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SUSTAINABILITY REPORT 2024

ZAGREB, JUNE 2025

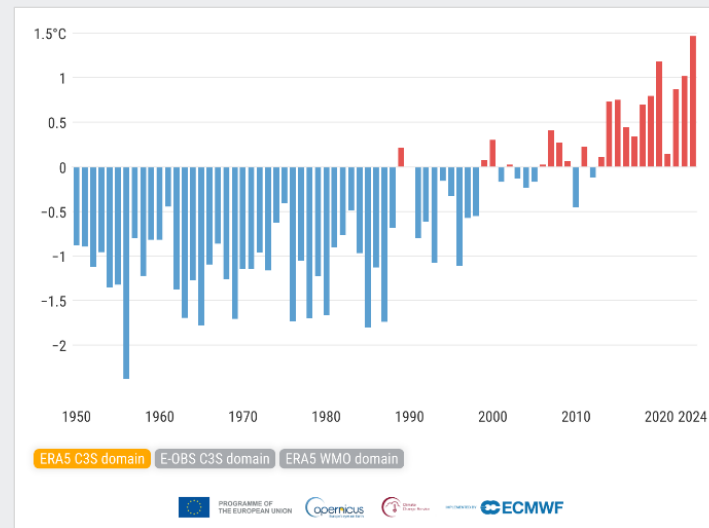
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INTRODUCTION

Weather conditions and natural disasters in the previous year have raised concerns about the state of the climate and the environment. 2024 was the warmest year on record globally. Average global temperature was 1.3 to 1.4°C warmer than in the pre-industrial period. The rise in average temperature in Europe was 1°C above the global average. Europe has been hit by a number of disasters that can be linked to climate change. The most severe disasters, such as the heavy rains, storms and floods that hit Spain and Central and East European countries caused numerous casualties and considerable material damage. South-eastern Europe witnessed a dry and hot summer with a record-long heat wave.

Deviations of mean temperature from normal levels
for Europe in the period from 1991 to 2020



Data: ERA5. Source: C3S/ECMWF/KNMI.

INTRODUCTION

Today, we are all exposed to the consequences of climate change and environmental degradation. However, individuals, institutions and communities can contribute to mitigating the increase in the intensity of such consequences in the future. Within its legally defined capabilities, the Croatian National Bank contributes to the fight against climate change and strengthens its resilience to it.

This report describes how the Croatian National Bank contributed to its own sustainability and overall environmental sustainability in 2024, in three segments of its operations.

1 IMPLEMENTATION OF THE CLIMATE STRATEGY	activities carried out in different business segments in line with the objectives and principles of the Climate Strategy for the period from 2024 to 2026
2 CLIMATE-RELATED FINANCIAL REPORT	report on the exposure of financial assets to climate risks and the carbon footprint of own investments
3 OWN CARBON FOOTPRINT	assessing own carbon footprint and proposing measures to reduce it



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1 IMPLEMENTATION OF THE CLIMATE STRATEGY

2 CLIMATE-RELATED FINANCIAL REPORT

3 OWN CARBON FOOTPRINT

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CLIMATE STRATEGY AND ITS IMPLEMENTATION

STRATEGIC PLAN OF THE CNB 2024 – 2026 • OBJECTIVES

Maintenance of price stability

Preservation of financial stability

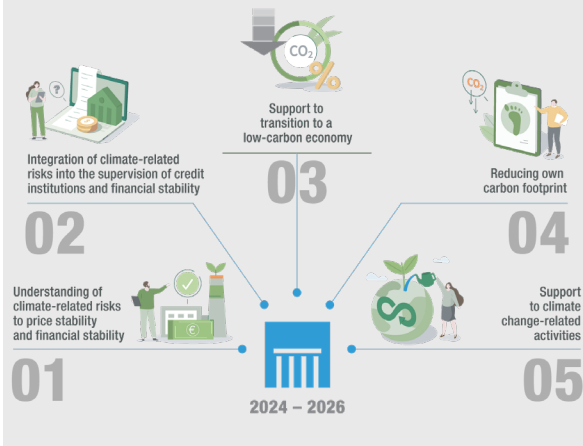
Efficient functioning of payment systems and
currency supply systems

