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Research & advice

Dutch financial sector financed emissions

Financed emissions from corporate finance and investment portfolios

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23 November 2022 – REVISED VERSION

About this report

This report has been commissioned by Milieudefensie (Friends of the Earth the Netherlands). The report estimates the financed emissions of a selection of key Dutch financial institutions using the Partnership for Carbon Accounting Financials (PCAF) methodology. This methodology was developed by financial institutions themselves to measure and disclose the GHG emissions associated with their lending and investment activities.

Note: The original version of this report was published in October 2022. This revised version published in November includes a number of revised estimates. In the previous version, the underlying data on Algemeen Burgerlijk Pensioenfonds (ABP)'s sovereign bond portfolio contained an error that is corrected in this version. Additionally, it was determined that the scope of sectors included ING Group's outstanding loans portfolio used for extrapolation was too broad and included sectors excluded for the other banks. This issue has been corrected in the current version of this report. The financed emissions of ING and ABP, banks and pension funds and the total financed emissions have been updated accordingly in this revised version.

About Profundo

With profound research and advice, Profundo aims to make a practical contribution to a sustainable world and social justice. Quality comes first, aiming at the needs of our clients. Thematically we focus on commodity chains, the financial sector and corporate social responsibility. More information on Profundo can be found at www.profundo.nl.

Authorship

This report was researched and written by Ward Warmerdam and Ender Kaynar with contributions from Jan Willem van Gelder. Correct citation of this document: Warmerdam, W. and E. Kaynar (2022, November), *Dutch financial sector financed emissions: Financed emissions from corporate finance portfolios,* Amsterdam, The Netherlands: Profundo.

Front page cover photograph by Ilmi Amali Q.A. - Unsplash.

Acknowledgements

The authors would like to thank Jan Willem van Gelder for his input.

Disclaimer

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Summary

In the context of tackling climate change, a lot of attention is paid to major polluting industries such as fossil fuels, utilities and heavy industry. The financial institutions enabling these industries have also drawn criticism, including from United Nations Secretary General António Guterres during his address to the General Assembly on the 20th of September 2022. Guterres stated that "We need to hold fossil fuel companies and their enablers to account." [1] In addition to being the enablers of fossil fuel companies, the financial sector can also be considered a major polluting industry due to the greenhouse gas (GHG) emissions associated with their investment and lending portfolios. Financial institutions finance the emissions generated by companies in all sectors, in addition to financing emissions through their consumer lending portfolios.

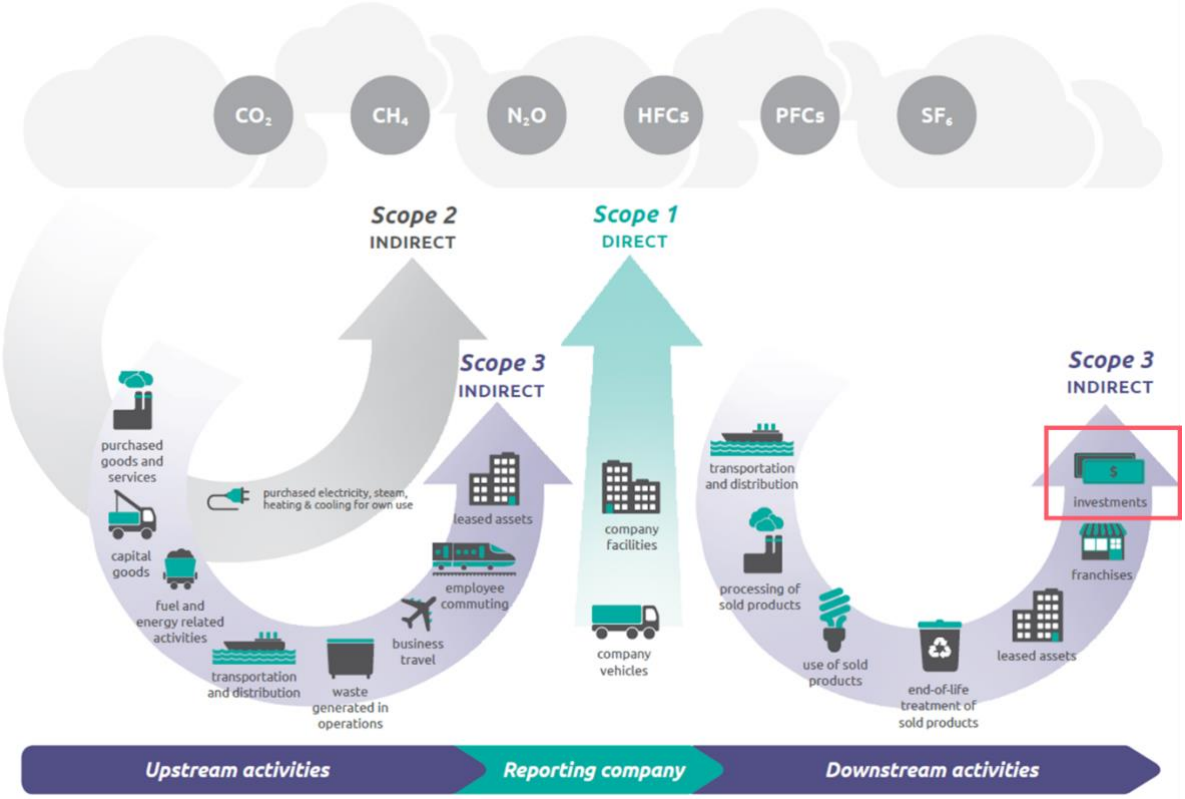
To gain a better understanding of financed emissions from the Dutch financial sector and from different actors within this sector, Milieudefensie commissioned Profundo to assess the financed emissions from corporate finance (loans and issuance underwriting services) of the three largest Dutch banks, and the investment portfolios of five Dutch insurance companies and eight pension funds.

The three largest Dutch banks – ABN Amro, ING Group, and Rabobank – account for 81% of total banking assets.[2] The eight selected pension funds are the largest sector pension funds (*Bedrijfstakpensioenfonds*) in the Netherlands.[3] Together these pension funds account for 61% of the Dutch pension fund assets as of 31 December 2021.[4] The five selected insurance companies were selected because they are the largest life insurers in the Netherlands, and they have asset management activities that could be identified through the research. Together the selected life insurers accounted for approximately 79% of the market in 2020.[5] However, during the course of the research the investment portfolio of one insurer (Athora Netherlands) could not be identified. Additionally, the asset management arm of NN Group (NN Investment Partners) was sold to Goldman Sachs during the course of the research. These two insurance companies are therefore not included in the research findings.

The Partnership for Carbon Accounting Financials (PCAF) standard was selected as the most appropriate methodology to assess financed emissions. The standard was developed and is used by financial institutions to measure and disclose their financed emissions, i.e., the emissions financed by their loans and investments.

The PCAF standard builds upon the GHG Protocol, a global standard to measure and manage greenhouse gas emissions. The GHG Protocol distinguishes between the direct emissions from company owned and controlled resources (scope 1), indirect emissions from the generation of purchased energy (scope 2) and all other indirect emissions that occur in the value chain of the reporting company, both upstream and downstream (scope 3). Financed emissions are one category of scope 3 emissions, and the most important source of emissions for financial institutions. The figure below provides an overview of the GHG Protocol scopes and emissions across the value chain. This current research is focused the investments category of GHG Protocol scope 3 reporting, i.e., the emissions financed by loans and investments made by financial institutions.

Overview of GHG Protocol scopes and emissions across the value chain



Source: World Resources Institute and World Business Council for Sustainable Development (2013, April), Corporate Value Chain (Scope 3) Accounting and Reporting Standard: Supplement to the GHG Protocol Corporate Accounting and Reporting Standard, Washington, DC: GHG Protocol, p. 5.

Research on financed emissions is constrained by several limitations. Most crucial among these is the public availability of company loan agreement / issuance details / investment level data. The financial institutions themselves maintain detailed datasets of their portfolios, the companies they finance, and the values of these exposures at relevant reporting quarters. This research could only rely on information that is accessible in paid-for and public data sources. This means that for banks direct/bilateral lending could not be included in the research. For insurance companies it meant that only the (parts of) the portfolio included in Refinitiv, a financial markets database, could be assessed. Additionally, some data points necessary to calculate attribution factors and financed emissions were not available for each borrower/issuer financed by the selected Dutch financial institutions. This latter issue also affects the ability of financial institutions themselves to calculate their own financed emissions.

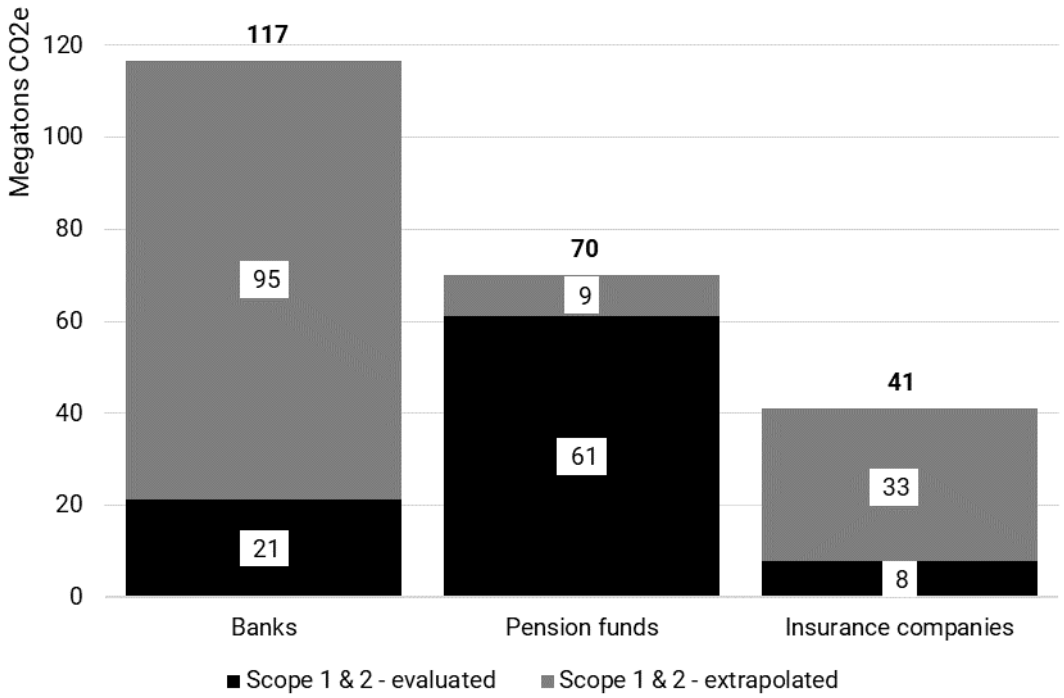
Given these gaps, extrapolation was needed to estimate the total financed emissions of the selected financial institutions through their corporate finance, and investment portfolios. Extrapolation is an estimation that is based on available data, and thus by its nature is not 100% accurate. It should, therefore, be noted that these extrapolations are estimations based on the best data available to the researchers and are intended as indication of the magnitude of the financed emissions of the Dutch financial sector, the three categories' actors, and individual financial institutions.

