CLIMATE-RELATED FINANCIAL DISCLOSURES OF THE EESTI PANK INVESTMENT PORTFOLIO

Eesti Pank
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FOREWORD

Turbulent geopolitics are firmly at centre stage right now and with energy at the heart of these tensions, it is easy to lose sight of climate related risks and of commitments to limiting global warming. However, those same tensions highlight how reducing emissions is no longer just an issue of climate, because in many countries diversifying energy means reducing foreign policy dependence, and avoiding price shocks and supply disruptions.

The world has made progress that is meaningful but so far insufficient toward meeting the goals of the Paris Agreement. The time-critical gap between climate ambition and reality remains large, despite the scaling of clean energy and improvements in the energy efficiency of economic growth across advanced economies. The underlying uncertainty makes this gap a source of investment risk as well, which is difficult to price despite becoming a mainstream financial concern, but still needs to be treated as a material risk to returns, valuations and long-term strategy.

The investment portfolios of central banks are heavily concentrated in sovereign debt as an asset class. Without consistent policy support however, the direction taken by energy systems will depend largely on how businesses in key sectors deliver their sustainability agendas. It is the extent of that influence that will ultimately shape sovereign climate risk through its impact on growth, fiscal stability, and debt sustainability.

Climate-related objectives have been part of the Eesti Pank strategy since 2021, and they steer the management of the bank's investment portfolio with the long-term objective of achieving climate neutrality in support of the Paris Agreement. By adopting climate-related sustainable investment practices without prejudice to our mandate as a central bank, we can be enablers, though not primary drivers, of the transition to a climate-neutral and climate-resilient economy.

As a member of the Eurosystem, Eesti Pank shares the responsibility for raising awareness of climate-related financial risks while providing transparency about the climate-related risk exposure of its own investment portfolios. We remain committed to staying accountable and improving the quality of our disclosures through relevant, meaningful and decision-useful metrics and by striving to maintain methodological consistency over time.

Ülo Kaasik
Governor of Eesti Pank

INTRODUCTION

Sustainability factors are becoming a mainstream part of investment decision-making as they provide globally comparable information on climate-related risks and opportunities. Since the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) was disbanded after completing its mission in 2023, its recommendations have been incorporated into the standards of the International Sustainability Standards Board (ISSB). These standards build on the work of market-led, investor-focused reporting initiatives and are increasingly becoming the reference point for climate reporting.

This report is based on the Eurosystem's common climate-related disclosure principles, which include the recommendations of the Partnership for Carbon Accounting Financials (PCAF) and the Network of central banks and supervisors for Greening the Financial System (NGFS). Eesti Pank remains committed to improving the quality of our climate-related financial disclosures by staying accountable and transparent in the reporting we provide. Climate metrics are key in tracking the carbon footprint of our investment portfolio and in setting its targets for decarbonising. However, such metrics could also be misleading if they are not adjusted for macroeconomic effects such as inflation and fluctuating exchange rates.

In this, our third stand-alone publication of climate-related financial disclosures covering the non-monetary policy investment portfolio of Eesti Pank, we are taking the first steps in reporting inflation-adjusted metrics to complement the unadjusted ones. The metrics adjusted for now are the sovereign production emissions attributed to our investment portfolio and the Weighted Average Carbon Intensity (WACI) of our sovereign bond and equity portfolios.

All the unadjusted metrics in the current disclosure report are based on the latest available emissions data, which are from 2024 for the corporate issuers and 2023 for the sovereign issuers[1]. Since the baseline year for our climate-aware investment strategy is 2021, any meaningful timeseries of relevant metrics is still being built but the initial decline in the WACI of our sovereign bond portfolio indicates that while the greenhouse gas (GHG) emissions have not decreased for all the component countries in our portfolio, the carbon intensity of the portfolio economies taken collectively has been reduced.

This report is structured as follows: the section on governance describes Eesti Pank's current governance set-up around reserve management in general, and how considerations of climate-related risks and opportunities are integrated into the bank's investment policy; the section on strategy outlines the strategic approach taken, where possible, to reach the long-term target of a net-zero emissions portfolio; and the following sections cover issues related to risk management and the most material portfolio climate metrics and target setting for them.

GOVERNANCE

It is the Executive Board of Eesti Pank that approves the overall investment management policy, which includes taking decisions on investment objectives, risk tolerance, investment horizons, and strategic asset allocation. The Board also decides how considerations of climate-related sustainable investment principles are integrated into the management framework for the investment portfolio.

