



# Updates from implementing GHG accounting for the financial sector in the Netherlands

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A co-authored  
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the PCAF NL  
participants and  
Guidehouse.



**PCAF**  
Partnership for  
Carbon Accounting  
Financials



In September 2019, the Partnership for Carbon Accounting Financials (PCAF) was launched globally to harmonize greenhouse gas (GHG) accounting methods and to enable financial institutions to consistently measure and disclose the GHG emissions associated with financial activities. In 2020, the first version of The Global GHG Accounting & Reporting Standard for the Financial Industry (the 'Financed Emissions Standard') was launched.

As an industry-led partnership, PCAF is governed by a Board of Directors formed by ABN AMRO, Amalgamated Bank, ASN Bank, the Global Alliance for Banking on Values, Morgan Stanley, NMB Bank, and Nordea. At the time of publishing this document, more than 440 financial institutions, including banks, investors, asset managers, re/insurers, participate in PCAF. More information on the global partnership, including how to join, can be found on [carbonaccountingfinancials.com](https://carbonaccountingfinancials.com).

Through this report, the Dutch participants share their insights on implementing the accounting methods with other interested parties to encourage others to adopt GHG accounting as a positive step towards a net zero economy. Today, PCAF Netherlands (PCAF NL) consists of the following participants:



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# 1. About this report

The need for a faster pace of global climate action is rising exponentially and the need to urgently address climate change remains an imperative for the financial sector. Extreme weather events caused by rising global emissions and temperature increases over the past summer means that global temperatures are likely to reach even higher record levels in the next five years. As a result, there is a significant probability that for at least one year, the average near-surface annual global temperature between 2023 and 2027 will exceed 1.5°C above pre-industrial levels.<sup>1</sup>

Although this does not mean that the threshold of 1.5°C specified in the Paris Agreement will permanently be exceeded, it underscores the importance for all sectors to decarbonize and collectively reach net zero emissions by 2050. The financial sector is in a unique position to facilitate and drive the transition in line with the Paris Agreement due to its influential economic position.

Harmonized and transparent GHG emissions accounting is an imperative first step in the direction of decarbonization. Measuring and disclosing GHG emissions associated with financial activity is the foundation for establishing consistent transparency and accountability. It also enables financial institutions to align their portfolio and financial activities with the Paris Agreement. These activities can include but are not limited to (re)insurance activities, transactions in the capital market and/or lending and investment activities.

Regulators are asking financial institutions to provide transparency on climate-related risks and consumers are asking their banks, pension funds and insurers to contribute to sustainable development. For instance, the Corporate Sustainability Reporting Directive (CSRD)<sup>2</sup> provides a sustainability reporting standard based on which nearly 50,000 companies in the European Union (EU) will have to report their climate and environmental impact. This implies that financial institutions must report on how sustainability issues affect their performance, position, and development and on the impact their activities have on people and the environment. Measuring and disclosing financed emissions of loans and investments contributes to meeting these needs.

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<sup>1</sup> World Meteorological Organization, 2023: Global temperatures set to reach new records in next five years, <https://public.wmo.int/en/media/press-release/global-temperatures-set-reach-new-records-next-five-years>

<sup>2</sup> More information on CSRD can be accessed here: [https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting\\_en](https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en)

During the first few years, the PCAF NL participants published multiple reports, which provided a set of common principles and proposed harmonized guidelines for loans and investments along several different asset classes, and they solicited feedback from the global financial community. These guidelines evolved into PCAF's Global GHG Accounting and Reporting Standard<sup>3</sup> (Part A of the current Standard). This Standard was officially reviewed and approved by the GHG Protocol to be in conformance with the requirements outlined in the Corporate Value Chain (Scope 3) Accounting and Reporting Standard, for Category 15 investment activities.

The second and updated version of the PCAF Standard was released last year which comprises of three different parts. The original Part A on loans and investments was updated and the sovereign debt asset class was added to it. In addition, Part C of the Standard which is a GHG accounting methodology for insurance-associated emissions was released in late 2022. This year, an additional Part B of the Standard focusing on facilitated emissions will be released. This part of the Standard will provide methodological guidance for measuring and reporting the GHG emissions associated with the capital markets instruments. More information<sup>3</sup> about these developments can be found in section 3 of this report.

This originally Dutch partnership has evolved into a global initiative with over 440 financial institutions worldwide. Currently, PCAF NL consists of 27 participants and continues to lead the implementation of GHG accounting methodologies and data improvements serving as thought leaders for the global financial industry. This seventh report serves as an update to Dutch implementation activities including:

- » Key activities PCAF NL signatories participated in
- » Expected activities in the upcoming years

PCAF NL working groups cover the following topics:

- 1 DATA
- 2 MORTGAGES
- 3 SCIENCE-BASED TARGETS
- 4 STAKEHOLDER ENGAGEMENT
- 5 ACQUISITION

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<sup>3</sup> The Global Standard can be accessed here: <https://carbonaccountingfinancials.com/standard>

## 2. Forewords

### 2.1 BY TJEERD KRUMPELMAN – PCAF NL/ABN AMRO



Recognizing the industry demand for a standardized approach and the pivotal economic role of financial institutions, 14 Dutch financial institutions came together in 2015 as a working group for the Dutch Central Bank's Sustainable Finance Platform. Over the years, this collaboration has evolved into a concerted effort to establish a harmonized Standard – the Partnership for Carbon Accounting Financials – and to achieve the ambitious objective of having 1000 global financial institutions adopt the PCAF Standard by the end of 2025. This Standard enables financial institutions to assess and disclose GHG emissions associated with financial activities.

Since its inception eight years ago, the expansion of PCAF has been truly remarkable. Beginning with its introduction in the Netherlands in 2015, followed by North America in 2018 and PCAF's global launch in 2019, the industry-led initiative has consistently gained momentum. Over the past year, PCAF Global experienced substantial growth, expanding from 317 to 440+ members. This expansion underscores PCAF's steady trajectory toward achieving its target of 1000 participants by the end of 2025.

In 2019, 53 financial institutions signed the Dutch 'Climate Commitment Financial Sector'. This commitment reflects the key role that financial institutions can play in financing the energy transition by reporting the climate impact of their financial activities from 2020 onwards. This commitment demands that from 2020, financial institutions will report the climate impact of their financing activities.<sup>4</sup>

PCAF NL plays an integral part in the activity of financial institutions in the Dutch Climate Commitment. PCAF NL's collective work provides insight into the financial institution's GHG footprint that is needed to take proactive action toward lowering it and reaching the goals of the Paris Agreement. As the financial institutions are maturing in their disclosures, in the coming years, PCAF participants in the Netherlands could increasingly focus on further implementation of the Standard and engaging with their portfolio to achieve emission reductions.

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<sup>4</sup> More information can be found at <https://www.klimaataakkoord.nl/>

Another highlight worth sharing is that PCAF's value has become widely recognized and is recommended in two well-known and widely used reporting standards globally. In the early 2022 edition of the European Sustainability Reporting Standard's (ESRS) Climate change exposure draft<sup>5</sup>, PCAF is referenced as the recommended disclosure framework to account for Scope 3 GHG emissions of financial institutions. Also, PCAF has been referenced in the Task Force on Climate-related Financial Disclosures (TCFD) as the go-to framework for banks to calculate GHG emissions for their lending and other financial intermediary business activities where data and methodologies allow carbon accounting for Scope 3 category 15 emissions, emissions related to investments and loans<sup>6</sup>.

Every year, PCAF NL publishes this report to inspire other financial institutions to embark on their GHG accounting journey. Considering that PCAF was founded in the Netherlands, it is self-evident that a high level of maturity regarding GHG accounting exists in the market. However, PCAF NL participants are continuously improving their GHG accounting and continue to face with new challenges. A journey that leads to the continuous improvement of PCAF NL's collective approach and increased accuracy in calculating financed emissions.

## 2.2 BY DENNIS HEIJNEN – VERBOND VAN VERZEKERAARS



The challenge was great in the summer of 2019. More than 50 financial institutions, including 15 insurers, signed the Dutch Climate Commitment. This requires them to measure their CO<sub>2</sub> impact, report uniformly and take action to reduce their impact.

After more than four years, we know how vital PCAF is to this challenge. Various methods were used during the first year, but by 2022 no less than 96 percent of signatories were using PCAF. That is for a good reason. It has been proven to be a helpful method for measuring GHG impact and provides uniform reporting.

For me it is clear: PCAF is not only here to stay, but above all an essential market standard. Together we will continue to expand PCAF, to take even greater action and reduce CO<sub>2</sub> impact. This is only possible with more up-to-date data and a PCAF method for all asset categories.

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<sup>5</sup> ESRS E1 Climate Change Exposure Draft, April 2022, more information can be found at [EFRAG](#).

<sup>6</sup> TCFD, p.29

## 2.3 BY MAURITS HELDRING – DUFAS



More than 50 Dutch financial institutions signed the Dutch Climate Commitment in 2019, which requires them to report the financed emissions of their assets annually. Stakeholders have stressed that comparability of financed emissions between financial institutions is crucial to track the sector's progress. In this respect, the PCAF Standard has proven to be of great value here as it has become the internationally accepted accounting standard and is applicable for many asset classes. Therefore, the Dutch financial sector has agreed that signatories of the Climate Commitment need to use the PCAF Standard for calculating financed emissions.

The Dutch Fund and Asset Management Association (DUFAS) also welcomes the establishment of the PCAF methodology for sovereign bonds, which is often a sizeable asset class for asset managers' clients with pension or insurance activities. We encourage PCAF to seek further alignment on GHG methods with European legislators and other international standard setters, for example on the treatment of derivatives and carbon offsetting.

### **What is the Dutch Climate Commitment of the Financial Sector?**

The Dutch financial sector signed a commitment in support of the Dutch Klimaatakkoord: the national Climate Commitment that stipulates a 49% reduction of GHG emissions in the country by 2030 compared to 1990. The participants commit to:

1. Financing the required energy transition within the bounds of their risk-reward profiles;
2. Measuring and disclosing their financed emissions starting from 2020 onwards, sharing results and best practices and making steps towards methodological improvements;
3. Publishing GHG emission reduction plans from 2022 onwards for all their relevant financing and investment activities;
4. Organising an annual meeting with all stakeholders on the progress towards these commitments as an integral part of the wider Klimaatakkoord.



### 3. PCAF global developments

This chapter provides an overview of key PCAF developments of the past year. The developments are relevant for the financial institutions in the Netherlands that are part of PCAF.

#### **PCAF Global transitions from a philanthropic initiative to a self-sustaining initiative**

Originally founded as a philanthropic initiative, PCAF has continued to expand globally reaching more and more financial institutions across various sub-sectors of the financial industry. As the initiative grew, the need for moving toward a self-sustaining new business model with a diversified revenue stream increased. As part of this transition to a self-sustaining initiative, PCAF looked toward its signatories for their continued commitments and support for the initiative through the payment of an annual signatory fee. The signatory fee, along with additional revenue streams from data and service provider partners will provide PCAF with the necessary resources to continue to grow the initiative and deepen its engagement with signatories. Nonetheless, despite the new revenue streams, PCAF remains a non-profit initiative.

Different fee structures were developed and introduced in early 2023 for commercial banks, insurance companies and asset owners/asset managers. Based on a range of the Assets under Management (AuM), assets on the balance sheet, or annual gross written premium, the PCAF signatory falls into a certain category that corresponds to an annual signatory fee based on the size of the financial institution.<sup>7</sup> In addition, to ensure a just and equitable growth trajectory, a discount is offered to financial institutions operating in emerging economies that adjusts for purchasing power differences. Invoicing of fees was initiated early in 2023 and covers the participation for the calendar year. Billing is performed on a yearly basis and pro-rated for new signatories within the calendar year.

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<sup>7</sup> All information on the fee structure(s) has been shared with the PCAF signatories per email.

### **The second edition of the Financed Emissions Standard (Part A) launched**

Around two years after the launch of the first edition in November 2020, the PCAF Secretariat published the second edition of the Global GHG Accounting and Reporting Standard for the Financial Industry towards the end of 2022. This part now transitioned to being Part A of the Standard. The six former asset classes remained largely the same. However, the new version of the Financed Emissions Standard now includes methodologies on sovereign debt and GHG emission removals.