Our analysis of the corporate lending and issuance underwriting portfolios of the selected banks, and of the investments in equities and bonds of the pension funds and insurance companies, finds that in 2021 the selected financial institutions financed 228 MtCO2e. That is approximately 60 MtCO2e more than emitted by the Netherlands in 2021.[6] This research calculated 91 MtCO2e of financed emissions for the share of the portfolio for which data was available. Extrapolation based on total portfolio sizes resulted in a further 137 MtCO2e.

Together these financial institutions had an emission intensity of 110 tons of CO2e per million EUR. This means that every euro invested, generates 110 grams of CO2e. The banks had an estimated emission intensity of 171 tons of CO2e per million EUR. They were followed by pension funds with an estimated emission intensity of 100 and insurance companies with an estimated 62 tons of CO2e per million EUR. This indicates that banks had the most polluting portfolios.

To get a picture of what this emissions intensity translates to, the example of an average Dutch savings account can be used. The average Dutch savings account holds € 42,000.[7] Banks had an emissions intensity of 171 grams of CO2e per euro. Using this carbon intensity ratio would imply that this savings account would emit approximately 7.1 tons CO2e. Which is more than one and a half times the average passenger vehicle in the United States emits in one year.[8]

Financed emissions (scope 1 and 2) of financial institutions active in the Netherlands per type of institution (2021, MtCO2e)



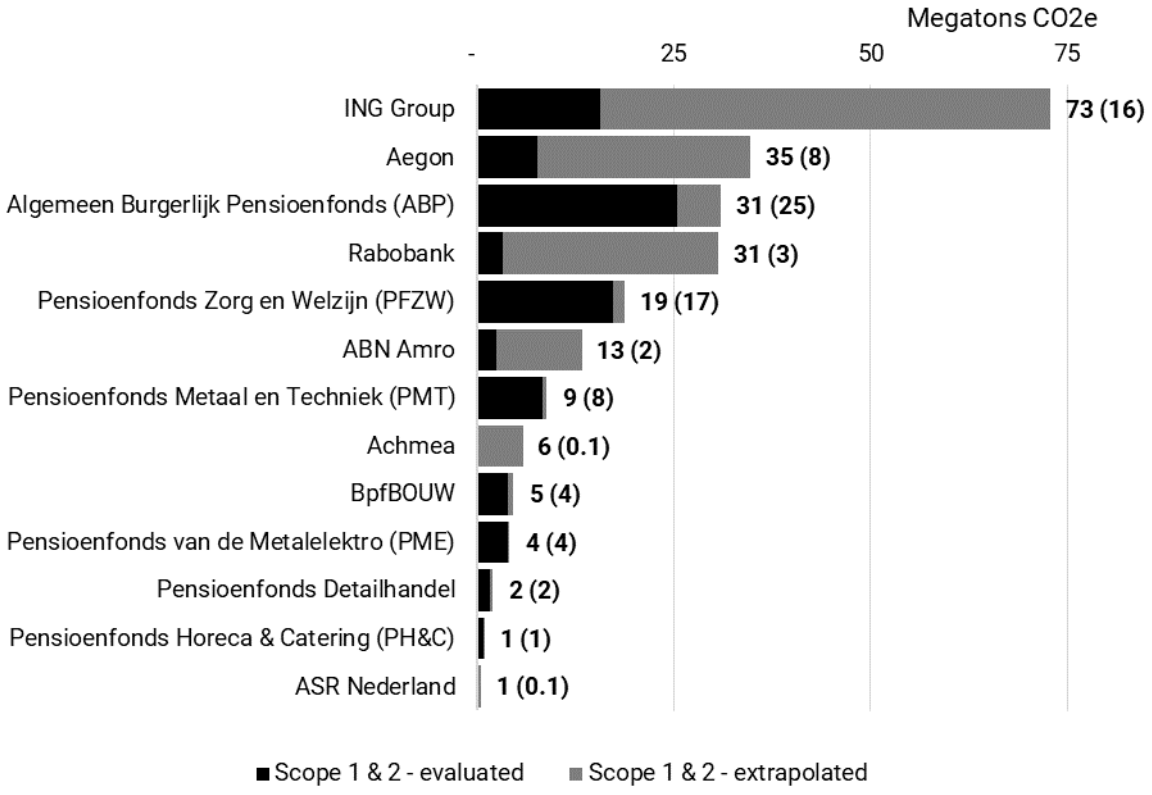
Banks account for 117 MtCO2e of financed emissions, or 51% of all estimated emissions. Pension funds generated 70 MtCO2e of emissions from their equity and fixed income portfolios, 31% of the total. Finally, insurance companies have financed 41 MtCO2e, 18% of estimated financed emissions (see figure above).

Emission intensities allow us to compare financial sector and individual financial institutions to get a better indication of how polluting their portfolios are. The banks had an estimated emission intensity of 171 tons of CO2e per million EUR. They were followed by pension funds with an estimated emission intensity of 100 and insurance companies with an estimated 62 tons of CO2e per million EUR. This indicates that banks had the most polluting portfolios, followed by pension funds.

The figure below shows that ING Group was the largest emitter with 73 MtCO2e of financed scope 1 and 2 emissions of its clients in 2021. ING Group was estimated to account for 32% of all financed emissions of the selected financial institutions. ING Group is followed by Aegon (with an estimated 35 MtCO2e) and Rabobank (with an estimated 31 MtCO2e). Algemeen Burgerlijk Pensioenfonds (ABP) had the highest estimated emissions of the pension funds, estimated to finance 31 MtCO2e through its equity and fixed income portfolios. The fact that ING Group has the highest emissions is partly explained by the size of its portfolio. Its corporate lending portfolio is more than twice the size of Rabobank's portfolio. Nevertheless, ING Group's emissions are more than three times that of Rabobank. Indicating, that its portfolio has a higher emissions intensity than that of Rabobank.

It should be noted that, due to limitations of the research mentioned above, and the differences in how financial institutions themselves calculate and report on financed emissions, the figures estimated by this research diverge from the figures reported by the financial institutions.

Financed emissions (scope 1 and 2) of financial institutions active in the Netherlands per financial institution (2021, MtCO2e)



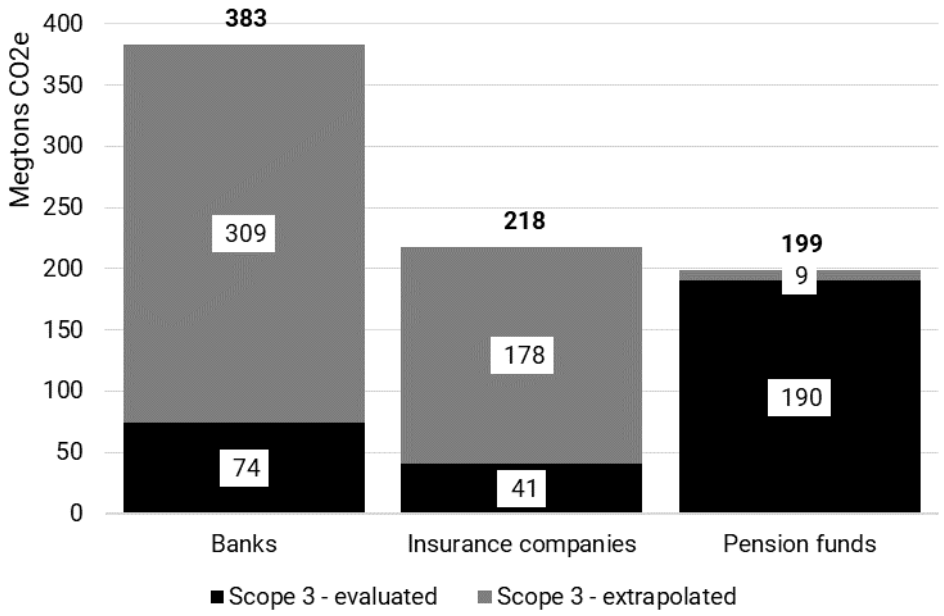
Note: Total extrapolated value with total evaluated value in brackets.

The current PCAF standard recommends that financed scope 3 emissions from borrowers and investees of financial institutions are reported separately from financed scope 1 and 2 emissions. It should be noted that there is a risk of double counting within financed scope 3 emissions reporting. Nevertheless, scope 3 emissions account for a significant proportion of emissions of companies engaged in certain industries, such as oil & gas and the automotive industry. Currently, PCAF only requires the reporting of emissions attributable to companies engaged in energy (oil & gas) and mining. However, this study reports on emissions attributable to all sectors since it is important for financial institutions and regulators to take these emissions into account to understand the fully climate impact of the value chains of financial institutions.

Together the selected Dutch financial institutions were estimated to have generated 801 MtCO2e as a result of scope 3 emissions from borrowers and investee companies. This research calculated 305 MtCO2e of these financed emissions. Extrapolation based on portfolio sizes estimated a further 496 MtCO2e.