Climate objectives have been part of the Eesti Pank investment strategy since 2021, and they steer the management of the bank's investment portfolio by gradually aligning its investments with the long-term objective of climate neutrality by 2050. The pursuit of sustainability objectives within our investment management framework may go beyond the goal of earning financial returns, but the underlying premise is that the investment integrity of the portfolio must be maintained and a stable investment return ensured over the medium to long term.

Climate-related sustainability objectives apply to Eesti Pank's non-monetary policy investment portfolio, which aims to earn sufficient income to cover the operating costs of the bank, increase its capital, and

1 For 2023, the sovereign holdings in the United States are reported with 2022 United Nations Framework Convention on Climate Change (UNFCCC) data given that the Eurosystem data provider has not yet updated this country's climate data for 2023.

so preserve its financial independence. An investment committee, whose members are appointed by the Governor of Eesti Pank and which is led by a Deputy Governor, meets at least once a quarter and reviews the strategic allocation of assets at least once a year.

The investment division of portfolio managers has direct responsibility for day-to-day active investment decisions, provides input to the investment committee about strategic and tactical asset allocation, and plays an integral role in setting investment policy. A separate advisory role has been created to help identify best practices and current trends in climate-related sustainable investment strategies, and to engage with financial markets and indexing experts for benchmarking. The risk management division is responsible for providing input on risk tolerance to the investment policy framework, monitoring the compliance of the portfolio with risk limits, and providing regular reporting on risks and returns. This division is also responsible for calculating climate metrics in accordance with the standard frameworks of the TCFD and PCAF, which underlie the common principles of the Eurosystem's climate-related financial disclosures.

STRATEGY

The pursuit of sustainability objectives within the Eesti Pank investment management framework is driven by a combination of climate related considerations. These include reducing exposure to physical climate risks and to the transition risks that arise from the process of shifting to a low-carbon, more climate-resilient economy, and setting goals to meet the long-term objective of climate neutrality in support of the Paris Agreement and fostering climate solutions through investment in green bonds.

The decarbonisation strategy of the Eesti Pank investment portfolio is executed in steps that vary across different asset classes. The alignment of the **sovereign bond investments** with net zero targets depends on the public expenditure of the bond-issuing governments and the policies that they finance, and on the alignment of the economy at the macro level. Our sovereign bond portfolio, which contains the government debt of a select group of advanced economies, will consequently decarbonise as those issuers deliver on their commitments to reduce GHG emissions in their economies.

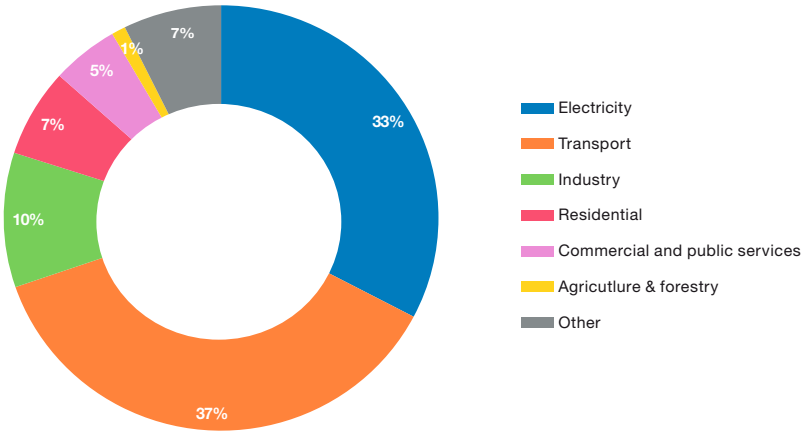
A considerable share of the Eesti Pank investment portfolio is invested in US Treasury securities because of their status as reserve assets and the underlying dominance of the US dollar in global trade and finance. The current US federal administration has withdrawn from the Paris Agreement as of January 2026, and their earlier Nationally Determined Contribution (NDC) targets have thereby been abandoned and voided. While no net zero goal is currently being pursued actively at the federal level, climate action continues in parts of the country at the level of states, cities and the private sector.

In our disclosure report last year we showed that the GHG emissions of countries whose sovereign debt we invest in have historically been strongly correlated with economic growth, but that there has been a noticeable decoupling since the turn of the millennium, with GDP growth and emissions diverging. We also pointed out that this trend has slowed and our sovereign bond portfolio is currently not aligned with the path required for achieving the goals of the Paris Climate Agreement.

Achieving this alignment implies first and foremost that an energy transition must occur, which means a shift from fossil-fuel-based electricity, heating, and transportation toward using cleaner, low-carbon sources like solar, wind, nuclear, and battery storage, in combination with greater energy efficiency and electrification of sectors like vehicles and buildings. This shift depends on and is driven not only by technological innovation and falling costs for clean energy, but also by the climate goals, policies and regulations of the governments of the countries whose sovereign debt we invest in.

