

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

**Partnership for Carbon Accounting Financials (PCAF) the Netherlands, Update Report 2021**



**PCAF**  
Partnership for  
Carbon Accounting  
Financials

The Partnership for Carbon Accounting Financials, or PCAF, is an industry-led partnership to standardise greenhouse gas (GHG) accounting for the financial sector. It was founded by a group of Dutch financial institutions that joined forces to improve GHG accounting in the financial sector and to create a harmonised GHG accounting approach. It has evolved into a global collaboration with 161 financial institutions worldwide representing 50.8 trillion dollars in assets at the time of writing. 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 low-carbon economy. Today, PCAF Netherlands (PCAF NL) consists of the following participants:



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# Table of Contents

1.	About This Report	4
2.	Foreword: Tjeerd Krumpelman	6
3.	PCAF Global	7
4.	Best Practices and Key Challenges	8
5.	Detailed Overview of PCAF NL Members	11
	ABN AMRO	12
	Achmea	14
	BNG Bank	18
	Cardano	20
	NIBC Holding N.V.	24
	NN Group	26
	Nederlandse Waterschapsbank N.V.	28
	Rabobank	32
	Robeco	36
	Van Lanschot Kempen	38
	De Volksbank	40
6.	Glossary	42

# 1. About This Report

Addressing the emergency of climate change is more pressing than ever. The past six years, including 2020, have been the warmest on record globally, and scientists expect this trend to continue.<sup>1,2</sup> The scale of recent changes across the climate system is unprecedented over at least many centuries.<sup>3</sup> To limit global warming to 1.5°C above pre-industrial levels, all sectors of society need to decarbonise and collectively reach net-zero emissions by 2050. The financial sector can facilitate and drive the transition in line with the Paris Agreement.

Harmonised and transparent GHG emissions accounting is an imperative first step in this direction. Measuring and disclosing GHG emissions associated with lending and investment activities of financial institutions (so-called financed emissions) is the foundation for creating transparency and accountability. It also enables financial institutions to align their portfolio with the Paris Agreement.

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. Measuring and disclosing financed emissions of loans and investments contributes to meeting these needs.

Comparability and transparency of GHG accounting requires uniform disclosure, following the same guidelines and methods and ideally using the same metrics. Leading up to the Paris Agreement, 14 Dutch financial institutions joined forces to improve GHG accounting through the Partnership for Carbon Accounting Financials (PCAF). This partnership has evolved into a global collaboration with 161 financial institutions worldwide representing US\$50.8 trillion in assets at the time of writing.

During the first few years, the Dutch PCAF members launched multiple reports, which provided a set of common principles and proposing harmonised 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>4</sup> (the Standard). This Standard was officially reviewed and approved by the GHG protocol to be in conformance with the requirements set forth in the Corporate Value Chain (Scope 3) Accounting and Reporting Standard, for Category 15 investment activities.

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1 World Meteorological Organization, 2021: State of the Global Climate 2020. In: WMO-No. 1264

2 Madge, G. (2020). Earth plays it cool, but global warming is unrelenting, <https://www.metoffice.gov.uk/about-us/press-office/news/weather-and-climate/2020/2021-global-temperature-forecast>

3 IPCC, 2021: Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [MassonDelmotte, V.P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press

4 The Global Standard can be accessed via <https://carbonaccountingfinancials.com/standard>

Currently, PCAF NL consists of 23 participants representing \$3.3 trillion in total financial assets and, as part of the global partnership, continues to develop methodologies, serving as thought leadership for the global development of the Standard. This fifth report provides an update on Dutch implementation activities such as:

- Key activities PCAF NL members participated in
- Benefits of measuring and disclosing financed emissions
- Challenges in measuring and disclosing financed emissions
- Examples of measurement and disclosure activities

PCAF NL working groups cover the following asset classes:

1. Sovereign bonds
2. Listed equity
3. Mortgages
4. Commercial real estate
5. Corporate/SME loans
6. Indirect investments
7. Public loans
8. Green bonds

## 2. Foreword: Tjeerd Krumpelman



At the end of 2015, 14 Dutch financial institutions discussed measuring and disclosing financed emissions, as they believed and still believe that financial institutions play a highly important role in fostering the long-term health of our economy. Since then, PCAF NL and later PCAF Global have grown tremendously. This year, PCAF NL has grown to 23 financial institutions, who are active as asset owners, asset managers, commercial banks, development banks, financial services providers, insurers, investment banks, and promotional banks. With the launch of PCAF Global in 2019, PCAF membership has extended outside of Dutch borders as PCAF now has more than 161 members in five continents, whose represented assets nearly tripled from US\$17.5 trillion to US\$50.8 trillion since the last PCAF NL report. This high growth demonstrates the need for such a partnership and the importance of a harmonised and transparent framework.

As PCAF started in the Netherlands nearly six years ago as a working group for the Dutch Central Bank's 'Platform voor Duurzame Financiering' (Sustainable Finance Platform), some of the participants have had a head start in measuring and disclosing their financed emissions.<sup>5</sup> The high maturity observed in the Dutch participants is reflected in this report. In November 2020, the first version of a global standard for measuring and disclosing financed emissions was launched. As this was a truly global effort, a natural transition occurred from a focus on the Dutch context to the global context. To reflect these developments, this report focuses on demonstrating the Dutch approach to inspire other financial institutions during their GHG accounting journey.

In 2019, a group of 53 financial institutions signed the Dutch Climate Commitment of the Financial Sector. This Commitment demands that from 2020 onwards the financial institutions will report on the climate impact of their financing activities.<sup>6</sup> The growth of PCAF NL, as well as the increasing number of climate-related disclosures, is excellent evidence of collaboration in the financial sector to reach these goals.

You are invited to read the report and address any questions and/or comments on the report to [info@carbonaccountingfinancials.com](mailto:info@carbonaccountingfinancials.com).

Tjeerd Krumpelman is Global Head of Advisory, Reporting & Engagement at ABN AMRO, chairman of PCAF NL and PCAF Europe, participant in global PCAF SteerCo.

### 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 Accord or Treaty that stipulates a 49% reduction of GHG emissions in the country by 2030 compared to 1990. The signatories 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 integral part of the wider Klimaatakkoord.

5 More information can be found at <https://www.dnb.nl/en/green-economy/sustainable-finance-platform/>

6 More information can be found at <https://www.klimaatakkoord.nl/>

### 3. PCAF Global

Since its launch in 2015 as a Dutch initiative, PCAF has inspired other institutions in the financial sector. In 2019, a coalition of banks in North America, under the leadership of Amalgamated Bank, adapted the Dutch approach to the North American context. PCAF North America built upon and tailored the PCAF NL methodologies to the US and Canadian market, which differ in terminology, data availability, and the types of loan and investment activities specific to its context.

Shortly after PCAF North America was launched, 28 members of the Global Alliance for Banking on Values (GABV) committed to a concerted, global effort among banking institutions to track and monitor the GHG impact of their portfolio of loans and investments within a period of 3 years, and ultimately ensure alignment with the Paris Agreement. This development triggered the initiation of PCAF Global, which was launched on 23 September 2019. The PCAF Global initiative aims to standardise the measurement and disclosure of GHG emissions associated with loans, investments, insurances liabilities, and other financial activities globally.

The initiative developed the first-ever Global GHG Accounting and Reporting Standard for the Financial Industry.<sup>7</sup> The Standard received the “Built on GHG protocol” mark from the Greenhouse Gas Protocol, recognising the robustness and credibility of this Standard for measuring financed emissions. Next to this, the global initiative has built a network of regional technical support and tools – such as a comprehensive, open-source emissions database – to make the practical application of GHG accounting easier than ever.

As more frameworks and regulation arise for different aspects of the GHG measurement, disclosure, and reduction journey, PCAF recognises that collaboration is needed for harmonised and transparent emissions accounting. As a result, PCAF launched the Strategic Framework for Paris Alignment, which aims to clarify the complex landscape of climate-related commitments, initiatives, methodologies and tools.<sup>8</sup> PCAF also has been exploring partnerships in specific areas, such as the collaboration with GRESB and CRREM to provide investors and banks with guidance on measuring and reporting financed emissions from real estate, and local partnerships to expand knowledge on GHG accounting, such as the collaboration with VfU in the DACHLi region and with KoSIF in South Korea.<sup>9 10 11 12</sup> PCAF also has achieved a place in mandatory climate disclosures. In the new publication of the Task Force on Climate-Related Financial Disclosures (TCFD) that is currently under public consultation, PCAF is integrated in the new recommendation for metrics in climate-related disclosures.

7 The Global Standard can be accessed via <https://carbonaccountingfinancials.com/standard>

8 <https://carbonaccountingfinancials.com/newsitem/pcaf-strategic-framework-for-paris-alignment#newsitemtext>

9 <https://carbonaccountingfinancials.com/newsitem/gresb-crrem-and-pcaf-join-forces#newsitemtext>

10 DACHLi comprises of Germany, Austria, Switzerland, and Liechtenstein

11 <https://carbonaccountingfinancials.com/newsitem/pcaf-and-vfu-partner-to-build-capacities-on-measuring-financed-emissions-of-financial-institutions-in-germany-austria-and-switzerland-dach-region#newsitemtext>

12 <https://carbonaccountingfinancials.com/newsitem/pcaf-and-kosif-join-forces-on-strengthening-financed-emissions-measurement-of-korean-financial-institutions#newsitemtext>

## 4. Best Practices and Key Challenges

**PCAF activities: the majority of PCAF NL members disclosed financed emissions over the past year and the diverse set of financial institutions actively contributes to various working groups**

PCAF NL members have used the PCAF methodology for publication of their financed emissions in their GHG accounting reports and/or in their annual reports. The majority of the PCAF NL members have disclosed their emissions during the past year. Some have increased the scope of their disclosure to cover new asset classes, others have disclosed their financed emissions for the first time, and recent members are still working on their reporting. Besides, PCAF NL consists of multiple working groups that focus on specific asset classes (e.g. mortgages) as well as on specific topics (e.g. science-based targets), which are staffed by different types of financial institutions of differing sizes. These working groups translate global discussions to local considerations to account for differences in data, terminology, and financial products and provide input to global discussions on various topics such as sovereign bonds.

**Best practices: harmonised and transparent measurement and disclosure of financed emissions helps financial institutions to fulfil their commitment to the Dutch Climate Accord, serves as a first step in achieving net-zero emissions by 2050, and the measurement and disclosure are used for risk assessment, stakeholder engagement, steering and new product development**

In the Dutch Climate Commitment of the Financial Sector, Dutch financial institutions committed to report on their climate impact. The methodology developed by PCAF supports them in adhering to this commitment. Internally, measuring financed emissions helps them to understand the financed emissions across the portfolio and understand physical risks and transition risks. They have also been using the measured financed emissions to set internal targets, such as targets for specific departments, and external targets for their business, such as science-based targets. Externally, the methodology provides a basis for steering and stakeholder engagement. The transparent and harmonised methodology ensures that clients can evaluate the portfolios of financial institutes fairly, and fosters client engagement by discussing how customers can reduce emissions and by collectively increasing data quality. For some PCAF NL members, this resulted in developing new products to fulfil for example the need of some customers to obtain customised investment products based on emission profiles.

PCAF NL members also value the use of various collaborative climate initiatives for different purposes. PCAF helps financial institutions in measuring and disclosing financed emissions. Other frameworks provide valuable contributions to different parts of the GHG accounting journey, such as target setting, strategy development, and scenario analysis, and can work together to be able to achieve net-zero emissions latest by 2050. Figure 1 shows an overview of some of these frameworks.