Successful integration into the Eurosystem

Efficient, responsible and transparent
organisation's governance

Commitment to sustainable development

CLIMATE STRATEGY 2024 – 2026



Climate strategy is implemented through the activities of all **organizational units**, in coordination with the **Working group for the coordination of climate-related activities** and through the work of the **Working group in charge of proposing measures to reduce greenhouse gas emissions and to protect the environment**

ACTIVITIES AIMED AT ACHIEVING THE OBJECTIVES OF THE CLIMATE STRATEGY IN 2024

1 Understanding of climate-related risks to price stability and financial stability	2 Integration of climate-related risks into the supervision of credit institutions and financial stability	3 Support to the transition to a low-carbon economy	4 Reducing own carbon footprint	5 Providing support to climate change-related activities
<ul style="list-style-type: none"> Analysing the impact of climate on tourism Analysing the impact of EU ETS on inflation, consumption and competitiveness Improving the assessment of climate-related risks and monitoring their impact on banks Using satellite and geographic data for physical risk analysis 	<ul style="list-style-type: none"> Supervising less significant credit institutions and monitoring compliance with issued recommendations Activities within the Vienna Initiative and preparing ESG risk reports Participating in EU projects (ECB, EBA, Flagship ESG) 	<ul style="list-style-type: none"> Taking part in professional meetings Integrating sustainability in financial literacy Incorporating climate change in educational programmes and exhibitions Climate report for financial assets and sustainability considerations in asset management 	<ul style="list-style-type: none"> Calculating own carbon footprint in a broader scope and proposing measures to reduce it Monitoring the environmental impact of electronic payments Disposal of banknotes without incineration and without disposal in landfill Introduction of plastic-free banknote destruction technology 	<ul style="list-style-type: none"> Participation in ECB, EBA, IMF and NGFS working groups Maintaining a climate dialogue with the Bank of Slovenia Workshop on climate stress testing with the IMF
<ul style="list-style-type: none"> Developing climate-related statistical indicators, cooperation with the CBS and the CDCC on indicator mapping; including the collection and production of experimental climate change indicators in the Annual statistical survey implementation plan 				



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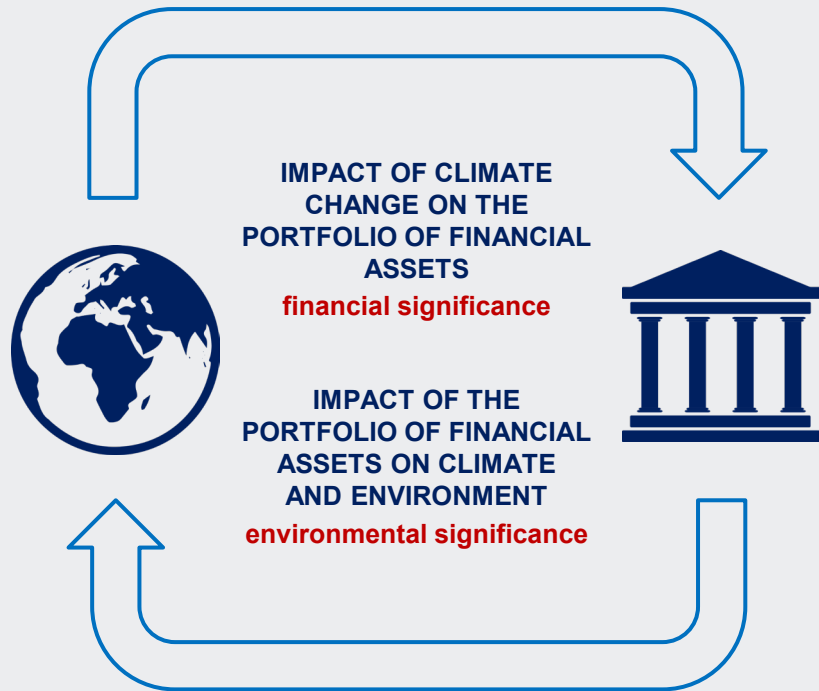
3 OWN CARBON FOOTPRINT

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THE PURPOSE OF THE CLIMATE-RELATED FINANCIAL REPORT

1. Providing insight into the exposure of financial assets to climate risks
2. Transparent presentation of the carbon footprint of own investments
3. Indirectly, fostering good practices in the field of climate reporting within the financial sector