The majority of global GHG emissions come from the energy sector when fossil fuels such as coal, oil and natural gas are burned to generate electricity or to fuel vehicles and machinery. In transport, the vast majority of emissions come from cars, which are still overwhelmingly reliant on oil-based fuels despite the rapid growth in electric vehicles (EVs). The sectoral breakdown of energy-related CO_2 emissions depends on the structure of each economy and its energy system. Chart 1 depicts the total emissions of the countries in the current Eesti Pank sovereign bond portfolio, unweighted.

Chart 1. Total sector-based CO_2 emissions of the combined economies in the Eesti Pank sovereign bond portfolio*

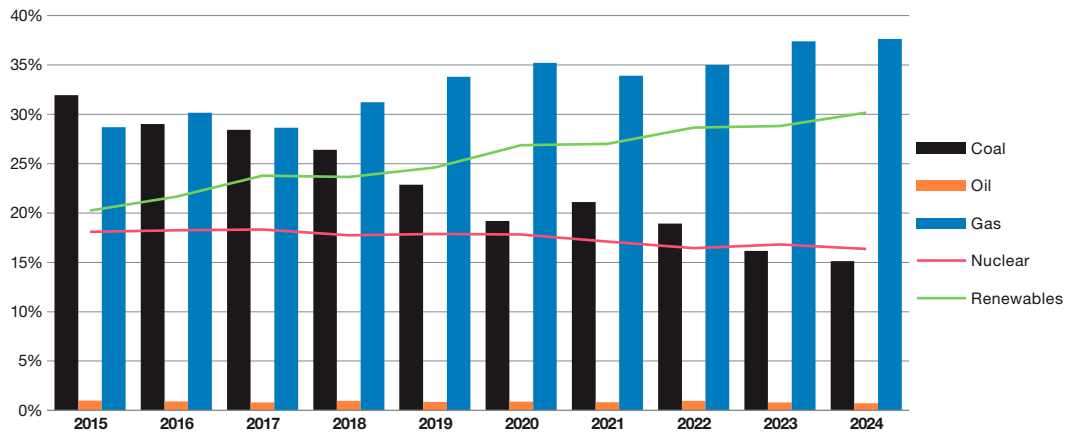


* The CO_2 emissions generated directly by certain processes like cement making are not included here, though they can be substantial.
Sources: International Energy Agency (IEA), Eesti Pank calculations

While the electricity sector is the single largest contributor to global GHG emissions, the transport sector prevails within the select group of advanced economies whose sovereign debt we hold in our investment portfolio. Nevertheless, cleaning up electricity generation would have the biggest impact on reducing emissions at scale, as doing so would allow other sectors to be decarbonised.

Chart 2 shows the dynamics of the sources of total electricity generation in the economies of the Eesti Pank sovereign bond portfolio since the Paris Agreement was signed in 2015. The share of coal has fallen gradually and its decline has been driven by the rise in the share of natural gas and renewables, but even though natural gas is less carbon-intensive than coal, it still contributes to climate change. Decarbonising electricity consequently means not just adding renewables to the mix but eliminating coal, reducing natural gas, and scaling up clean renewable generation to dominate the system.

Chart 2. Sources of electricity generation in the combined economies of the Eesti Pank sovereign bond portfolio 2015-2024