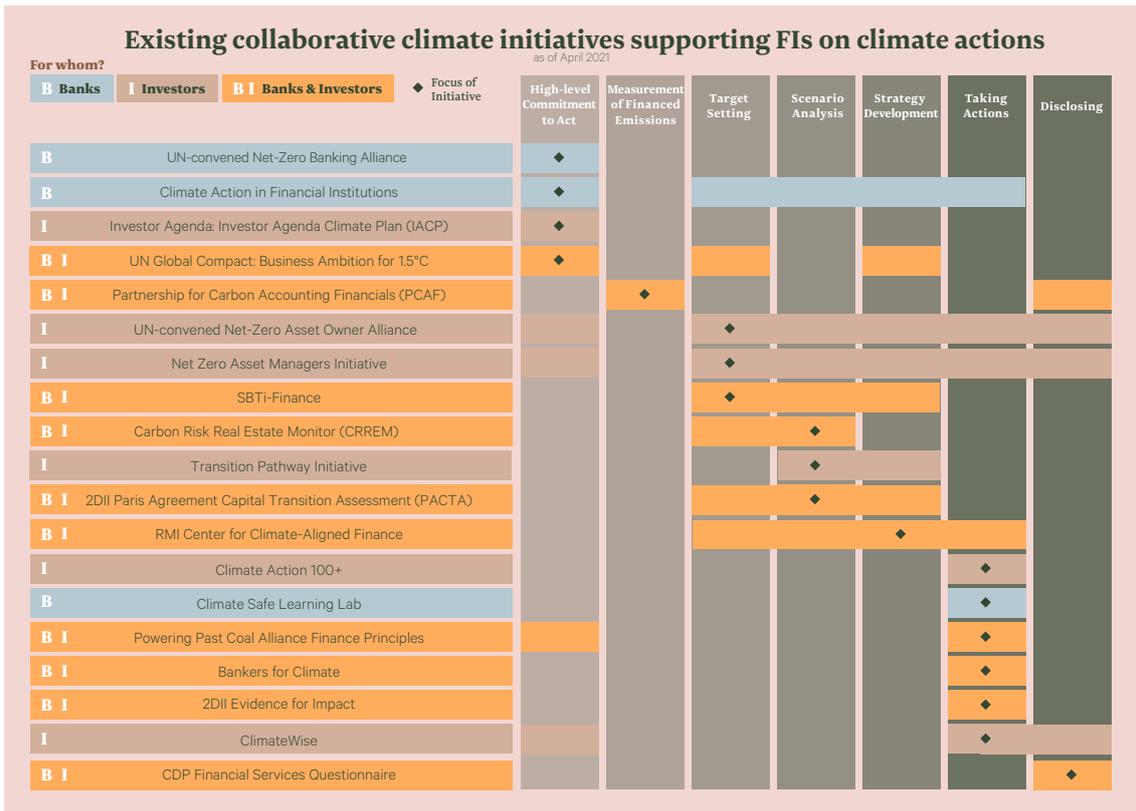


Figure 1. Cluster of climate initiatives<sup>13</sup>

**Key challenges: PCAF NL members consider unclarity on measuring Scope 3 emissions, alignment of reported and actual emissions, and lack of availability of energy usage data on individual property level to be key challenges in their GHG accounting journey**

PCAF NL members experience various challenges in measuring and disclosing their financed emissions. Particularly, measuring financed Scope 3 emissions causes some unclarity, provides data availability challenges, and can be prone to double counting. Hence, financial institutions find it difficult to report this. PCAF NL members aim to ensure that reported emission reduction and actual emission reduction are as closely aligned as possible. Divesting from certain activities will not result in a reduction in actual emissions, although a reduction in financed emissions can be noticed. Hence, financial institutions are working actively with their clients and portfolio holdings to ensure that emissions are reduced. For companies with a stable portfolio, tracking emissions over time of specific clients contribute to this, and for companies with a more volatile portfolio, active discussions with clients are set up to ensure that reported emission reduction and actual emission reduction get as closely aligned as possible.

Furthermore, PCAF NL members find it challenging to obtain granular and recent data. As the PCAF NL members aim to increase the average level of data quality in their disclosures, they are looking for specific data (national, sub-national, or even more granular) to be able to assess their financed emissions. For specific sectors, such as real estate and mortgages, PCAF NL members indicate this need is high as recent and granular data such as energy use data per property is currently generally not accessible by the financial institutions. Besides impacting measurement, lower quality

<sup>13</sup> PCAF, Strategic Framework for Paris Alignment, <https://carbonaccountingfinancials.com/files/2021-04/2106-strategic-framework-12.pdf?29be10e5a6>

measurement of financed emissions impacts monitoring of financed emissions and ultimately the ability to steer on financed emissions. The collaborating parties under the Climate Commitment for the Financial Sector – Dutch Fund and Asset Management Association, Nederlandse Vereniging van Banken, Pensioenfederatie and Verbond van Verzekeraars - have asked the Dutch government in May 2021 in a letter to ‘informateur’ Mariëtte Hamer to help provide access to energy usage data.<sup>14</sup> The PCAF NL members request the Dutch government to support them in their commitment to the Dutch Climate Accord, by enabling them to get access to this data.

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<sup>14</sup> An ‘informateur’ is person that investigates the possibilities for formation of a cabinet, commissioned by the House of Representatives (‘Tweede Kamer’)

## 5. Detailed Overview of PCAF NL Members

This chapter provides an overview of the PCAF activities some of the PCAF NL members conducted, the benefits and challenges they experienced in measuring and disclosing their financed emissions, and examples of measurement and disclosure.

The following PCAF NL members contributed to this chapter:

- ABN AMRO
- Achmea
- BNG Bank
- Cardano
- NIBC Holding N.V.
- NN Group
- Nederlandse Waterschapsbank N.V.
- Rabobank
- Robeco
- Van Lanschot Kempen
- De Volksbank

### Total assets in portfolio in financial year 2020

Asset class	Amount outstanding (EUR) <sup>15</sup>	Emissions financed (tCO <sub>2</sub> e)	Included in PCAF methodology (%)
Listed equity & corporate bonds <sup>16</sup>	70,287,000,000	6,633,046	100% <sup>17</sup>
Business loans & unlisted equity <sup>18</sup>	93,028,000,000	22,042,000	100% <sup>19</sup>
Project finance			
Commercial real estate	7,207,000,000	333,000	100%
Mortgages	163,586,000,000	3,353,000	100%
Motor vehicle loans			
Other			
Total	334,108,000,000	32,361,046	

### PCAF activities conducted in financial year 2020

In financial year 2020, ABN AMRO continued to participate in the PCAF working groups of Real Estate (Mortgages & Commercial Real Estate) and Science-Based Targets. As part of calculating their science-based target setting for their real estate portfolio, ABN AMRO used their PCAF calculations to determine the carbon intensity for the buildings in their portfolio.

### Benefits of measuring and disclosing financed emissions

To be able to steer towards a low-carbon portfolio, financed emissions need to be measured. Measuring financed emissions provides insight into the carbon footprint of ABN AMRO's portfolio and can help in setting science-based targets. For their commercial real estate portfolio for example, ABN AMRO introduced the Sustainable Investment Tool. This tool gives insight into the energy label of real estate and describes the measures owners and investors can take to improve it, including a calculation of the investment involved, the payback period, and potential CO<sub>2</sub> reduction.

### Challenges of measuring and disclosing financed emissions

A key challenge ABN AMRO experienced is obtaining accurate GHG emissions from the organisations in their lending and real estate portfolios. ABN AMRO is largely dependent on data from external parties and organisations in their loan book to report on their GHG emissions. When data is unavailable, ABN AMRO uses estimates. For instance, in real estate, ABN AMRO is currently unable to obtain actual energy usage from the real estate objects in their portfolio due to regulations. ABN AMRO is engaging with governments and inviting them to participate in helping the financial sector to obtain this data. They aim to improve their data quality score for all asset classes measured once more granular data on the GHG emissions of their clients will be available.

<sup>15</sup> This comprises the scope for which the emissions were calculated. For total outstanding amounts, please refer to ABN AMRO's Annual Report 2020

<sup>16</sup> Including equities & corporate bonds

<sup>17</sup> Direct and indirect exposure to stocks and corporate bonds, excluding cash

<sup>18</sup> Excluding central governments and central banks, institutions, and private individuals

<sup>19</sup> 100% of relevant corporate loans. Excluding central governments and central banks, institutions, and private individuals

**Example: lending portfolio<sup>20</sup>**

	GHG Emissions (kton)				GHG Emissions (kton)		
	2020	2019	Delta		2020	2019	Delta
Agriculture (A)	4,799	3,969	830	Scientific and technical activities (M)	9	6	2
Minerals (B)	6,168	8,235	(2,066)	Administrative services (N)	76	96	(20)
Industry (C) <sup>1</sup>	1,957	1,842	114	Regional administration (O)	0	2	(2)
Utilities (D)	2,685	1,544	1,141	Education (P)	13	14	(1)
Water distribution (E)	247	310	(63)	Healthcare (Q)	154	141	13
Construction (F)	49	37	13	Recreation (R)	12	14	(2)
Retail (G)	528	796	(268)	Other Services (S)	8	9	(1)
Transport (H)	2,486	2,668	(182)	Activities of households as employers (T)	-	-	-
Leisure (I)	44	36	8	Extraterritorial organisations (U)	-	-	-
Information and communication (J)	24	47	(23)	No Sector	2,362	3,491	(1,129)
Financial Services (K) <sup>1</sup>	414	449	(36)	<b>Total kton CO<sub>2</sub></b>	<b>22,043</b>	<b>23,713</b>	
Real estate (L) <sup>1</sup>	9	8	1				

<sup>1</sup> Excluding CB CRE.

For their lending portfolio, ABN AMRO calculated the GHG emissions of their business loans & unlisted equity using data on GHG emissions from their clients obtained from a third party (ISS), (local) sector averages from Central Bureau of Statistics and the PCAF Database. Most of the measurements are currently derived from sector averages due to the lack of available data on clients’ published GHG emissions data.

**Example: mortgage portfolio<sup>21</sup>**

**CO<sub>2</sub> emissions: Retail Banking mortgages**

Energy label	A+++	A++	A+	A	B	C	D	E	F	G	No label <sup>1</sup>	Total
a. Percentage in portfolio				17%	16%	29%	9%	8%	10%	10%	1%	100%
b. Number of objects				129,028	123,726	217,192	68,002	59,501	73,130	78,376	10,792	759,747
<b>Total CO<sub>2</sub> emissions in kton</b>				<b>435</b>	<b>526</b>	<b>969</b>	<b>320</b>	<b>287</b>	<b>352</b>	<b>408</b>	<b>56</b>	<b>3,353</b>

<sup>1</sup> The emissions for other (non-labels) has changed due to the use of PCAF parameters in 2020 as opposed to the self-calculated average that we have been using last years.  
 ABN AMRO average energy label C in its portfolio.  
 These calculations deviate from the PCAF loan-to-value approach. Instead, a 100% attribution factor is applied.

To calculate the GHG emissions of ABN AMRO’s mortgages portfolio, an average energy use per property energy label was used based on data from the Dutch Central Bureau of Statistics. Actual energy usage for the objects in their portfolio is currently unavailable, but a pilot program with the Dutch Central Bureau of Statistics in 2019 based on actual energy usage has proven that ABN AMRO’s calculation is a good estimate. By stimulating their clients to invest in energy saving measures, ABN AMRO aim to achieve an average energy label A for its retail banking mortgages by 2030 and as a result lower the GHG emissions of their real estate portfolio.

20 ABN AMRO, Non-financial Data & Engagement Report 2020, <https://abnamro.com/nfdereport2020>

21 ABN AMRO, Non-financial Data & Engagement Report 2020, <https://abnamro.com/nfdereport2020>

**Total assets in portfolio in financial year 2020**

Asset class	Amount outstanding (EUR)	Emissions financed (tCO <sub>2</sub> e)	Included in PCAF methodology (%)
Listed equity & corporate bonds	15,247,365,149	95,697	0% <sup>22</sup>
Business loans & unlisted equity			
Project finance			
Commercial real estate	392,816,265	7,710	54%
Mortgages <sup>23</sup>	19,370,762,769	356,985	99%/90%
Motor vehicle loans			
Government bonds	13,291,758,715	29.774	100%
Other	8,404,282,720		n.a.
Total	56,706,985,619		

**PCAF activities conducted in financial year 2020**

As a supporter of active ownership, Achmea regards measuring their financed emissions to be an essential part of their strategy against climate change. Achmea applied the PCAF methodology in listed equity, credits, mortgages, and commercial real estate portfolios. In addition, Achmea contributed to the Corporate Bonds, Green Bonds, Mortgages, and Sovereign Bonds working groups of PCAF to further develop and promote the use of the accounting methodology. In financial year 2020, for the first time, investments in commercial real estate were made part of the calculation and were reported accordingly.