### **A new GHG accounting methodology for insurance-associated emissions (Part C) was released late 2022**

With a working group of 16 global insurance and reinsurance companies, PCAF developed the first set of methodologies to enable (re)insurance companies to measure and disclose GHG emissions associated with their (re)insurance underwriting portfolios. After having successfully finalized a public consultation last year, the first version of the Insurance-Associated Emissions Standard (Part C) was released in late 2022. For more information on Insurance-Associated emissions, please refer to the PCAF website.<sup>8</sup>

### **A GHG accounting methodology for capital markets-facilitated emissions is currently under development**

Together with a global working group of investment banks, PCAF has been working hard to develop Part B of the Standard that establishes a methodology for the measurement and disclosure of GHG emissions related to off-balance activities that facilitate a transaction to raise debt or equity on the Capital Markets (so-called “facilitated emissions”). This methodology also underwent a successful public consultation earlier in 2022. Part B of the Standard will launch before year-end in 2023.

### **Technical Guidance for Real Estate Operations is released**

In collaboration with two of PCAF’s partners, CRREM<sup>9</sup> and GRESB<sup>10</sup>, PCAF has created a technical guidance document that provides financial institutions and related stakeholders with transparent, consistent, and harmonized guidance on the accounting and reporting of real estate-related operational emissions. This provides additional specifications to the Financed Emissions Standard on a range of real estate-related topics without superseding the Financed Emissions Standard and should be considered as optional best practice. The work was released early this year and can be accessed via the project’s website.<sup>11</sup>

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<sup>8</sup> <https://carbonaccountingfinancials.com/standard>

<sup>9</sup> More information on CRREM can be accessed here: <https://www.crrem.org/>

<sup>10</sup> More information on GRESB can be accessed here: <https://www.gresb.com/nl-en/>

<sup>11</sup> More information on the Laudes PCAF project including the technical guidance can be accessed here: <https://carbonaccountingfinancials.com/en/financing-towards-net-zero-buildings>

### **PCAF's governance changed: new Core Team members are appointed.**

In the summer of 2023, a new Core Team was appointed to ensure the group that leads the development of future methodology represents the diversity of the global financial sector and PCAF's growing membership. The Core Team is comprised of PCAF signatories, selected by the Board of Directors, who volunteer their time and resources to actively engage in developing new methodologies, guidance documents, updates to current Standards, all with the goal of harmonizing GHG accounting and reporting across the financial industry. The new PCAF Global Core Team will now start developing new asset class methodologies via various working groups.

### **Update of the PCAF Database**

Over the past year, the PCAF Secretariat has been dedicated to working on several additions and changes to the PCAF Database. The Exiobase economic emission factors are updated with a base year of 2019 as opposed to 2015. Sovereign debt data (e.g., PPP adj. GDP) is now included in the database, as well as global electricity grid emission factors. Finally, commercial real estate emission factors for North America were updated.<sup>12</sup>

In addition, PCAF launched the updated version of the European Building Emission Factor Database in August 2023. The first version of the database was launched in February 2022 and provided a specific set of emission factors for Commercial Real Estate and Mortgages for all countries in the EU (and more). Depending on data availability, the database enabled financial institutions to distinguish between European countries, residential and non-residential building types, and energy performance certificate (EPC) ratings to interpret specific emission or energy intensity per unit. The key objective of the Database is to enable the financial industry to measure and track the financed emissions of their European building portfolios toward net zero.

The updated version of the specialized database introduces several new functions. The geographical scope of the database has been expanded with the addition of new European countries, while emission factors have been updated to reflect the new CRREM global pathways. Also featured is the addition of a new methodology to enable the calculation of embodied carbon emissions.<sup>13</sup>

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<sup>12</sup> More information on the database can be accessed here: <https://db.carbonaccountingfinancials.com>

<sup>13</sup> More information on the database can be accessed here: <https://building-db.carbonaccountingfinancials.com>

## 4. Best practices, key challenges, and next steps

This chapter provides an overview of activities that PCAF NL participants conducted over the last year and outlines the expected activities in the years ahead.<sup>14</sup>

### **The PCAF Standard is recognized as an essential resource to increase transparency and harmonization in reporting emissions**

PCAF NL participants are actively working on measuring and disclosing their portfolio emissions by making use of the PCAF Global GHG Accounting and Reporting Standard. The Standard is recognized as a useful resource and guidance to start measuring GHG emissions. As mentioned by the NWB Bank, the Financed Emissions Standard (Part A) provides “*a framework and harmonized methodology that increases transparency and awareness of CO<sub>2</sub>e emissions and facilitates reporting*”. Using a harmonized method not only provides advantages during reporting, but also ensures that the results from different financial institutions can be compared better and more easily.

Although the Standard provides support in harmonizing the calculation and reporting method for emissions associated with financial activities, there are differences in the way of reporting these emissions. For instance, differences in the selection of reported sectors, the official industry classifications used to denote these sectors, and the template in which the measured emissions are presented in the relevant reports. However, it should be noted that these differences are becoming increasingly smaller over the years. The appendix provides more insight on how the different participants report the emissions associated with their financial activities.

### **The PCAF NL participants, individually and in working groups, work hard to improve their financed emissions calculations as part of their decarbonization journey**

In the past year, the PCAF NL participants have focused on improving the measurement of their financed emissions by improving the emission data quality and increasing the portfolio coverage. To collect more granular data,

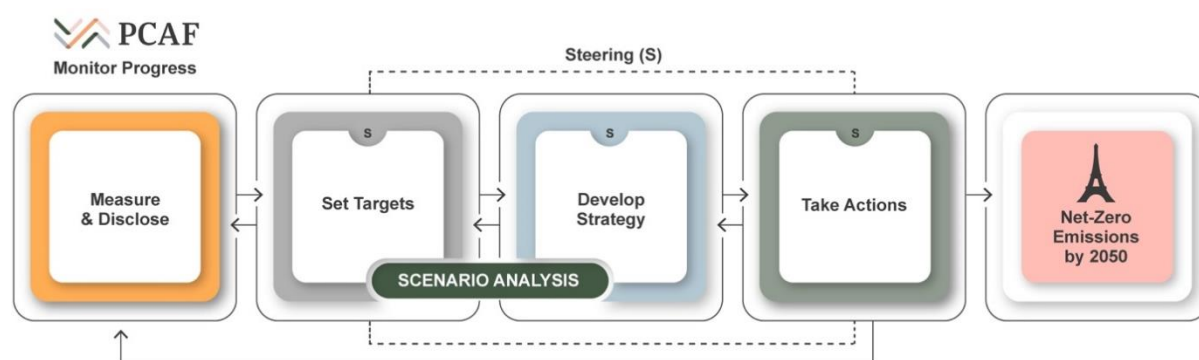
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<sup>14</sup> The contents of this chapter are based on 14 participating financial institutions. The contents of their submission can be found in Chapter 5.

participants try to make use of primary data instead of sector- or country-averages. For example, ABN AMRO improved the quality of their business loans emission data by using company-level GHG emission data instead of an average GHG emission intensity per sector. These measured financed emissions of the PCAF NL participants are mainly made public in two ways: via an integrated annual report or a separate sustainability report. Most institutions report on the emissions of their business loans and mortgages. A few institutions also include other asset classes as motor vehicle loans and commercial real estate.

The improved accuracy in the measurement and disclosure of emissions is crucial as it often forms a starting point from which to set targets, as shown in Figure 1. This is also recognized by the PCAF NL participants, who use the measured emissions to set reduction targets on their emissions. Financial institutions are often defining and setting targets along the criteria of the Science Based Targets initiative (SBTi). This initiative supports and guides organizations to set ambitious targets, i.e., commits organizations to keep the impact of their portfolio below 1.5°C global warming.

At the same time, the reduction targets of financial institutions feed into developing emission reduction actions such as the launch of sustainability-linked loans and excluding high emitting companies from their investment portfolio. Many financial institutions also use the measurement of their emissions as a foundation for engagement and dialogue with their portfolio companies, with the aim of guiding them in reducing their emissions. They want to help clients and investees reduce their emissions by engaging with them, inspiring them, offering incentives, or financing, and providing advice.



**Figure 1 - The Paris alignment value chain for financial institutions**

As described in Chapter 1, PCAF NL currently has five working groups. PCAF NL participants are actively involved in these working groups where they collaborate with other one another and external parties to contribute to further developments of GHG accounting for financial institutions.

<sup>15</sup> More information on the Paris Alignment Value Chain for Financial Institutions can be accessed here: <https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf>

Often, this collaboration can result in the improvement of data quality for financed emissions calculations. For instance, the PCAF NL working group on mortgages has jointly drafted and adopted additional guidance for PCAF data quality score 3 calculations. This guidance has been developed with the objective of improving the overall validity and consistency of reported figures on the GHG emission footprints of energy labels that are associated with Dutch residential mortgages. Also, through collaboration with external parties, the working group now initiated a feasibility study to determine whether it is possible to acquire actual energy consumption data of residential real estate in a privacy regulated compliant manner. Thereby possibly improving the PCAF data quality score of 3 to a PCAF data quality score of 1 which would make the Netherlands the first country globally to achieve that on such a large scale.

**The focus of the PCAF NL participants for the coming years will be on continuing to improve the data quality and the portfolio coverage of their emission calculations**

The expected activities of the PCAF NL participants in the next few years touch upon three interrelated topics.

Firstly, the participants all stated that in the coming years they would like to continue to focus on improving data quality and coverage. They aim to increase their

portfolio coverage by including parts of the portfolio that are currently not included in their financed emissions calculations. For example, some participants want to implement the new Financed Emissions Standard (Part A) in their calculations by including the methodology of the most recent asset class, sovereign debt. In addition, they also want to continue working on improving data quality by collecting more granular data.

Secondly, participants want to stay involved in the PCAF NL national chapter to collaborate with other financial institutions and external parties to continue developing methodologies and improve the measurement and disclosure of emissions associated with financial activities. The collaboration within the PCAF NL national chapter has been acknowledged by MN as a way to “*stay at the forefront of evolving methodologies and industry best practices*”.

Lastly, participants will continue to progress on their decarbonization journey by initially setting targets. Most of the participants are working towards setting validated science-based targets in the coming years. Examples of how these targets can be achieved include offering sustainability-linked loans to more clients, increasing the energy efficiency of the residential mortgage portfolio, and developing internal carbon pricing as a KPI on climate action.

## 5. Detailed overview of PCAF NL participants

This chapter provides an overview of the PCAF activities some of the PCAF NL participants conducted, the benefits and challenges they experienced in measuring and disclosing their financed emissions, and their expected activities in the coming years.

The following PCAF NL participants contributed to this chapter:

- » ABN AMRO
- » Achmea
- » a.s.r.
- » Cardano
- » De Volksbank
- » ING
- » MN Services
- » NN Group
- » NWB Bank
- » Rail & OV
- » Prosus
- » RNHB
- » Triodos Bank
- » Van Lanschot Kempen

## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

Since 2019, ABN AMRO's Global head of Reporting, Regulations & Stakeholder Management, Tjeerd Krumpelman has chaired PCAF Netherlands and PCAF Europe. Subsequently, on behalf of ABN AMRO, he is chair of the PCAF Board of Directors. In 2022, ABN AMRO continued to participate in the working group on mortgages and the working group on science-based targets in the Netherlands. The working group on mortgages has developed a specific PCAF guidance for PCAF data quality score 3 GHG calculations that can be applied in the Netherlands. This method has been developed to improve the overall validity and consistency of reported figures on the GHG footprint that can be associated with Dutch residential mortgages.

ABN AMRO published its climate strategy and joined the Net Zero Banking Alliance (NZBA) in December 2022. The bank has started setting emission reduction targets for financed emissions and emission reduction ambitions for client assets portfolios. The framework provided by the NZBA is used to set emission reduction targets for ABN AMRO's financed emissions. ABN AMRO has applied the PCAF Standard to calculate the financed emissions baseline for its portfolios.

In ABN AMRO's annual report, the lending portfolio's emissions are also calculated under the principles set by PCAF. In line with the Financed Emissions Standard (Part A) published in 2020 (updated in 2022), ABN AMRO extended its scope during the year by including corporate bonds, equity-accounted investments, and motor vehicle loans. The bank also improved the average data quality score, especially for residential mortgages and corporate loans. For corporate loans, ABN AMRO extended the use of company-level emissions data to shipping and energy clients, thereby reducing the use of average emission intensities per sector. For residential mortgages and commercial real estate, the bank used emission intensities per square metre by energy label and type of object.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

In the coming years, ABN AMRO will continue using the PCAF Standard when further developing its climate plan. ABN AMRO will also continue to work on higher data quality scores and more granular data sourcing for GHG emissions. The bank will align its reporting with regulations such as the CSRD. Furthermore, the working group on mortgages is working on the CRREM standard for the Netherlands, a target pathway to achieve net zero emissions by 2050.



## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

Achmea currently measures the GHG emission footprint of the majority of its investment portfolio for which this is relevant. This concerns the investment categories of equities, government and corporate bonds, mortgages, and real estate. In accordance with the Climate Commitment, Achmea will continue to investigate in the coming years whether it is possible to map out the GHG emission footprint of the remaining investment categories. Progress on this partly depends on the development of suitable methodologies and the availability of GHG emission data. In 2022, Achmea started measuring the GHG emissions of its loans to housing associations (investment loans).

Achmea has participated in the PCAF NL working group on mortgages which is developing a new harmonized PCAF data quality score 3 guidance. This methodology will be used for measuring and reporting on the GHG emissions of mortgages in 2023. Achmea also participates in the PCAF NL and TNO collaboration that studies the possibilities of measuring GHG emissions based on actual energy usage for mortgages, with the ambition to achieve data quality scores of 1 or 2 in the future.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

In the following years Achmea expects to (1) start measuring and reporting on the Scope 3 emissions of equities and corporate bonds; (2) apply the updated Financed Emissions Standard (Part A) on sovereign bonds; (3) expand its GHG emission reporting to private placements; and (4) further collaborate in the PCAF NL working group on mortgages to further harmonize the methodology and improvement the data quality.

## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

In the past year, a.s.r. was an active member of the working group on climate data (chair), the working group on mortgages and the working group on science-based targets. In the working group on mortgages, a.s.r. was one of the coordinators for the MISSION project between TNO, NVB, and other members of the working group. The MISSION project includes a feasibility study focused on using actual energy data from network operators. The participation in the working group on science-based targets has helped a.s.r. to define and set the science-based targets for the investments of its own account, unit-linked and external client portfolios. a.s.r. property and casualty insurance (P&C) was actively involved in different meetings and other interactions with PCAF. This has helped a.s.r. P&C to start measuring the insurance associated emissions of its P&C portfolio whilst making use of the methodologies as described in Insurance-Associated Emissions (Part C) and the data extracted from the PCAF emission factor database. a.s.r. has also determined and published an intermediate GHG emission reduction and other net zero targets for 2030 for their P&C portfolio.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

Early July 2023, a.s.r. received approval for the transaction with Aegon Group, to combine business activities of a.s.r. and Aegon Nederland. After meeting all necessary conditions set for the transaction, a.s.r. started combining business and integrating the investment portfolios. Both companies already had ambitious climate related targets regarding impact investments, GHG emission reductions and the Paris Agreement. These targets will be continued and harmonized in the combined company. The PCAF Standard will be used to measure the GHG emission footprint of the Scope 1, 2 and 3 emissions for the new combination with improved coverage and data quality. a.s.r. expects to become Science Based Targets initiative certified in the coming years. In the next year, the MISSION project for mortgage loans will start. a.s.r. is planning to take an active part in this project. Recently, a.s.r. P&C has measured its insurance associated emissions and has set intermediate net zero targets for 2030, for a material part of their P&C portfolio. It has disclosed these targets on 30th August 2023. In the coming period, a.s.r. aims to expand the measurement of their Insurance Associated Emissions to the entire P&C portfolio, in scope of the PCAF Insurance-Associated Emissions (Part C). a.s.r. P&C also intends to scale up the activities towards achieving its intermediate net zero targets for 2030.

## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

Cardano has been publishing its financed emissions using the Financed Emissions Standard (Part A) since 2016. Since then, Cardano measures the GHG emissions of its investment funds and monitors the progress of its long term GHG emission targets. It renewed its target in 2020 to net zero by 2050, a 50% reduction in 2030, and a 75% reduction in 2040 compared to 2020. Last year, Cardano's climate strategy got renewed. The updated strategy got approved by SBTi early 2023. Detailed expectations for different sectors, phase-out plans for coal, and KPIs were specified and formulated to move the portfolios towards net zero GHG emissions. In addition, pathways towards Cardano's climate targets have been defined for all funds. It is constantly monitored whether the portfolios follow the required pathway. Next to that, the method for calculating sovereign GHG emissions has been updated according to the latest Financed Emissions Standard (Part A). From now on, GHG emissions from sovereign bonds and all other investments will be reported separately to avoid double counting in the portfolio values and avoid changes in portfolio level emissions if asset allocation changes. The climate reporting in Cardano's annual reports is in-line with TCFD requirements.

Cardano uses the GHG emissions of its investments mostly for monitoring purposes. Through capital allocation, active ownership, ESG integration and exclusions, Cardano tries to reduce the GHG emission targets for the funds but also to create real-world impact. For that reason, Cardano not only monitors GHG emissions but especially evaluates which issuers do better than peers and what targets, strategies and investment plans issuers set to reduce emissions. For that reason, it has formulated in its climate strategy which steps it expects companies from different sectors to take to reach their climate targets. That is also why Cardano not only monitors what companies have been doing, but also what plans they are bringing forward.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

Cardano will continue to execute and, if necessary, further detail its own climate action plan. For instance, to answer the question on how Cardano will reach its targets while achieving real-world impact. For the next year, Cardano plans to (1) further improve its Scope 3 analysis, and (2) include the results from the climate scenario analysis into its reporting, screening, and engagements. In addition, Cardano would like to pay more attention to the climate adaptation steps issuers take to reduce the increasing risks of extreme weather events.

## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

In 2022, the science-based targets of de Volksbank for its Scope 1, 2 and 3 emissions have been validated by SBTi. The Scope 3 emission targets include emission reduction targets on mortgages (real estate), renewable energy (power), and investments covering relevant balance sheet categories. De Volksbank also published its Climate Action Plan in 2022. The bank aims to achieve a 'net zero' balance sheet by 2050, or sooner, if possible. The Climate Action Plan is one of the elements of the Dutch financial sector's Climate Commitment, to which de Volksbank committed itself in 2019. The activities, described in the Climate Action Plan, will be implemented within the organization in 2023.

De Volksbank used the PCAF methodology and corresponding data hierarchy in its Pillar 3 Report. The bank also made an impact analysis based on the PCAF data quality score 3 reporting guidance developed by the PCAF NL working group on mortgages.

The bank also integrated its climate accounting process into the IT infrastructure of the organization. This integration has ensured that the GHG accounting process is fully automated and provides real-time data.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

In the coming years, de Volksbank expects to further develop its Climate Action Plan. The bank wants to integrate science-based targets into short- and long-term key performance indicators for the different asset classes under the net zero ambition. Next to that, de Volksbank also wants to (1) implement the earlier mentioned PCAF data quality score 3 reporting guidance; (2) further automate the GHG accounting process for different departments of the bank; (3) develop a metric for portfolio neutralization, carbon storage and carbon removal; and (4) stay actively involved and contribute to the PCAF NL working groups.

## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

ING joined PCAF in May 2023. Being part of the network, ING participated in several regional and national calls and pilot tested the new PCAF Academy. ING also shared and presented its PCAF membership to its internal network of sustainability leads across the globe and invited colleagues in the various offices to take part in local PCAF networks.

Within PCAF NL, ING is actively involved in the working group on mortgages and has chaired the working group meetings on science-based targets.

The main PCAF activities of ING over the last year have been focused on further improving its calculations of financed emissions. ING has added more company-reported emissions to its inventory, has applied improved datasets on balance sheet data of its clients, has aligned its definition of outstanding with PCAF's Global GHG Accounting and Reporting Standard for Financed Emissions (Part A) and has improved the calculations of its mortgages by using newer datasets on energy performance certificates and working with specific data vendors. The results of these efforts are reflected in the 2023 ING Climate report, covering ING's progress on climate alignment and climate risk in 2022 and major milestones in the first half of 2023.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

ING is pleased to be selected for PCAF's Global Core Team. This Core Team is an important body within PCAF that governs PCAF's Global GHG Accounting and Reporting Standards. As part of the Core Team, ING aims to contribute to further developments of the PCAF Global GHG Accounting and Reporting Standard.

Furthermore, as new member to the PCAF network, ING's plans to continue to onboard several colleagues globally to the network and train them on GHG accounting via the PCAF Academy.

Finally, together with other financial institutions, ING will collaborate to work towards further improving the data quality of its financed emissions calculations. For example, on mortgages via the Dutch and German working groups and on business loans to agricultural sector within the Dutch or North American networks. It is also ING's intention to continue to work on calculating and disclosing its financed emissions related to its commercial real estate portfolio. Additionally, ING aims to start the calculation of its financed emissions of sovereign debt.

## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

In 2022, MN and clients PMT and PME published their climate action plans in which GHG emissions reduction targets are set and next steps towards a Paris Agreement aligned portfolio are defined. MN aims to ensure that clients' investments contribute to limiting global warming to 1.5°C. The goal is to drive change in the real world and, as a result, reduce the total GHG emissions of invested assets to net zero by 2050.

MN extended its application of PCAF to measure GHG emissions of its listed equity and corporate bonds portfolios. Building upon last year's activities, it focused on enhancing the accuracy of data collection and broadening the scope of GHG emission sources covered. MN also worked on improving the timeliness of the portfolio's GHG emission footprint calculation by aligning it with its annual report. Each year, MN and its clients PME and PMT report on various climate metrics through TCFD aligned reporting in their annual report.

MN further developed its measurement and assessment of the GHG emission footprint of clients' real estate investments, according to the PCAF methodology.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

In the upcoming years, MN plans to enhance the granularity and accuracy of its GHG emissions data collection and reporting processes. Specifically, in real estate, the aim is to develop a comprehensive GHG emission reduction roadmap, aligning its investment decisions with ambitious climate goals.

MN intends to refine its measurements of operational GHG emissions and avoided GHG emissions from renewable infrastructure projects. Across equity and fixed income portfolios, MN is determined to bolster its GHG emission footprint measurements, incorporating a broader spectrum of GHG emission sources.

Additionally, MN foresees collaborating with the PCAF NL national chapter to stay at the forefront of evolving methodologies and industry best practices.

MN is dedicated to fostering transparency, comparability, and accountability in its GHG emissions report, and actively contribute to the transition to a more sustainable and low-carbon economy.

## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

Since 2017, NN Group (NN) has been measuring and publishing the GHG footprint of its proprietary assets. In its latest annual report, NN covered around 82% of its total proprietary asset portfolio on the balance sheet with a GHG emission footprint. As a supporter of harmonized practices in the financial industry, NN actively participates in various Dutch and international working groups of PCAF. In 2022, NN chaired the PCAF NL working group on mortgages, which finalized an approach on how to better estimate and harmonize the GHG emission footprint of residential mortgages. NN also contributed to the PCAF Global working group on insurance-associated emissions, collaborating with international insurers to develop a standard for measuring and reporting GHG emissions associated with insurance underwriting activities.

GHG accounting helps NN to (1) understand GHG emission and climate change-related risks, (2) identify high-carbon securities in its investment portfolio, and (3) facilitates engagement with investee companies. Although GHG emission footprint metrics are backwards-looking and not adequate on their own to guide investment decisions aligned with Paris Agreement objectives, they provide a basis for target setting and monitoring over time. NN is committed to transition its investment portfolio to net zero by 2050 and has implemented asset class-specific approaches using a variety of metrics to set targets and track progress towards its net zero goal.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

The main challenges of measuring emissions associated with financial activities are related to data quality. For example, when measuring Scope 3 emissions associated with corporate investments, inconsistencies in reported data can pose a problem. Additionally, for the insurance underwriting business, where actual GHG emission figures of individual small and medium-sized enterprises (SME) are often not available, NN must work with sector estimates. Despite these challenges, NN will continue to use best effort estimates to measure its financed emissions. NN recognizes the importance of measuring emissions and expects that upcoming regulatory initiatives, such as those from the EU, will improve the availability and quality of climate-related data.

Over the next few years, NN expects to undertake several activities to improve the quality of its GHG emissions data. For example, (1) aligning its GHG emission footprint calculations for sovereign debt with the latest Financed Emissions Standard (Part A), (2) expanding GHG emissions reporting for corporate investments to include Scope 3 data, and (3) increasing transparency on data quality using the PCAF data quality scores. In doing so, NN plans to continue collaborating with peers to share knowledge and best practices.

## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

Since 2019, NWB Bank (NWB) has been mapping the climate impact of its lending, which is now available for 93.8% of its loan portfolio. NWB uses the PCAF Standard to calculate its GHG emission footprint. According to NWB, PCAF provides a framework and harmonized methodology that increases transparency and awareness of GHG emissions and facilitates reporting.