Banks accounted for 383 MtCO2e of scope 3 emissions through their clients, or 48% of all scope 3 estimated attributable emissions. Insurance companies had financed 218 MtCO2e of scope 3 emissions from their equity and fixed income portfolios, 27% of financed scope 3 emissions. Finally, pension funds had generated 199 MtCO2e of scope 3 emissions, 25% of estimated financed scope 3 emissions.

Financed emissions (scope 3) of financial institutions active in the Netherlands per type of institution (2021, MtCO2e)



The banks had an emission intensity of 560 tons of CO2e per million EUR for the scope 3 emissions of the companies they financed. They were followed by insurance companies with an emission intensity of 332 and pension funds with an emissions intensity of 283 tons of CO2e per million EUR.

This research recommends that more financial institutions report on their financed emissions and do so for all relevant financial products and assets classes. Moreover, they should do so in a more standardized and harmonized manner. When financial institutions report their financed emissions in a more standardized way, and set targets that can be compared, then external parties – such as regulators or civil society organizations – can effectively monitor their progress to meeting those targets.

The fact that Dutch financial institutions together were estimated to have financed 60 MtCO2e more than the domestically produced emissions is concerning. Currently, there are no regulatory actions for the financial sector to achieve 1.5°C alignment. Given the lack of harmonized emissions reporting among financial institutions, and the high level of financed emissions, regulatory action could be an effective tool to ensure that this highly polluting sector also achieves 1.5°C alignment.

Abbreviations

ABP	Algemeen Burgerlijk Pensioenfonds
AUM	Assets Under Management
BpfBOUW	Bedrijfstakpensioenfonds voor de Bouwnijverheid
GHG	Greenhouse gas
MtCO2e	Megatonne carbon dioxide equivalent
NACE	Statistical Classification of Economic Activities in the European Community
NAICS	North American Industry Classification System
PCAF	Partnership for Carbon Accounting Financials
PFZW	Pensioenfonds Zorg en Welzijn
PH&C	Pensioenfonds Horeca & Catering
PME	Pensioenfonds van de Metalelektro
PMT	Pensioenfonds Metaal en Techniek
tCO2e	Tons of carbon dioxide equivalents
TRBC	The Refinitiv Business Classification

Introduction

In the context of tackling climate change, a lot of attention is paid to major polluting industries such as fossil fuels, utilities and heavy industry. The financial institutions enabling these industries have also drawn criticism, including from United Nations Secretary General António Guterres during his address to the General Assembly on the 20th of September 2022. Guterres stated that "We need to hold fossil fuel companies and their enablers to account." [9] In addition to being the enablers of fossil fuel companies, the financial sector can also be considered a major polluting industry. Financial institutions finance the emissions generated by companies in all sectors through their investment and lending portfolios, in addition to financing emissions through their consumer lending portfolios.

To gain a better understanding of financed emissions from the Dutch financial sector and from different actors within this sector, Milieudefensie commissioned Profundo to assess the financed emissions from corporate finance (loans and issuance underwriting services) of the three largest Dutch banks, and the investment portfolios of five Dutch insurance companies and eight pension funds.

The three largest Dutch banks – ABN Amro, ING Group, and Rabobank – account for 81% of total banking assets.[10] The eight selected pension funds are the largest sector pension funds (*Bedrijfstakpensioenfonds*) in the Netherlands.[11] Together these pension funds account for 61% of the Dutch pension fund assets as of 31 December 2021.[12] The five selected insurance companies were selected because they are the largest life insurers in the Netherlands, and they have asset management activities that could be identified through the research. Together the selected life insurers accounted for approximately 79% of the market in 2020.[13]However, during the course of the research the investment portfolio of one insurer (Athora Netherlands) could not be identified. Additionally, the asset management arm of NN Group (NN Investment Partners) was sold to Goldman Sachs during the course of the research. These two insurance companies are therefore not included in the research findings.

The Partnership Carbon Accounting Financials (PCAF) standard was selected as the most appropriate methodology to assess financed emissions. The standard was developed and is used by financial institutions to measure and disclose their financed emissions, i.e., the emissions financed by their loans and investments. For financial institutions these are considered Scope 3 emissions.

The PCAF standard builds upon the GHG Protocol, a global standard to measure and manage greenhouse gas emissions. The GHG Protocol distinguishes between the direct emissions from company owned and controlled resources (scope 1), indirect emissions from the generation of purchased energy (scope 2) and all other indirect emissions that occur in the value chain of the reporting company, both upstream and downstream (scope 3). Financed emissions are one category of scope 3 emissions, and the most important source of emissions for financial institutions. This current research is focused the investments category of GHG Protocol scope 3 reporting, i.e., the emissions financed by loans and investments made by financial institutions.

This report is organized as follows: Chapter 1 presents the methodology used for this research; Chapter 2 presents an overview of the general findings; Chapter 3 provides more details of financed emissions of the selected Dutch banks; Chapter 4 focuses on the findings for Dutch insurance companies; Chapter 5 presents the findings of the financed emissions from Dutch pension funds, and; Chapter 6 summarizes the findings and provides a number of recommendations.

A summary of the findings of this report can be found on the first pages of this report.

1

Methodology

The methodology used to assess the financed emissions of major institutions in the Dutch financial sector

1.1 Selected financial institutions

Our analysis focuses on the most important Dutch banks, pension funds and insurance companies including their subsidiaries both within the Netherlands and abroad. They are considered representative cases for their respective subsectors in the financial sector.

The three largest Dutch banks are: ABN Amro, ING Group and Rabobank.

In the insurance sector, based on assets under Dutch management, the five largest Dutch insurance companies are:

- Achmea
- Aegon
- ASR Nederland
- Athora Netherlands
- NN Group

During the research NN Group sold its asset management branch to Goldman Sachs, a US based financial services company. Since the financial research only identified portfolios held by the asset management arm of NN Group rather than the insurance company arm, it has been excluded from the research findings. The portfolios of Athora Netherlands could not be retrieved from Refinitiv. It is therefore excluded from the research findings.

From the pension fund sector eight major pension funds were included in the study:

- Algemeen Burgerlijk Pensioenfonds (ABP)
- Bedrijfstakpensioenfonds voor de Bouwnijverheid (BpfBOUW)
- Pensioenfonds Detailhandel
- Pensioenfonds Horeca & Catering (PH&C)
- Pensioenfonds Metaal en Techniek (PMT)
- Pensioenfonds van de Metalelektro (PME)
- Pensioenfonds Vervoer
- Pensioenfonds Zorg en Welzijn (PFZW)

Pensioenfonds Vervoer does not disclose the values of its investments in bonds and shares of individual companies in its portfolio disclosures. Researchers reached out to Pensioenfonds Vervoer requesting access to more detailed portfolio disclosures which could be used to calculate the financed emissions of its portfolio. However, the pension fund preferred not to disclose this information.

Table 1 presents an overview of financial institutions included in the scope of the research. It further details the values of their corporate finance and investment portfolios that could be assessed through this research. This research screened the corporate finance and investment portfolios of the selected financial institutions (see section 1.2 for more details on the portfolio screening methodology). This screening could only identify part of the portfolios. For banks, all of the direct lending to corporate clients (i.e., where only one financial institution provides credit to a company) could not be retrieved from the financial databases used for this research. Only the banks themselves have access to this information. For insurance companies, only the portfolios that are published and made accessible to financial databases such as Refinitiv, could be retrieved. Finally, for the selected pension funds, their full corporate and sovereign bond and listed equity investment portfolios could be retrieved. However, and this also applies to the identified portfolios of the banks and insurance companies, not all of the identified portfolios could be assessed for their financed emissions. This was due to a lack of company level data needed to calculate attributable financed emissions (section 1.4).

The gap between the values of the portfolios that could be assessed, and the total corporate loans outstanding (for banks) or assets under management (for insurance companies and pension funds) was extrapolated (see section 1.5).

Table 1 Details of selected financial institutions and assessed values (2021)

Type of financial institution	Financial institution	Assessed value (EUR mln)	Total AUM / corporate loans outstanding (EUR mln)	% Assessed	Source
Bank	ABN Amro[a]	11,375	77,965	15%	[14]
	ING Group[b]	69,898	394,005	18%	[15]
	Rabobank[c]	22,105	212,165	10%	[16]
Insurance companies	Achmea[d]	3,940	220,000	2%	[17]
	Aegon[e]	88,287	410,000	22%	[18]
	ASR Nederland[e]	8,319	28,000	30%	[19]
Pension funds	Algemeen Burgerlijk Pensioenfonds (ABP)[f]	248,054	320,454	77%	[20]
	Bedrijfstakpensioenfonds voor de Bouwnijverheid (BpfBOUW)[f]	40,134	52,025	77%	[21]
	Pensioenfonds Detailhandel[f]	15,185	19,308	79%	[22]
	Pensioenfonds Horeca & Catering (PH&C)[f]	10,298	12,031	86%	[23]
	Pensioenfonds Metaal en Techniek (PMT)[f]	61,623	70,732	87%	[24]
	Pensioenfonds van de Metalelektro (PME)[f]	42,344	47,381	89%	[25]
	Pensioenfonds Zorg en Welzijn (PFZW)[f]	148,567	181,055	82%	[26]

Notes: (a) Loans and advances - corporate loans to clients, (b) Outstanding loans per business line excluding private individuals, central banks, central governments, and lower public administration, (c) Loans and advances - Trade, Industry, Services (TIS), and Food & Agri, (d) Total assets under management of Achmea Investment Management, excluding Syntrus Achmea Real Estate & Finance; (e) total assets under management; (f) equity and bond portfolios only.

1.2 Portfolio screening

This section details how the corporate finance, and investment portfolios of the selected financial institutions was researched. A number of asset classes described in the Partnership Carbon Accounting Financials (PCAF) methodology were not included in the scope of the research. These were: project finance, commercial real estate, mortgages, and motor vehicle loans. This was due to the limitations of data accessible to researchers using financial databases, where financial institutions have complete access to their portfolios.

For banks, their asset management activities (i.e., investments in bonds and shares), were not included in this research. This was due to the focus of the research on the banks' primary activity, namely lending.

The remainder of this section details the portfolio screening methodology per financial sector actor.