**Benefits of measuring and disclosing financed emissions**

Achmea aims for a GHG footprint reduction of 50% in 2030 compared to 2015, which can only be achieved if financed emissions are measured in a structured manner. Measuring the GHG footprint does not only provide useful insights on emissions and intensity at the portfolio level, but also helps in determining individual holdings that are leaders and laggards in this respect. Given the increasing availability of data and analysis, results can be quickly translated into objectives for e.g. active ownership strategies, such as voting and engagement. Similarly, institutional clients looking for customised investment products and related analytical services can be supported, for example in accomplishing their own climate objectives. The internal debate about the pros and cons of GHG emissions reduction has been much helped by the insights gained from footprint data, which has already improved the quality of products and services that are offered to clients and, ultimately, of investment decisions that were taken.

**Challenges of measuring and disclosing financed emissions**

Achmea works with professional Environmental, Social and Corporate Governance (ESG) research parties, who are also providing GHG emissions data for accounting purposes. While the largest and most generally used equity and bond indices are well covered by reported data, Achmea sees a

22 0% is included as Achmea used market capitalisation to calculate the ownership of a security, while PCAF advises to use EVIC. EVIC is not used as Achmea does not have this information. A weighted average of the 2 categories is not possible to calculate, as Achmea only has the intensity numbers for Credits

23 The mortgage portfolio comprises of EUR 10,800,000,000 and 184,800 tCO<sub>2</sub>e financed for Achmea Bank. The remainder is for Achmea Investment Management. 90% of Achmea Bank's mortgage portfolio is included in the PCAF portfolio, while 99% of Achmea Investment Management is included

more problematic lack of reported emissions data available from issuers of credits and high yield bonds. Where missing data is being modelled by the research provider, important differences in outcomes occur, which troubles the picture for investors. Companies should take emissions reporting into consideration, but potentially governments and regulators could provide more guidance to companies to improve the availability as well as the quality of reported emissions data. Concerning the mortgage asset class Achmea would prefer to measure and disclose financed emissions based on actual energy usage data of the household. Due to privacy restraints this data is not publicly available for individual households. Furthermore, the Global PCAF GHG accounting methodology recommends applying the Loan-to-Value (LTV) in attribution, where the denominator is the property value at origination. The property value at origination is not always available, especially for older mortgages. Achmea therefore prefers to use the current property value as the denominator. Using current market value is also more in line with other asset classes. In general, Achmea would benefit from more uniformity (if possible) of the measurement methods across asset classes so that the outcomes are better comparable.

**Example: CO<sub>2</sub> emissions of Achmea's investment portfolio<sup>24</sup>**

**SUPPLEMENT E. OTHER SUSTAINABILITY INFORMATION CONTINUED**

		CO <sub>2</sub> -emissions (kton CO <sub>2</sub> /billion euro invested capital)	
Achmea mortgages <sup>1</sup> :			
Based on carbon footprint of 100% of the collateral <sup>2</sup>			
- portion of Own risk investments		22.1	22.0
- portion of Banking credit portfolio		27.7	25.1
Based on carbon footprint of the loan as portion of total collateral value (attribution factor) <sup>3</sup>			
- portion of Own risk investments		13.8	n/a
- portion of Banking credit portfolio		17.0	n/a

	CO <sub>2</sub> -emissions (kton CO <sub>2</sub> /million euro invested capital)		CO <sub>2</sub> -intensity (kton CO <sub>2</sub> /million USD sales)	
	2020	2019	2020	2019
Achmea EQ DM <sup>4</sup>	68.8	83.1	93.3	118.6
MSCI World	84.7	104.5	139.3	168.3
<b>Difference</b>	<b>-18.8%</b>	<b>-20.4%</b>	<b>-33.0%</b>	<b>-29.5%</b>

	2020	2019	2020	2019
Achmea Credits			93.5	84.0
Benchmark			139.6	138.1
<b>Difference</b>			<b>-33.0%</b>	<b>-39.2%</b>

	2020	2019
Achmea government bonds	2.3	2.3
Benchmark	2.5	2.5
<b>Difference</b>	<b>-7.1%</b>	<b>-7.1%</b>

	2020	2019
Achmea Investment property <sup>4</sup>	19.6	n/a

Investments backing linked liabilities:		2020	2019
- Equities		110.8	n/a
- Corporate bonds		120.8	n/a

<sup>1</sup> The PCAF system for measuring the carbon footprint of mortgages was altered at the end of 2020. Up to and including 2019, the carbon footprint of the entire building was used in the calculations. From 2020, the mortgage as a portion of the total collateral value (attribution factor) is used. For the purpose of comparison, we give the carbon footprint according to both the old and the new PCAF methodologies. No comparative figures are given for the new method. Calculation of the attribution factor is based on the last known real value of the collateral.

<sup>2</sup> Expressed versus the nominal value.

<sup>3</sup> In 2020 the CO<sub>2</sub> intensity of the Global Quality Value Equities portfolio was 74.0 (2019: 81.5 t CO<sub>2</sub>/MILLION USD sales) and 98.1 for the Global Enhanced Equities portfolio (2019: 137.0 t CO<sub>2</sub>/MILLION USD sales. Both portfolios are part of the Achmea EQ DM.

<sup>4</sup> The number of kg of CO<sub>2</sub> per m<sup>2</sup> of the real estate investments is 42.3 n/a = not available

**OVERVIEW SOURCE AND SCOPE OF CO<sub>2</sub> DATA FOR EACH INVESTMENT CATEGORY**

	Investments own risk												Investments backing linked liabilities			
	2020		2019		2020		2019		2020		2019		2020		2019	
	Equities (Achmea EQ DM)	Corporate bonds <sup>1</sup> (Achmea credits)	Government bonds (Achmea government bonds)	Mortgages (investments insurance operations)	Banking credit portfolio	Investment property <sup>2</sup>	Equities	Corporate bonds <sup>3</sup>								
% investments for which the carbon footprint is being measured (measured against the book value of the investment)	71%	73%	66%	65%	85%	83%	99%	95%	90%	89%	54%	n/a	73%	n/a	14%	n/a
Source of data on the basis of which CO <sub>2</sub> is being measured <sup>4</sup> :																
% based on reported CO <sub>2</sub> data (by companies, governments, etc.)	79%	84%	81%	77%	100%	99%							81%	n/a	65%	n/a
% modelled <sup>5</sup>	19%	16%	9%	10%	0%	1%	100%	100%	100%	100%	100%	n/a	18%	n/a	14%	n/a

<sup>1</sup> These are the corporate bonds in developed markets of the Dutch insurers, whereby the investments are held according to the investment strategy "credit quality investment grade or higher".

<sup>2</sup> For investment property based on the surface area of the properties.

<sup>3</sup> The carbon footprint of equities, corporate bonds, government bonds and investment property is based on CO<sub>2</sub> data for 2019.

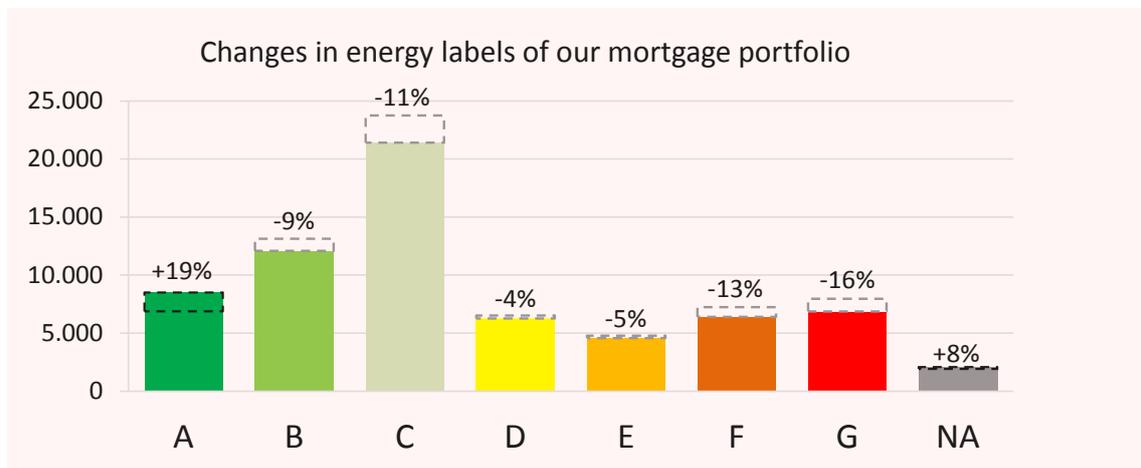
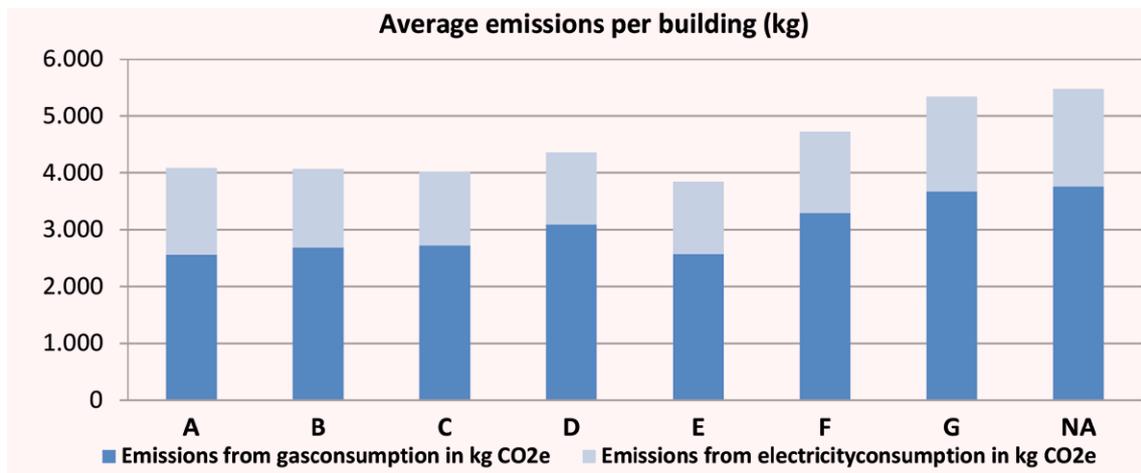
<sup>4</sup> For mortgages and investment property 100% is modelled as CO<sub>2</sub> emissions are not directly reported. These are determined on the basis of the energy consumption as obtained by network operators (investment property and part mortgages), approximated by energy labels (mortgages) or determined on the basis of the average energy consumption based on national averages (mortgages).

In 2017, Achmea started measuring and reporting the GHG footprint of their equity investments in developed markets for their own account. In 2018, corporate credits were added and a year later GHG



footprints for government bonds and mortgages were reported. In 2020, investments in commercial real estate was added to the footprinted categories. Achmea’s next step will be to reduce their GHG footprint gradually over time. Achmea Investment Management will be steering towards reduced emissions in the equity and corporate bonds portfolios while at the same time retain their current risk-return properties. At present, GHG emissions constraints have been implemented for 19% of all assets. The calculations are based on both PCAF guidance and TCFD recommendations. The footprints for the equity and corporate credits portfolios include Scope 1 and 2. Scope 3 emissions are left out since no consistent reporting of these figures is available yet. Scope 1 and 2 emissions are attributed to the portfolio footprint based on ownership by Achmea.