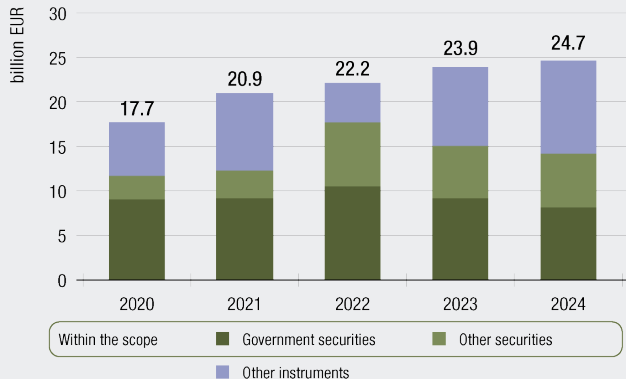
FINANCIAL ASSETS

The climate-related financial report presents the CNB's non-monetary financial assets, which stood at EUR 24.7bn at end-2024.

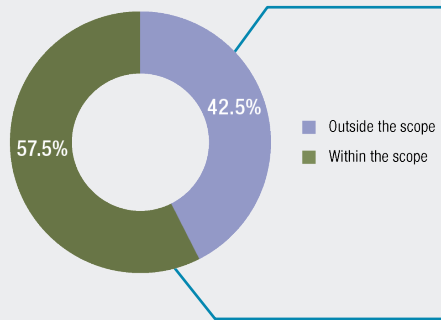
**EUR
24.7bn**

- Foreign currency assets that have not been transferred to the European Central Bank
- Euro-denominated assets arising from the conduct of the CNB's monetary policy prior to joining the Eurosystem
- Government bond portfolio under the pandemic emergency purchase programme

Financial assets and their structure



Source: CNB.



Deposits, funds in the accounts and funds entrusted to the management of an international financial institution

Securities of governments and government institutions, securities of international financial institutions and agencies and covered bonds

METHODOLOGY

As of 2023, the CNB publishes annual climate-related financial reports, following the unified approach of the European Central Bank and Eurosystem national central banks.

CLIMATE-RELATED FINANCIAL DISCLOSURES OF THE EUROSISTEM

RECOMMEN DATIONS

TCFD

Task Force on Climate-related Financial Disclosures

PCAF

Partnership for Carbon Accounting Financials

NGFS

Network for Greening the Financial Systems

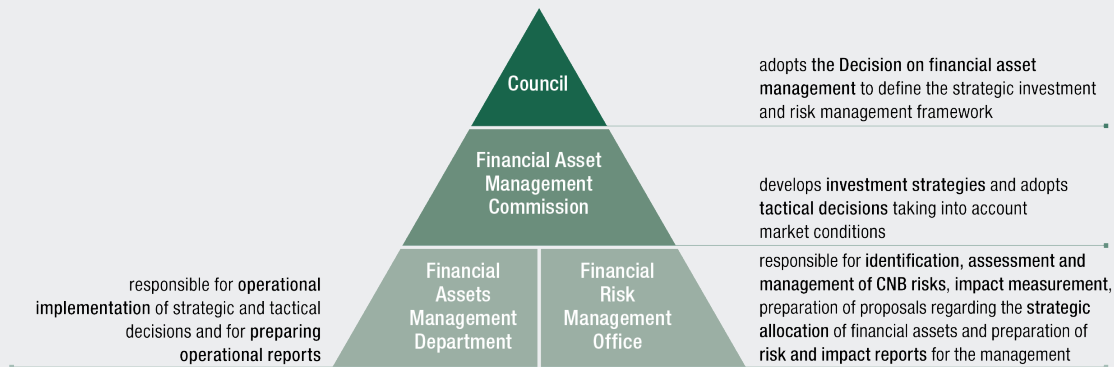


In accordance with the recommendations of the TCFD, the CNB's climate-related financial report covers four thematic areas.

MANAGEMENT

Analyses of risks and options related to climate change are considered within the existing management structure and investment strategy.

Strategy and decisions regarding the management of CNB's financial assets



Source: CNB.

STRATEGY

The sustainable investment strategy is aimed at:

gradual greening of financial assets, taking into account the importance of the climate transition and the management of climate risks to which own assets are exposed, while respecting the general principles of financial asset management.