1.2.1 Banks

The research used the deal screener function in Refinitiv to identify all loans provided by the three selected banks since January 2011 which had not matured by 31 December 2021. It should be noted that Refinitiv only includes data on syndicated loans. Bilateral lending – i.e., where only one bank provided a loan to a client – is not covered by the financial databases due to banking sector confidentiality regulations. Therefore, further extrapolation was needed, as discussed in section 1.5, to cover the proportions of outstanding loans not captured by the Refinitiv deal screener. Similar to loans, this research used the Refinitiv deal screener to identify bond and share issuance financed by the banks. Contributions from the banks were considered numerator in the attribution factor calculations (see section 1.3 for details). Contrary to loans, this research did not extrapolate financed emissions from issuances as the coverage of this information in Refinitiv is more complete.

1.2.2 Insurance companies

This research could retrieve the investment portfolios of asset management subsidiaries of insurance companies. The research did not assess insurance portfolios. Data on the equities, corporate and sovereign bonds portfolios of the selected insurance companies was retrieved from Refinitiv for the reporting quarter 31 December 2021. Portfolios of individual asset management subsidiaries were retrieved where available and compiled into a larger dataset per insurance company. It should be noted that such portfolios were not available for every asset management subsidiary. Therefore, further extrapolation was needed as discussed in section 1.5 since the identified portfolios did not cover the total assets under management of the selected insurance companies.

The portfolios of Athora Netherlands could not be retrieved from Refinitiv. It is therefore excluded from the research findings. During the research NN Group sold its asset management branch to Goldman Sachs, a US based financial services company. Since the financial research only identified portfolios held by the asset management arm of NN Group rather than the insurance company arm, it has been excluded from the research findings.

1.2.3 Pension funds

Data on the equities, corporate and sovereign bonds portfolios of the selected pension funds was retrieved from the disclosures of the pension funds themselves. Where possible the disclosures from 31 December 2021 were used, otherwise disclosures from the nearest reporting quarter were used.

1.3 Partnership Carbon Accounting Financials (PCAF) methodology

PCAF was developed and is used by financial institutions to measure and disclose their financed emissions, i.e., the emissions financed by their loans and investments. Scope 3 emissions are corporate value chain emissions. The GHG Protocol classifies the scope 3 corporate value chain emissions of the financial sector as Category 15 investment activities.

To calculate the attributable emissions generated through a financial relationship with a borrower or issuer, PCAF suggests the calculation of an attribution factor i.e., a factor with which to calculate the proportion of emissions generated by a specific company that can be attributed to a given financial institution based on the value and nature of the financial relationship. The denominator used in the formulas of this calculation varies slightly between types of companies. For listed companies enterprise value is used based on market capitalization + total borrowings + minority interest, i.e., enterprise value including cash (EVIC). For non-listed companies the denominator is equity + total borrowings + minority interest.

Attribution factor calculation for listed companies:

$$Attribution\ factor = \frac{Outstanding\ amount}{Enterprise\ value\ including\ cash\ (EVIC)}$$

Attribution factor calculation for non-listed companies:

$$Attribution\ factor = \frac{Outstanding\ amount}{Total\ equity + debt}$$

PCAF states that using EVIC helps to avoid issues with negative enterprise values due to the inclusion of cash (not deducting cash as in the regular enterprise value definition) as well as issues with attributing more than 100% of a company's emissions to financial institutions.[27]

This attribution factor is then multiplied by the emissions of borrower or issuer to derive attributable emissions financed by a given financial institution through its financial relationship with the company.

For example, Bank A has EUR 1 million loans outstanding to Company B on 31 December 2021. At year-end 2021, Company B has an EVIC of EUR 100 million (EUR 25 million equity + EUR 75 million debt). Therefore, the attribution factor is 1%. The scope 1 emissions of Company B are 100 tCO2e, scope 2,300 tCO2e, and scope 3 emissions 1,000 tCO2e. Bank A has 1% attributable financed emissions of each scope, i.e., scope 1 1 tCO2e, scope 2 3 tCO2e, and scope 3 10 tCO2e. A total therefore of 14 tCO2e of financed emissions through its relationship with this specific borrower/issuer.

The PCAF standard currently requires financial institutions only to report on the financed scope 1 and 2 emissions of the companies they have financial relationships with. For scope 3 emissions, the standard is following a phased-in approach where reporting of scope 3 emissions from companies in certain sectors is required in 2021 (oil & gas, and mining), with additional sectors in 2024 (transportation, construction, buildings, materials, and industrial activities) and all sectors in 2026.[28] Where scope 3 financed emissions of companies are reported, these are reported separately. This separate reporting allows for the reporting of these figures, while acknowledging the potential of double counting issues with scope 1 and scope 2 emissions of other borrowers and investees in their portfolio. However, while PCAF currently only requires the reporting of scope 3 emissions attributable to companies engaged in energy (oil & gas) and mining, this study reports on scope 3 emissions attributable to all sectors.

The PCAF standard currently does not have explicit guidance on calculating financed emissions from bond and share issuance underwriting. This current research suggests the same methodology used for calculating financed emissions for equity investments in listed companies can be used to calculate financed emissions from share issuance underwriting. Similarly, the same methodology suggested by PCAF to calculate financed emissions from investments in corporate bonds can be used to calculate financed emissions from bond issuance underwriting. To reduce this risk of potential double counting from institutional investors that purchased the corporate bonds or shares issued by the Dutch banks, only issuances provided in the one-year period of research (2021) were considered.

The risk is reduced because of the time gap between an issuance, and an investor reporting on a position. Many investors only report their holdings once a year, others every quarter. Some financial institutions reporting every quarter, such as some pension funds, do so with a delay of approximately one quarter. If a bond or share was issued in Q2, then it may only be disclosed in Q4, or even the following year. Given that different financial institutions have different reporting periods, and issuances are made throughout the year, taking a one year reduce the risk of double counting from institutional investors that purchased the corporate bonds or shares issued by the Dutch banks. Nevertheless, while the risk is reduced, it is possible that there may still be some double counting.

For the pension funds and insurance companies included in this study, the research also estimated the financed emissions through sovereign bonds. PCAF currently does not have explicit guidance on methods to calculate financed emissions through sovereign bonds. However, in November 2021, they published a draft of *New Methods for Public Consultation* which includes a discussion on possible approaches to calculating financed emissions through sovereign bonds. This research has chosen to use the territorial approach where scope 1 emissions relate to those produced and consumed domestically, scope 2 emissions to gross imports and scope 3 to gross exports. This research acknowledges the potential for double counting of emissions produced in other sectors and asset classes held by pension funds. However, this approach was chosen over the government approach due to incomplete availability of scope 1-3 data, limited input-output data, and that aggregated scope 1+2 emissions account for less than 1% of the Total Production Emissions of the sovereign.[29]

For sovereign bonds the following attribution factor calculation methodology was used:

$$Attribution\ factor = \frac{Exposure\ to\ sovereign\ bond}{Debt\ of\ country}$$

This was then applied to total sovereign production emissions as reported in Refinitiv.

1.4 Emissions data and PCAF method attribution factor denominator data

This research retrieved the identifiers (such as Organization PermIDs) used by Refinitiv for the borrowers and issuers identified in the portfolio screening stage (see section 1.2). Identifiers could not be attributed to all borrowers and issuers captured by the research. The identifiers were then used to retrieve scope 1-3 emissions of the borrowers and issuers captured by the research from Refinitiv for which identifiers could be retrieved. Refinitiv gathers emissions data from company publications. Additionally, Refinitiv uses its own methodology to estimate emissions per company (Scope 1-3) when reported values are not available.

Refinitiv states that it uses three models in order of preference to estimate emissions values where these are not reported: CO2 model, Energy model, and Median model.[30]

- The CO2 model uses emissions data for the company for the previous year(s), adjusting for changes in revenue and number of employees, to estimate the emissions for the current year.

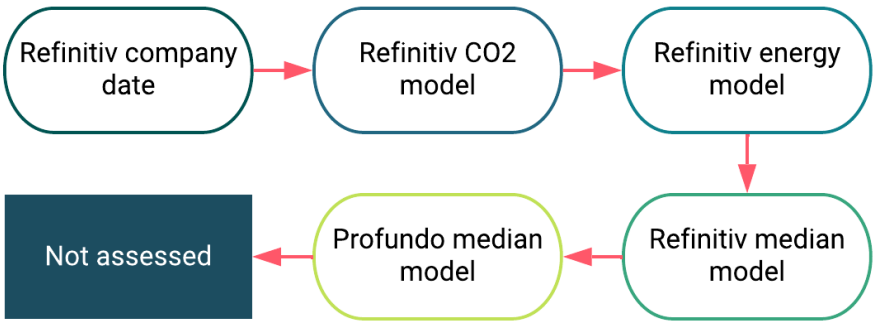
- When it is not possible to apply the CO2 model, the Energy model is used. The Energy model uses energy consumed (or energy produced for electric utility companies), adjusted for number of employees and revenue, compared with sector peers based on 8-, 6-, 4- or 2-digit The Refinitiv Business Classification (TRBC) codes. Selection of TRBC level depends on number of available energy consumption ratios per relevant level. If there is an insufficient number of energy consumption level ratios at the 8-digit level, then the 6-digit level is used. If there is an insufficient number of energy consumption level ratios at the 6-digit level, then the 4-digit level is used. And so on.
- When it is not possible to apply the Energy model, the Median model is used. The Median model is similar to the Energy model as it bases its estimations on sector peers. Firstly, the CO2 emissions per employee are calculated for all industry peers based on 8-, 6-, 4- or 2-digit TRBC codes. Selection of TRBC level depends on number of available energy consumption ratios per relevant level. The median of all these companies is then applied to the company for which CO2 emissions are missing. The same process is then carried out for CO2 emissions per revenue, i.e., CO2 emissions per dollar revenue are calculated for all industry peers on the basis of 8-, 6-, 4- or 2-digit TRBC codes. The median of all these companies is then applied to the company for which CO2 emissions are missing. The average of these two figures – estimated CO2 emissions for total employees and estimated CO2 emissions for total revenues – is then taken as the estimated CO2 emissions for the company in question. [31]

Where data was missing for 2021, emissions data from 2020 was used. These figures were then adjusted for changes in the number of employees and total revenues. The CO2 per employee and CO2 per euro revenue were calculated for the year for which data was available. These ratios were then applied to the figures for the number of employees and total revenues for 2021, and the average of these figures was taken as the estimated CO2 emissions for the current year.