**Example: CO<sub>2</sub> emissions of Achmea Bank’s mortgage portfolio<sup>25</sup>**



<sup>25</sup> Achmea Bank, GHG Emissions Report, <https://www.achmeabank.nl/investeerdere/ghg-reports>

Year	Total outstanding loans (bn. EUR - nominal value)	Attribution Factor	Financed emissions (kt. CO2e)	Carbon intensity (kt. CO2e/bn. EUR)
2019	€ 11.3	0.63 	196.1 	17.3 
2020	€ 10.8	0.61	184.8	17.0

In the Netherlands, energy grid operators publish average energy usage data per postal code. By matching this data with postal codes of their mortgages, Achmea Bank can estimate the average gas and electricity consumption per building based on the location. Using this method, Achmea Bank was able to match 97% of all available postal codes within their portfolio. Using the average energy consumption per postal code even allows carbon footprint calculation for buildings where energy labels are not available. Carbon emissions from 2019 were recalculated based on new changes in methodology, including energy usage based on postal code and the new attribution factor.

### Total assets in portfolio in financial year 2020

Asset class	Amount outstanding (EUR)	Emissions financed (tCO <sub>2</sub> e)	Included in PCAF methodology (%)
Listed equity & corporate bonds			
Business loans & unlisted equity			
Project finance			
Commercial real estate	40,350,000,000	997,565	99%
Mortgages			
Motor vehicle loans			
Public Loans	37,971,000,000	2,007,873	92%
Other	5,863,000,000		
Total	84,184,000,000	3,005,368	89%

### PCAF activities conducted in financial year 2020

BNG Bank measured their CO<sub>2</sub> equivalent footprint for the second time and published it in their Annual Report and on their website. Much attention was paid to research to improve data quality. A feasibility study was performed regarding the possibilities for data improvement, by using microdata of the Dutch National Statistics Office (CBS). The study showed that the scopes of the data must be considered yet too limited as a basis for calculations. Besides, an approach to map the climate footprint of drinking water utilities was developed. The method of calculating Scope 3 emissions of municipalities has been refined and will be refined further. Lastly, a methodology report of all client sectors in the PCAF 2020 report was made. This report provides deeper insights into the methodology behind the calculation of the emission of CO<sub>2</sub> equivalents.

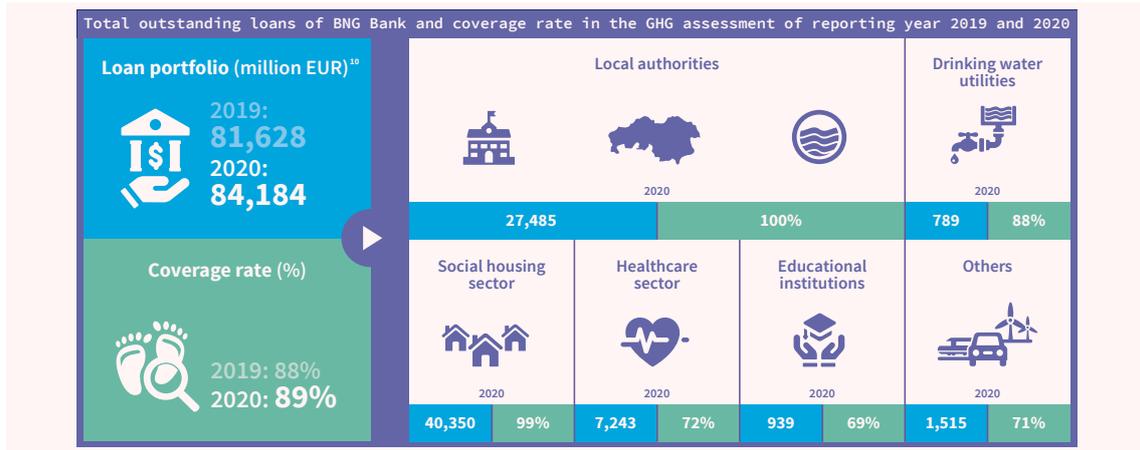
### Benefits of measuring and disclosing financed emissions

As signatory to the commitment of the financial sector to contribute to the execution of the Paris Agreement and the Dutch Climate Agreement, BNG Bank aims to give insight into the emissions and emission intensity of their credit portfolio. PCAF offers a harmonised and transparent methodology for this purpose. BNG Bank publishes the results in their Annual Report and on their website. The data will be helpful for defining reduction targets for their customer groups and will provide input for engagement with their customers to achieve these targets, in line with the Climate Agreement. Contribution to quality improvements of the PCAF methodology and extending the scope of the public loans methodology will result in a positive impact on society and the climate issue and create (new) knowledge and methodologies on which others in the financial sector can build.

### Challenges of measuring and disclosing financed emissions

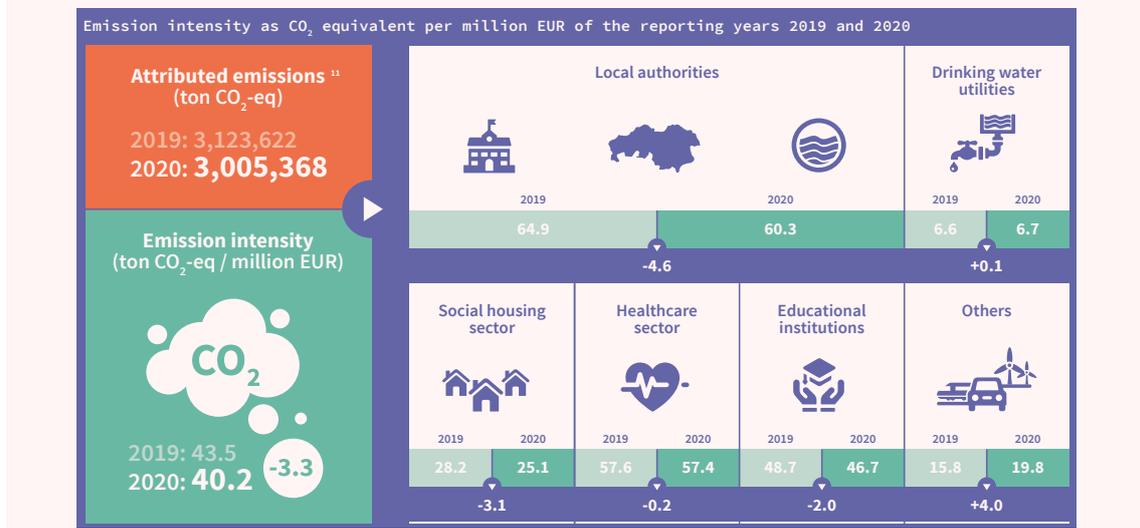
The available data are not always as recent or detailed as desirable. Better access to available individual recent microdata would improve the data quality. A project that may contribute in a somewhat longer term to the desired quality improvement is the VIVET project. The VIVET project, a collaboration between Dutch National Statistics Office (CBS), the Ministry of Infrastructure and Water Management (Rijkswaterstaat), the Netherlands Enterprise Agency (RvO), the Netherlands Environmental Assessment Agency (PBL), and Kadaster has as main goal to improve the current information and data supply for the energy transition. A multi-annual program for this project has started.

**Example: portfolio<sup>26</sup>**



Currently, it is practically impossible for banks to cover the whole loan portfolio with GHG emissions for all activities, due to a lack of sufficient data. For BNG Bank it has been possible to cover 89% of their loan portfolio in this GHG emission reporting, because of their unique position in the market as they specialise in providing financing for publicly owned organisations. The coverage rate of the reporting year 2020 increased with 1% in comparison to the reporting year 2019, due to a higher coverage rate of mobility projects. The coverage rate can be improved further by including individual clients, where the bank has a substantial exposure.

**Example: emission intensity<sup>26</sup>**



BNG Bank's loan portfolio of the reporting year 2020 has a total emission of 3,005 kiloton CO<sub>2</sub>-equivalent. This is 118 kilotons less than the total emissions of the reporting year 2019, while the total loan portfolio has grown from 82 to 84 billion euro. The emission intensity (tCO<sub>2</sub>e/million EUR) has decreased from 43.5 to 40.2 ton per million euro. The local authorities and housing associations contributed to this decrease. This reflects the measures that have been taken in reduction of the energy consumption by local authorities and in improving the quality of the properties of the housing associations.

<sup>26</sup> Het Pon/TELOS, PCAF report 2020 BNG Bank, <https://www.bngbank.nl/-/media/Project/CBB/BNG-Bank-NL/Documents/Over-BNG-Bank/BNG-Bank---PCAF-rapport-2020-NL.pdf>

**Total assets in portfolio in financial year 2020**

Asset class	Amount outstanding (EUR)	Emissions financed (tCO <sub>2</sub> e)	Included in PCAF methodology (%)
Listed equity & corporate bonds	4,161,792,000	t.b.d.	t.b.d.
Business loans & unlisted equity			
Project finance			
Commercial real estate			
Mortgages			
Motor vehicle loans			
Other	34,635,012,000	t.b.d.	t.b.d. <sup>28</sup>
<b>Total</b>	<b>38,796,804,000</b>		

**PCAF activities conducted in financial year 2020**

Cardano has undertaken work on setting GHG emissions metrics, climate change scenario analysis (across 1.5-, 2- and 3-degree scenarios), and setting targets for GHG emissions reductions in our client portfolios (including net-zero carbon emissions by 2050). Cardano is supportive of this and is in the process of adopting the PCAF approach for listed equities and credit, real estate and private debt and equity. Cardano also contributed to the Dutch Sovereign Bonds working group. The group favours weighted average emissions per capita. Cardano also believes that weighted average emissions per GDP has merit, but they will prioritise per capita. Cardano does not believe percentage ownership of issued debt is a sensible measure, as debt levels vary dramatically between countries, whereas a ton of carbon dioxide (or other greenhouse gases) affects everyone on the globe, regardless of their origin. As such, the group advocates for ‘fair share’ GHG budgets. Cardano believes that the fairest and most effective way to measure the GHG footprint of sovereigns is to normalise by population. This will be illustrated an example below.

**Benefits of measuring and disclosing financed emissions**

Cardano considers two main reasons for measuring and disclosing financed emissions: to understand the financial risks and opportunities of climate change and to pursue Cardano’s real world impact goal of investing consistent with the Paris Agreement.

1. Financial risks and risk reward includes:
  - Transition risk: financial risks to a company by transitioning their economic activities to be consistent with the Paris Agreement
  - Physical risk: financial risks to a company of increased weather events that result from a changing climate (e.g. sea level rise, drought, wildfires, and flooding)
  - Environmental opportunities: financial opportunities of climate change (e.g. new technologies)
2. Real world impact considers how investment allocations contribute to, or hinder, Cardano’s climate change goal, which is to invest in line with limiting global warming to 1.5 degrees Celsius and hence to be consistent with the Paris Agreement.

<sup>28</sup> Approximately 44% of these assets are invested in government and government related bonds. The PCAF method is currently under revision, so depending on the outcome, will use the PCAF standards. The other 64% are mainly OTC-derivatives, Hedge Funds, and cash. Cardano’s approach to metrics is informed by the UK Department for Work and Pensions (DWP) TCFD regulatory requirements, the recommendations of the IIGCC Paris Aligned Investment Initiative, and PCAF. Cardano’s current understanding is that this fully aligns across asset classes. If at any point there is divergence, their primary reference point would be the TCFD regulatory requirements.