Sources: International Energy Agency, Eesti Pank calculations

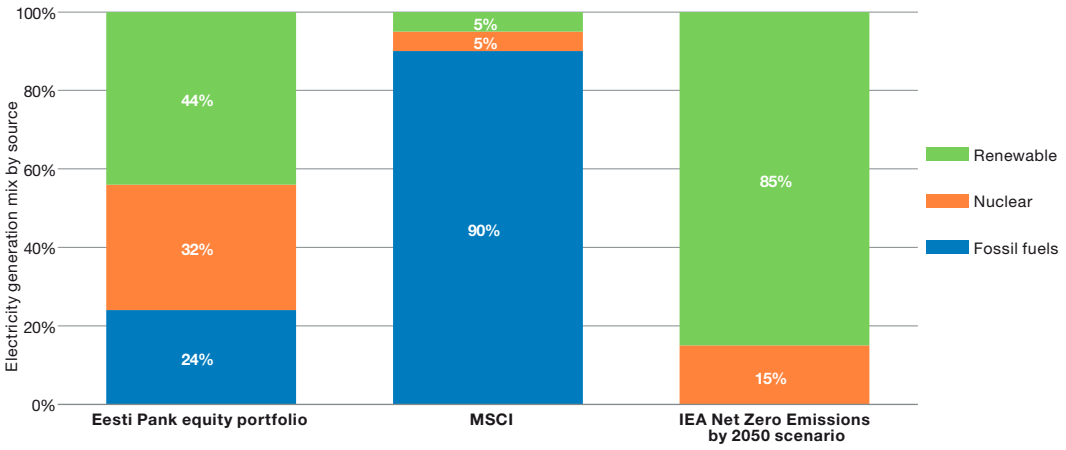
The Eesti Pank listed **equities** portfolio covers the investment universe of large and mid-cap enterprises in the developed markets of the MSCI World Index. Our goal is to achieve a portfolio that follows an aggregate decarbonisation trajectory[2] without negatively impacting the risk-adjusted investment return, while ensuring that the total exposure to sectors with a large climate impact should be no less than the exposure of the underlying investable universe. A certain exposure to the energy and utilities sectors, which are currently still carbon intensive, is thereby maintained, since the efforts of those sectors

2 A measurable, science-based and time-bound trajectory towards alignment with the objectives of the Paris Agreement by reducing Scope 1, 2 and 3 carbon emissions as referred to in point (1)(e) of Annex III in the ESMA Benchmarks Regulation

to achieve sustainability have a critical role to play in facilitating the shift of all the other sectors of the economy towards net zero. This strategy is implemented through investment in a combination of exchange-traded funds (ETFs) that are guided by the technical requirements laid out for the EU Climate Transition and EU Paris-aligned Benchmarks as defined in the EU Benchmark Regulation and the EU Commission Delegated Regulation.

Transitioning the electricity generation mix from fossil fuels to renewable sources is key for a decarbonised future economy, and utilities that rely on producing electricity from fossil fuels without a substitute plan might run a higher risk of facing regulatory measures. Chart 3 compares the current electricity generation mix by source of the Eesti Pank equity portfolio, the MSCI index and the International Energy Agency Net Zero Emissions by 2050 scenario[3].

Chart 3. Electricity generation exposure of the Eesti Pank equity portfolio in 2025



Sources: IEA, ISS (Institutional Shareholder Services)

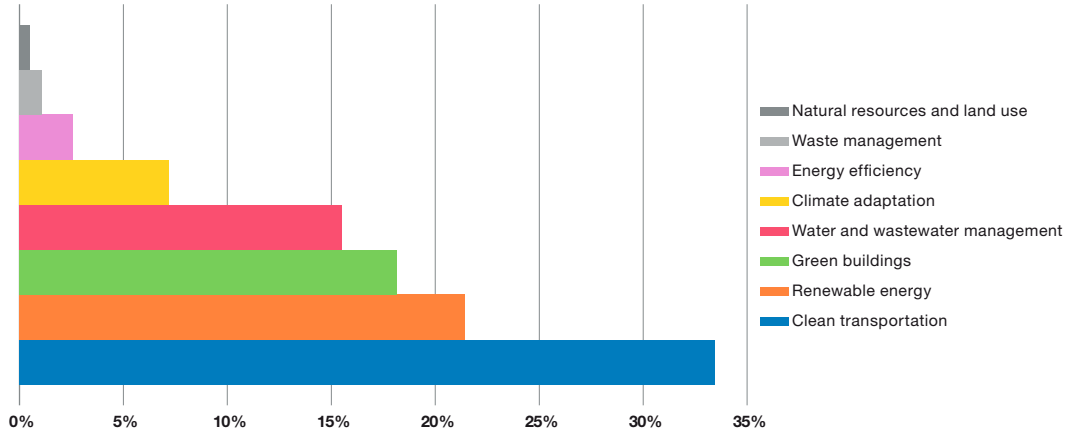
The strategy has already delivered an initial and drastic reduction in the portfolio's carbon footprint and other metrics while maintaining a sectoral split similar to that of the underlying investable universe. Calculations by the Eurosystem's common data provider ISS indicate that 65% of the reduction achieved in net carbon emissions exposure can be attributed to the combined effect of sector allocation and issuer selection, with the latter playing the dominant role.

Within the asset class of **supranationals, sub-sovereigns and agencies** we apply an impact investing approach by participating in a thematic green bond investment fund for central banks and official institutions that was established and is managed by the Bank of International Settlements (BIS).

As Chart 4 illustrates, the fund invests primarily in renewable energy production, energy efficiency and other environmentally-aware projects. The underlying securities are aligned with the Green Bond Principles of the International Capital Markets Association or the Climate Bond Standard.