For the purpose of greening financial assets, three sets of activities will be carried out:

RESEARCH



- analysis of acceptable risks
- analysis of issuers
- stress tests
- impact

DEVELOPMENT



- preparation of guidelines
- broadening of the list of issuers
- education
- reporting

INVESTMENT AND MEASUREMENT



- portfolio formation
- metrics
- reporting



In addition, the CNB directs a portion of its investments towards bonds associated with projects having a positive impact on the environmental sustainability and other sustainability aspects – green bonds, social bonds and sustainability bonds, and is thus indirectly involved in the process of reducing greenhouse gas emissions of their issuers.

RISK MANAGEMENT

- CNB's financial assets are exposed to climate-related risks.
- The CNB includes long-term climate-related risks in the process of comprehensive management of financial assets and continuously implements new knowledge and improves methodologies.
- It abides by the principle that these risks do not constitute a separate risk category, but exacerbate the existing financial risk categories – currency risk, credit risk and interest rate risk.

METRICS AND TARGETS: Metrics

REPORTED METRICS			
relative metrics calculated from total greenhouse gas emissions	Weighted average carbon intensity	<ul style="list-style-type: none"> measures a portfolio's exposure to issuers' greenhouse gas emissions provides an insight into the portfolio's exposure to climate transition risks 	tCO ₂ e per EUR million of revenue / GDP
	Total greenhouse gas emissions	<ul style="list-style-type: none"> measures total absolute emissions of issuers which are financed by portfolio investments provides an insight into a portfolio's environmental impact 	tCO ₂ e
	Carbon footprint	<ul style="list-style-type: none"> normalises total absolute emissions of issuers which are financed by portfolio investments by portfolio market value 	tCO ₂ e per EUR million of investment
	Carbon intensity	<ul style="list-style-type: none"> normalises total absolute emissions of issuers which are financed by portfolio investments by revenue or GDP shows the carbon efficiency of an investment 	tCO ₂ e per EUR million of revenue / GDP
	Share of sustainable investments	<ul style="list-style-type: none"> shows the share of portfolio invested in sustainable investments 	% of portfolio

METRICS AND TARGETS:

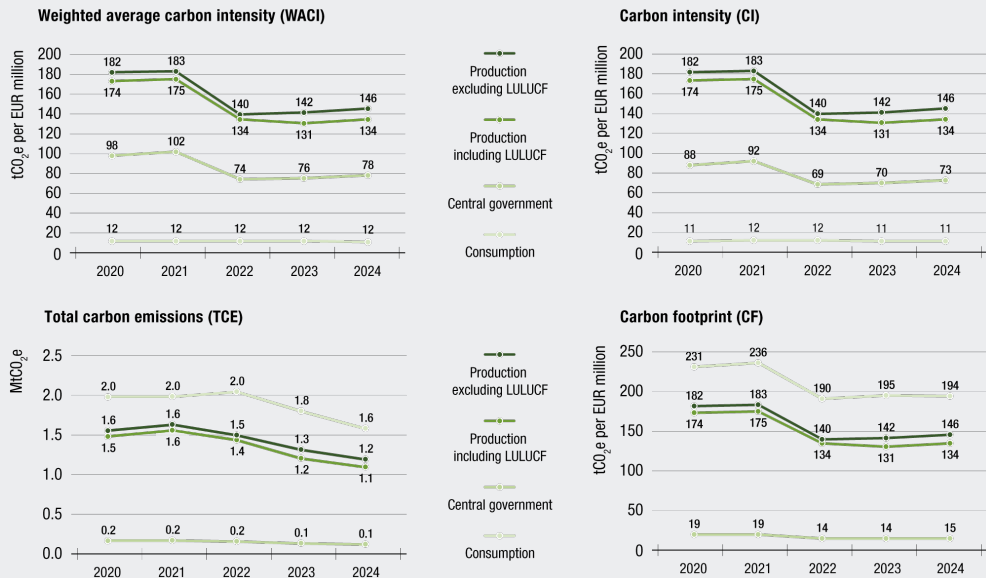
Development in metrics for government issuers

Total greenhouse gas emissions have decreased since 2022 due to lower investments in government securities.

The levels of weighted average carbon intensity, carbon intensity and carbon footprint of the portfolio decreased from the levels recorded in 2020 and 2021.

The strengthening of economic activity following the pandemic exceeded the increase in emissions, which ultimately led to an improvement in climate metrics—their carbon intensity decreased and the carbon efficiency of our investments increased.