### Challenges of measuring and disclosing financed emissions

Cardano identified three challenges in measuring and disclosing financed emissions:

1. Scope 3 emissions: companies should disclose their Scope 3 emissions, although they note data challenges in doing so. Scope 3 emissions help Cardano understand a company’s sensitivity to climate risks and opportunities, and their ability to transition. They believe that Scope 3 emissions help understand relative performance within industries. As such, for investor reporting, they see benefits to disclosing Scope 3 emissions at industry or sector level. When measuring at portfolio level, the emissions of investee companies are aggregated, Scope 1 and 2 emissions are disclosed (to avoid double counting).
2. Double counting across multi-asset portfolios: in addition, there can be double counting across multi-asset portfolios, in particular where the portfolio includes both sovereigns and companies and the same GHG emissions are reported twice – by company and by the country in which the company operates. Double counting is less significant for target setting if double counting is consistent over time. Cardano discloses by asset class: they will separate the emissions associated with their corporate portfolio (equity and debt) with that of their sovereign portfolio.
3. Use of proxies/assumptions: the UK DWP regulation is clear that UK trustees must make reasonable efforts to obtain what data they can. However, data issues remain, particularly in hard-to-reach asset classes such as private equity, hedge funds and infrastructure, and particularly outside Europe and the US. Cardano see benefits in using metrics that allow for reasonable assumptions until more accurate data is present.

#### Example: sovereign GHG footprint<sup>29</sup>

Country	CO <sub>2</sub> (mt)	Population (million)	Outstanding Debt (tr USD)	GDP (tr USD)	CO <sub>2</sub> (mt) per debt (tr USD)	CO <sub>2</sub> (mt) per GDP (tr USD)	CO <sub>2</sub> (mt) per Population (mln)
US	4,981	327	22.0	20.6	227	242	15.2
China	10,313	1,393	7.5	13.9	1,379	742	7.4

By comparing US and China, vastly different results can be seen depending on ‘denominator’ – issued debt, GDP or per capita. Cardano’s preferred approach is per capita, as it considers this the fairest measure.

<sup>29</sup> 2018 data from <https://data.worldbank.org/about/get-started> and <https://www.imf.org/en/Countries/>

**Example: Sovereign LDI portfolio<sup>30</sup>**

	Market value (mln)	GHG emissions (tCO <sub>2</sub> e/capita)	Weighted average (tCO <sub>2</sub> e/capita)
Austria	55	10.11	1.01
Belgium	55	11.65	1.17
Finland	44	13.36	1.07
France	115	6.59	1.38
Germany	148	10.16	2.74
the Netherlands	131	11.27	2.70
Cash	497		
Interest rate swaps	271		
<b>Total</b>	<b>1,316</b>		<b>10.1</b>

In this example, Cardano takes a typical client portfolio of 1.3bln EUR invested in sovereign debt across Austria, Belgium, Finland, France, Germany and the Netherlands, cash, and interest rate swaps. The weighted average emissions are 10.1 tons per capita. Cardano compares the weighted average with other portfolios. Cardano favours an engagement approach (where governments are encouraged to take steps to decarbonise).

<sup>30</sup> This is an internal source developed by Cardano



### Total assets in portfolio in financial year 2020

Asset class	Amount outstanding (EUR)	Emissions financed (tCO <sub>2</sub> e)	Included in PCAF methodology (%)
Listed equity & corporate bonds			
Business loans & unlisted equity	5,745,598,186	612,351	100%
Project finance			
Commercial real estate	1,096,000,000		
Mortgages	9,860,000,000	192,840	100%
Motor vehicle loans			100%
Other	3,075,000,000		
Total <sup>31</sup>	21,055,000,000	1,033,191	85%

### PCAF activities conducted in financial year 2020

NIBC applied the PCAF methodology during the financial year 2020 to their corporate business loans and mortgage portfolios. Buy-to-let mortgages are included in their mortgage totals. Project finance was not separately measured and is included in their business loan totals. In total, NIBC estimated financed emissions for 86% of their balance sheet exposures at year-end 2020. Following the precautionary principle from the GHG protocol, NIBC has added an extra factor to this for emissions that it has not yet been able to calculate. This was an additional 228,000 tCO<sub>2</sub>e for 2020<sup>32</sup>.

### Benefits of measuring and disclosing financed emissions

Sustainability is an integral part of NIBC's overall corporate strategy to create financial and non-financial value for NIBC stakeholders. NIBC measures, monitors, and discloses emissions to provide transparency to their stakeholders: their customers, investors, authorities, and regulators. Such data can help NIBC to optimise their financial products and services to contribute toward the Paris Agreement and reduce negative impacts of people on the planet. Methodologies and practices regarding the reporting of emissions are evolving, particularly as related to accounting of emissions in the portfolios of financial institutions. PCAF has been at the forefront of the effort to establish norms and methods for financed missions.

<sup>31</sup> The difference in total amount and the sum of the additional amounts regards the inclusion of a precautionary amount. More on this is explained in the paragraph on PCAF activities conducted in 2020

<sup>32</sup> According to many scientists and NGOs, underreporting of GHG emissions remains a prevalent and systemic problem. The precautionary principle was originally embedded in Principle 15 of the 1992 Rio Declaration, but has also been further adopted by the UNFCCC and other international standards. As applied to emissions estimates, the purpose is prudential - to avoid underestimating and therefore underreporting of GHG emissions. By adding this extra factor NIBC is applying a precautionary approach and aims to ensure that its total estimated financed emissions are therefore not underreported.

### **Challenges of measuring and disclosing financed emissions**

There are many challenges in measuring and disclosing emissions and the largest challenges in measuring and disclosing financed emissions lie ahead. National authorities and regulators can help financials to contribute to Paris emissions reduction targets more effectively by ensuring access to actual emissions data. This is a crucial and urgent next step which necessitates national authorities and international bodies take actions to ensure access for financial institutions. Agreement regarding the definition for Scope 3 emissions is also needed to improve the quality and consistency regarding this element of emissions reporting. Methodologies for estimating financed emissions and climate benchmarking are largely based on a set of asset classes and are quite difficult to apply outside of these asset classes.

### Total assets in portfolio in financial year 2020

Asset class	Amount outstanding (EUR)	Emissions financed (tCO <sub>2</sub> e)	Included in PCAF methodology (%) <sup>33</sup>
Listed equity & corporate bonds <sup>34</sup>	45,000,000,000	6,887,967	73%
Business loans & unlisted equity			
Project finance			
Commercial real estate <sup>35</sup>	7,000,000,000	43,823	92%
Mortgages	49,000,000,000	929,452 <sup>36</sup>	100%
Motor vehicle loans			
Other <sup>37</sup>	74,000,000,000	4,782,765	99%
Total	175,00,000,000	12,644,007	

### PCAF activities conducted in financial year 2020

NN has measured and published the GHG footprint associated with a large part of their proprietary assets since 2017. Over the past years, NN has taken various steps in their GHG footprint methodology to align with PCAF guidelines. NN decided to join PCAF in 2020 to have a more active role in their further work to harmonise global GHG accounting methodologies. NN has participated in multiple working groups. In the mortgage working group, NN contributed amongst others to the evaluation of PCAF Global recommendations in a local context. NN considered the exchange of experiences and best-practice sharing useful to further enhance their knowledge.

### Benefits of measuring and disclosing financed emissions

GHG accounting helps NN to understand GHG and climate change-related risks, identifying the high-carbon securities in their investment portfolio and it contributes to engagement with investee companies. Lastly, while GHG footprint metrics are backward looking and not sufficient to steer investment decisions regarding Paris Alignment objectives, it does provide a basis for science-based target setting and monitoring over time.

### Challenges of measuring and disclosing financed emissions

The main challenges NN experiences concern data quality and availability. One area where NN hopes to get more accurate and recent data is for their mortgage portfolio, which accounts for an important share of NN's total balance sheet assets. Over the past years, the Dutch financial institutions that are part of PCAF have been exploring ways to unlock real time data by engaging with governmental agencies. Tangible results will help the sector in their journey to contribute to the Dutch Climate Accord. Another challenge is that GHG footprint methodologies are still evolving which brings some disadvantage to early disclosers as year-on-year figures may not be comparable due to changing methods. For NN, their preference has often been to disclose rather than to

33 The % included in PCAF methodology is where we have available data to calculate the GHG footprint

34 This includes listed equity and corporate fixed income. The majority of corporate fixed income consists of corporate bonds; asset-backed securities are also included but at present data availability is the lowest for these categories.

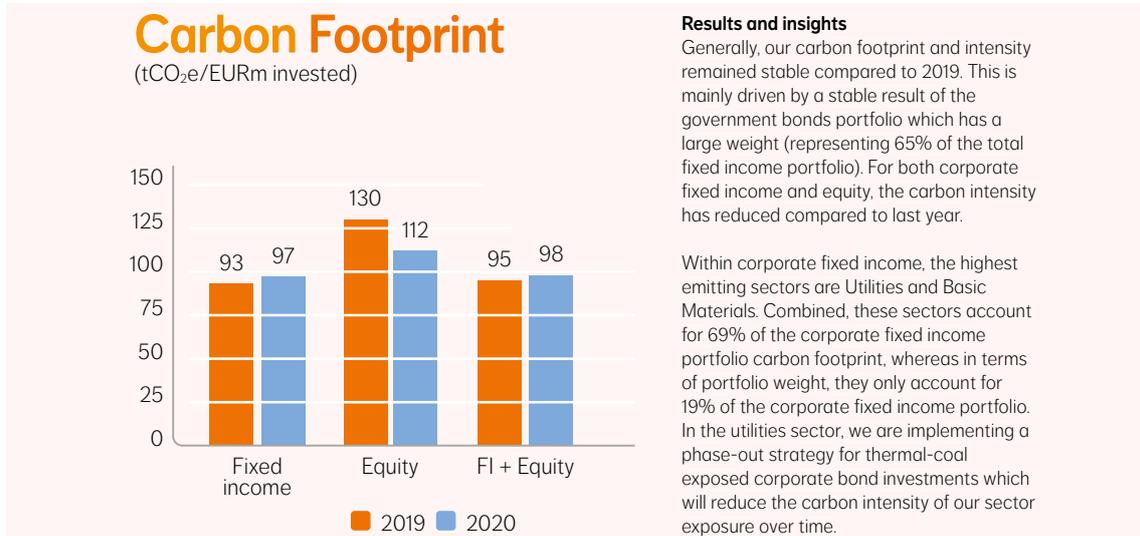
35 This is a portfolio of non-listed real estate investments spread over sectors and regions in Europe both directly and in funds.

36 Household annual emissions have been fully attributed to NN as mortgage provider (no LTV adjustment).

37 Other represents sovereign bonds where emissions are allocated to a sovereign bond by taking into account the emissions that are directly caused by the government's own activity, as well as the emissions from government financing in other sectors within a country (in line with PCAF Netherlands recommended methodology as described in their 2019 update report).

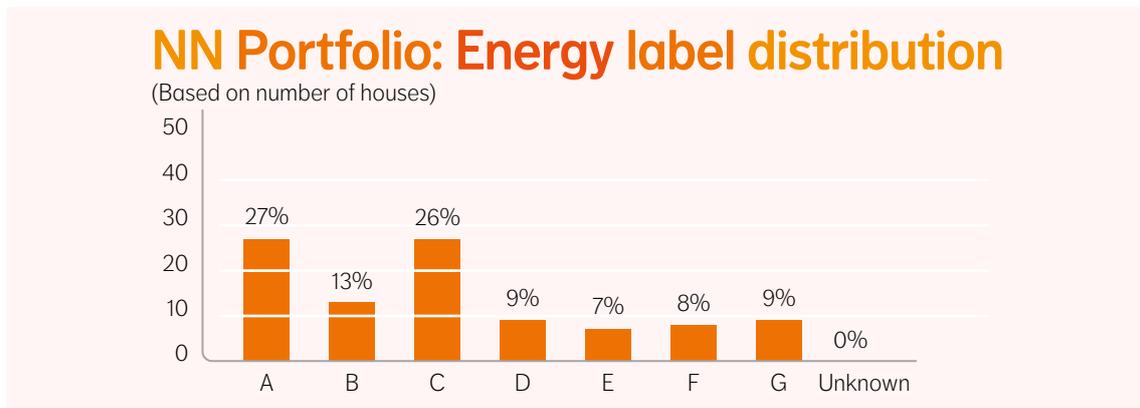
wait until methods are stable, because we believe that providing transparency helps shape best practices in the market.

