022 and 2021) have been used as the exchange rates. For fixed income investments, the value of the investments has been calculated at nominal values, and for equity investments the market values have been used. The formulas and calculation methods used are outlined as clearly as possible in the appendices and/or tables of the report.

Table 10 contains the same metrics, but the breakdown of investments corresponds to the mode of presentation of the Bank of Finland's own information systems. The exchange rates used in Table 10 are the official rates for the final day of the reporting year.

The metrics exceeding the minimum climate-related disclosures have been calculated using an automatic reporting tool, in which case the exchange rates used have been the official rates for the final day of the reporting year.

Table 9. Results in accordance with the Eurosystem’s common reporting and classification (investments in sovereign issuers)

Sovereign issuers			
Sovereign and sub-sovereign			
	Production	Consumption	Government Entities
Portfolio value (EUR million)	2 424		
WACI (tonnes of carbon dioxide equivalent per purchasing power parity adjusted GDP)	300	20	280
WACI (climate data coverage)	100%	100%	100%
Absolute carbon emissions (tonnes of carbon dioxide equivalent)	727,000	798,000	105,000
Absolute carbon emissions (climate data coverage)	100%	100%	100%
Carbon footprint (tonnes of carbon dioxide equivalent per EUR million invested)	300	330	40
Carbon footprint (climate data coverage)	100%	100%	100%
Sources: ISS, C4F and World Bank.			

Note:

In this context, the Bank of Finland’s own investment assets consist of foreign currency-denominated (USD, GBP and JPY) fixed-income and equity investments. The assets also include the externally managed BIS fund, broken down by issuer, with some issuers being non-sovereign issuers (Table 10). There are no gold or real estate investments in the table. The Bank of Finland currently has no fixed income or equity investments denominated in euros. The size of the portfolio is reported at nominal values.

For example, in accordance with the Eurosystem’s common reporting, the local government or state bonds and some sub-sovereign MFIs are classified as government bonds. The calculation formulas for the metrics can be found in the appendix. The percentages below the metric figures indicate the coverage of the data for each asset class. Coverage has been calculated by dividing the market value of those investments for which all the necessary financial and emission-related information is available by the market value of the entire portfolio.

Table 10. Results in accordance with the Eurosystem's common reporting and classification (investments in non-sovereign issuers)

Non-sovereign issuers					
	TOTAL	Supranational issuers	Covered bonds	Corporate bonds	Equities
Portfolio value (EUR million)	3,081	834	247	678	1,323
WACI (tonnes of carbon dioxide equivalent per purchasing power parity adjusted GDP)	80	<10	<10	80	140
WACI (climate data coverage)	88%	67%	100%	98%	100%
Absolute carbon emissions (tonnes of carbon dioxide equivalent)	124,000	<100	<100	55,000	69,000
Absolute carbon emissions (climate data coverage)	88%	67%	100%	98%	100%
Carbon footprint (tonnes of carbon dioxide equivalent per EUR million invested)	40	<1	<1	80	50
Carbon footprint (climate data coverage)	88%	67%	100%	98%	100%

Sources: ISS, C4F and World Bank.

Note:

In this context, the Bank of Finland's own investment assets consist of foreign currency-denominated (USD, GBP and JPY) fixed-income and equity investments. The assets also include externally managed securities investments, including the BIS fund, broken down by issuer. Some of the BIS fund issuers are included in the table of sovereign issuers (Table 9). There are no gold or real estate investments in the table. The Bank of Finland currently has no fixed income or equity investments denominated in euros. The size of the portfolio is reported for fixed income investments at nominal values, and for equity investments at market values.

For example, in accordance with the Eurosystem's common reporting, the local government or state/province bonds and some sub-sovereign MFIs are classified as government bonds. The fixed income fund portfolio is broken down by issuer into different groups. The calculation formulas for the metrics can be found in the appendix.

The percentages below the metric figures indicate the coverage of the data for each asset class. Coverage has been calculated by dividing the market value of those investments for which all the necessary financial and emission-related information is available by the market value of the entire portfolio.