3 Under the IEA's "net zero emissions" scenario the world takes aggressive action to tackle climate change in line with the Paris Agreement goals and the demand for fossil fuels starts a dramatic decline very soon.

Chart 4. Green bond fund allocation per impact category as at the end of 2025



Sources: Issuer impact reports, BIS calculations

RISK MANAGEMENT

Safety, liquidity and return are the typical triad of objectives for a central bank's reserve management. The general principle that guides Eesti Pank in managing the reserves and maximising returns is to have a stable and diversified allocation of portfolio assets between different asset classes with sufficiently low correlation. Having introduced the principles of sustainable and responsible investing to the Eesti Pank investment policy, we recognise climate change risk as a financial risk factor that amplifies existing financial risk categories like credit risk and market risk.

The physical or material climate-related risks depend on the geographical location, population and infrastructure exposure of individual countries, their economic structure, and their adaptive capacity or resilience. The risks from transitioning to carbon-neutral and environmentally sustainable economies originate mainly from climate policies or the lack of them. They also come though from technological breakthroughs, fossil-fuel phase-outs and stranded assets, changes in the business models of companies and in consumer preferences, and systemic risk from asset pricing that ignores the effects of global warming.

Eesti Pank assesses climate risk by applying the methodology that is currently most common by applying backward-looking carbon metrics as proxies for the transition risks that our investment portfolio, and ultimately then the bank's balance sheet, is exposed to. These metrics do not quantify the risk but rather indicate the relative exposure to carbon-intensive companies or economies as a whole. Backward-looking data and climate metrics that are derived from them may help in understanding past trends but they do not determine the transition capacity of the underlying emitters, be they companies, economic sectors or economies as a whole.

It is rather the outlook for how business models are adapted, policies implemented and adhered to, and actual emissions reduced in the years ahead that will define the transition capacity. Backward-looking metrics alone are consequently not sufficient for managing climate risk in investment portfolios as the relevant part of what is yet to happen is missing from them. This future-facing part could include irreversible thresholds that are quietly crossed or delayed, or it could be abrupt economic adjustments. To date, forward-looking climate metrics have not been incorporated into the Eesti Pank overall risk framework; however, integration of them will be pursued once methodologies become more established and widely adopted.

METRICS AND TARGETS

METRICS

The climate metrics in this report are based on the Eurosystem's common primary dataset and a harmonised approach to the disclosure of metrics. The full set of the key carbon metrics of our non-monetary policy investment portfolio can be found in Annex 1. The calculation of the metrics follows the recommendations of the PCAF a global financial industry-led initiative to standardise how the emissions financed by investors are measured. Detailed information on the calculation of metrics and on emissions allocation methods, normalisation and attribution factors can be found in Annex 2.

Climate-related metrics are calculated separately for sovereign issuers and non-sovereign ones because their emissions scopes overlap and different methods are used for attributing underlying emissions to investments. Sovereign metrics are calculated using emissions from both production and consumption. They are additionally split between emissions that include Land Use, Land-Use-Change and Forestry (LULUCF) and those that exclude it.

The reference years for portfolio holdings, emissions and financial data do not match for the most recent reporting periods, and they will be adjusted accordingly once the latest emissions data become available. Any meaningful trends in the dynamics of the portfolio's absolute carbon emissions and the intensities of those emissions will become evident once the timeline has built sufficiently. The latest underlying emissions data available for the metrics in the tables below are from 2023[4] for the sovereign issuers and 2024 for the corporate issuers.

Table 1. Key climate-related metrics for sovereign issuers in Eesti Pank investment portfolio in 2025

	Sovereign issuers		
	Production based emissions		Consumption based emissions
	exc LULUCF	incl LULUCF	
Portfolio value (eur mln)		1348	
Total carbon emissions (t CO_2e)	355,036	325,184	350,212
WACI (t CO_2)*	236	216	16
Carbon footprint (t CO_2e *per* € mln invested)	236	216	233

* weighted average carbon intensity in tCO_2e *per* EUR mln PPP-ajusted GDP or *per capita.*
Note: WACI and carbon footprint for sovereign issuers yield the same result.

Total absolute carbon emissions (tCO_2e) or financed emissions here indicate what share of the GHG emissions of countries in our portfolio Eesti Pank is financing by holding the debt issued by the governments of those countries. This depends on the carbon intensity of the economies, their energy mix, and their economic structure. The weighted average carbon intensity (WACI) metric[5] measures the carbon intensity of the economies in our investment portfolio expressed in tonnes of CO_2e per million euros of PPP-adjusted GDP, per capita, or per million euros of final consumption expenditure. The complete set of metrics for 2021-2025 can be found in Annex 1.