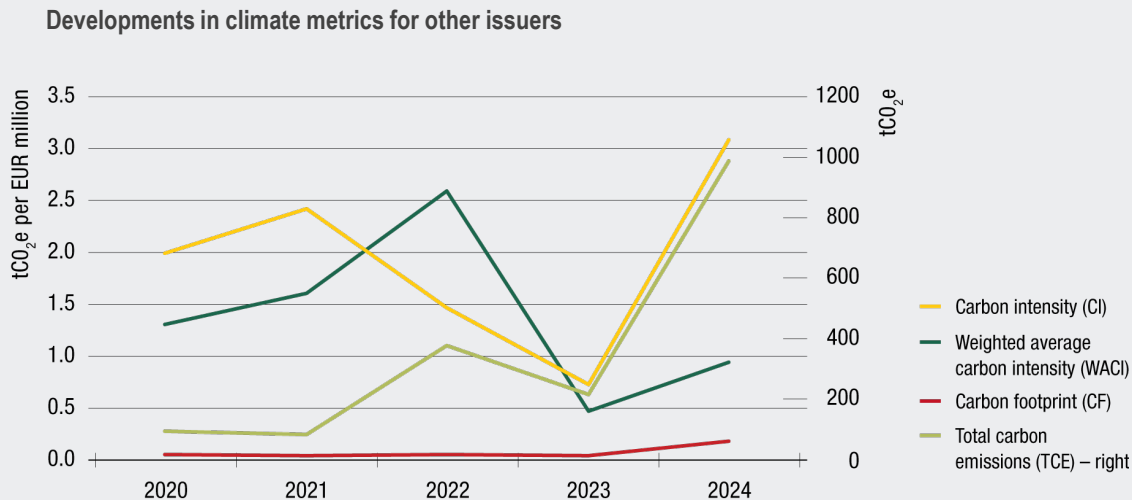
Developments in climate metrics for government issuers



Sources: ISS, C4F, World Bank, Bloomberg, ECB and CNB.

METRICS AND TARGETS:

Development in metrics for other issuers



Sources: ISS, C4F, World Bank, Bloomberg, ECB and CNB.

As of 2020, the carbon footprint of the CNB's portfolio in the form of securities of other investments was less than 1 tCO₂e per EUR 1m of investment.

Investment in one security significantly raised metrics values in 2024, but the volatility of the metrics in the observed period points to methodological shortcomings in the input data. Data may still be revised.

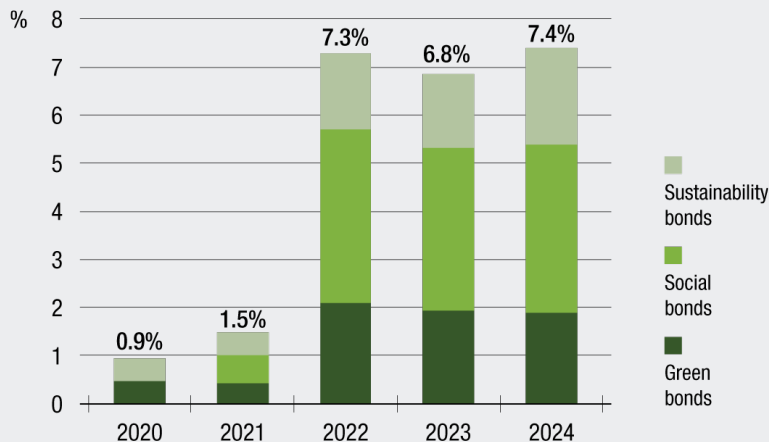
METRICS AND TARGETS: Sustainable investment

At the end of 2024, a total of 7.4% of financial assets were invested in sustainable investment, which is the highest level on record for this type of investment, both in absolute and relative terms.

A total of 3.9% of the portfolio was invested in green and sustainability bonds.

Issues of international financial institutions and agencies accounted for the bulk of sustainable investments.

The share of sustainable investment in financial assets



Source: CNB.

METRICS AND TARGETS: Targets

- The CNB will invest in securities of EU member states that comply with the Paris Agreement and the European Climate Law, with the aim of achieving climate neutrality by 2050 and reducing greenhouse gas emissions by at least 55% compared to 1990 levels.
- The CNB will invest in green, social and sustainability bonds to support climate transition, in line with the acceptable risk framework and market conditions.
- The CNB will deepen the understanding of the effects of climate change on the portfolios of financial assets it manages and work on the improvement of the methodology used in assessing the exposure of the portfolios to climate-related risks.
- The CNB will provide regular and in-depth information on climate metrics for financial assets to the public.