Due to the availability of figures, NWB uses the loan portfolio of the previous year to calculate the GHG emission impact. This means that in its 2022 Annual Report, the bank is reporting the GHG emission impact of the loan portfolio as it stood at the end of 2021. The emissions of the portfolio in 2021 decreased by 17.2% compared to 2020, while the loan portfolio increased during the reporting period.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

The reduced GHG emission impact of NWB's loan portfolio aligns with the reduction pathway that the bank set out in its climate action plan. NWB aims to reduce at least 43% of its emitted GHG emissions by 2030, compared to the emissions of its loan portfolio in 2019 (the first year in which the bank mapped the GHG emission impact of its financing). NWB's goal is to have a loan portfolio that is aligned with net zero GHG emissions by 2050. NWB designed its reduction targets based on the methodology of the SBTi, an approach widely recognized in the financial sector for meeting the Paris Agreement goals. In 2023, the bank aims to have its targets verified by the SBTi and formally join the initiative.

The climate action plan of NWB sets out what it intends to do in the longer term. Although the bank sees a positive trend, it is too early to draw any conclusions on the impact, as the available data is still limited. The climate action plan adds an extra dimension to the discussions that NWB has with its clients. NWB notices that climate impact is also a priority for its clients. The bank recognizes the value to exchange ideas with experts in the field of non-financial impacts, in addition to the existing good relationships with its clients' finance departments. In 2023, NWB will conduct a survey to identify the extent to which clients have reduction targets that are in-line with the SBTi and enable a net zero portfolio by 2050. These results will provide additional focus on clients where, according to the NWB, there is a significant reduction potential. In addition to this commitment, the bank intends to offer sustainability-linked loans to more clients.



## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

In 2021, Rail & OV formulated its climate policy and endorsed the Paris Agreement goals. Combating climate change is a key-element of the fund's Responsible Investment Policy. Rail & OV formulated two commitments linked to the Paris Agreement goal: Rail & OV aims to (1) reduce the GHG emissions of its investment portfolio by 50% in 2030 (compared to 2019) and (2) have a net zero investment portfolio by 2050.

The fund's climate policy and implementation document provide more information on how it measures its GHG emissions. In 2022, actions have been taken to work towards the above-mentioned goals. First, Rail & OV joined PCAF NL and the Institutional Investors Group on Climate Change (IIGCC) to collaborate with peers to share knowledge and best practices. Next to that, the fund expanded its climate-related engagements. The fund has developed dedicated Paris Agreement aligned engagements with clear milestones and timelines for its internally managed portfolios (listed equities, fixed income, private equity, and infrastructure). Through these engagements the fund hopes to reduce the emissions of these portfolios. Rail & OV also joined a number of collective net zero related engagement initiatives. For some oil & gas companies, Rail & OV has been pre-declaring its voting behavior with the hope to make its climate policy more accessible for the participants of the funds. Next to that, the fund adjusted its exclusion policy and now excludes companies (meeting certain revenue threshold) that are involved in arctic drilling, shale gas and oil sands extractions. In addition, Rail & OV's 2022 sustainability report has received limited assurance (conducted for the first time) and provides GHG emissions of more asset classes than in previous years. The GHG emissions of Rail & OV's portfolio decreased by 8% compared to 2021. Beyond the published data, the fund has measured the emissions of its private equity and infrastructure portfolio using GHG emission data from the PCAF Database.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

Climate change will remain one of the focus topics of Rail & OV's Responsible Investment Policy. The fund will continue to conduct an annual climate analysis and screen the progress of the GHG emissions from its portfolio.

Rail & OV plans to develop expectations with clear milestones and deadlines for the biggest emitters in the oil and gas sector. It intends to implement Paris Agreement aligned investment strategies in more of its portfolios. Additionally, it will also intensify its engagement and voting behavior.

In terms of data reporting, Rail & OV aims to improve data collection for its private equity and infrastructure portfolio. The fund hopes to receive an audit assurance of its 2019 baseline year GHG emissions to be able to report progress on its 2030 reduction target.

Last but not least, Rail & OV sees biodiversity becoming increasingly important and material. The fund intends to do a further deep dive into the interconnections between biodiversity and climate change and provides its portfolio managers with a tool that would enable them to have more holistic approach and vision on these two major topics.



## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

Prosus joined PCAF in July 2022. Prosus is an operator and investor (asset owner) with a portfolio of investments in digital tech companies across the globe. Last year, Prosus made use of the PCAF Standard to calculate the financed emissions of its portfolio. These results are reported in the annual impact report of Prosus. The investment portfolio of Prosus consists only of listed and private equity investments. The calculation of financed emissions steers Prosus' engagement of its portfolio companies to take climate action, reduce GHG emissions and develop and set their own science-based targets. Prosus has committed that most of its portfolio companies (measured by invested capital) will have set their own science-based emissions reduction targets by financial year 2030.

Prosus took part in the PCAF working group on science-based target to support the design of its science-based targets (published in its Annual Report) and engage with the SBTi to validate these targets. Prosus reported its approach and actions to combat climate change in several documents and reports: The Environmental Sustainability Program includes its climate transition plan, which outlines the approach to measure, manage, and reduce emissions and which climate related risks and opportunities it recognizes and acts upon. Detailed data on Prosus' GHG emissions are included in its annual impact report. Prosus also published its TCFD report and submitted its response to the CDP's Climate Change survey.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

The core of Prosus' commitment to keep global warming to 1.5°C is the delivery of its portfolio coverage target. This target covers to which extend it will engage and support its portfolio companies to set their own science-based targets.

Prosus will continue to measure and calculate the GHG emissions of its portfolio. It will also start benchmarking the individual company's performance against its peers to understand where further progress can and should be made. In support of this, Prosus will develop an internal carbon price that will function as a KPI on climate action across its portfolio. This KPI will support the management in decisions to allocate resources and make strategic choices.

Lastly, Prosus' mother company Naspers operates from South Africa, and its portfolio of companies spans several regions, of which many are in the global south. Prosus is deeply committed to ensure the climate transition is fair. This requires that more companies and financial institutions in the global south take part and steer the development of methodologies and standards that guide climate action by companies and countries. Therefore, Prosus will also join and take actively part in the PCAF Africa regional chapter to support the further growth of this important network.

## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

As a property lender, RNHB aims to facilitate the energy transition to a more sustainable property environment. To do this, RNHB chose an impact strategy where it supports (1) its clients in making their real estate assets more sustainable; and (2) voluntarily offsets the residual GHG emissions of its corporate activities and securitized portfolio emissions.

RNBH continuously tracks the sustainability levels and GHG emissions of its portfolio companies to align its portfolio with its ESG strategy. The lender has committed to measure and disclose the GHG emissions of its portfolio for transparency and accountability purposes and, as such, joined PCAF in July 2021.

In 2022, RNHB conducted various activities. Firstly, RNHB joined the PCAF NL working group on mortgages and published its first ESG emission report 2022. Secondly, it improved its GHG emission calculation methodology and GHG offset processes based on the Financed Emissions Standard (Part A). Thirdly, RNHB issued and offset the forecasted GHG emissions of the Dutch Property Finance (DPF) 2022-1, DPF 2022-2 and DPF 2022-CMBS1 collateral portfolio for the 5-year period from the closing date until the first optional redemption date through the purchase of SDG-linked Voluntary Emission Reduction (VER) certificates. Lastly, it neutralized its own GHG emission footprint on a net zero basis at a corporate level by purchasing VER certificates.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

In the next few years, RNHB expects to improve the GHG emission calculation methodology by implementing the PCAF data quality score 3 reporting guidance for Dutch residential mortgages. In addition, RNHB will continue to strengthen and complete its database with the most recent energy labels of its property. Lastly, RNHB wants to calculate its GHG emissions based on the actual energy usage and improve the data quality to score 1 by participating in the TNO project in the future. This project studies the possibilities of measuring GHG emissions based on actual energy usage for mortgages with the ambition to achieve data quality scores of 1 or 2 in the future.

## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

Triodos Bank has implemented and reported on the PCAF methodology since 2018 and disclosed the GHG emissions accounting of 100% of its loans and funds' investments since 2019. In its 2022 Integrated Annual Report, Triodos Bank also included the financed emissions of all other loans and investments, for example those related to its treasury activities. Furthermore, the PCAF calculation used to calculate the financed emissions of Triodos Bank's lending book has been automated in its IT system.

In 2022, the PCAF data quality score of Triodos Bank's financed emissions improved, mainly by applying the GHG emissions lookup table for residential real estate in the Netherlands, a product of the PCAF NL working group on mortgages. This table leverages public energy consumption data in conjunction with energy label and house type information. For a better comparison, Triodos Bank has also restated the figures of 2021. Additionally, the bank has made some modest improvements in other sectors to collect better data to estimate the GHG emissions.

Triodos Bank has committed itself to the SBTi. Together with the initiative, the bank worked on a validated set of near-term GHG emission reduction targets per asset class. These targets were approved by the SBTi in March 2023 and apply to a large part of Triodos Bank's own operations and loans and investments portfolio. Triodos Bank has opted for the most ambitious target to bring all GHG emissions related to its own operations in line with the scenario to limit global warming to 1.5°C by no later than 2030. For GHG emissions related to Triodos Bank's loans and investments, the target year used is 2035.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

Triodos Bank will continue to use the PCAF Standard in its reporting practices and wants to be actively involved in further development of the Global PCAF Standard, especially on emission removal accounting.

The key-objectives related to the bank's lending and investment portfolio are to decrease the GHG emission intensity and to increase the GHG sequestration or absorbance of CO<sub>2e</sub>. Working on its AsOneToZero ambition, Triodos Bank is analyzing and implementing opportunities for new natural capital, nature-focused finance and regenerative organic agriculture, sequestering carbon, and supporting biodiversity.

Continuously improving the data quality level of its GHG emission footprint measurements will enhance Triodos Bank's insights and steering on targets. Using better data might also imply restating the bank's pathways while keeping track of its yearly progress towards net zero. Triodos Bank wants to take everyone along on this journey and leave no one behind. Through engagement, inspiration, incentives, financing, tooling, and advice, the bank will help its clients and investees to reduce their GHG emissions - starting with the highest emitters in its portfolio.

Following its mission to change finance, Triodos Bank will also continue to advocate for sustainable finance and carbon accounting practices in the countries where it operates and at (regulatory) European and international levels.

## PCAF ACTIVITIES CONDUCTED IN THE LAST YEAR

During the last year van Lanschot Kempenn worked with other members of the PCAF NL working group on mortgages to further harmonize the approach to monitor the GHG footprint of residential mortgages. The financial institution did this by jointly drafting detailed guidelines on how to adopt a PCAF data quality score 3 aligned methodology. Van Lanschot Kempenn has implemented a reporting process in accordance with this methodology and has disclosed the resulting GHG emission footprint in its latest Annual Report. The improved methodology helps the institution to better steer on the reduction of their financed emissions. In addition, it will help stakeholders to better compare the GHG emission footprint with that of other Dutch financial institutions.

## PCAF ACTIVITIES EXPECTED IN THE NEXT FEW YEARS

Over the next few years, van Lanschot Kempenn aims to further improve the quality of the GHG emission footprint of its residential mortgage portfolio by increasing the PCAF data quality score. This will help the institution to effectively steer on increasing the energy efficiency of its residential mortgage portfolio in accordance with the developed transition pathways.

In addition, van Lanschot Kempenn aims to (1) increase the coverage of its GHG emission footprint - mainly by improving the reporting processes on the GHG emission footprint of more illiquid asset classes (e.g., private equity, infrastructure), and (2) improve its reporting on the Scope 3 GHG emissions of investee companies.

## 6. Glossary

The following terms are used in this publication.