The total carbon emissions for non-sovereign issuers reflect the absolute financed emissions attributed to our corporate portfolio and supranational and agency bond portfolio and the carbon footprint indicates these emissions per million euros invested. The WACI metric reflects the average carbon intensity of the companies we invest in, weighted by portfolio allocation.

Scope 1 or direct emissions are the emissions related to the operations of companies and Scope 2 or indirect emissions stem from the energy consumption of companies. Scope 3 emissions are indirect emissions not covered in Scope 2, meaning those that come from the upstream and downstream supply

4 For 2023, the sovereign holdings in the United States are reported with 2022 United Nations Framework Convention on Climate Change (UNFCCC) data given that the Eurosystem data provider has not yet updated this country's climate data for 2023.

5 The WACI of the sovereign bond portfolio is not globally standardised and is found with multiple methodologies.

Table 2. Key climate-related metrics for non-sovereign issuers in Eesti Pank investment portfolio in 2025

	Non-sovereign issuers			
	Total	**Supranational and Agency bonds**	**Equities**	**Other**
Portfolio value (eur mln)	757	573	174	10
Total carbon emissions (t CO_2e)				
scope 1+2	2437	619	1818	
scope 1+2+3	68,450	28,230	40,220	
WACI (t CO_2)*				
scope 1+2	20	5	47	
scope 1+2+3	1309	1573	835	
Carbon footprint (t CO_2e *per* € mln invested)				
scope 1+2	5	2	11	
scope 1+2+3	143	92	235	

* weighted average carbon intensity in tCO_2e *per* EUR mln revenue.
Note: latest available GHG emissions data are from 2024.

chains. Showing Scope 1+2 and Scope 1+2+3 separately serves various purposes as Scope 1+2 is more accurate but adding Scope 3 makes it more complete by distinguishing between the impacts of operations and products, avoiding misleading comparisons, and allowing for differentiation between what a company controls and what it can influence.

BOX The inflation impact on climate metrics

There is a growing consensus in the academic literature[6] that attribution and normalisation factors should be adjusted for inflationary effects to preserve their integrity. Some empirical analysis suggests that traditional emission metrics non-trivially overstate the decarbonisation progress. Eesti Pank reiterates its commitment to transparent climate reporting and it is publishing for the first time a set of inflation-adjusted metrics to complement the unadjusted ones. The inflation adjustments are applied to production emission metrics for sovereign investments and to the WACI for corporate investments. This is a first approximation based on current standards, which will be updated with new standards and include carbon footprint metrics as consensus on the adjustments emerges.

For sovereign production emissions metrics, the adjustment is based on PPP-adjusted real GDP at constant 2021 prices based on World Bank data[7]. For corporate holdings, WACI is adjusted using the reference inflation index of the relevant monetary area with a baseline year of 2021.[8]

6 These include European Central Bank (2024), Cajic, M. (2025), Jenssen et al. (2022) and MSCI (2023).

7 The inflation-adjusted production emissions metrics are calculated as follows:

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

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

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

$$WACI_t = \sum_{i=1}^{n} \left(\frac{\text{current value of investment}_i}{\text{current portfolio value}} \right) \text{x} \left(\frac{\text{issuer's carbon emissions}_i}{issuer's\ revenue_{i,t} * \frac{Ref\ index_{2021}}{Ref\ index_t}} \right)$$

Table 3 shows the inflation-adjusted sovereign production metrics for our investment portfolio in 2023, as that is the latest year for which the sovereign emissions data available align with both the portfolio holdings and the financial data. The inflation-adjusted metrics are 13% higher than the non-adjusted figures presented in Table 1, thereby reflecting the accumulated effect of inflation since 2021.

Table 3. Inflation adjusted production emission metrics for sovereign issuers in the Eesti Pank portfolio in 2023

		Sovereign production emissions	
		inflation-adjusted	difference
Total CO_2e emissions (t)	excl LULUCF	364,804	12.8%
	incl LULUCF	331,331	12.7%
WACI*	excl LULUCF	279	12.8%
	incl LULUCF	253	12.7%

*Weighted average carbon intensity (WACI) is expressed as tCO_2e *per* 2021 constant EUR mln GDP, adjusted for purchasing power parity (PPP).
Note 1: given the specification of the three production emissions metrics, WACI and carbon footprint for sovereigns yield the same figures for both the adjusted and unadjusted ones. Consequently only one is reported in the comparison table.
Note 2: The difference column exhibits the effect of accumulated inflation since the baseline year.