**Example: carbon footprint<sup>38</sup>**



In analysing their carbon footprint, NN also looks at emissions performance of underlying companies for instance by analysing emissions of top 10 contributors over time. NN hopes to improve on such analysis in the future, as NN believes that aligning a portfolio to net-zero objectives should ultimately be about decarbonisation in the real economy.

**Example: energy label distribution<sup>38</sup>**



To derive the energy labels for their portfolio, NN matched their mortgage portfolio to addresses in the EP-Online database (managed by the Netherlands Enterprise Agency, RVO). The figure shows the energy label distribution of the NN’s mortgage portfolio. Compared to 2019, the share of label A in their portfolio increased to 27% from 25%, labels B or C remained unchanged, labels D, E, F and G taken together declined to 34% from 36%, and 0.1% remained unknown. NN calculated the emissions associated with their mortgage portfolio by multiplying the number of houses per energy label with the average theoretical CO<sub>2</sub> emissions per energy label.

<sup>38</sup> NN Group N.V., Analysis of carbon footprint of proprietary assets, 2020.  
<https://www.nn-group.com/nn-group/file?uuid=ca467c7d-f39c-4208-a399-f33c0368f821&owner=84c25534-c28a-4a64-9c78-5cc1388e4766&contentid=11403>

**Total assets in portfolio in financial year 2020**

Asset class	Amount outstanding (EUR)	Emissions financed (tCO <sub>2</sub> e)	Included in PCAF methodology (%)
Listed equity & corporate bonds			
Business loans & unlisted equity			
Project finance			
Commercial real estate	30,813,000,000	753,366	99.8%
Mortgages			
Motor vehicle loans			
Public loans	16,586,000,000	841,470	96%
Other	2,037,000,000		
Total	49,436,000,000	1,594,836	95.1%

Nederlandse Waterschapsbank (NWB) calculates their social housing loans (public loans) in accordance with the commercial real estate approach in the PCAF methodology.

**PCAF activities conducted in financial year 2020**

At the beginning of 2020, NWB published for the first time the CO<sub>2</sub>e footprint of their public loan portfolio according to the PCAF framework. NWB was able to cover over 95.1% of their outstanding loans with a carbon footprint. In the course of financial year 2020, NWB worked on further data quality improvements within the current method which resulted in a more accurate calculation. NWB, specialising in public sector financing, also developed a new approach to map the climate footprint of drinking water companies. Finally, NWB made an elaborated methodology description of other sectors included in the PCAF 2020 report to provide more insights into the methodology behind the emissions calculations, and to make the process of calculating the footprint per client more transparent.

**Benefits of measuring and disclosing financed emissions**

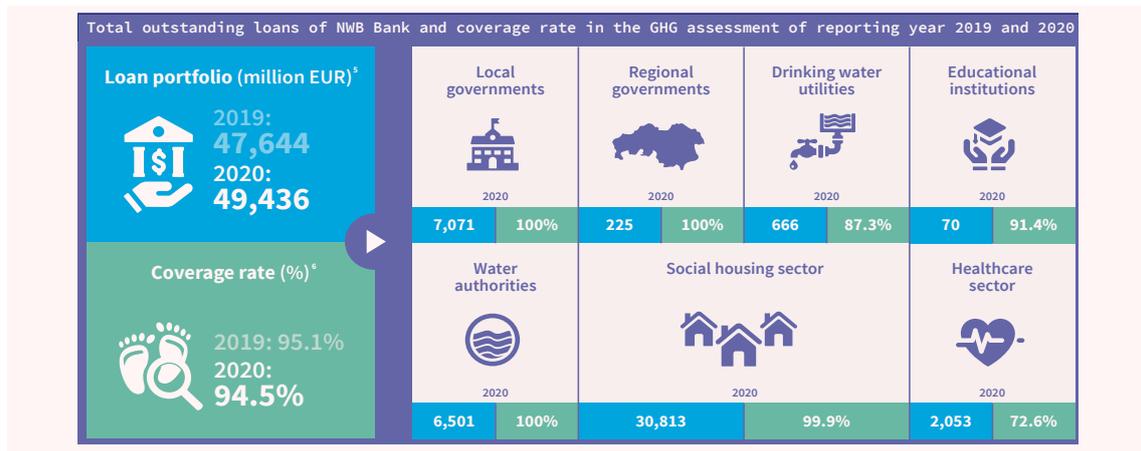
With the use of the PCAF methodology, NWB charts the climate impact of their lending. PCAF offers a framework and harmonised methodology that increases the transparency and awareness of carbon emissions and reporting. NWB aims to use PCAF not only as a transparency and accounting measure but also to identify and set targets for carbon footprint reduction and be able to take actions. This is an important step towards contributing to achieve the targets from the Paris Agreement. NWB also strives to further contribute to quality improvements of the PCAF methodology and extend the scope of the public loans' methodology. The company will do that by improving Scope 3 data for municipalities and by measuring the avoided GHG emissions of their lending to wind energy farms. In that way, NWB increases their positive impact on society and climate and creates (new) knowledge and methodologies on which others in the financial sector can build.

**Challenges of measuring and disclosing financed emissions**

NWB's challenges are related to their goals, as the company aims to extend the scope of the public loans methodology and improve the data quality. In 2020, NWB conducted a feasibility study regarding data improvement possibilities. NWB explored amongst other things the use of microdata for energy use instead of more abstract energy costs of client sector averages. These microdata

points are collected by the Dutch National Statistics Office (CBS). The VIVET project contributes to solving this challenge, as it aims to improve the current information and data supply for the energy transition and hence helps to make microdata on energy use more accessible. The VIVET project is a collaboration between CBS, Ministry of Infrastructure and Water Management (Rijkswaterstaat), Netherlands Enterprise Agency (RvO), Netherlands Environmental Assessment Agency (PBL), and Kadaster.

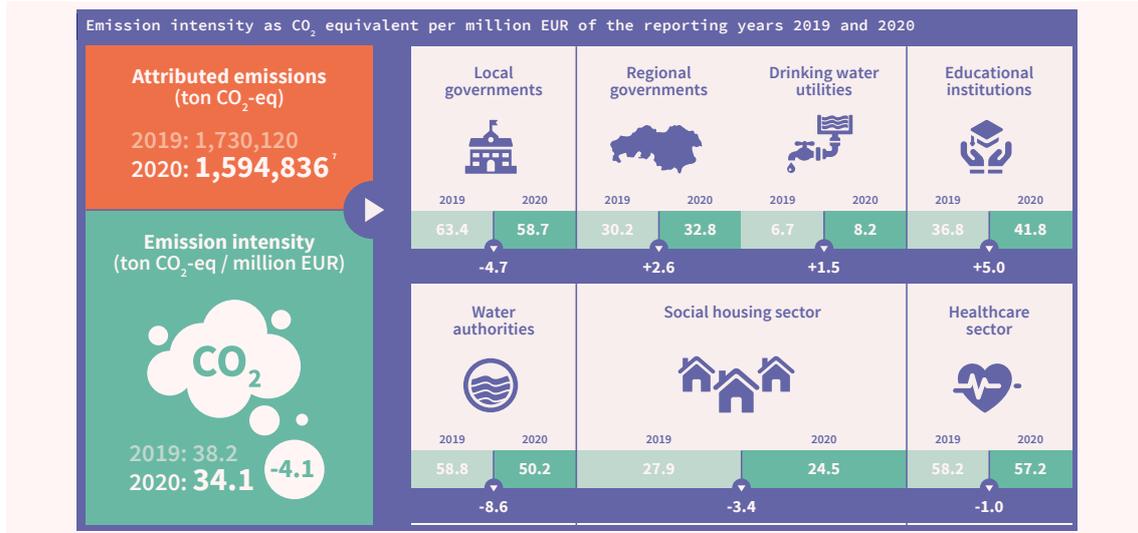
**Example: coverage<sup>39</sup>**



As illustrated in the above overview, because of their unique position in the market as sustainable water bank, NWB Bank has been able to cover 94.5% of their loan portfolio in this GHG emission reporting. Although all the sector specific coverage rates improved over the last year, the general coverage rate has decreased by 0.6%. This is because sectors currently not in scope are growing faster than sectors that are in scope. Regardless, the coverage rate is still very high. The coverage rate can be further improved by enlarging the coverage in project finance (PPP).

39 NWB Bank, Summary Greenhouse Gas Emissions Loan Portfolio NWB, 2020, <https://nwbbank.com/nieuws/nwb-bank-heeft-klimaatimpact-voor-945-van-de-kredietportefeuille-beeld>

Example: emission intensity <sup>40</sup>



NWB's loan portfolio had total emissions of 1,594,836 tCO<sub>2</sub>e at the end of reporting year 2020. This is 135,284 tonnes less than the total during reporting year 2019, while the total loan portfolio on which the calculation was made increased by €1.4 billion during this period. The emission intensity (tonnes of CO<sub>2</sub>e/million EUR) decreased from 38.2 to 34.1 tonnes per million euros. The water authorities, local authorities and housing associations were responsible for the largest decrease in emissions intensity. Among other things, the water authorities invested in renewable energy projects in the Netherlands, while the housing associations improved the energy labels of their rental properties.

40 NWB Bank, Summary Greenhouse Gas Emissions Loan Portfolio NWB, 2020, <https://nwbbank.com/nieuws/nwb-bank-heeft-klimaatimpact-voor-945-van-de-kredietportefeuille-beeld>



## Rabobank



Rabobank

### Total assets in portfolio in financial year 2020

Asset class	Amount outstanding (EUR)	Emissions financed (tCO <sub>2</sub> e)	Included in PCAF methodology (%)
Listed equity & corporate bonds			
Business loans & unlisted equity	187,000,000,000	19,088,000	34%
Project finance			
Commercial real estate			
Mortgages	189,000,000,000	5,943,000	100%
Motor vehicle loans			
Other			
Total	376,000,000,000	25,031,000	40%

### PCAF activities conducted in financial year 2020

In 2020, Rabobank released their first Climate Report in which, amongst other things, financed emissions were included.<sup>41</sup> Rabobank updated the proxy for emissions of their Dutch Local Banks portfolio with the most recent National Institute for Public Health and Environment (RIVM) data available. Furthermore, Rabobank's calculation for their Dutch mortgage portfolio follows the PCAF methodology. Meanwhile, Rabobank is working on calculating financed emissions for other parts of the portfolio based on proxies, and to work towards client level emissions data. In financial year 2020, several trajectories were kicked off concerning the latter. Firstly, Rabobank obtained data on the actual energy use of households to assess the emissions of their mortgage portfolio more accurately, by engaging via the Mortgages working group with Dutch Central Bureau of Statistics (CBS). Secondly, Rabobank started trajectories to develop carbon footprint estimates for farmers. Amongst other things, Rabobank kicked off Banking for Impact on Climate in Agriculture (B4ICA), a coalition of still to be determined banks convened by the WBCSD, PCAF and UNEP FI. Their purpose is to develop data and tools to support the assessment of Paris Alignment of banking loan portfolios in agriculture.

### Benefits of measuring and disclosing financed emissions

The landscape of climate measurement methodologies is still at an early stage of development and is therefore very dynamic. Through multiple pilots, Rabobank is working on the most relevant physical and transition risks in their portfolio, such as projects to determine the carbon footprints of individual clients' economic activities. These projects will provide models for the strategic choices with which Rabobank helps their customers gain insight into their own footprint, risks, and opportunities. For example, a company may face a transition risk because environmental legislation is becoming stricter or may face higher costs if the price of emission rights increases. On the other hand, clients have opportunities if they are successful in creating or adopting cleaner technology than their competitors. With the more granular data and further developed methods, Rabobank will be able to pinpoint the current positions and build an understanding of the trajectories.