<b>Asset class</b>	A group of financial instruments that have similar financial characteristics. <sup>16</sup>
<b>Climate-related risk – Physical Risk</b>	Climate-related risks associated with the potential negative physical impacts of climate change on an organisation. Physical risks emanating from climate change can be event-driven (acute) such as increased severity of extreme weather events (e.g., cyclones, droughts, floods, and fires). They can also relate to longer-term shifts (chronic) in precipitation and temperature and increased variability in weather patterns (e.g., sea level rise). <sup>17</sup>
<b>Climate-related risk – Transition Risk</b>	Climate-related risks associated with the transition to a lower-carbon global economy, the most common of which relate to policy and legal actions, technology changes, market responses, and reputational considerations.
<b>Decarbonisation</b>	The process by which countries, individuals, financial institutions, or other entities achieve zero fossil carbon emissions. Typically refers to a reduction of the carbon emissions associated with electricity, industry, and transport.
<b>CO<sub>2</sub>-equivalent (CO<sub>2</sub>e)</b>	The amount of carbon dioxide (CO <sub>2</sub> ) that would cause the same integrated radiative forcing (a measure for the strength of climate change drivers) over a given time horizon as an emitted amount of another greenhouse gas or mixture of greenhouse gases.
<b>Dutch Climate Commitment</b>	The national Climate Commitment that stipulates a 49% reduction of GHG emissions in the country by 2030 compared to 1990.
<b>Financed emissions</b>	Absolute greenhouse gas (GHG) emissions attributed to a financial institution's lending and investing activity, expressed in metric tonnes of CO <sub>2</sub> equivalent (tCO <sub>2</sub> e).
<b>Greenhouse gas (GHG) emissions</b>	The seven gases covered by the United Nations Framework Convention on Climate Change (UNFCCC)—carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF <sub>6</sub> ), and nitrogen trifluoride (NF <sub>3</sub> ). <sup>21</sup>
<b>Greenhouse gas (GHG) emission intensity</b>	The number of emissions of Greenhouse gas (GHG) emissions released per unit of another variable such as gross domestic product (GDP), output energy use or transport. <sup>18</sup>
<b>Investment</b>	The term investment is broadly defined as “putting money into activities or organisations with the expectation of making a profit.” Most forms of investment involve some form of risk taking, such as investment in equities, debt, property,

<sup>16</sup> Science-Based Targets initiative, [Financial Sector Science-Based Targets Guidance, Pilot Version](#), 2020

<sup>17</sup> Financial Stability Board Task Force on Climate-related Financial Disclosures, [Recommendations of the Task Force on Climate-related Financial Disclosures, Appendix 5: Glossary and Abbreviations](#), 2017.

<sup>18</sup> IPCC, 2018: [Annex I: Glossary](#) [Matthews, J.B.R. (ed.)]. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press.

	projects, and even fixed interest securities, which are subject to inflation risk, among other risks.
<b>Method</b>	A set of pre-defined systematic approaches.
<b>Net zero emissions</b>	Net zero emissions can be achieved by financial institutions when two conditions are met: All financing must be aligned with pathways that limit warming to 1.5°C with no or limited overshoot, and the residual emissions should be neutralized through the financing of activities that permanently remove an equivalent amount of atmospheric carbon dioxide. <sup>19</sup>
<b>Project</b>	A specific, finite activity that produces an observable and measurable result under pre-set requirements, usually involving a limited number of participants; an individual or collaborative effort between established partners planned to contribute to an overall aim.
<b>Science-based reduction targets</b>	Targets adopted by financial institutions or companies to reduce GHG emissions are considered “science-based” if they are in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement— limiting global warming to 1.5°C above pre-industrial levels. <sup>20</sup>
<b>Science Based Targets initiative</b>	An initiative to help companies set emission reduction targets in line with science and the Paris Agreement goals.
<b>Scope 1 emissions</b>	Scope 1 emissions are direct greenhouse gas (GHG) emissions that occur from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles. <sup>21</sup>
<b>Scope 2 emissions</b>	Scope 2 emissions are greenhouse gas (GHG) emissions from the generation of purchased electricity, consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity is generated. <sup>21</sup>
<b>Scope 3 emissions</b>	Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are extraction and production of purchased materials, transportation of purchased fuels, and use of sold products and services. <sup>21</sup>
<b>Standard</b>	A set of formalised guiding principles accepted by an authority and by general consent as a basis of comparison; an approved model; initiatives which have their own technical frameworks to define, identify, disclose, and report sustainable finance.
<b>Tool</b>	An IT product that provides data and analytical support.
<b>Transition</b>	The process of changing from one state or condition to another in a given period of time. Transition can be in individuals, firms, cities, regions and nations, and can be based on incremental or transformative change.

<sup>19</sup> Foundation for science-based net-zero target setting in the financial sector, 2022  
<https://sciencebasedtargets.org/resources/files/SBTi-Finance-Net-Zero-Foundations-paper.pdf>

<sup>20</sup> More information on science-based targets can be found here: <https://sciencebasedtargets.org/faqs#what-are-science-based-targets>

<sup>21</sup> A Corporate Accounting and Reporting Standard, revised version, GHG Protocol, 2004  
<https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>

## **Appendix: Signatory reporting examples**



**GHG emissions**

GHG emissions (in ktons CO <sub>2</sub> e)	2022	2021	Delta
Total scope 1 <sup>1</sup>	3	3	-1
Total scope 2 <sup>2</sup>	3	3	
Total scope 3 - own operations <sup>3</sup>	41	47	-6
Total scope 3 - emissions of the balance sheet <sup>4, 5</sup>	17,820	19,018	-1,198
Total scope 3 - emissions of client assets <sup>6</sup>	4,767	6,498	-1,731
<b>Total GHG emission</b>	<b>22,634</b>	<b>25,570</b>	<b>-2,936</b>

<sup>1</sup> Natural gas/biogas, solar energy (the Netherlands and rest of world) and mobility lease cars (Netherlands).  
<sup>2</sup> Electricity (excluding solar energy) and heating & cooling, location based figures provided by energy suppliers (the Netherlands and rest of world).  
<sup>3</sup> Including GHG emissions for home workplace, air travel, international business rail travel, hotel visits, mobility, public transport and IT. Scoping is based on GHG Protocol.  
<sup>4</sup> Based on PCAF methodology, using total assets as the denominator and gross carrying amount as attribution metric.  
<sup>5</sup> ABN AMRO is continuously working on improving the methodology and data quality of the GHG emissions. The figures of 2021 have been updated correspondingly.  
<sup>6</sup> Calculation based on PCAF methodology listed companies, using Enterprise value including cash as the denominator. The scope of the calculation includes equities and corporate bonds, both direct and indirect in funds.

Our scope 3 emissions from own operations decreased due to lower emissions for IT (off-premises data centers and Software-as-a-Service). Financed emissions in our lending portfolio also decreased; further details are provided below.

Emissions for assets under management decreased in line with the total volume of managed assets. Emissions per EUR 1 million invested were approximately the same as at 31 December 2021.

**GHG Financed Emissions**

(in millions)	31 December 2022					31 December 2021				
	Gross carrying amount <sup>4</sup>		GHG emissions (in ktons CO <sub>2</sub> )	Carbon intensity (in tons CO <sub>2</sub> /EUR millions)	PCAF average data quality score	Gross carrying amount <sup>4</sup>		GHG emissions (in ktons CO <sub>2</sub> )	Carbon intensity (in tons CO <sub>2</sub> /EUR millions)	PCAF average data quality score <sup>5</sup>
	In scope for financed emissions	Out of scope for financed emissions				In scope for financed emissions	Out of scope for financed emissions			
Cash and balances at central banks		60,865					66,865			
Financial assets held for trading		907					1,155			
Derivatives		5,212					3,785			
Financial investments <sup>1</sup>	6,912	35,240	258	37	3.7	6,738	34,791	251	37	3.7
Securities financing		20,032					16,138			
Loans and advances banks		2,990					2,811			
Residential mortgages	150,762		1,517	10	3.6	146,351		1,686	12	3.6
Consumer loans <sup>2</sup>	234	9,998	49	208	4.0	220	10,575	49	224	4.0
Corporate loans at amortised cost	86,731		15,967	184	4.2	86,458		17,007	197	4.3
Corporate loans at fair value through P&L	66		14	219	5.0	99		2	16	5.0
Other loans and advances customers <sup>3</sup>		7,497					15,012			
Equity-accounted investments	474		14	30	5.0	564		24	43	5.0
Other assets		8,492					9,440			
<b>Total assets</b>	<b>245,180</b>	<b>151,234</b>	<b>17,820</b>	<b>73</b>	<b>3.8</b>	<b>240,429</b>	<b>160,572</b>	<b>19,018</b>	<b>79</b>	<b>3.8</b>

<sup>1</sup> Corporate bonds and equity are in scope for financed emissions. Government bonds are currently out of scope for financed emissions. We are investigating inclusion of government bonds in future years.  
<sup>2</sup> Motor vehicle loans are in scope for financed emissions, while the other consumer loans are out of scope for financed emissions due to unavailability of a methodology.  
<sup>3</sup> Including loans and advances customers at fair value through P&L.  
<sup>4</sup> Excluding fair value adjustments from hedge accounting.  
<sup>5</sup> PCAF Average data quality score is calculated on the Gross carrying amount.

<sup>22</sup> For more information, please consult the [Integrated Annual Report 2022 of ABN AMRO](#)

## SUPPLEMENT B: DETAILED SUSTAINABILITY INFORMATION

### OVERVIEW OF SOURCE AND SCOPE OF CARBON DATA FOR EACH ASSET CLASS

	Investments												Investments					
	Own risk						Account and risk policyholders						Equities		Credits			
	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021		
	Equities (Achmea EQ DM)		Credits (Achmea credits & Achmea treasury)		Government bonds <sup>1</sup> (Achmea government)		Mortgages (investment insurance operations)		Bank credit portfolio		Investment property		Investment loans					
% of investments for which the carbon footprint has been measured (measured by the book value of the investment)	72%	75%	76%	66%	71%	83%	100%	99%	95%	91%	65%	81%	54%	note	83%	78%	7%	14%
Source of data on the basis of which CO <sub>2</sub> is being measured <sup>2,3</sup>																		
% based on reported CO <sub>2</sub> data	84%	84%	87%	82%	100%	100%									86%	84%	68%	60%
% modelled	16%	15%	13%	11%			100%	100%	100%	100%	100%	100%	100%	note	14%	16%	32%	9%
% no data available		1%		7%														31%

<sup>1</sup> For government bonds, these are the investments in EU countries.  
<sup>2</sup> The CO<sub>2</sub> footprint of government bonds, mortgages and investment property is based on CO<sub>2</sub> data for the previous year (i.e., 2022 on reported data in 2021). For equities and credits, the data is based on the most recent information available. For Equities Own Account, 78% of the data reported by companies is based on data reported in 2021 or more recently, for Credits Own Account this is 76%. For Equity Account and Risk policyholders this is 89% of the data and for Corporate Bond Account and Risk policyholders it is 87%. For investment loans, this concerns CO<sub>2</sub> data relating to 2020.  
<sup>3</sup> For Equity Own Account, 94% of the data is based on PCAF Quality Score 2 and 6% is based on Quality Score 4. For Credits Own Account, 89% of the data is based on Quality Score 2 and 1% is based on Quality Score 4. For Equity Account and risk policyholders, 94% of the data is based on PCAF Quality Score 2 and 6% on Quality Score 4. For Credits Account and risk policyholders, 87% of the data is based on Quality Score 2, 1% on Quality Score 3 and 12% on Quality Score 4. For government bonds we are not yet using the revised version of PCAF and we lack a PCAF quality score. For mortgages, real estate investments and investment loans, 100% has been modelled since CO<sub>2</sub> emissions are not reported directly. The quality score for the data used for mortgages under PCAF corresponds to quality score 5. For investment property, this corresponds most closely to PCAF quality score 2 (actual energy consumption and standard emission factors), however, investment properties in residential properties use SAvs, which assume the average energy consumption for a certain period of time. For Investment Loans, the quality of the data corresponds to PCAF quality score 5.

	ABSOLUTE CARBON EMISSIONS (KTON CO <sub>2</sub> )		CARBON FOOTPRINT PORTFOLIO (TONNES OF CO <sub>2</sub> / MILLION EURO INVESTED CAPITAL)		CARBON INTENSITY (CO <sub>2</sub> /M <sup>2</sup> )	
	2022	2021	2022	2021	2022	2021
<b>Achmea mortgages<sup>1</sup></b>						
Using an attribution factor of 100% <sup>2</sup>						
- part of Own risk investments			173.8	19.8	22.4	
- part of Banking credit portfolio			263.6	22.5	26.2	
Using an attribution factor based on the loan as a portion of total collateral value <sup>2</sup>						
- part of Own risk investments			121.6	13.8	16.7	
- part of Banking credit portfolio			157.6	13.4	15.8	
<b>Investment property</b>			7.1	10.1	15.8	33.1
<b>Investment loans</b>					18.8	

<sup>1</sup> Expressed relative to nominal value.  
<sup>2</sup> The PCAF system for determining the carbon value of mortgages is currently being discussed. In the past, the carbon footprint of the entire collateral was included. The calculation of the attribution factor is based on the last known fair value of the collateral.