The exchange rate used for the financial figures is exchange rate for 31 December 2021, as the emission data is mainly for 2021. This is the calculation method adopted in the Eurosystem.

Table 11. Eurosystem's common reporting metrics according to the Bank of Finland's own asset classification

Bank of Finland's securities investments excluding government-issued bonds	Total	Government-related issuers	Covered bonds	Corporate bonds	Equities	Green bond fund
Portfolio value (EUR million)²						
2022	3,882	1,473	244	678	1,324	215
2021	3,666	1,033	273	676	1,500	261
Data coverage						
2022	77%	57%	100%	100%	100%	75%
2021	87%	69%	94%	100%	100%	71%
WACI (Scope 1-2: tCO₂e/ EUR million revenue)						
2022	60	<10	<10	80	130	<10
2021	70	<10	<10	50	190	<10
Absolute greenhouse gas emissions (Scope 1-2: tCO₂e)						
2022	112,000	<100	<100	51,000	104,000	<100
2021	95,000	<100	100	27,000	113,000	<100
Carbon footprint						
2022	30	<1	<1	80	80	<1
2021	30	<1	<1	40	80	<1

Source: ISS. Table data was obtained using the ISS automated reporting system.

Note:

In this context, the Bank of Finland's own investment assets consist of foreign currency-denominated (USD, GBP and JPY) fixed-income and equity investments. The assets also include externally managed securities investments, which in this table are reported separately. In the Bank of Finland's asset classification, states and state-owned companies for example, are classified as government-related issuers. There are no gold or real estate investments in the table. The Bank of Finland currently has no own investments denominated in euros.

The calculation formulas for the metrics can be found in the appendix. The percentages below the metric figures indicate the coverage of the data for each asset class. Coverage has been calculated by dividing the market value of those investments for which all the necessary financial and emission-related information is available by the market value of the entire portfolio.

The exchange rate used is the closing rate for the reporting year (30.12.2022).

² The size of the portfolio is reported for fixed income investments at nominal values, and for equity investments at market values.

The low absolute emission and emission intensity levels in covered bonds and bonds issued by government-related issuers are due to the calculation method. In the calculation, Scope 1 and 2 levels are used, in which case indirect emissions, for example the emissions allocated to the portfolios of these institutions, are not included in the calculation. There remain challenges associated with the calculation of indirect emissions (Scope 3), due to which an individual emission unit will be calculated multiple times during the value chain. As emission calculation and reporting evolve, these challenges are expected to decrease. Table 12 also contains Scope 3 emission data as well as other metrics that go beyond the Eurosystem's minimum requirements.

The most significant emissions in the Bank of Finland's investment portfolio are allocated to the government bond portfolio. Due to our central banking tasks, our portfolio must contain bonds of certain countries. The Bank of Finland participates in general public discussion on climate change and thus encourages countries to make the nationally determined contributions required to achieve the Paris Agreement target.

In addition to emissions allocated to government bonds, there are significant emissions allocated to the corporate bond portfolio and to equity investments. In direct investments, the Bank of Finland has excluded fossil fuel entities from the investment portfolio, which is expected to reduce the absolute emissions of the portfolio. It should be noted, however, that some of the companies focused on renewable forms of energy and the chemical industry may have high emissions, and the companies' emission reductions arise in the value chain, which are not reflected in the Scope 1 and Scope 2 calculations.

Table 12. Metrics that go beyond the minimum climate-related disclosure requirements

Bank of Finland's securities investments excluding government-issued bonds ³	Total	Government-related issuers	Covered bonds	Corporate bonds	Equities	Green bond fund
Portfolio value (EUR million)⁴						
2022	3,882	1,473	244	678	1,324	215
2021	3,666	1,033	291	685	1,500	261
Data coverage⁵						
2022	77%	57%	100%	100%	100%	75%
2021	87%	69%	94%	99%	100%	71%

³ In this context, the Bank of Finland's own investment assets consist of foreign currency-denominated (USD, GBP and JPY) fixed-income and equity investments. The assets also include externally managed securities investments. There are no gold or real estate investments in the table. The Bank of Finland currently has no fixed income or equity investments denominated in euros.