Where there was no emissions data available from Refinitiv, Profundo used the Median model approach described above based on the available data in Refinitiv. Profundo calculated the CO2 emissions per employee and per euro revenue ratios calculated for all companies for which there was data available in the dataset built using Refinitiv data. These ratios were then applied to companies for which emissions data was missing at the TRBC 8 or 6 levels – industry or industry group – depending on the number of available ratios. If there were 10 or more ratios then TRBC 8-digit level was used, otherwise the 6-digit level was used. The 4 and 2 levels – business sector and economic sector – were not used as these are considered far too broad to make reasonably accurate estimations of CO2 emissions at the company level.

Figure 1 provides a visual representation of the emissions data estimation methodology.

Figure 1 Emissions data estimation methodology



Source: Refinitiv (2019, January), *Thomson Reuters ESG Carbon Data and Estimate Models*, p. 2-3, Profundo.

In cases where there was insufficient data to estimate the missing emissions, financed emissions for these borrowers/issuers were not assessed. Extrapolation was therefore needed to fill the gaps in the identified portfolios, as discussed in section 1.5.

The identifiers were also used to retrieve the attribution factor denominator – EVIC – components (i.e., market capitalization, equity, total borrowings and minority interest) for the years 2021 and 2020. Where these components could not be retrieved from Refinitiv, financed emissions for these borrowers/issuers were not assessed. Extrapolation was therefore needed to fill the gaps in the identified portfolios, as discussed in section 1.5.

For bondholdings of, loans to and investments in equity of listed companies, the EVIC as suggested by the PCAF guidance is market capitalization + total borrowings + minority interest. For non-listed companies the EVIC as suggested by the PCAF guidance is equity + total borrowings + minority interest.

1.5 Extrapolations

As noted above, and as can be seen in Table 1, there were gaps in financed emissions that could be assessed and the total corporate loans outstanding (for banks) or assets under management (for insurance companies and pension funds). These gaps were caused by a number of factors:

- **Missing portfolio data:** For the insurance companies, the full portfolios could not be retrieved from Refinitiv. For banks, the research could only retrieve data for syndicated loans recorded in the financial databases. Loans provided by the individual banks to corporate clients are not recorded in Refinitiv and could therefore not be researched.
- **Missing company information:** Identifiers needed to extract company level information from the financial databases could not be attributed to all borrowers and issuers captured by the research. Where identifiers could be attributed, other relevant company information was missing from Refinitiv. This related predominantly to information necessary to calculate financed emissions. It included information on emissions, market capitalization, equity, total borrowings, and minority interest.

Given the gaps in the financed emissions that could be assessed and the total corporate loans outstanding or assets under management, this research further extrapolated financed emissions to cover the total loans outstanding (of the banks) or the total assets under management (for insurance companies and pension funds). To do this, this research created an overview of the values of identified loans outstanding / investments per borrower / issuer sector for each of the selected financial institutions. This sector overview was thus considered a proxy for the portfolio composition of the selected financial institutions. For example, if Food & Beverages accounted for 8% of the identified portfolio of ABN Amro, then it was considered to account for 8% of its total corporate loans outstanding portfolio. The emissions intensity was calculated for each of the sectors per financial institution and multiplied by the sector's proportional value of loans outstanding / assets under management. This calculation was conducted for scope 1-3 emissions per sector. This resulted in extrapolated financed scope 1-3 emissions sector and per financial institution.

The sector overviews were made using TRBC business sector classifications rather than European standard NACE classifications. This is because the TRBC business sector classifications identify Energy – Fossil fuels as a separate category. Some financial institutions report on their corporate loans outstanding using NACE classifications (e.g., ABN Amro). But they are not consistent. For example, Rabobank uses a combination of NACE classifications and adapted version of several classifications suited to its business strategy. ING Group, on the other hand, uses NAICS. For this reason, and the fact that the TRBC business sector classifications identify Energy – Fossil fuels as a separate category, this research used the TRBC business sector classifications.

1.6 Limitations

The sections above have already indicated a few limitations of the research methodology. Most crucial among these is the availability of company deal / investment level data. The financial institutions themselves maintain detailed datasets of their portfolios, the companies they finance, and the values of these exposures at relevant reporting quarters. This research could only rely on information that is accessible in paid-for and public data sources. As described in section 1.2, this meant that for banks direct/bilateral lending could not be included in the research. For insurance companies it meant that only the (parts of) the portfolio included in Refinitiv could be assessed.

Additionally, some data points necessary to calculate attribution factors and financed emissions were not available for each borrower/issuer financed by the selected Dutch financial institutions. This included, as the starting point the identifiers necessary to extract the data points from Refinitiv. It further included emissions data, and financial indicators (e.g., market capitalization and total borrowings).

Given these gaps, extrapolation was needed to estimate the total financed emissions of the selected financial institutions through their corporate finance, and investment portfolios. Extrapolation is an estimation that is based on available data, and thus by its nature is not 100% accurate. It should, therefore, be noted that these extrapolations are estimations based on the best data available to the researchers.

A further limitation of the study is the ability to report on the financed scope 3 emissions of companies. Companies themselves determine which scope 3 emissions to include in their inventory, i.e., how they define their operational boundaries. This has several implications. Firstly, there are differences between companies active in the same sector in terms of what they consider their operational boundaries. This makes accurate comparison between companies impossible. For example, some financial service actors may not include their financed emissions through their investments (category 15 Investments). Or they may not report on all categories of their financial relations – e.g., issuance underwriting may not be included, while investments in equities are.

Secondly, there may be a degree of double counting of scope 3 emissions among actors. For example, in the category 11 Use of sold products, oil & gas companies, steel manufacturers, and auto manufacturers may all be reporting scope 3 emissions attributable to this category. This is inherent in the methodology and there are efforts by the GHG Protocol to address this.

Given the issues surrounding scope 3 reporting by companies, PCAF follows a phased-in approach where reporting of scope 3 emissions from companies in certain sectors is required in 2021 (oil & gas, and mining), with additional sectors in 2024 (transportation, construction, buildings, materials, and industrial activities) and all sectors in 2026. While PCAF currently only requires the reporting of financed scope 3 emissions attributable to companies engaged in energy (oil & gas) and mining, this study reports on emissions attributable to all sectors. However, it should be remembered that there is a risk of double counting within financed scope 3 emissions reporting. Nevertheless, scope 3 emissions account for a significant proportion of emissions of companies engaged in certain industries, such as oil & gas and the automotive industry.

A final limitation of this research is that it only provides a snapshot of the financed emissions in 2021. It is therefore not possible to trends towards reducing financed emissions.

1.7 Comparison of estimated financed emissions with reported financial emissions

Many financial institutions have started to report their own financed emissions. A growing number uses the PCAF methodology also used for this report. However, not all financial institutions report on their financed emissions from all relevant financial products or asset classes. This makes it difficult to compare the financed emissions of different financial institutions effectively.

Finally, financial institutions do not all report on their financed emissions per sector. Those that do often use industry classification systems such as Statistical Classification of Economic Activities in the European Community (NACE), which do not include a separate category for fossil fuels. These often fall under other categories. In the case of NACE, fossil fuel extraction falls under mining and quarrying, while midstream and downstream activities such as pipelines, refineries and sale of fossil fuel related products fall under other NACE sections (e.g., transportation and storage, manufacturing, and wholesale and retail trade). This may impact the emissions factors financial institutions use to extrapolate financed emissions gaps. If financial institutions use sector average emissions intensities for mining and quarrying rather than oil & gas specifically, the emissions intensities could be well be lower resulting in lower extrapolated financed emissions. This current research reports using the The Refinitiv Business Classification (TRBC), which differentiates the business sector Energy – Fossil fuels including up-, mid- and downstream fossil fuel-related business activities.

Table 2 provides an overview comparing the financed emissions reported by the financial institutions themselves, and those estimated by this study. For each variance, this research presents a possible explanation in the text below.

Table 2 Comparison of estimated financed (scope 1 and 2) emissions with reported financial emissions (MtCO2e, 2021 unless otherwise stated)

Type of financial institution	Financial institution	Estimated emissions	Reported emissions	Difference	Estimated intensity (tCO2/mln)	Reported intensity (tCO2/mln)	Difference (tCO2/mln)	Source
Banks	ABN Amro	13.27	18.38	-5.10	170	213	-42.74	[32]
	ING Group	72.84	37.43	+35.40	185	142	+42.86	[33]
	Rabobank	30.61	40.90	-10.29	144	n/a	n/a	[34]
Insurance companies	Achmea	5.85	-		27	67.9	-41.31	[35]
	Aegon	34.68	19.97	+14.71	85	n/a	n/a	[36]
	ASR Nederland	0.55	2.01	-1.46	20	74.2	-54.52	[37]
Pension funds	Algemeen Burgerlijk Pensioenfonds (ABP)	30.94	12.71	+18.23	97	n/a	n/a	[38]
	Bedrijfstakpensioenfonds voor de Bouwnijverheid (BpfBOUW)	4.60	2.72	+1.87	88	n/a	n/a	[39]
	Pensioenfonds Detailhandel	2.00	n/a	n/a	104	n/a	n/a	
	Pensioenfonds Horeca & Catering (PH&C)	0.85	n/a	n/a	71	34.1	+36.42	[40]
	Pensioenfonds Metaal en Techniek (PMT)	8.87	5.11	+3.76	125	n/a	n/a	[41]
	Pensioenfonds van de Metalelektro (PME)	4.11	3.04	+1.07	87	n/a	n/a	[42]
	Pensioenfonds Zorg en Welzijn (PFZW)	18.73	6.75	+11.98	103	n/a	n/a	[43]