Table 4 shows the inflation-adjusted WACI for corporate holdings in 2024. The inflation-adjusted figures are 15% higher than the unadjusted metrics because of the effect of accumulated inflation on the underlying revenue figures.

Table 4. Inflation adjusted WACI metrics for corporate equity holdings in the Eesti Pank portfolio in 2024

		non-sovereign issuer emissions	
		inflation-adjusted	difference
WACI (Equities)	scope 1+2 emissions	51	15.3%
	scope 3 emissions	993	14.5%

*Weighted average carbon intensity (WACI) is expressed as tCO_2e per 2021 constant EUR mln revenue.
Note: the difference column exhibits the effect of accumulated inflation since the baseline year.

TARGETS

The dominant share of our investment portfolio is in sovereign bonds, but in the absence of a targeted decarbonisation strategy for this asset class, the climate metrics for it merely reflect the arbitrary dynamics of the GDP of the countries in our portfolio, and their underlying production-based and consumption-based GHG emissions.

Since we first started reporting the climate metrics of our investments in 2021, the weighted average carbon intensity (WACI) of the sovereign bond portfolio has decreased primarily because of the growth effect in the PPP-adjusted GDP of the sovereign issuers rather than through reductions in emissions.

Since 2022, 100% of the supranational and agency bond asset class in our portfolio has consisted of green bond investments made through the Bank of International Settlements green bond investment fund for central banks. The dynamics in the climate metrics of this portfolio since 2021 have been affected most by the addition of new issuers and by the data distortion effect that arises from the inconsistency and variability in the underlying emissions data coverage of the issuers. The climate data coverage for the issuers in this asset class in our portfolio has improved but remains at 70%, whereas the coverage in our equity portfolio is 100%.

The total green bond share of all of our fixed-income portfolios as at the end of 2025 was 23%.

Since the Eesti Pank equity portfolio is invested in a combination of EU Climate Transition and Paris-aligned Benchmarks, there is an inbuilt target mechanism that aligns the portfolio with a trajectory of gradual decarbonisation. The weighted average carbon intensity (WACI) metric, which indicates the level

of carbon emissions that our portfolio generates for each unit of revenue from the underlying companies in the portfolio, has decreased drastically since 2021. This has been achieved by reducing the portfolio weight of companies assessed as high carbon emitters while maintaining some exposure to emissive industries that engage in decarbonising activities.

ANNEX 1

Climate-related metrics of the Eesti Pank investment portfolio 2021-2025

	Sovereign issuers				Non-Sovereign issuers			
	Sovereign bonds							
	Production based emissions		Con-sumption based emissions		Total	Suprana-tional & Agency bonds	Equities	Other
	exc LULUCF	incl LULUCF						
Portfolio market value (eur mln)								
2025		1,348			757	573	174	10
2024		1,318			694	359	155	180
2023		1,348			682	268	237	177
2022		1,137			454	170	179	105
2021		1,066			445	171	172	102
WACI (t CO_2)*								
2025	236	216	16	scope 1&2	20	5	47	
				scope 1+2+3	1,309	1,573	835	
data coverage	100%	100%	100%		79%	71%	100%	
2024	226	208	15	scope 1&2	19	5	44	
				scope 1+2+3	1,351	1,595	911	
data coverage	100%	100%	100%		77%	67%	100%	
2023	247	225	17	scope 1&2	34	5	54	
				scope 1+2+3	1,132	1,306	931	
data coverage	100%	100%	100%		86%	71%	97%	
2022	255	234	17	scope 1&2	41	4	66	
				scope 1+2+3	1,073	1,143	1,026	
data coverage	100%	100%	100%		83%	60%	99%	
2021	315	288	17	scope 1&2	79	4	154	
				scope 1+2+3	787	333	1,234	
data coverage	100%	100%	100%		100%	100%	100%	
Total carbon emissions (t CO_2e)								
2025	355,036	325,184	350,212	scope 1&2	2,437	619	1,818	
				scope 1+2+3	68,450	28,230	40,221	
data coverage	100%	100%	100%		79%	71%	100%	
2024	280,293	257,449	278,540	scope 1&2	1,959	505	1,454	
				scope 1+2+3	60,616	23,562	37,054	
data coverage	100%	100%	100%		77%	67%	100%	
2023	323,504	293,977	320,303	scope 1&2	5,874	290	5,584	
				scope 1+2+3	90,257	13,964	76,293	
data coverage	100%	100%	100%		86%	71%	97%	
2022	308,885	283,775	306,667	scope 1&2	5,299	120	5,179	
				scope 1+2+3	69,226	5,487	63,739	
data coverage	100%	100%	100%		83%	60%	99%	