41 Rabobank, Rabobank and Climate Change: making the change to safeguard our future, 2020, <https://www.rabobank.com/en/images/rcc-11-ver12.pdf>

### **Challenges of measuring and disclosing financed emissions**

Over the last years, Rabobank has disclosed information on their portfolio using data from internal and external sources and used this data for risk analyses. Overarching challenges for measurement methods include the limited availability of data and the lack of unambiguous recognised and applied definitions and standards. This concerns for example granular data in the field of emissions. In the report 'Rabobank and Climate Change', Rabobank provides more details on the challenges of assessing the transition to a low-carbon economy in agriculture (page 20). Furthermore, in line with the Dutch financial sector commitment to the Dutch Climate Agreement, Rabobank will disclose additional challenges regarding measuring and disclosing financed emissions in their upcoming disclosure. Specific challenges for estimating the emissions of commercial and residential real estate portfolios are present as well. Access to high-quality, sufficiently granular data remains a major challenge. Energy usage data is currently not available for financial institutions. As a result, Rabobank remains limited to working with proxy indicators, such as the energy labels. While the new energy labels (NTA 8800) have the potential to resolve this issue in theory, in practice the fact that the vast majority of real estate assets only receive new labels when they are sold means introduces a time lag that renders them unusable for annual disclosures in the medium term.

Example: financed emissions <sup>42</sup>
**Rough estimate of Rabobank's financed emissions in the Netherlands (clients of our local offices), 2018**

NACE category		Total balance sheet of Dutch sectors mln EUR	Outstanding loans Rabobank mln EUR	Share Rabobank (outstanding/total balance sheet sector)	Total emissions (mln kg CO <sub>2</sub> eq)	Emissions financed by Rabobank (mln kg CO <sub>2</sub> eq)	Relative emissions financed by Rabobank (kg CO <sub>2</sub> eq/EUR)
A	Agriculture, Forestry and Fishing	34,854	21,109	60.6%	29,911	18,115	0.86
B	Mining and Quarrying	31,218	57	0.2%	2,458	5	0.08
C	Manufacturing	1,117,556	1,164	0.1%	48,783	51	0.04
D	Electricity, Gas, Steam and Air Conditioning Supply	89,331	329	0.4%	47,150	173	0.53
E	Water Supply; Sewerage, Waste Management and Remediation Activities	18,185	97	0.5%	10,139	54	0.56
F	Construction	124,403	1,824	1.5%	3,475	51	0.03
G	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	508,830	3,421	0.7%	4,170	28	0.01
H	Transportation and Storage	150,554	2,224	1.5%	26,217	387	0.17
I	Accommodation and Food Service Activities	31,990	1,807	5.6%	1,159	65	0.04
J	Information and Communication	142,195	231	0.2%	187	0	0.00
M	Professional, Scientific and Technical Activities	143,120	15,908	11.1%	759	84	0.01
N	Administrative and Support Service Activities	101,178	383	0.4%	2,453	9	0.02
P	Education	5,331	101	1.9%	663	13	0.12
Q	Human Health and Social Work Activities	20,855	3,825	18.3%	-	-	0.00
R	Arts, Entertainment and Recreation	14,972	660	4.4%	553	24	0.04
S	Other Service Activities	8,022	445	5.6%	492	27	0.06
<b>Totals</b>		<b>2,542,594</b>	<b>53,587</b>		<b>178,569</b>	<b>19,088</b>	<b>0.36</b>

In the 2019 PCAF report, emissions based on sector emissions and Rabobank's 2017 exposure were included. The table above shows the results based on 2018 data. More recent sector emissions results, provided by the RIVM (the Dutch Institute for the Environment), are currently unavailable. The table shows the total emissions per Dutch sector, Rabobank's share in the outstanding loans in those sectors and the emissions that can be allocated to their financing, which comprises 19,088 million kg CO<sub>2</sub>e. Sector total balance sheets and total emissions data from CBS.

<sup>42</sup> Rabobank, Rabobank and Climate Change: making the change to safeguard our future, 2020, <https://www.rabobank.com/en/images/rcc-11-ver12.pdf>

**Example: energy labels <sup>43</sup>**

<i>Energy Labels in the Mortgage Portfolio</i>			<i>Emissions of our Mortgage Portfolio</i>	
<i>Energy label</i>	<i>% of houses financed by Rabobank (2019)</i>	<i>% of houses financed by Rabobank (2018)</i>	<i>2016 (mln kg CO<sub>2</sub>eq)</i>	<i>2015 (mln kg CO<sub>2</sub>eq)</i>
A	24%	20%	5,943	6,089
B	15%	15%		
C	25%	26%		
D	13%	15%		
E	9%	10%		
F	7%	7%		
G	7%	7%		
<b>Total</b>	<b>100%</b>	<b>100%</b>		

The Dutch Central Bureau of Statistics has taken the first steps toward an energy label approach. This approach has some drawbacks, as banks do not have access to all data points. Moreover, the CBS approach makes many assumptions that could lead to biased results, such as assuming a standard energy-mix basket for every household in the Netherlands. Furthermore, more recent data is key to offer up-to-date financial solutions. The latest CBS calculations are based on energy consumption in 2015 and 2016. We collaborate with CBS and other banks to update the calculations based on more recent energy consumption per home.

<sup>43</sup> Rabobank, Rabobank and Climate Change: making the change to safeguard our future, <https://www.rabobank.com/en/images/rcc-11-ver12.pdf>

**Total assets in portfolio in financial year 2020<sup>44</sup>**

Asset class	Amount outstanding (EUR)	Emissions financed (tCO <sub>2</sub> e)	Included in PCAF methodology (%)
Listed equity & corporate bonds	95,651,507,607	9,330,407	51%
Business loans & unlisted equity			
Project finance			
Commercial real estate			
Mortgages			
Motor vehicle loans			
Other			
Total	95,651,507,607	9,330,407	51%

**PCAF activities conducted in financial year 2020**

As part of their commitment to the Dutch Climate Accord, Robeco publicly disclosed their financed emissions over financial year 2020 for the first time and used the PCAF methodology to do so. In addition, Robeco contributed to the Dutch and international activities and working groups of PCAF. Robeco contributed to the development of accounting standards for sovereign bonds and green bonds, which will be included in the consultation about the updated Global Standard at the end of 2021.

**Benefits of measuring and disclosing financed emissions**

The measurement and disclosure of Robeco's financed emissions are a cornerstone of Robeco's overall climate policy. The goal of Robeco's climate policy is to adequately manage the risks and opportunities of climate change, and to make a leading contribution to the goals of the Paris Agreement. Key components of their climate policy are the decarbonisation of their assets under management, the integration of climate in investment decisions, climate risk management, and engagement with companies. Robeco's carbon data infrastructure is a key enabler for these activities.

**Challenges of measuring and disclosing financed emissions**

Two key challenges are predominant for Robeco. First, carbon data quality is challenging, particularly on Scope 3 emissions. Company reporting is patchy and inconsistent, hence much of the carbon data is modelled by data providers, with huge differences between those providers. To improve this, companies need to be encouraged (or obliged by law) to report more consistently. Secondly, when aggregating company emissions in investment portfolios, there is much double counting. This is particularly true for Scope 3 emissions, which creates a blurred picture of financed emissions. To resolve this, a harmonised approach is needed in the industry for de-duplicating emissions and/or attributing emissions between industry sectors.

<sup>44</sup> Robeco discloses the financed emissions of corporate equity and bonds in all Robeco funds, which is 51% of total assets under management. Segregated client accounts, government bonds and green bonds are out of scope of Robeco's carbon disclosures over financial year 2020. Robeco will work to expand the scope of their carbon disclosures in future years.

**Example: carbon reporting<sup>45</sup>**

**Results**

Carbon figures in funds

	Equities	Fixed income	Multi Assets	Total
Portfolio AUM (USD)	64'705'869'031	39'267'587'063	4'381'821'998	108'355'278'093
of which reported here	63'438'351'395	28'214'948'909	3'998'207'303	95'651'507'607
share of total AUM (%)	31%	19%	2%	51%
Total emissions (tons of CO <sub>2</sub> eq)	6146106	2925394	258907	9330407
Carbon footprint (tons of CO <sub>2</sub> eq / USD mln)	98	128	67	104
Carbon intensity (tons of CO <sub>2</sub> eq / USD mln)	130	192	97	145
Data coverage	99%	81%	96%	93%

The screenshot shows Robeco’s carbon report over financial year 2020. The scope of their carbon report is all Robeco funds, excluding segregated client mandates. The report covers listed corporate equity and corporate bonds. Government bonds are not in scope as their footprint methodology is not yet well-established for financial accounting purposes. Green bonds are also not included in the aggregate footprint calculation, because current accounting methods capture the footprint of the issuer rather than the bond. Robeco reports Scope 1 and 2 only, since Scope 3 is prone to many data challenges at this stage.

<sup>45</sup> Robeco, Robeco Carbon Report 2020,

[https://www.robeco.com/media/c/8/c/c8c27efd3ea81ca86c1b589e1096fb80\\_robeco-carbon-report-2020\\_tcm17-29927.pdf](https://www.robeco.com/media/c/8/c/c8c27efd3ea81ca86c1b589e1096fb80_robeco-carbon-report-2020_tcm17-29927.pdf)

### Total assets in portfolio in financial year 2020

Asset class	Amount outstanding (EUR)	Emissions financed (tCO <sub>2</sub> e)	Included in PCAF methodology (%)
Listed equity & corporate bonds	99,000,000,000	4,900,000	50%
Business loans & unlisted equity	1,400,000,000	11,452	100%
Project finance			
Commercial real estate			
Mortgages	6,400,000,000	23,389	0%/100% <sup>46</sup>
Motor vehicle loans			
Other	5,000,000,000	13,038	100%
Total	111,800,000,000	4,950,000	c. 50%

### PCAF activities conducted in financial year 2020

Van Lanschot Kempen publicly reported their investments (off-balance) and other banking activities (on-balance) again in financial year 2020. Furthermore, Van Lanschot Kempen has updated their climate change policy for their investments. The company has committed to be a net-zero investor by 2050, with intermediate objectives (2025) and ambition (2030). The PCAF metric was one of the two metrics used as a basis to conduct the assessments underlying the policy update. Van Lanschot Kempen will use the weighted average carbon intensity metric as primary metric for steering towards their climate objectives. Van Lanschot Kempen will continue reporting both metrics going forward.

### Benefits of measuring and disclosing financed emissions

Van Lanschot Kempen considers measuring and disclosing financed emissions to benefit them as a basis for steering, predominantly in target setting. Further, it helps them to provide insight in their carbon footprint. This is based on the activities they employ.

### Challenges of measuring and disclosing financed emissions

Reliable climate data on company level is one of the key issues facing GHG accounting (and measuring, monitoring & steering). This is relevant for all of Van Lanschot Kempen's activities: investments and lending. The upcoming EU Sustainable Finance Disclosure Regulation (SFDR), EU Taxonomy, and Corporate Sustainability Reporting Directive (CSRD) regulation will help to foster more reliable climate data on company level. Due to the global character of Van Lanschot Kempen's investments, global standardisation would help the company and the sector. Over time, it would be helpful to have a common (global) database with GHG accounting data from companies.

<sup>46</sup> We start with the PCAF methodology although deviate by using the ration of the LTV. When following PCAF in the strict sense, then the percentage is 0, if seen broader, then the answer is 100%.

**Example: carbon footprint for assets under management<sup>47</sup>**

Carbon footprint of our assets under management in 2020 <sup>3</sup>					
CO <sub>2</sub> e assets under management	Total AuM (€ billion)	Absolute footprint (million tCO <sub>2</sub> e)	Relative footprint (tCO <sub>2</sub> e/€ m invested)	Carbon intensity (tCO <sub>2</sub> e/€ m sales)	Coverage (CO <sub>2</sub> e based on % AuM)
Private Banking (incl. Evi)	28.5	1.5	98.1	—	54%
Asset Management	70.5	3.4	100.1	148.2	48%
<b>Total</b>	<b>99.0</b>	<b>4.9</b>	<b>99.5</b>	<b>—</b>	<b>50%</b>

Carbon footprint of our assets under management in 2019 <sup>4</sup>					
CO <sub>2</sub> e assets under management	Total AuM (€ billion)	Absolute footprint (million tCO <sub>2</sub> e)	Relative footprint (tCO <sub>2</sub> e/€ m invested)	Carbon intensity (tCO <sub>2</sub> e/€ m sales)	Coverage (CO <sub>2</sub> e based on % AuM)
Private Banking (incl. Evi)	25.7	1.3	114.5	—	45%
Asset Management	62.0	3.4	124.9	180.4	44%
<b>Total</b>	<b>87.7</b>	<b>4.7</b>	<b>121.8</b>	<b>—</b>	<b>44%</b>

Reliable climate data on company level is one of the key issues facing GHG accounting (and measuring, monitoring & steering). In time, it would be helpful to have a common database with GHG accounting data from companies (preferably global).