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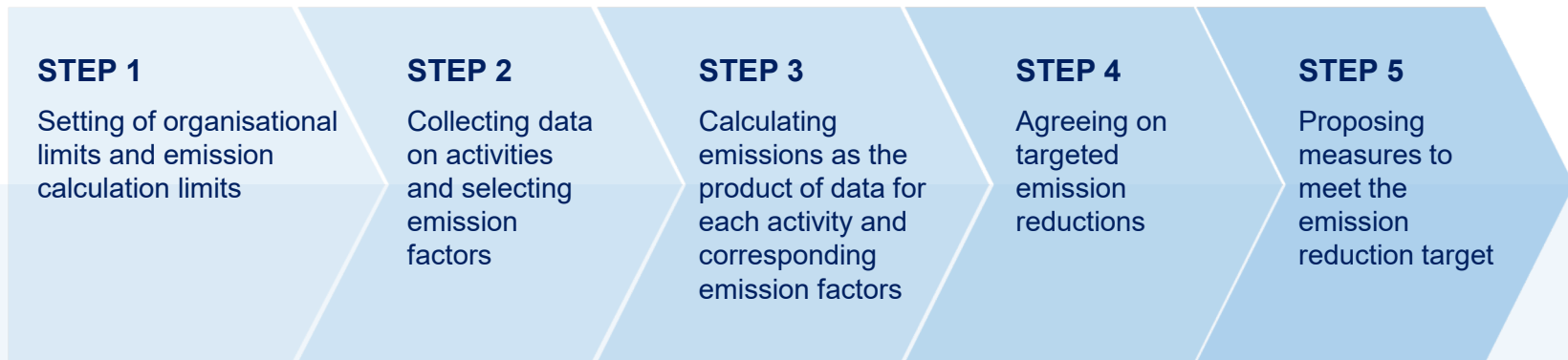
METHODOLOGY AND SCOPE

- The CNB assesses its own greenhouse gas emissions using the **GHG protocol methodology**.
- The calculation includes emissions from three scopes:

	Scope 1	Direct emissions from sources owned or controlled by the CNB, such as emissions from the combustion of fuels used in official vehicles or heating system fuels, and fugitive emissions from refrigeration and air conditioning systems
	Scope 2	Indirect emissions from electricity supply and consumption
	Scope 3	Other indirect emissions from corporate value chain (upstream and downstream) not included in Scope 2 – e.g. emissions linked to business travel, office supplies and IT equipment, emissions from third-party consumption and waste

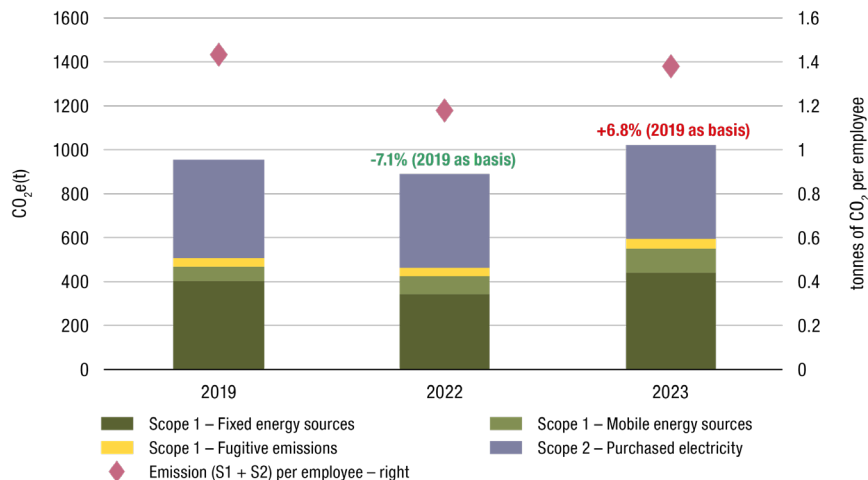
- Scope 3 emissions were calculated for the first time for 2023.
- 2019 was taken as the reference year for comparison for Scope 1 and 2 emissions.