1.7.1 Banks

- **ABN Amro**

  The estimated emissions from ABN Amro's corporate credit portfolio were 5 MtCO2e lower than the financial institution's self-reported emissions. The estimated emissions intensity was 43 tons of CO2 per million lower than ABN Amro's reported emissions intensity. Since the research could only identify syndicated financing and did not have access to the bilateral lending portfolio data, the level of extrapolation is high. This implies that the margin for error is also high. The actual sectoral composition of the lending portfolio, and the related emissions intensity per sector are likely to have driven the differences with the extrapolated data based on identified sectoral compositions and emissions intensities. [44]

- **ING Group**

  The estimated emissions from ING Group's wholesale banking portfolio were 35 MtCO2e higher than the financial institution's self-reported emissions. The estimated emissions intensity was 43 tons of CO2 per million higher than ING Group's reported emissions intensity. This research only had access to data on syndicated financing, and not to the ING Group's bilateral lending portfolio data, the level of extrapolation is high. This implies that the margin for error is also high. Since fossil fuels and some other heavy industries are a capital intensive requiring large levels of syndicated financing, it is likely that the portfolio composition identified by this research had a heavier fossil fuel and heavy industry weighting than ING Group's actual portfolio. This means that the extrapolation needed in this research generated a higher level of financed emission from fossil fuels.[45]

- **Rabobank**

  The estimated emissions from Rabobank's corporate credit portfolio were 10 MtCO2e lower than the financial institution's self-reported emissions from its Dutch Business Clients and Wholesale and Rural Clients. Rabobank's rural clients generated 18.6 MtCO2e financed emissions for the bank. However, it is also this client group that attracts larger proportions of bilateral lending that could not be captured by this research. As a result, it is likely that this research has underestimated Rabobank's financed emissions from the agricultural sector. [46]

1.7.2 Insurance companies

- **Achmea**

  Achmea reports on emissions intensities, but not on absolute emissions. Achmea reports an emissions intensity of 67.9 for its equity portfolio (Achmea EQ DM), and 2.6 for government bonds. This research estimated Achmea's emissions intensity at 27 tons of CO2e per million EUR. The difference is likely explained by the low level of the total assets under management that could be identified by this research – 2% (see Table 1 in section 1.1 for details).[47]

- **Aegon**

  The estimated emissions of Aegon's fixed income and listed equity investment portfolio were 15 MtCO2e higher than Aegon's reported financed emissions from its Corporate Fixed Income + Listed Equity and Sovereign Fixed Income portfolios. However, Aegon only reports on financed emissions from its Global General Account assets. This research could not differentiate between general account assets and assets under management for third parties. Therefore, the estimated financed emissions are higher than Aegon's own reported emissions.[48]

- **ASR Nederland**

  The estimated emissions of ASR Nederland's asset management portfolio are 1.4 MtCO2e lower than those reported by the financial institution itself. The estimated emissions intensity was 55 tons of CO2 per million lower than ASR Nederland's reported emissions intensity. The difference is likely explained by the low level of the total assets under management that could be identified by this research – 30% (see Table 1 in section 1.1 for details). This then required a higher level of extrapolation. The actual sectoral composition of the investment portfolio, and the related emissions intensity per sector are likely to have driven the differences with the extrapolated data based on identified sectoral compositions and emissions intensities.[49]

1.7.3 Pension funds

- **Algemeen Burgerlijk Pensioenfonds (ABP)**

  The estimated emissions of ABP's equity, corporate bond and sovereign bond portfolio are 18 MtCO2e higher than those reported by the pension fund itself. This is likely explained by differences in methodologies used to estimate the gaps in the data. This is most particularly an issue for corporate bonds where data coverage and company level data are lower than for listed equities. Moreover, a large part of this gap is attributable to sovereign bonds, which are not covered by ABP's financed emissions disclosures. ABP notes that it has made the calculation of their financed emission through their sovereign bond portfolio, but has decided not to publish this figure as it is waiting for more guidance from PCAF on reporting on this asset class. [50]

- **Bedrijfstakpensioenfonds voor de Bouwnijverheid (BpfBOUW)**

  The estimated emissions of BpfBOUW's equity, corporate and sovereign bond portfolio are 2 MtCO2e higher than those reported by the pension fund itself. This is likely explained by differences in methodologies used to estimate the gaps in the data. This is most particularly an issue for corporate bonds where data coverage and company level data are lower than for listed equities, and for the sovereign bond portfolio where different estimation methodologies can be used. Both these asset classes account for a larger proportion of BpfBOUW's portfolio composition than listed equities. [51]

- **Pensioenfonds Detailhandel**

  No details of the financed emissions of Pensioenfonds Detailhandel could be identified. It appears that the pension fund has committed to start measuring and reporting its financed emissions as of 2022.[52]

- **Pensioenfonds Horeca & Catering (PH&C)**

  PH&C reports on emissions intensities, but not on absolute emissions. PH&C reports an emissions intensity of 34 tons CO2e per million euros for its corporate portfolio, and 591 for government bonds. The estimated emissions did not differentiate between corporate bonds and sovereign bonds in the reported figures (of course the estimation methodology did differentiate between these two assets classes when emissions were calculated). Since sovereign bonds are included in the estimated emissions figures, and PH&C also identifies this asset class as having a high emissions intensity, this could explain the difference between the emissions estimated by this research and the reported emissions intensities.[53]

- **Pensioenfonds Metaal en Techniek (PMT)**

  The estimated emissions of PMT's investment portfolio are 4 MtCO2e higher than those reported by the pension fund itself. The pension fund does not report on financed emissions from the sovereign bond asset class. This likely explains the difference between the financed emissions estimated by this study, and those reported by the financial institution itself.[54]

- **Pensioenfonds van de Metalelektro (PME)**

  The estimated emissions of PME's investment portfolio are 1 MtCO2e higher than those reported by the pension fund itself. The pension fund does not report on financed emissions from the sovereign bond asset class. This likely explains the difference between the financed emissions estimated by this study, and those the financial institution reports itself.[55]

- **Pensioenfonds Zorg en Welzijn (PFZW)**

  The estimated emissions of PFZW's listed equity, corporate and sovereign bond portfolio are 12 MtCO2e higher than those reported by the pension fund itself. However, the assets under management listed next to the reported emissions is also EUR 64 billion lower than the identified bond and shareholding investments from the pension fund's own disclosures. A significant part of this gap is attributable to sovereign bonds, which are not covered by PFZW's financed emissions disclosures. The gap between the identified investment portfolio, and the reported assets under management used in the financed emissions reporting possibly explains a large proportion of the difference between estimated emissions and reported emissions.[56]

2

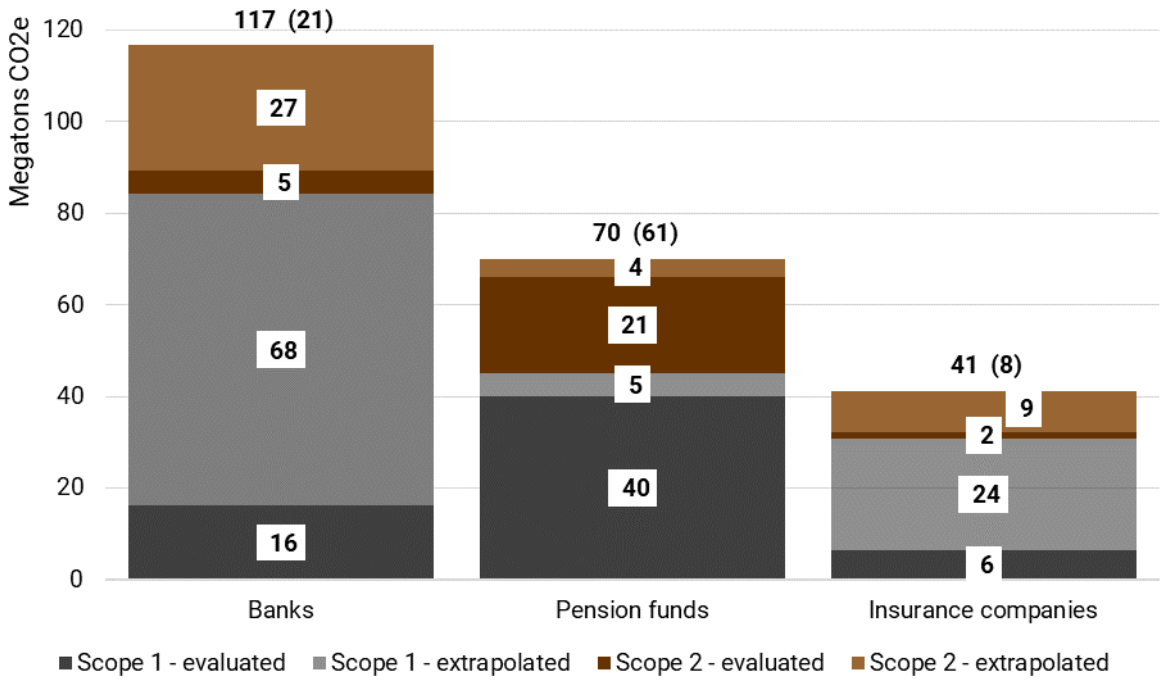
General findings

Selected financial institutions in the Dutch financial sector were estimated to have generated 228 MtCO2e through their corporate financing and investment portfolios. That is approximately more than 60 MtCO2e more than emitted by the Netherlands in 2021. 60 MtCO2e is equal to the emissions of Greece in that year.[57]

2.1 Financed scope 1 and 2 emissions

Analysis of the corporate lending and issuance underwriting portfolios of the selected banks, and of the investments in equities and bonds of the pension funds and insurance companies, estimated that in 2021 the selected financial institutions financed 228 MtCO2e. This research calculated 91 MtCO2e of financed emissions. Extrapolation based on portfolio sizes estimated a further 137 MtCO2e.