	ABSOLUTE CARBON EMISSIONS (KTON CO <sub>2</sub> )		CARBON FOOTPRINT PORTFOLIO <sup>1</sup> (TONNES OF CO <sub>2</sub> / MILLION EUROS INVESTED ASSETS)		CARBON INTENSITY (TONNES CO <sub>2</sub> / MLN USD SALES)	
	2022	2021	2022	2021	2022	2021
<b>Achmea equities<sup>2</sup></b>	61.3		48.3	67.9	67.0	75.0
MSCI World			56.2	67.0	122.3	127.5
<b>Difference</b>			-14.1%	1.5%	-45.2%	-41.2%
<b>Achmea credits (including treasury)<sup>2</sup></b>	423.1		46.9		75.0	93.1
Benchmark			93.2		195.3	154.9
<b>Difference</b>			-49.7%		-61.6%	-39.9%
<b>Achmea government bonds</b>	15.6		2.7	2.6		
<b>Investments for 'account and risk policyholders':</b>						
- Equities			40.8		73.5	76.8
- Credits			36.1		151.7	82.9

<sup>1</sup> The carbon footprint for equities and credits (including benchmark / reference index) was determined in 2022 based on EVIC and in 2021 based on market capitalization (see Methodology section).  
<sup>2</sup> The CO<sub>2</sub> intensity of the Global Quality Value Equities portfolio in 2022 amounted to 60.1 tonnes CO<sub>2</sub>/MLN USD sales (2021: 58.5 tonnes CO<sub>2</sub>/MLN USD sales) and the Global Enhanced Equities portfolio 61.7 tonnes CO<sub>2</sub>/MLN USD sales (2021: 62.9 tonnes of CO<sub>2</sub>/MLN USD sales).

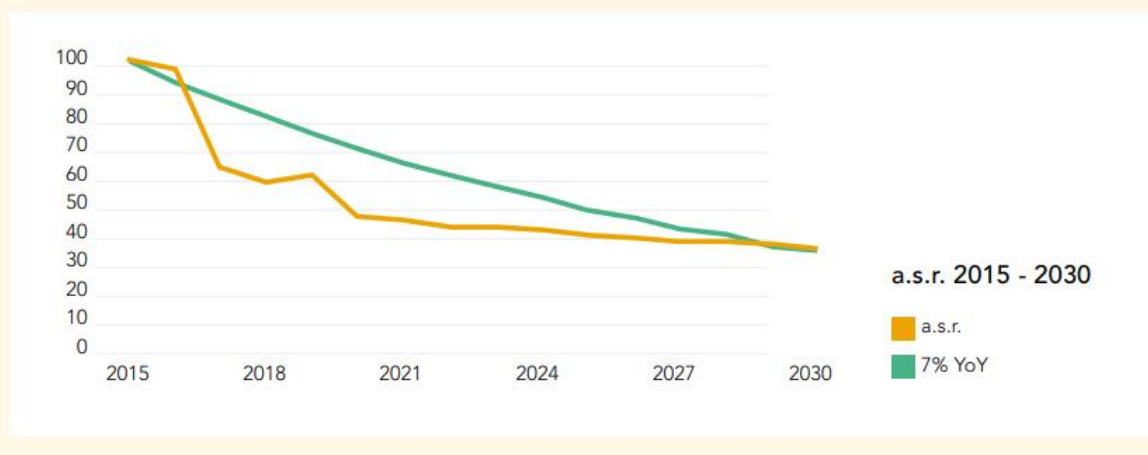


<sup>23</sup> For more information, please consult the [Annual Report 2022 of Achmea](#)



De CO<sub>2</sub>-voetafdruk van de beleggingsportefeuille (beursgenoteerde aandelen, bedrijfsobligaties, staatsobligaties, vastgoedbeleggingen en de hypotheekportefeuille) met 65% verminderen tussen 2015 (Akkoord van Parijs) en 2030.<sup>6</sup> In 2050 willen we een netto nul CO<sub>2</sub>-uitstoot hebben.

**65%** Resultaat 2022: **65% CO<sub>2</sub>-reductie**<sup>7</sup>



CO <sub>2</sub> e- emissies van de beleggingen (scope 1 en 2)									
	AuM (in miljoen euro)	Calculated (in miljoen euro)	Calculated (in %)	ton CO <sub>2</sub>	2022 ton CO <sub>2</sub> per miljoen euro	2021 ton CO <sub>2</sub> per miljoen euro	2020 ton CO <sub>2</sub> per miljoen euro	2019 ton CO <sub>2</sub> per miljoen euro	2015 (basisjaar) ton CO <sub>2</sub> per miljoen euro
<b>a.s.r. vermogensbeheer</b> <sup>22</sup>	€ 18.437	€ 17.836	96,7 %	1.055.506	59	74	78	101	184
Fixed Income*	€ 16.406	€ 15.897	96,9 %	966.914	61	78	80	102	189
*staatsobligaties en bedrijfsobligaties									
Beursgenoteerde aandelen	€ 2.031	€ 1.939	95,5 %	88.592	46	37	52	87	136
<b>Hypotheke</b> <sup>23</sup>	€ 9.623.006.016,23	€ 9.399.287.323	97,68 %	72.466	8	9	8	13	18
<b>a.s.r. real estate</b> <sup>24</sup>	€ 4.205,56	€ 3.980,33	95 %	548.497	138	69	71	58	
- Retail (DCRF)	€ 625	€ 532,28	85 %	5.882,70	11	12	14	13	
- Woningen (DCRF)	€ 1.066	€ 951,80	89 %	6.415,87	7	6	8	8	
- Kantoorgebouwen (DMOF)	€ 138	€ 122,86	89 %	424,61	3	4	15	5	
- Kantoorgebouwen (DSPF)	€ 73	€ 72,67	100 %	21,21	0	14	15	6	
- Landelijk vastgoed (DFLF)	€ 1.728	€ 1.727,99	100 %	511.231,05	296	130	140	106	
- Anders (vastgoed eigen balans)	€ 576	€ 573	99 %	24.521,70	43	1	16	1	

<sup>24</sup> For more information, please consult the [Klimaatverslag a.s.r. 2022](#)

CO <sub>2</sub> -UITSTOOT PER FONDS - SCOPE 1&2	FONDS- VERMOGEN PER 31-12-2022	GERAPPORTEERD	GESCHAT <sup>1</sup>	ABSOLUUT (SCOPE 1 & 2)	INTENSITEIT (SCOPE 1 & 2) <sup>2</sup>
FONDSNAAM	EUR X 1000	%	%	TON CO <sub>2</sub> E	TON CO <sub>2</sub> E PER € MLN
ACTIAM Duurzaam Index Vastgoedfonds Europa	17.000	70%	30%	100	6
ACTIAM Duurzaam Europees Aandelenfonds	14.000	94%	6%	1.200	93
ACTIAM Impact Wereld Aandelenfonds	101.000	74%	26%	4.200	45
ACTIAM Duurzaam Index Aandelenfonds Noord-Amerika	1.520.000	82%	18%	56.300	40
ACTIAM Duurzaam Index Aandelenfonds Europa	868.000	94%	6%	60.700	76
ACTIAM Duurzaam Index Aandelenfonds Pacific	402.000	76%	24%	25.000	68
ACTIAM Duurzaam Index Aandelenfonds Wereld	1.117.000	84%	16%	49.400	48

1 Wanneer gerapporteerde CO<sub>2</sub>-data niet beschikbaar is, worden scope 1 & 2 emissies geschat. Deze schatting wordt gedaan door de externe dataleverancier MSCI op basis van actuele en historische gegevens op bedrijfsniveau en op sectorniveau.

2 Deze intensiteit is inclusief een inflatiecorrectie van 8,75%

CO <sub>2</sub> -UITSTOOT PER FONDS - SCOPE 3	FONDSVERMOGEN PER 31-12-2022	TOTAAL (SCOPE 3) <sup>1</sup>	INTENSITEIT SCOPE 3
FONDSNAAM	EUR X 1000	TON CO <sub>2</sub> E	TON CO <sub>2</sub> E PER € MLN
ACTIAM Duurzaam Index Vastgoedfonds Europa	17.000	400	26
ACTIAM Duurzaam Europees Aandelenfonds	14.000	6.600	513
ACTIAM Impact Wereld Aandelenfonds	101.000	40.800	439
ACTIAM Duurzaam Index Aandelenfonds Noord-Amerika	1.520.000	434.500	311
ACTIAM Duurzaam Index Aandelenfonds Europa	868.000	339.800	426
ACTIAM Duurzaam Index Aandelenfonds Pacific	402.000	201.000	544
ACTIAM Duurzaam Index Aandelenfonds Wereld	1.117.000	328.700	320

1 Scope 3 emissies omvatten de indirecte uitstoot van CO<sub>2</sub>, die komt kijken bij het gebruik van grondstoffen, basismaterialen en de uitstoot die wordt veroorzaakt door het gebruik van de producten na verkoop, waar de eigen organisatie geen directe invloed op kan uitoefenen maar die ze wel indirect beïnvloedt. Scope 3 emissies zijn vooral gebaseerd op schattingen door onze data provider omdat er nog nauwelijks bedrijven zijn die dit op een uniforme wijze rapporteren. Vanwege methodologische ontwikkelingen worden deze niet vergeleken met 2021.

<sup>25</sup> For more information, please consult the [Jaarverslag 2022 ACTIAM Beleggingsfondsen](#)

## Scope 3 emissions

Asset class	2022					2021				
	Financed emissions in tonnes CO <sub>2</sub> e <sup>1</sup>	Avoided emissions in tonnes CO <sub>2</sub> e	Net emissions in tonnes CO <sub>2</sub> e	GHG emissions intensity ratio (t/M€)	Data quality score <sup>2</sup>	Financed emissions in tonnes CO <sub>2</sub> e <sup>1</sup>	Avoided emissions in tonnes CO <sub>2</sub> e	Net emissions in tonnes CO <sub>2</sub> e	GHG emissions intensity ratio (t/M€)	Data quality score <sup>2</sup>
Business loans	19,188	-	19,188	42.3	2.7	51,262	-	51,262	11.7	4.7
Unlisted equity	1	-5	-4	0.1	2.8	2	-7	-5	0.2	2.8
Listed equity	126	-1,617	-1,491	86.3	5.0	-	-	-	-	-
Corporate bonds	120,568	-463,209	-342,641	6.9	4.6	53,903	-422,616	-368,713	21.8	2.8
Sovereigns bonds	16,493	-	16,493	6.1	5.0	18,232	-	18,232	5.6	5.0
Mortgages	1,157,221	-	1,157,221	23.2	2.3	1,208,916	-	1,208,916	24.8	2.0
Project finance	22,281	-365,974	-343,693	22.3	3.5	9,162	-319,211	-310,049	10.7	3.1

1 This includes scope 1, 2 and where available also scope 3 emissions of the counterparty.

2 See Section Definition and methodology of strategic KPIs for more information.

<sup>26</sup> For more information, please consult the [Integrated Annual Report 2022 of De Volksbank](#)

## Financed emissions

In addition to emission intensity metrics, we also monitor and publish our financed emissions. We believe this increases the transparency of our climate disclosures. Financed emissions are absolute emissions associated with our lending and investment activities, also known as absolute GHG scope 3 category 15 emissions, and we measure them using the Global GHG Accounting and Reporting Standard for the Financial Industry (developed by PCAF – the Partnership for Carbon Accounting Financials).

We use financed emissions and intensity metrics in a complementary way. Analysing financed emissions helps us to identify hotspots in our portfolios. For the relevant hotspots, where available data and methodologies allow, we select the most suitable methodology and metric to apply to each sector's activities as per our Terra toolbox approach. All the tables in this section refer to our books as per year-end 2022.

Table 16: ING's financed emissions per asset class and business line as per YE2022

Asset Class	Outstanding in EUR billion	Measured in EUR billion	Outstanding coverage	Financed emissions in Mt CO <sub>2</sub> e	PCAF data quality score
Residential Real Estate (Mortgages)	326.9	326.9	100%	7,018	3.0
Commercial Real Estate (ext. REF NL)	36.2	-	-	-	-
Business Loans - Wholesale Banking	187.1	186.9	100%	43,516	3.6
Business loans - Retail Banking (ext. REF NL)	87.1	87.1	100%	10,762	5.0
<b>Total Lending In Scope</b>	<b>637.3</b>	<b>600.9</b>	<b>94%</b>	<b>61,295</b>	<b>3.9</b>
Total Equity Investments	3.6	3.5	98%	80	5.0

REF NL = Real Estate Finance Netherlands

Our estimates currently cover our lending and equity books, including both Wholesale and Business Banking, as at year-end 2022. All the relevant positions to the Greenhouse Gas Protocol Standard are covered in our lending book, except for the Commercial Real Estate sector which is not yet measured due to internal data quality limitations. We expect, however, to also disclose emissions related to Commercial Real Estate in ING's next annual report (the 2023 ING Annual Report, to be published in March 2024) following data quality improvements performed over 2023. By the same date, we aim to measure and disclose the emissions associated with the remaining investment products currently not covered, namely our sovereign bond portfolio, using the PCAF methodology published in December 2022. And we also aim to measure and

disclose our facilitated emissions related to capital markets instruments, as soon as the PCAF methodology for such products is finalised.