⁴ The size of the portfolio is reported for fixed income investments at nominal values, and for equity investments at market values.

⁵ The percentages below the metric figures indicate the coverage of the data for each asset class. Coverage has been calculated by dividing the market value of those investments for which all the necessary financial and emission-related information is available by the market value of the entire portfolio.

Reported figures' share of total⁶						
2022	87%	77%	100%	100%	91%	69%
2021	87%	73%	100%	100%	91%	59%
Carbon intensity						
2022	100	<10	<10	90	160	<10
2021	120	<10	<10	80	190	<10
Absolute greenhouse gas emissions (Scope 1-3: tCO₂e)						
2022	1,692,000	7,000	25,000	987,000	1,011,000	1,000
2021	1,190,000	9,000	15,000	579,000	876,000	2,000
Conformity with climate scenarios						
Estimated temperature, increase by 2050 ⁷	2°C	1.5°C	1.5°C	1.7°C	2.6°C	1.5°C
Alignment with SDS ⁸ budgeting	Exceeds the calculated SDS budget in 2039.	Remains within the calculated SDS budget until 2050 (end of the time period analysed)	Remains within the calculated SDS budget until 2050 (end of the time period analysed)	Exceeds the calculated SDS budget in 2045.	Exceeds the calculated SDS budget in 2029.	Remains within the calculated SDS budget until 2050 (end of the time period analysed)
Assessment of climate targets (% portfolio size)						
Targets committed to or adopted in the SBT ⁹ model	35%	-	17%	77%	58%	-
Ambitious targets	7%	-	-	15%	12%	-
Modest targets	28%	32%	83%	8%	19%	79%
No targets	30%	68%	-	-	11%	21%

Source: ISS.

⁶ The proportion of the portfolio weight for which the required data are available, as self-reported by the issuer itself.

⁷ The metric estimates the temperature increase for the portfolio in 2050

⁸ SDS: The IEA Sustainable Development Scenario is a sustainable development scenario developed by the International Energy Agency, in which emissions are budgeted for different sectors. Investments are evaluated insofar as how they stay within the given emission budget or exceed the calculated budget.

⁹ SBT: Science Based Target

The majority (77%) of corporate bond portfolio issuers have already set or are committed to science-based climate targets. In addition to these, 15% have set other ambitious climate targets. The projected temperature change for the corporate bond portfolio is 1.7°C, slightly above the carbon budget allocated to it.

In equity investments, 70% have science-based targets, commitments or other ambitious targets. The carbon budget, however, will be significantly exceeded, as the estimated temperature change is 2.6°C. In contrast, the estimated temperature change for the supranational issuers is 1.5°C, i.e. this part of the portfolio is within the allocated carbon budget. However, 68% of supranational issuers have not yet set climate targets, and 32% have set only modest targets.

The projected temperature increase for the portfolio exceeds both 1.5°C and 2°C by 2039, mainly due to the temperature increase for the equity portfolio. During 2022, we have transferred approximately USD 450 million to equity products that have a significantly lower emission intensity level. This change is reflected in Table 6 as a significant reduction in the emission intensity level compared with 2021. Our goal is to reduce by 50% by the end of 2025 the equity portfolio's emission intensity.

6 Appendices

Eurosystem's minimum climate-related disclosure metrics for 2022 and 2021

Climate-related figures for the Bank of Finland's own investment activities classified in accordance with the Eurosystem's common stance on climate-related disclosures

Sovereign issuers				
Sovereign and sub-sovereign				
		Production	Consumption	Government Entities
Portfolio value (EUR million)	2022	2,424		
	2021	2,432		
WACI (tonnes of carbon dioxide equivalent per purchasing power parity adjusted GDP)	2022	300	20	280
	2021	310	20	290
WACI (climate data coverage)	2022	100%	100%	100%
	2021	100%	100%	100%
Absolute carbon emissions (tonnes of carbon dioxide equivalent)	2022	727,000	798,000	105,000
	2021	744,000	811,000	107,000
Absolute carbon emissions (climate data coverage)	2022	100%	100%	100%
	2021	100%	100%	100%
Carbon footprint (tonnes of carbon dioxide equivalent per EUR million invested)	2022	300	330	40
	2021	310	330	40
Carbon footprint (climate data coverage)	2022	100%	100%	100%
	2021	100%	100%	100%

Sources: ISS, C4F and World Bank.