Figure 2 Financed emissions (scope 1 and 2) of financial institutions active in the Netherlands per type of institution (2021, MtCO2e)



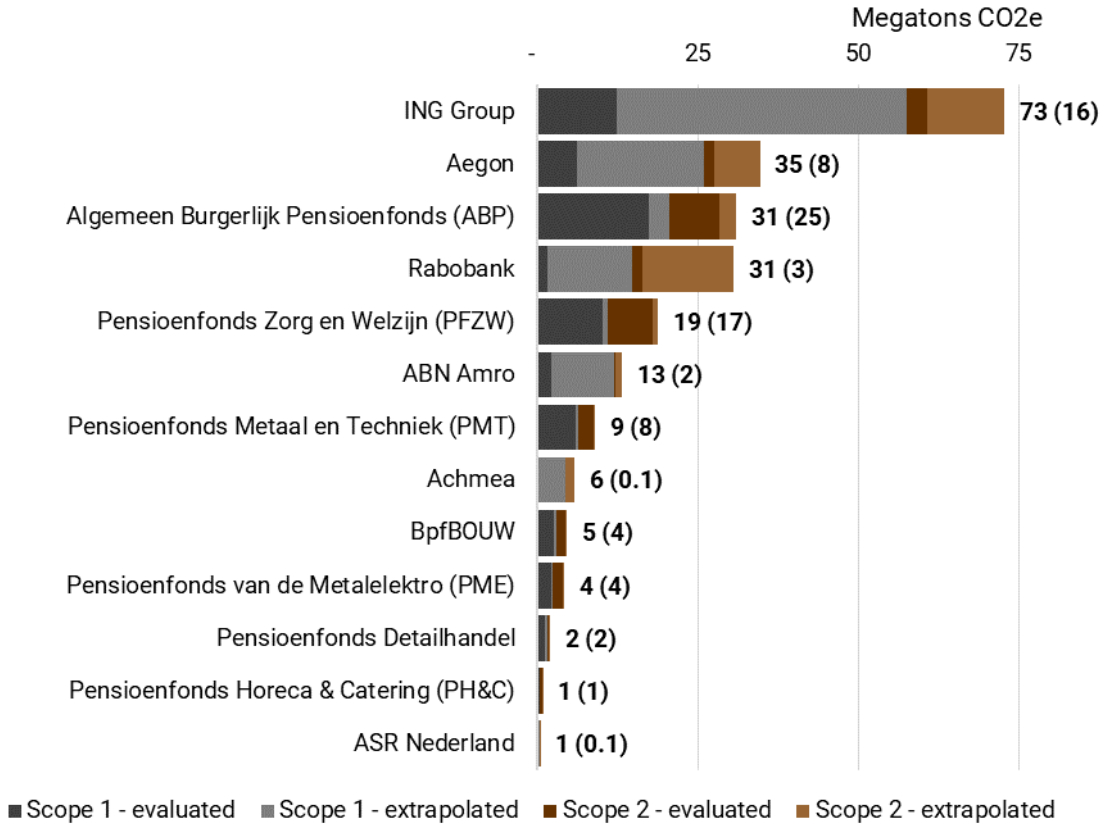
Note: Total extrapolated value with total evaluated value in brackets.

Banks were estimated to account for 117 Mt of scope 1 and 2 emissions of their clients, or 51% of all estimated attributable emissions. Pension funds were estimated to have generated 70 MtCO2e of emissions from their equity and fixed income portfolios, 31% of identified emissions. Finally, insurance companies were estimated to have financed 41 MtCO2e, 18% of financed emissions (see Figure 2).

The banks had an estimated emission intensity of 171 tons of CO2e per million EUR. They were followed by pension funds with an estimated emission intensity of 100 and insurance companies with an estimated 62 tons of CO2e per million EUR. This indicates that banks had the most polluting portfolios.

Figure 3 shows that the largest emitter was ING Group with an estimated 73 MtCO2e of financed scope 1 and 2 emissions from its clients in 2021. ING Group accounts for 32% of all estimated financed emissions of the selected financial institutions. ING Group is followed by Aegon (with an estimated 35 MtCO2e) and Algemeen Burgerlijk Pensioenfonds (ABP) (with an estimated 31 MtCO2e).

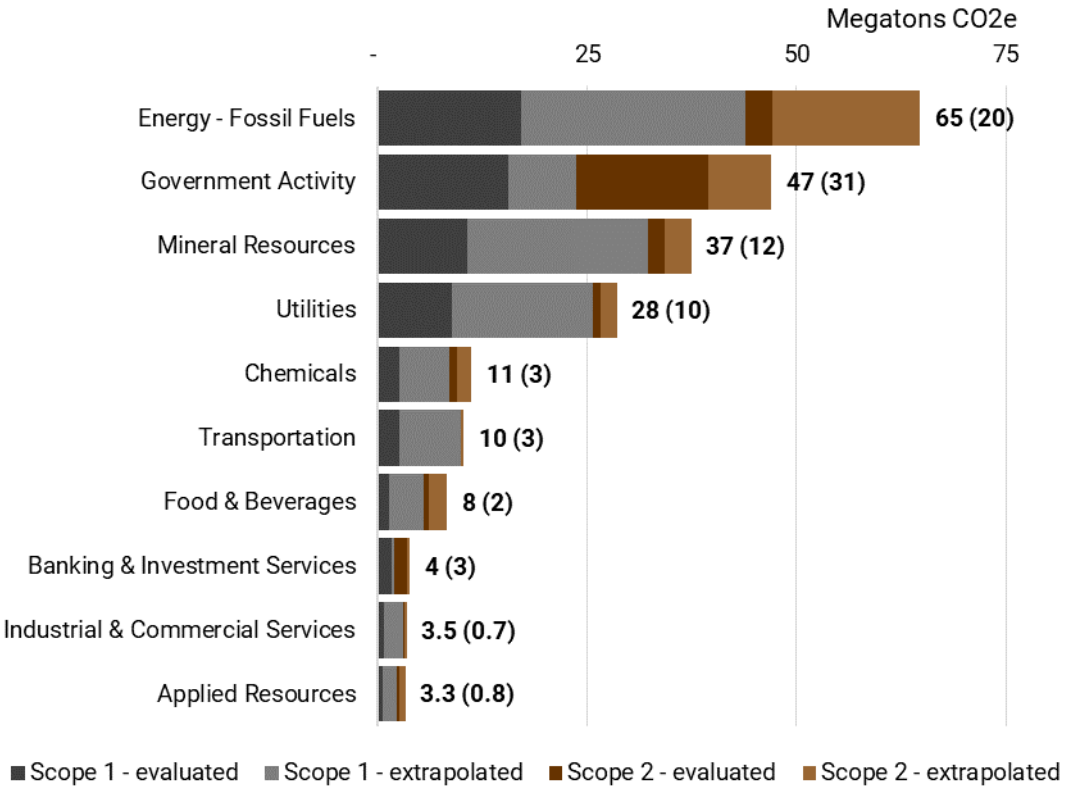
Figure 3 Financed emissions (scope 1 and 2) of financial institutions active in the Netherlands per financial institution (2021, MtCO2e)



Note: Total extrapolated value with total evaluated value in brackets.

The top 10 sectors estimated to generate the most financed emissions accounted for 95% of all estimated financed scope 1 and 2 emissions, 218 MtCO2e. The selected financial institutions were estimated to have financed the most emissions – 65 MtCO2e – in the fossil fuels sectors (see Figure 4). Financing of this sector accounted for 28% of all extrapolated attributable emissions. It was followed by government activity with an estimated 47 MtCO2e, 21% of emissions.

Figure 4 **Financed emissions (scope 1 and 2) of Dutch financial institutions, per business sector (2021, MtCO2e)**



Note: Total extrapolated value with total evaluated value in brackets.

2.2 Financed scope 3 emissions

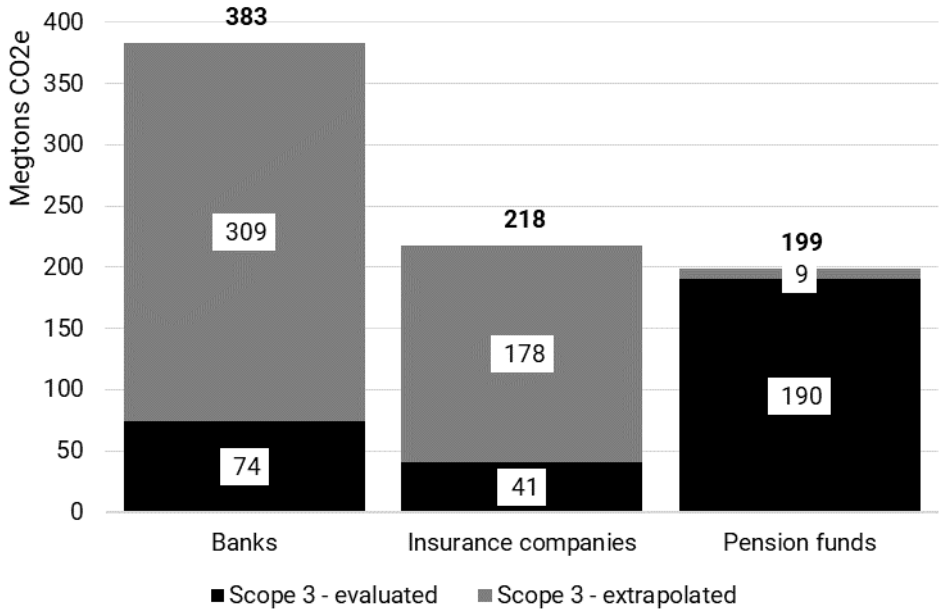
In line with the current PCAF standard, financed scope 3 emissions from borrowers and investees of financial institutions are reported separately here. It should be remembered that there is a risk of double counting within financed scope 3 emissions reporting. Nevertheless, scope 3 emissions account for a significant proportion of emissions of companies engaged in certain industries, such as oil & gas and the automotive industry. PCAF currently only requires the reporting of emissions attributable to companies engaged in energy (oil & gas) and mining. This study reports on emissions attributable to all sectors.

Together the selected Dutch financial institutions were estimated to have generated 801 Mt of CO2e scope 3 emissions through corporate lending, issuance underwriting and investments in equities and bonds. This research calculated 305 MtCO2e of financed emissions. Extrapolation based on portfolio sizes estimated a further 496 MtCO2e.