This year's calculations for ING resulted in an estimate of 61.4 million tons of CO<sub>2</sub>e, including our clients' scope 1 and scope 2 emissions. 99.9% of the emissions are associated with our lending book portfolio, while the remaining 0.1% is associated with our equity book. The lending book can be further broken down in 71% of emissions coming from our Wholesale Banking clients (corporates), 18% coming from our Business Banking clients and 11% coming from our mortgages portfolios. While our financed emissions disclosure is currently limited to the scope 1 and scope 2 emissions of our clients, we aim to disclose client scope 3 emissions in coming disclosures where data quality allows. Our membership of PCAF (as from April 2023) also comes with a commitment to disclose the scope 3 emissions of clients for certain sectors, and we aim to fulfill this commitment as soon as possible.

Table 17: Detailed breakdown of emissions associated with our Wholesale Banking book

NAICS Sector	Outstanding in EUR million	Measured in EUR million	Financed emissions in Mt CO <sub>2</sub> e	Scope 1 share in Financed Emissions	Relative Contribution	PCAF data quality score
Accommodation and Food Services	961	961	23	54%	0%	3.5
Admin, Support, Waste Man., Remediation	3,300	3,300	446	95%	1%	3.4
Agriculture, Forestry, Fishing and Hunting	679	679	1,320	100%	3%	4.8
Arts, Entertainment, and Recreation	229	229	4	37%	0%	4.0
Construction	1,609	1,609	61	88%	0%	3.3
Educational Services	81	81	1	46%	0%	4.5
Finance and Insurance	47,094	47,094	82	76%	0%	4.0
Health Care and Social Assistance	1,024	1,024	19	39%	0%	3.8
Information	9,239	9,239	199	62%	0%	3.6
Management of Companies and Enterprises	1,835	1,835	91	79%	0%	3.5
Manufacturing	38,678	38,678	9,044	86%	21%	2.9
Mining, Quarrying and Oil and Gas Extraction	6,215	6,215	4,496	99%	10%	3.2
Other Services (except Public Administration)	212	212	9	63%	0%	4.1
Professional, Scientific and Technical Services	4,598	4,598	170	77%	0%	3.3
Public Administration	1,769	1,769	89	43%	0%	4.8
Real Estate and Rental and Leasing	8,633	8,633	394	87%	0%	3.7
Retail Trade	5,064	5,064	246	79%	1%	3.3
Transportation and Warehousing	19,744	19,744	9,939	100%	23%	4.2
Utilities	18,473	18,231	14,554	93%	33%	3.9
Wholesale Trade	17,605	17,605	2,513	85%	6%	3.4
<b>Wholesale Banking Lending</b>	<b>187,131</b>	<b>186,888</b>	<b>43,516</b>	<b>93%</b>	<b>100%</b>	<b>3.6</b>

Wholesale Banking unmeasured wholesalebank business loans are mainly due to data quality of PCAF emission factor for the corresponding NAICS code

Table 17 above and the following tables (18 & 19) provide a breakdown of our portfolios and associated emissions. The Wholesale Banking portfolio uses the NAICS industry classification coding, while the Business Banking portfolio uses the NACE industry classification coding as per our internal management purposes. Next year, we intend to disclose both breakdowns using the NACE industry classification to align with the European regulatory disclosures for financed emissions.

Table 18: Detailed breakdown of emissions associated with our Business Banking book

NAICS Sector	Outstanding in EUR million	Measured in EUR million	Financed emissions in MtCO <sub>2</sub> e	Scope 1 share in Financed Emissions	Relative Contribution	PCAF Average Score
Accommodation and food service activities	1,600	1,600	75	54%	3%	5
Activities of households as employers	265	265	8	38%	0%	5
Administrative and support service activities	3,624	3,624	353	95%	3%	5
Agriculture, forestry and fishing	3,253	3,253	3,396	97%	35%	5
Arts, entertainment and recreation	497	497	12	39%	0%	5
Construction	7,368	7,368	285	94%	3%	5
Education	700	700	18	61%	0%	5
Electricity, gas, steam and air supply	1,858	1,858	1,051	94%	10%	5
Financial and insurance activities	3,295	3,295	99	93%	1%	5
Human health and social work activities	3,375	3,375	177	50%	2%	5
Information and communication	1,424	1,424	165	84%	2%	5
Manufacturing	12,058	12,058	1,933	86%	18%	5
Mining and quarrying	527	527	353	100%	3%	5
Other service activities	850	850	43	53%	0%	5
Professional, scientific and technical activities	5,127	5,127	241	96%	3%	5
Public administration and defence	8,791	8,791	205	73%	2%	5
Real estate activities	9,504	9,504	60	72%	1%	5
Transportation and storage	4,915	4,915	729	97%	7%	5
Water supply, sewerage, waste...	653	653	374	97%	3%	5
Wholesale and retail trade	15,890	15,890	725	99%	7%	5
<b>Total Business Banking Lending</b>	<b>87,054</b>	<b>87,054</b>	<b>10,762</b>	<b>92%</b>	<b>100%</b>	<b>5</b>

Table 19: Extract of financed emissions associated with the Wholesale Banking sectors covered via Terra

Terra Sector	Outstanding in EUR million	Measured in EUR million	Financed Emissions in MtCO <sub>2</sub> e	Scope 1 share in Financed Emissions	Relative Contribution	PCAF Weighted Average
Automotive	3,314	3,314	44	52%	0%	2.8
Cement	651	651	1,678	97%	7%	3.4
Mid & Downstream Oil & Gas	7,152	7,152	8,036	96%	13%	3.5
Power	9,608	9,608	10,002	100%	43%	4.3
Steel	3,127	3,127	1,880	93%	7%	4.2
Upstream Oil and Gas	1,745	1,745	2,313	99%	10%	3.5
Airson	3,284	3,284	1,836	99%	8%	3.8
Shipping	5,345	5,345	2,729	100%	12%	4.3
<b>Total Terra in Wholesale Banking Lending</b>	<b>34,226</b>	<b>34,226</b>	<b>23,219</b>	<b>99%</b>	<b>100%</b>	<b>3.8</b>

The amounts outstanding in tables 17, 18 and 19 may differ from the Terra-reported ('measured') outstanding. For financed emissions, all on-balance sheet lending products are considered following PCAF methodology, where Terra follows specific methodologies when it comes to product scoping - see the Metrics and targets section on Terra and Appendix A for further information about scoping per sector and potential differences between the reported outstanding in this table and in the Terra section.

### Data quality, limitations and difference with 2021 figures

We have scored the data quality of our emissions data following the data quality scoring in PCAF's Global GHG Accounting and Reporting Standard. In this standard, data quality score 1 and 2 relates to high quality data coming from a company's disclosure or actual asset-level data, whereas data quality 4 and 5 relates to low quality data, i.e. based on revenue or sector average proxies. In the tables above, the weighted average data quality score per asset class or sector is listed.

By applying PCAF methodology to calculate financed emissions, we use the highest quality data currently available to ING and possible for each asset class. Except for verified or unverified emissions collected from the borrower or investee company directly via the Carbon Disclosure Project (CDP), the primary source of emissions data across asset classes is emissions factors provided by the PCAF database - EXIOBASE.

In ING's 2022 Climate Report, we estimated our financed emissions associated with the whole lending book to be 56 million tons of CO<sub>2</sub>e at year-end 2021. The financed emissions results of the previous years are not easily comparable to this year's results amounting to 61.3 million tonnes of CO<sub>2</sub>e at year-end 2022 due to fluctuations caused by (1) changes in outstanding of our clients, (2) changes in financial data (i.e. Enterprise Value and other balance sheet financial indicators), (3) fluctuations in FX movements and (4) other data quality improvements. It's important to note that such fluctuations are still to be expected in the coming years, with decreasing magnitude over time as absolute emissions reporting becomes more accurate, granular and standardised for our clients, which will allow us to have more accurate and stable measurements.

### Update of previously disclosed data

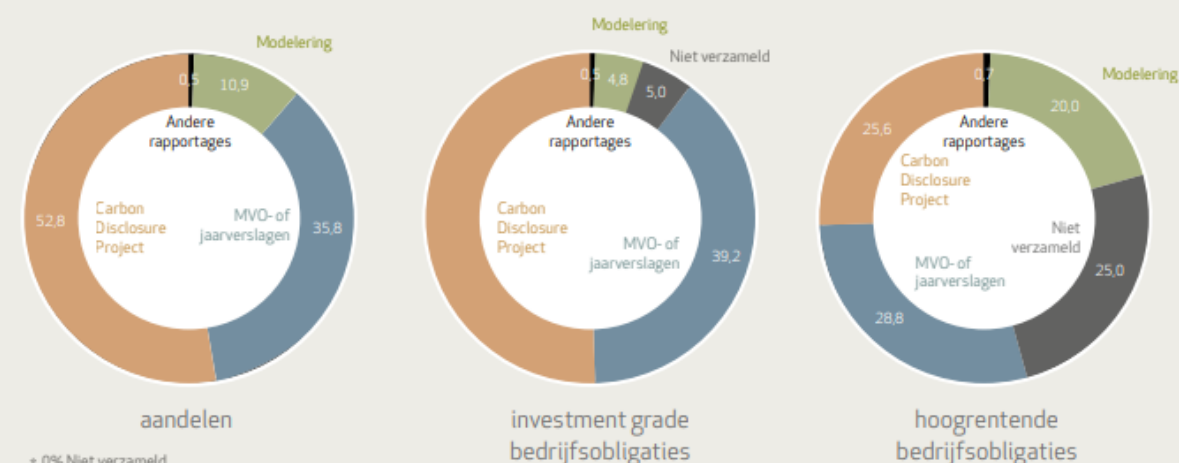
For this disclosure of emissions associated with our 2022 year-end positions, compared to the same information published in ING's 2022 Annual Report, we improved the data quality of our balance sheet data for our clients in Wholesale Banking. This update resulted in higher ING-attributed emissions. In addition, the outstanding in scope of the financed emissions calculations has been updated for Wholesale Banking and Business Banking to comply with PCAF methodology, which requires us to include only funded (on-balance exposures) in the measured outstanding - while we had previously also included unfunded exposure. Therefore, while ING generally reports guarantees as outstanding, these positions are now deducted from the ING reported outstanding in line with the PCAF GHG Accounting and Reporting Standard, resulting in lower financed emissions. Compared to the reported financed emissions in our 2022 Annual Report, the net effect of these two improvements led to an increase of financed emissions of 9.4% compared to the reported financed emission in the 2022 Annual Report of 56,008 in Mt CO<sub>2</sub>e.

<sup>27</sup> For more information, please consult the 2023 Climate Report of ING.