METHODOLOGY AND SCOPE



CALCULATION RESULTS

CO₂ equivalent emissions for Scopes 1 and 2

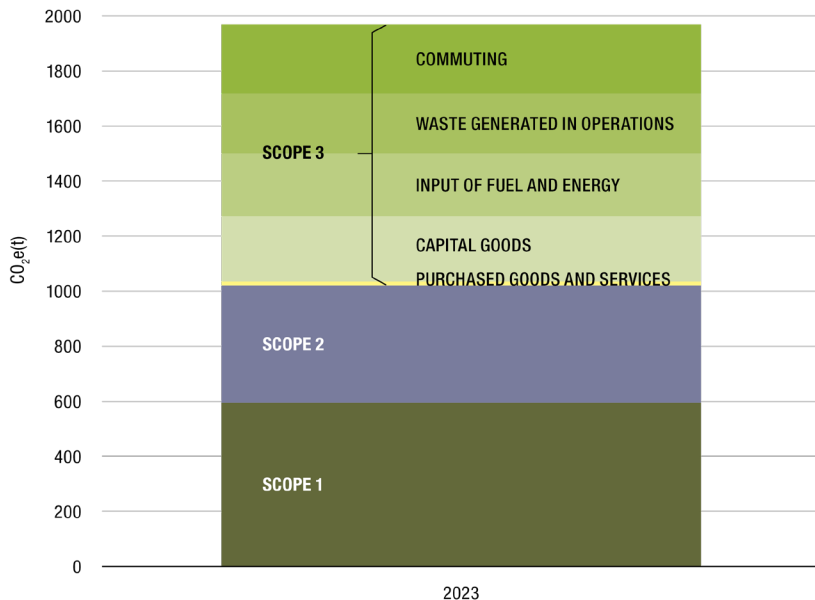


Source: CNB.

- After decreasing in 2022 from levels recorded in 2019, emissions went up in 2023 due to higher gas consumption as a result of less frequent work from home arrangements, a temporary switch to light fuel oil for heating purposes, which is an energy source with higher emissions than gas, and a significant increase in diesel fuel consumption.
- Emissions rose by a total of 6.8% in 2023 from the levels recorded in 2019
- Emissions per employee remained the same as in 2019, about 1.4 tonnes of CO₂ equivalent per employee

CALCULATION RESULTS

CO₂ equivalent emissions for Scopes 1, 2 and 3 for 2023



Source: CNB.

The following was included in the calculation of emissions for all three scopes:

- purchased goods and services (water, paper)
- purchased capital goods (furniture, machinery, vehicles, IT equipment)
- fuel and energy input (excluding combustion and consumption)
- waste generated in operations and
- daily commuting of employees according to survey data

Total greenhouse gas emissions from all three scopes stood at:

- around 2000 tonnes of CO₂ equivalent; or
- around 2.7 tonnes of CO₂ equivalent per employee.

TARGETS

Long-term target regarding own carbon footprint:

- compliance with the EU objectives as defined by the European Climate Law
- achieving carbon neutrality by 2050
- significant reduction in greenhouse gas emissions by 2030 by reducing own emissions and purchasing carbon credits



MEASURES

Measures to reduce own greenhouse gas emissions in the coming period:

Optimising energy and electricity consumption	<ul style="list-style-type: none"> • Improving the energy efficiency of buildings owned by the CNB • Establishment of an energy management system • Setting the maximum water temperature in washbasins
Responsible and sustainable operations	<ul style="list-style-type: none"> • Increasing the share of green procurement in public procurement • Publication of the annual carbon footprint and sustainability report • Establishment of a carbon footprint monitoring and calculation system • Obligation for organisational units to deliver the required data • Black and white duplex printing on printers as default • Improving digitalisation in business
Reducing the amount of municipal and plastic waste	<ul style="list-style-type: none"> • Incentivising and imposing the obligation to separate waste • Arranging the service of waste collection with disposal of waste by recycling
Providing information and education	<ul style="list-style-type: none"> • Educational programmes and posts on the Intranet and in Briefing • Creating public warnings for efficient use of resources and waste separation • Educating employees about the benefits of low-emission transport

MEASURES

+ continued implementation of measures that are already being fully implemented...