**Example: carbon footprint for listed Kempen funds<sup>48</sup>**

TABLE 5 CARBON FOOTPRINT BREAKDOWN FOR ALL LISTED KEMPEN FUNDS

	Carbon emissions (tCO <sub>2</sub> e) per EUR million invested	Carbon emissions (tCO <sub>2</sub> e) per EUR million invested compared to benchmark	Weighted average carbon intensity (tCO <sub>2</sub> e/ EUR million Revenues)	Carbon intensity compared to benchmark
* Kempen (Lux) Euro Credit Fund	73	Lower	129	Lower
* Kempen (Lux) Euro Credit Fund Plus	71	Lower	125	Lower
* Kempen (Lux) Euro Sustainable Credit Fund	87	Lower	141	Lower
* Kempen (Lux) Euro High Yield Fund	321	Higher	264	Higher
* Kempen European High Dividend Fund	167	Higher	236	Higher
* Kempen (Lux) European High Dividend Fund	166	Higher	233	Higher
* Kempen Global High Dividend Fund	232	Higher	357	Higher
* Kempen (Lux) Global High Dividend Fund	234	Higher	360	Higher
* Kempen Sustainable Global High Dividend Fund	68	Lower	97	Lower
* Kempen (Lux) Global Small-cap Fund	79	Lower	115	Lower
* Kempen (Lux) European Sustainable Smallcap Fund	56	Lower	105	Lower
* Kempen Orange Fund N.V.	111	Lower	225	Lower
* Kempen Oranje Participaties	41	Lower	44	Lower
* Kempen Global Sustainable Equity Fund	13	Lower	44	Lower
* Kempen European Sustainable Value Creation	20	Lower	52	Lower
* Kempen (Lux) Global Sustainable Value Creation	13	Lower	44	Lower
* Kempen (Lux) Global Property Fund	11	Higher	105	Lower
* Kempen Global Property Fund	11	Higher	105	Lower
* Kempen European Property Fund	4	Lower	73	Lower
* Kempen (Lux) Global Listed Infrastructure Fund	206	Lower	1079	Lower
* Kempen Non-Directional Partnership	58	Lower	103	Lower

\* Compared to last year the two carbon metrics of most funds decreased, especially for the weighted average carbon intensity, which is in line with our climate policy, as the waci is our leading metric. The positive trend is also reflected in the comparison to the benchmark, where most funds have lower figures compared to the benchmark. Where funds have higher figures, the difference is small or most carbon metrics decreased compared to last year.

For Kempen Oranje Participaties the benchmark used is MSCI Europe Small Cap and for Kempen Non-Directional Partnership the benchmark used is MSCI World.

Source: Kempen 2020

In their annual Stewardship & Sustainable Investment report, Van Lanschot Kempen shows since 2017 the carbon footprint of their seven listed funds. The metrics used include carbon emissions per EUR million invested, a metric included in the PCAF methodology.

47 Van Lanschot Kempen, Annual Report 2020, <https://media.vanlanschot.nl/media/pdfs/annual-report-2020-van-lanschot-kempen.pdf>

48 Kempen, Annual Stewardship and Sustainable Investment Report 2020, <https://www.kempen.com/-/media/Asset-Management/ESG/ESG-annual-report-2020/New-images/new-final-images/Kempen-stewardship-and-sustainability-report-2020-ENG.pdf>

**Total assets in portfolio in financial year 2020**

Asset class	Amount outstanding (EUR)	Emissions financed (tCO <sub>2</sub> e)	Included in PCAF methodology (%)
Listed equity & corporate bonds	4,613,463,579	12,508	100%
Business loans & unlisted equity	690,120,748	34,454	100%
Project finance	783,118,124	21,570	100%
Commercial real estate			
Mortgages	46,701,901,074	1,155,535	100%
Motor vehicle loans			
Sovereign Bond	3,056,750,000	23,469	100%
Public loans	883,865,387	62,013	100%
Total	56,729,218,912	1,309,549	100%

**PCAF activities conducted in financial year 2020**

De Volksbank participated in several PCAF NL working groups (amongst others: project finance, sovereign bonds, mortgages), and was also active in the steering committee of PCAF Global. De Volksbank are in transition to apply PCAF to their long-term goal of becoming climate neutral, which would be reflected in their balance sheet.

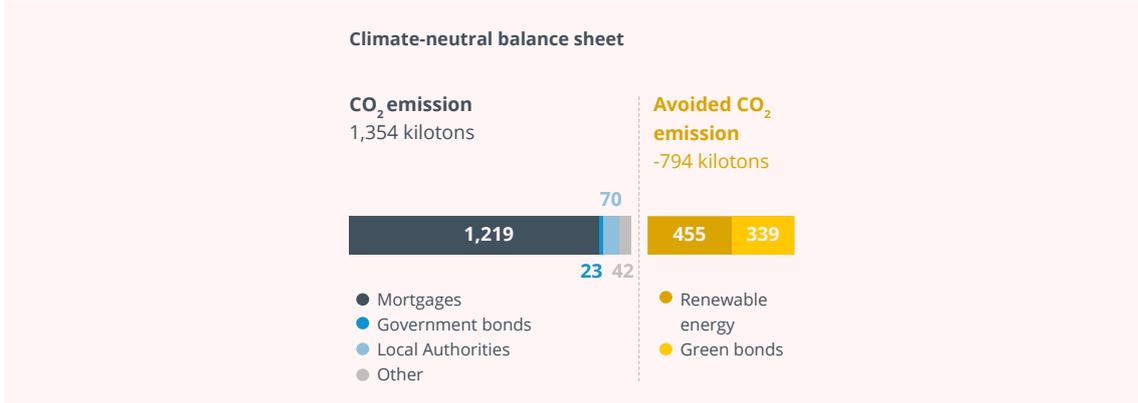
**Benefits of measuring and disclosing financed emissions**

De Volksbank has been measuring and disclosing financed emissions since 2015 in relation to their goal of steering towards a climate neutral balance sheet. De Volksbank aspires to improve sustainability of their own activities and to inspire other financial institutions to do so as well. This was also one of the reasons for setting up PCAF, as transparency is key to sustainable progress. By disclosing their entire balance sheet, and showing both negative and positive impacts, De Volksbank can improve credibility towards their stakeholders.

**Challenges of measuring and disclosing financed emissions**

Improving energy efficiency within their mortgage portfolio is by far the biggest challenge for De Volksbank. Aside from steering on these energy efficiency measures, finding granular and accurate data to measure this progress has been a real challenge. As of year-end 2021, De Volksbank will be able to use actual energy consumption data tailored to their mortgage portfolio to calculate financed emissions, arranged with the three main grid operators in the Netherlands. However, steering on emission reductions is still very challenging. De Volksbank tries to do so by tracking the average energy labels across the portfolio. A large part of houses in the Netherlands doesn't have a registered energy label. And when an energy label is present, they may not represent the current energy efficiency of a house as they are valid for a duration of ten years and it costs money to get a new energy label re-registered. Because of this, homeowners often don't apply for a new energy label after applying new energy efficiency measures. The government could help by improving availability and reliability of energy labels within the Netherlands.

**Example: disclosure in annual report<sup>49</sup>**



De Volksbank has been steering since 2015 on their goal of becoming climate neutral by 2030 with their entire balance sheet. De Volksbank applies PCAF methodology to measure all financed emissions, avoided emissions and sequestered emissions resulting from their loans and investments. The results are presented in their Annual Report in a carbon profit and loss account, as can be seen in this example. The CO<sub>2</sub> losses are presented on the left, and CO<sub>2</sub>-profits on the right. The ratio between CO<sub>2</sub> losses and CO<sub>2</sub> profits is expressed as a percentage, showing the climate neutrality of de Volksbanks' balance sheet.

**Example: assessing climate impacts of green bonds<sup>50</sup>**

**CO<sub>2</sub>-emission**  
Table 2 shows the CO<sub>2</sub>-emissions of both groups, based on calculated energy consumption. The total CO<sub>2</sub>-emission of the Eligible Green Loan Portfolio is 170.198 tons CO<sub>2</sub> per year. The Reference CO<sub>2</sub>-emission is 264.868 tons CO<sub>2</sub> per year.

	<b>CO<sub>2</sub>-emission Eligible Green Loan Portfolio (ton CO<sub>2</sub>)</b>	<b>CO<sub>2</sub>-emission Reference (ton CO<sub>2</sub>)</b>	<b>CO<sub>2</sub>-emission Reduction (ton CO<sub>2</sub>)</b>
<i>Residential building</i>	170.198	264.868	94.670

De Volksbank has been working on a green funding strategy since 2018, issuing several green bonds since their inception. De Volksbank believes transparency is key in impact reporting. In line with their long-term goal of becoming climate neutral with their balance sheet, de Volksbank measures and discloses both positive and negative climate impacts of their green loan portfolio using PCAF methodology. The green loan portfolio consists of houses with an energy label A, belonging to the top tier of energy efficiency within de Volksbanks' mortgage portfolio. The example shows how the results are published in de Volksbanks' 2020 green bond impact report, where the total emissions of the green loan portfolio are compared to a reference portfolio. Investors could use the CO<sub>2</sub>-emissions of the eligible green loan portfolio in their own measurements of financed emissions from their indirect investments.

49 De Volksbank Annual Report 2020, <https://www.devolsbank.nl/assets/files/Investor-Relations/Jaarverslagen-de-Volksbank/de-Volksbank-NV.-Annual-Report-2020.pdf>

50 De Volksbank, Impact Report 2020, <https://www.devolsbank.nl/assets/files/Green-Bond-Impact-Report-2020.pdf>

## 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>51</sup>
<b>Carbon intensity</b>	The amount of emissions of carbon dioxide (CO <sub>2</sub> ) released per unit of another variable such as gross domestic product (GDP), output energy use or transport. <sup>52</sup>
<b>Climate-related risk – Physical Risk</b>	Climate-related risks associated with the potential negative physical impacts of climate change on an organization. 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>53</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. <sup>53</sup>
<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. <sup>52</sup>
<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 Klimaatakkoord</b>	The national Climate Accord or Treaty 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>51</sup>

51 Science-Based Targets initiative, Financial Sector Science-Based Targets Guidance, Pilot Version, 2020,

<https://sciencebasedtargets.org/resources/files/Financial-Sector-Science-Based-Targets-Guidance-Pilot-Version.pdf>

52 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,

[https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15\\_AnnexI\\_Glossary.pdf](https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_AnnexI_Glossary.pdf)

53 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,

<https://www.tcfhub.org/Downloads/pdfs/E02%20-%20Glossary%20&%20Abbreviations.pdf>

<b>Investment</b>	The term investment is broadly defined as “putting money into activities or organizations with the expectation of making a profit.” Most forms of investment involve some form of risk taking, such as investment in equities, debt, property, projects, and even fixed interest securities, which are subject to inflation risk, among other risks. <sup>51</sup>
<b>Method</b>	A set of pre-defined systematic approaches.
<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>Risk management</b>	Refers to a set of processes that are carried out by an organization’s board and management to support the achievement of the organization’s objectives by addressing its risks and managing the combined potential impact of those risks. <sup>53</sup>
<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—to limit global warming to well-below 2°C above preindustrial levels and pursue efforts to limit warming to 1.5°C. <sup>51</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>52</sup>



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