Sector (TPI Classificatie)	Meeteenheid	2020	2021	Vershil	Doelstelling 2030	Benodigde reductie
Luchtvaartmaatschappijen	gCO <sub>2</sub> /RTK	908,65	872,09	-4,0%	616,00	-29%
Aluminiumproducenten	tCO <sub>2</sub> e/t aluminium	7,74	7,66	-1,0%	3,07	-60%
Autofabrikanten	gCO <sub>2</sub> /km (NEDC)	131,71	128,20	-2,7%	41,00	-68%
Cementproducenten	tCO <sub>2</sub> /t cementproduct	0,59	0,59	-0,2%	0,42	-29%
Elektrische nutsbedrijven	tCO <sub>2</sub> e/MWh energie	0,35	0,30	-16,1%	0,14	-53%
Olie- & Gasindustrie	gCO <sub>2</sub> e/Mj	71,80	71,17	-0,9%	40,95	-42%
Staalproducenten	tCO <sub>2</sub> /t staal	1,92	1,91	-0,5%	1,13	-41%

Jaar	Benodigde reductie t.o.v. 2020 CRREM paden	Uitstoot intensiteit Nederlandse woningen o.b.v. CREMM paden
2020		26,4 kg per m <sup>2</sup>
2030	ca. 40%	16,6 kg per m <sup>2</sup>
2040	ca. 70%	8,3 kg per m <sup>2</sup>
2050	ca. 95%	1,4 kg per m <sup>2</sup>

## Databronnen in percentage van het belegd vermogen



<sup>28</sup> For more information, please consult the [Klimaatactieplannen 2022 MN](#)

<sup>29</sup> For more information, please consult the [Jaarverslag 2022 MN](#)

## Carbon footprint of NN Group's proprietary assets<sup>1</sup>

	2022	2021
<b>Assessed Assets under Management (in EUR billion)</b>	<b>139</b>	<b>162</b>
Government bonds	46	68
Corporate investments	28	34
Residential mortgages	53	52
Real estate investments	11	9
<b>Carbon footprint (tonnes CO<sub>2</sub>e/EUR million invested)</b>	<b>41</b>	<b>56</b>
Government bonds	30	60
Corporate investments	131	125
Residential mortgages <sup>1</sup>	10	11
Real estate <sup>2</sup>	2	3
<b>Total Carbon emissions (kilotonnes CO<sub>2</sub>e)</b>	<b>5.665</b>	<b>8.956</b>
Government bonds	1.404	4.081
Corporate investments	3.725	4.272
Residential mortgages <sup>1</sup>	515	581
Real estate	22	22
<b>Other metrics (for specific asset categories only)</b>		
<b>Weighted average carbon intensity (tonnes CO<sub>2</sub>e/EUR million of revenue)</b>	<b>112</b>	<b>103</b>
Government bonds	30	40
Corporate investments	247	229
<b>Carbon intensity per m<sup>2</sup> (tonnes CO<sub>2</sub>e/m<sup>2</sup>)</b>		
Residential mortgages	25	27

<sup>1</sup> In 2022, NN Group changed the estimation for mortgages. 2021 figures have been changed retrospectively, refer to the table 'Carbon emission figures mortgages' in the section on mortgages.

<sup>2</sup> 2021 figures have been changed retrospectively to include all assessed funds.

<sup>30</sup> For more information, please consult the [Annual Report 2022 of NN Group](#)



Table S-1 Total outstanding loans of NWB Bank and part covered in the GHG assessment for reporting years 2019, 2021, and 2022<sup>5</sup>

Market segment	Sector	Loan portfolio (million EUR)			Loan portfolio Covered with GHG footprint (%)		
		2022	2021	2019	2022	2021	2019
Social housing	Social housing associations	30,586	30,391	30,265	99.9	99.9	99.8
Public sector	Municipalities	6,740	6,665	6,583	100	100	100
	Provinces	356	202	247	100	100	100
	Water authorities	7,977	7,172	6,327	100	100	100
	Joint regulations	1,049	837	706	34.9	0.0	0.0
	Others	31	37	16	0.0	0.0	0.0
Healthcare	Healthcare	1,811	1,878	2,119	91.5	90.0	88.0
Education	Educational institutions	101	88	73	93.0	93.3	91.6
Networks	Drinking water utilities	936	836	477	98.2	98.1	0.0
Others		2,302	1,740	832	0.0	0.0	0.0
<b>Total</b>		<b>51,889</b>	<b>49,846</b>	<b>47,645</b>	<b>93.8</b>	<b>94.3</b>	<b>95.1</b>

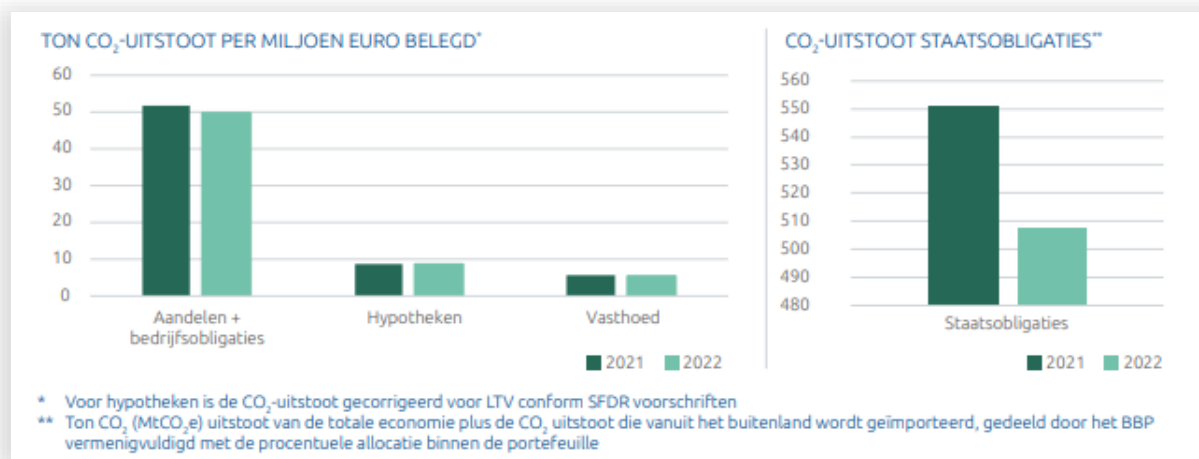
Table S-2 Absolute and relative GHG emissions for reporting years 2019, 2021, and 2022

Market segment	Sector <sup>^</sup>	Part covered with GHG footprint (million EUR)			GHG emissions (ton CO <sub>2</sub> -eq)			Relative GHG emissions (ton CO <sub>2</sub> -eq/million EUR)		
		2022	2021	2019	2022	2021	2019	2022	2021	2019
Social housing	Social housing associations	30,566	30,357	30,199	388,026	410,588	510,660	12.6	13.6	16.9
Public sector	Municipalities	6,740	6,665	6,583	380,404	397,652	423,377	56.6	59.6	64.4
	Provinces	356	202	247	10,787	6,415	10,685	30.3	31.7	43.3
	Water authorities	7,977	7,172	6,327	720,472	819,645	892,342	90.2	114.2	141.2
	Joint Regulations	366	-	-	9	-	-	0.03	-	-
Healthcare	Healthcare	1,657	1,689	1,866	80,993	85,455	119,730	48.9	50.6	64.2
Education	Education	94	82	67	4,160	3,663	2,452	44.4	44.8	36.8
Networks	Drinking water utilities	920	820	-	37,945	36,721	-	41.3	44.8	-
<b>Total</b>		<b>48,676</b>	<b>46,987</b>	<b>45,289</b>	<b>1,622,796</b>	<b>1,760,139</b>	<b>1,959,246</b>	<b>33.3</b>	<b>37.5</b>	<b>43.3</b>

<sup>^</sup> Avoided emissions need to be reported separately from actual emissions, therefore the avoided emissions that have been calculated for this report are not included in this table, but are presented separately in chapter 22.

<sup>31</sup> For more information, please consult the [Greenhouse Gas Emissions of NWB Bank Loan Portfolio 2022](#)

# RAIL & OV



<sup>32</sup> For more information, please consult the [MVB report 2023 of pension fund Rail & OV](#)

## Total scope 1 and 2 emissions of associates and investees

Investment areas	FY23 (tCO <sub>2</sub> e)	Share of total
Social and internet platforms	738 290	92.3%
Food Delivery	24 218	3.0%
Ventures	22 237	2.8%
Edtech	11 175	1.4%
Classifieds	3 528	0.4%
Payments and Fintech	194	0.0%
Etail	165	0.0%
Other	341	0.0%
<b>Total</b>	<b>800 148</b>	<b>100%</b>

## Scope 1 and 2 emissions

Portfolio companies	FY23 (tCO <sub>2</sub> e)	FY22 (tCO <sub>2</sub> e)	FY21 (tCO <sub>2</sub> e)	FY20 (tCO <sub>2</sub> e)
eMAG	15 288	17 393	9 657	9 993
OLX	3 937	4 467	1 878	2 493
iFood	525	80	84	108
Mobile	55	50	50	65
PayU	1 642	1 521	1 516	1 373
GoodHabitz	156	n/a	n/a	n/a
Stack Overflow	51	n/a	n/a	n/a
<b>Total</b>	<b>21 653</b>	<b>23 510</b>	<b>13 185</b>	<b>14 032</b>

<sup>33</sup> For more information, please consult the [environmental impact report 2023 of Prosus](#)

Distribution of energy labels and GHG emissions after applying RNHB criteria<sup>1</sup>

	A or above	B	C	D	E	F	G	Unknown	Total
Annual GHG emissions before energy label correction (ton)	4,792	974	1,716	1,224	1,143	642	970	7,492	18,953
Annual GHG emissions after energy label correction (ton)	0	472	902	770	883	574	970	5,794	10,365
Total emissions	0.0%	4.6%	8.7%	7.4%	8.5%	5.5%	9.4%	55.9%	100.0%

## RNHB voluntarily offsets GHG emission for securitisation transactions as from 2021

	Allocated Loan Amount (mln) <sup>3</sup>	Implied market value (mln) <sup>3</sup>	Total actual GHG emissions in 2022 (ton)	GHG emissions retired
DPF 2021 deal <sup>2</sup>	403	707	4,329	49,000
Corporate footprint 2020-2021 <sup>4</sup>				500
Total emissions 2021			4,329	
DPF 2022 deals	804	1,438	4,668	
Corporate footprint 2022 <sup>4</sup>			207	
Total emissions 2022			4,875	

<sup>34</sup> For more information, please consult the [GHG emission report 2022 of RNHB](#)

Climate impact of our loans and investments

2022					
Emission type / Transition theme	Impact sector	Gross amount (million EUR) <sup>1</sup>	Attributed emissions (ktonne CO2e)	Emission intensity (ktonne CO2e / billion EUR)	Data quality score high quality = 1 low quality = 5
<b>Generated emissions</b>					
Food	Organic farming	309	9	30	2.8
	Organic food	157	8	49	4.4
Resources	Sustainable property	1,084	26	24	3.0
	Residential mortgages	4,450	21	5	3.2
	Resources - other	135	5	38	4.6
Energy	Environmental - other	206	24	115	5.0
Society	Social housing	590	21	35	3.9
	Society other and municipalities	233	7	32	4.9
	Inclusive finance and development	946	12	13	5.0
Wellbeing	Care for the elderly	742	14	19	3.3
	Healthcare - other	471	11	24	4.8
	Education	321	9	28	4.0
	Arts and culture	523	18	35	4.3
	Wellbeing- other	278	9	31	4.9
IEB funds	Corporate equities and bonds	2,180	112	51	2.0
	(Sub-)Sovereign bonds	449	10	22	3.8
Other	Other loans and investments	1,872	8	4	4.4
		<b>14,946</b>	<b>324</b>	<b>22</b>	<b>3.5</b>
<b>Sequestered emissions</b>					
Resources	Nature development and Forestry	45	-10	-229	3.0
<b>Net emissions</b>		<b>14,991</b>	<b>314</b>	<b>21</b>	<b>3.5</b>
<b>Avoided emissions</b>					
Energy	Renewable energy	2,429	1,048	431	1.5
<b>Total<sup>2</sup></b>		<b>17,420</b>			<b>3.2</b>

<sup>1</sup> Assets managed for third parties, such as our private banking customers, are not included.

<sup>2</sup> Avoided emissions should not be summarised because their absolute emission is zero.

<sup>35</sup> For more information, please consult the [Annual Report 2022 Triodos Bank](#)

## Carbon footprint of our assets under management<sup>1</sup>

CO <sub>2</sub> e of AuM	Total AuM (€ billion)		Absolute footprint (million tCO <sub>2</sub> e, scope 1 and 2 GHG emissions)		Relative footprint (tCO <sub>2</sub> e/€ m invested, scope 1 and 2 GHG emissions)		Carbon intensity (tCO <sub>2</sub> e/€ m sales, scope 1 and 2 GHG emissions)		Coverage scope 1 and 2 GHG emissions data (CO <sub>2</sub> e based on % AuM)	
	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021
Private Clients	40.5	44.6	1.1	1.6	46.3	60.2	–	–	60%	59%
Wholesale & Institutional Clients	67.3	67.6	1.7	2.1	46.0	52.4	96.4	123.5	54 %	58%
<b>Total</b>	<b>107.8</b>	<b>112.1</b>	<b>2.8</b>	<b>3.6</b>	<b>46.1</b>	<b>55.5</b>	<b>–</b>	<b>–</b>	<b>56%</b>	<b>59%</b>

<sup>36</sup> For more information, please consult the [Annual Report 2022 van Lanschot Kempenn](#)



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