- Installing thermostatic radiator valves
- Training about driving in ECO mode for official drivers
- Tyre pressure regulation in official vehicles
- Using more energy-efficient classes of tyres for official vehicles
- Fixed minimum cooling temperature of air conditioning

... and detailed elaboration of additional measures:

- Energy renovation of buildings
- Automation of energy consumption systems
- Digitalisation of operations
- Reducing the need for business travel
- Reducing the use of single-use plastics

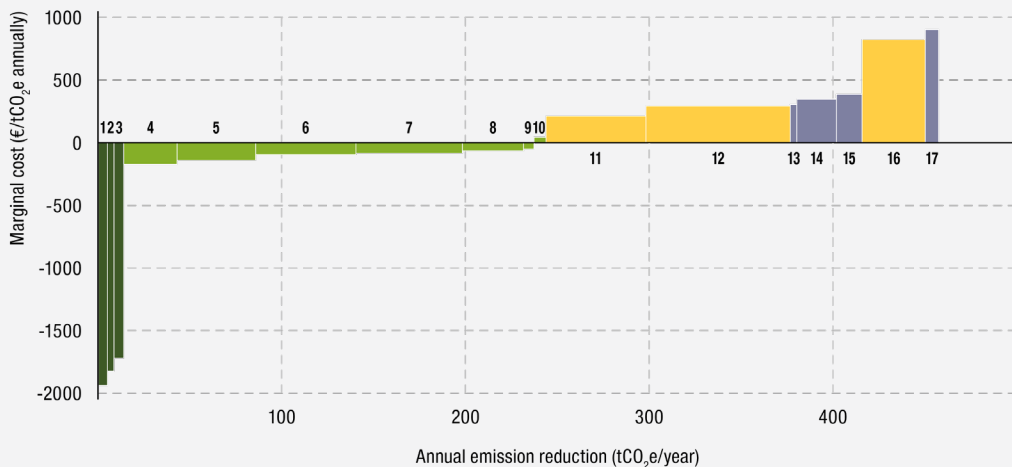


PRELIMINARY ANALYSIS OF SOME MEASURES

The preliminary analysis of the marginal costs of emission reductions showed that:

- energy renovation of buildings can reduce **more than 20 percent of emissions** and generate net savings
- energy renovation of buildings can reduce **additional 20 percent of emissions** with acceptable net costs

The curve of the marginal costs of greenhouse gas emission reductions for all CNB's buildings (annual reduction over the lifetime of the measures)



- 1 Installation of a photovoltaic power station (THV3)
- 2 Installation of a photovoltaic power station (R5)
- 3 Installation of a photovoltaic power station (J17)
- 4 Thermal insulation of flat roofs and ceilings (R5)
- 5 Thermal insulation of flat roofs and ceilings (J17)
- 6 Thermal insulation of the roof and ceiling towards the unheated attic (THV3)
- 7 Thermal insulation of external walls (J17)
- 8 Thermal insulation of external walls (R5)
- 9 Thermal insulation of the roof and ceiling towards the unheated attic (R3)
- 10 Thermal insulation of external walls (R3)
- 11 Modernisation of heating, cooling and ventilation systems (J17)
- 12 Modernisation of heating, cooling and ventilation systems (THV3)
- 13 Replacement of carpentry of the outer structure (R3)
- 14 Replacement of carpentry of the outer structure (J17)
- 15 Replacement of carpentry of the outer structure (THV3)
- 16 Modernisation of heating, cooling and ventilation systems (R5)
- 17 Replacement of carpentry of the outer structure (R5)

$$\text{Marginal cost} = \frac{\text{Net investment (€)}}{\text{Annual reduction of CO}_2 \text{ emissions (tCO}_2\text{e/year) x life cycle (year)}}$$

CONCLUSION

- In 2024, in line with its legal objectives and mandate, the CNB continued to take into account climate change in many segments of its operations, aware of its impact on price stability and financial stability.
- A number of steps have been taken, including the development of analytical tools and models to identify climate-related risks, the supervision of climate risk monitoring by banks, the improvement of statistics, climate-related financial reporting and the adaptation of its own operations. Special emphasis was placed on the responsible management of financial assets and transparent measurement of carbon footprint, in order to create the basis for further reduction of the CNB's impact on the climate and environment.
- By implementing the Climate Strategy and focusing on sustainable development, the CNB has met the requirements and expectations of the Eurosystem and has actively contributed to strengthening the resilience of the Croatian economy to climate risks.
- The CNB remains committed to further improving institutional capacities, developing knowledge and skills and strengthening cross-sectoral cooperation on both the national and Eurosystem level in the area of sustainability.



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