Climate-related figures for the Bank of Finland's own investment activities classified in accordance with the Eurosystem's common stance on climate-related disclosures

Non-sovereign issuers

		TOTAL	Supranational issuers	Covered bonds	Corporate bonds	Equities
Portfolio value (EUR million)	2022	3,081	834	247	678	1,323
	2021	3,587	1,106	299	676	1,507
WACI (tonnes of carbon dioxide equivalent per purchasing power parity adjusted GDP)	2022	80	<10	<10	80	140
	2021	70	<10	<10	50	150
WACI (climate data coverage)	2022	88%	67%	100%	98%	100%
	2021	91%	77%	100%	95%	100%
Absolute carbon emissions (tonnes of carbon dioxide equivalent)	2022	124,000	<100	<100	55,000	69,000
	2021	111,000	<100	<100	32,000	79,000
Absolute carbon emissions (climate data coverage)	2022	88%	67%	100%	98%	100%
	2021	91%	77%	100%	95%	100%
Carbon footprint (tonnes of carbon dioxide equivalent per EUR million invested)	2022	40	<1	<1	80	50
	2021	30	<1	<1	50	50
Carbon footprint (climate data coverage)	2022	88%	67%	100%	98%	100%
	2021	91%	77%	100%	95%	100%

Sources: ISS, C4F and World Bank.

Calculation formulas for metrics

Equities

WACI (weighted average carbon intensity):

$$WACI = \sum_n^i \left(\frac{\text{current value of investment}_i}{\text{current portfolio value}} \right) \times \left(\frac{\text{issuer's GHG emissions}_i}{\text{issuer's revenue (EUR million)}_i} \right)$$

Absolute emissions:

$$TCE = \sum_n^i \left(\frac{\text{current value of investment}_i}{\text{Enterprise Value Including Cash (EVIC)}_i} \right) \times \text{issuer's GHG emissions}_i$$

Carbon footprint:

$$CF = \frac{\sum_n^i \left(\frac{\text{current value of investment}_i}{EVIC_i} \right) \times \text{issuer's GHG emissions}_i}{\text{current portfolio value (EUR million)}}$$

Fixed-income investments issued by sovereigns

WACI (weighted average carbon intensity):

$$WACI = \sum_n^i \left(\frac{\text{current value of investment}_i}{\text{current portfolio value}} \right) \times \left(\frac{\text{issuer's GHG emissions}_i}{\text{GDP, population, total consumption expenditure}_i} \right)$$

Absolute emissions:

$$TCE = \sum_n^i \left(\frac{\text{current value of investment}_i}{\text{PPP adjusted GDP}_i} \right) \times \text{issuer's GHG emissions}_i$$

Carbon footprint:

$$CF = \frac{\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{PPP adjusted GDP}_i} \right) \times \text{issuer's GHG emissions}_i}{\text{current portfolio value (EUR million)}}$$

Other fixed-income investments

WACI (weighted average carbon intensity):

$$WACI = \sum_n^i \left(\frac{\text{current value of investment}_i}{\text{current portfolio value}} \right) \times \left(\frac{\text{issuer's GHG emissions}_i}{\text{issuer's revenue (EUR million)}_i} \right)$$

Absolute emissions:

$$TCE = \sum_n^i \left(\frac{\text{current value of investment}_i}{\text{Enterprise Value Including Cash (EVIC)}_i} \times \text{issuer's GHG emissions}_i \right)$$

Carbon footprint:

$$CF = \frac{\sum_n^i \left(\frac{\text{current value of investment}_i}{EVIC_i} \right) \times \text{issuer's GHG emissions}_i}{\text{current portfolio value (EUR million)}}$$