	Sovereign issuers				Non-Sovereign issuers			
	Sovereign bonds							
	Production based emissions		Con-sumption based emissions		Total	Suprana-tional & Agency bonds	Equities	Other
	exc LULUCF	incl LULUCF						
2021	325,015	297,843	330,486	scope 1&2	13,171	16	13,155	
				scope 1+2+3	100,901	1,731	99,170	
data coverage	100%	100%	100%		100%	100%	100%	
Carbon footprint (t CO_2 e per € mln invested)								
2025	236	216	233	scope 1&2	5	2	11	
				scope 1+2+3	143	92	235	
data coverage	100%	100%	100%		79%	71%	100%	
2024	226	208	225	scope 1&2	5	2	10	
				scope 1+2+3	141	85	242	
data coverage	100%	100%	100%		77%	67%	100%	
2023	247	225	245	scope 1&2	15	2	24	
				scope 1+2+3	245	88	354	
data coverage	100%	100%	100%		86%	71%	97%	
2022	255	234	253	scope 1&2	18	1	29	
				scope 1+2+3	271	46	422	
data coverage	100%	100%	100%		83%	60%	99%	
2021	315	288	320	scope 1&2	39	<1	77	
				scope 1+2+3	337	10	660	
data coverage	100%	100%	100%		100%	100%	100%	

Data source: ISS, C4F, World Bank
* weighted average carbon intensity (t CO_2e per € mln corporate revenue or GDP or consumption expenditure or per capita)
Scope 1 emissions refer to all direct emissions and Scope 2 emissions to all indirect emissions stemming from the consumption of electricity
Scope 3 emissions are indirect emissions not covered in Scope 2 (upstream and downstream supply chains)
Data coverage represents data availability, calculated as the percentage of investments for which all required emissions and financial data is available

ANNEX 2

Apportioning methods, normalisation and attribution factors for the carbon emissions in the portfolio

SOVEREIGN ISSUERS

Total carbon emissions of the portfolio:

$$\sum_{n}^{i}\left(\frac{\text{Value of investment}_i}{\text{GDP by PPP}_i}\times \text{GHG emissions of (sub-)sovereign}_i\right)$$

Carbon footprint of the portfolio:

$$\frac{\sum_{n}^{i}\left(\frac{\text{Value of investment}_i}{\text{GDP by PPP}_i}\times \text{GHG emissions of (sub-)sovereign}_i\right)}{\text{Portfolio value}}$$

Weighted average carbon intensity (WACI) of the portfolio:

$$\sum_{n}^{i}\left(\frac{\text{Value of investment}_i}{\text{Portfolio value}}\times \frac{\text{GHG emissions of (sub-)sovereign}_i}{\text{GDP by PPP}_i}\right)$$

where GDP at PPP is the purchasing power parity adjusted GDP (the sum of the gross value added by all resident producers plus any product taxes and minus any subsidies not included in the value of the products). The purchasing power parity conversion factor is a spatial price deflator and currency converter that eliminates the effects of differences between the price levels of countries.

GHG emissions: either the **production emissions** produced domestically within a country's physical borders, including domestic consumption and exports. This definition follows the territorial emissions approach used by the United Nations Framework Convention on Climate Change (UNFCCC) for annual national inventories; or the **consumption emissions** related to domestic demand, accounting for trade effects. This metric provides a broader view of a sovereign's emissions and tackles the issue of carbon leakage that arises from productions shifts from countries where goods are consumed later.

Corporate issuers

Total carbon emissions of the portfolio:

$$\sum_{n}^{i}\left(\frac{\text{Value of investment}_i}{\text{EVIC of corporation}_i}\times \text{GHG emissions of corporation}_i\right)$$

Carbon footprint of the portfolio:

$$\frac{\sum_{n}^{i}\left(\frac{\text{Value of investment}_i}{\text{EVIC of corporation}_i}\times \text{GHG emissions of corporation}_i\right)}{\text{Portfolio value}}$$

Weighted average carbon intensity (WACI) of the portfolio:

$$\sum_{n}^{i}\left(\frac{\text{Value of investment}_i}{\text{Portfolio value}}\times \frac{\text{GHG emissions of corporation}_i}{\text{Revenue of corporation}_i}\right)$$

where a corporation's EVIC is the sum of the market capitalisation of ordinary shares at the fiscal year-end, the market capitalisation of preferred shares at the fiscal year-end, and the book values of total debt and minority interests; and a corporation's revenue is the total amount of income generated by the sales of goods and services related to the primary operations of the business.