Banks were estimated to account for 383 MtCO2e of scope 3 emissions through their clients, or 48% of all scope 3 estimated attributable emissions. Insurance companies were estimated to have financed 218 MtCO2e of scope 3 emissions from their equity and fixed income portfolios, 27% of financed scope 3 emissions. Finally, pension funds were estimated to have generated 199 MtCO2e of scope 3 emissions, 25% of estimated financed scope 3 emissions (see Figure 5).

The banks were estimated to have an emission intensity of 560 tons of CO2e per million EUR for the scope 3 emissions of the companies they financed. They were followed by insurance companies with an estimated emission intensity of 332 and pension funds with an estimated emissions intensity of 283 tons of CO2e per million EUR.

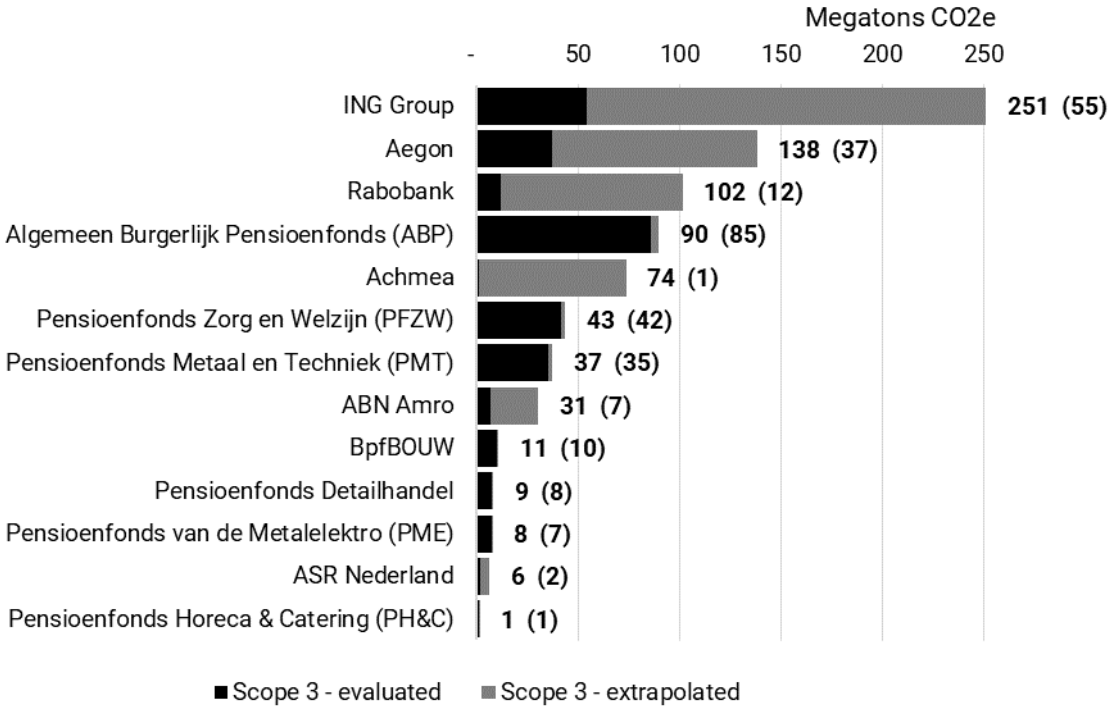
Figure 5 **Financed emissions (scope 3) of financial institutions active in the Netherlands per type of institution (2021, MtCO2e)**



Note: Total extrapolated value with total evaluated value in brackets.

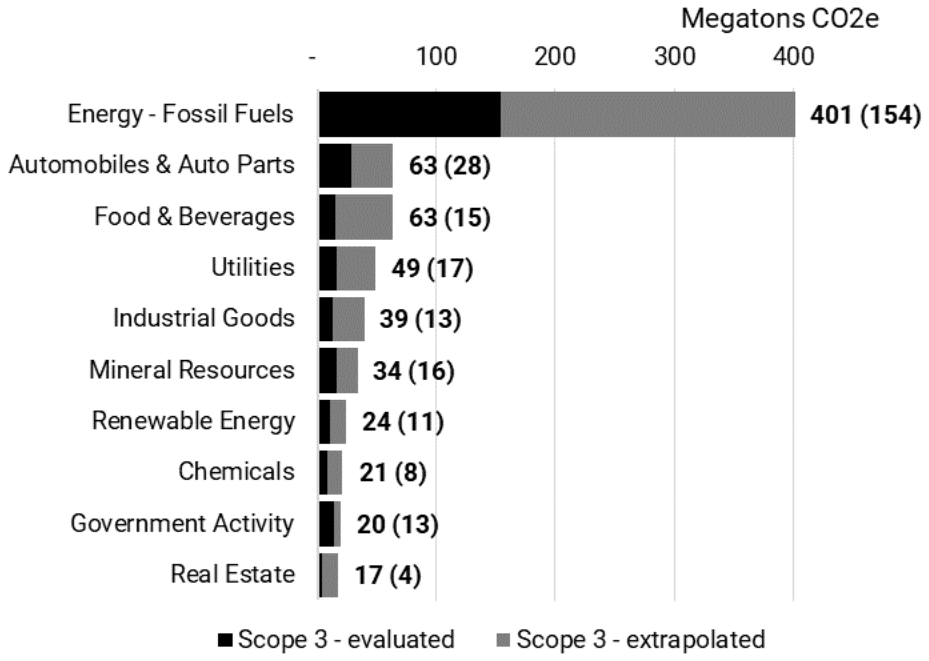
Figure 6 shows that the largest estimated scope 3 emissions financier was ING Group with 251 MtCO2e of financed emissions of its clients in 2021. This accounts for 31% of the estimated financed scope 3 emissions of the selected financial institutions. The banking group is followed by Aegon (with an estimated 138 MtCO2e of emissions) and Rabobank (with an estimated 102 MtCO2e of scope 3 emissions). ABP had the highest estimated attributable emissions of the pension funds, financing 90 MtCO2e of emissions through its equity and fixed income portfolios.

Figure 6 Financed (scope 3) emissions per financial institution (2021, MtCO2e)



Note: Total extrapolated value with total evaluated value in brackets.

Figure 7 Financed (scope 3) emissions per business sector (2021, MtCO2e)



Note: Total extrapolated value with total evaluated value in brackets.

The top 10 sectors estimated to generate the most financed scope 3 emissions accounted for 92% of all financed scope 3 emissions, 734 MtCO2e. Approximately half of these estimated financed emissions – 402 MtCO2e – were generated by companies active in fossil fuels. Companies engaged in automobiles production and auto parts were estimated to generate 64 MtCO2e of emissions for the selected financial institutions, 8% of researched financed emissions.

3

Banks

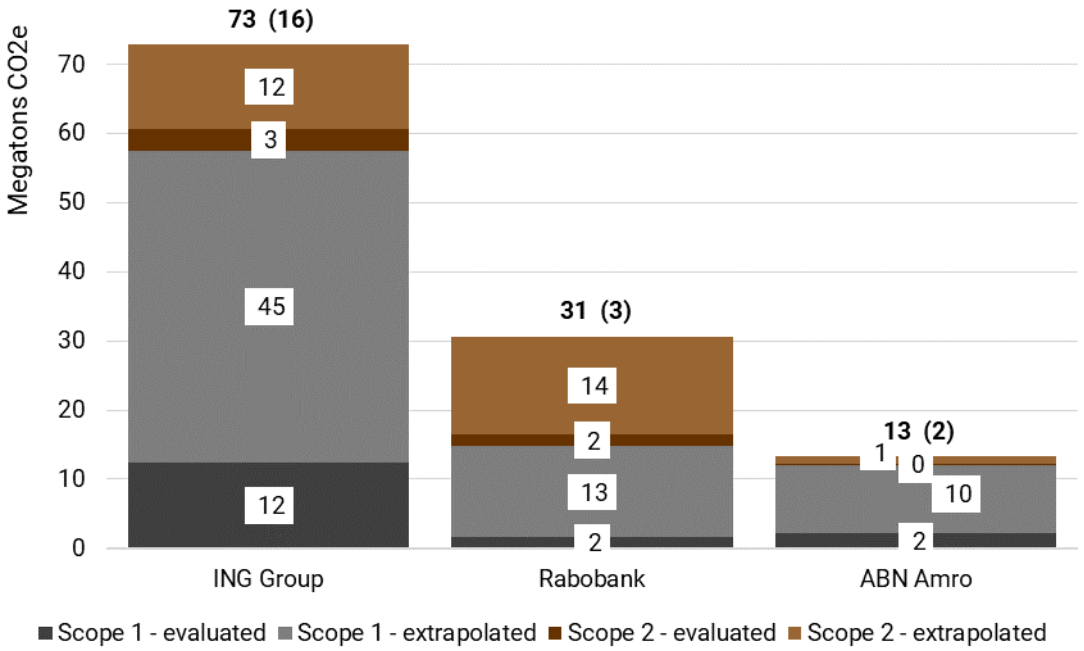
Selected Dutch banks were estimated to have generated 117 MtCO2e through their corporate finance portfolios. That is approximately 50 MtCO2e less than the emissions of the Netherlands in 2021. 50 MtCO2e is more than the emissions of Singapore in that year.[58] The largest emitter was ING Group accounting for more than 60% of emissions of the three selected Dutch banks.

3.1 Financed scope 1 and 2 emissions

Analysis of the corporate lending and issuance underwriting portfolios of the selected banks estimate that together they generated 117 MtCO2e scope 1 and 2 attributable emissions from their corporate finance portfolios. This research calculated 21 MtCO2e of financed emissions. Extrapolation based on portfolio sizes estimated a further 95 MtCO2e.

The largest emitter among them was estimated to be ING Group with 73 MtCO2e of financed emissions of its clients in 2021 (see Figure 8). ING Group was estimated to account for more than 60% of attributable emission financed by the selected Dutch banks. It was followed by Rabobank with an estimated 31 MtCO2e, and ABN Amro with an estimated 13 megatons.

Figure 8 Dutch Banks: Financed (scope 1 and 2) emissions per financial institution (2021, MtCO2e)

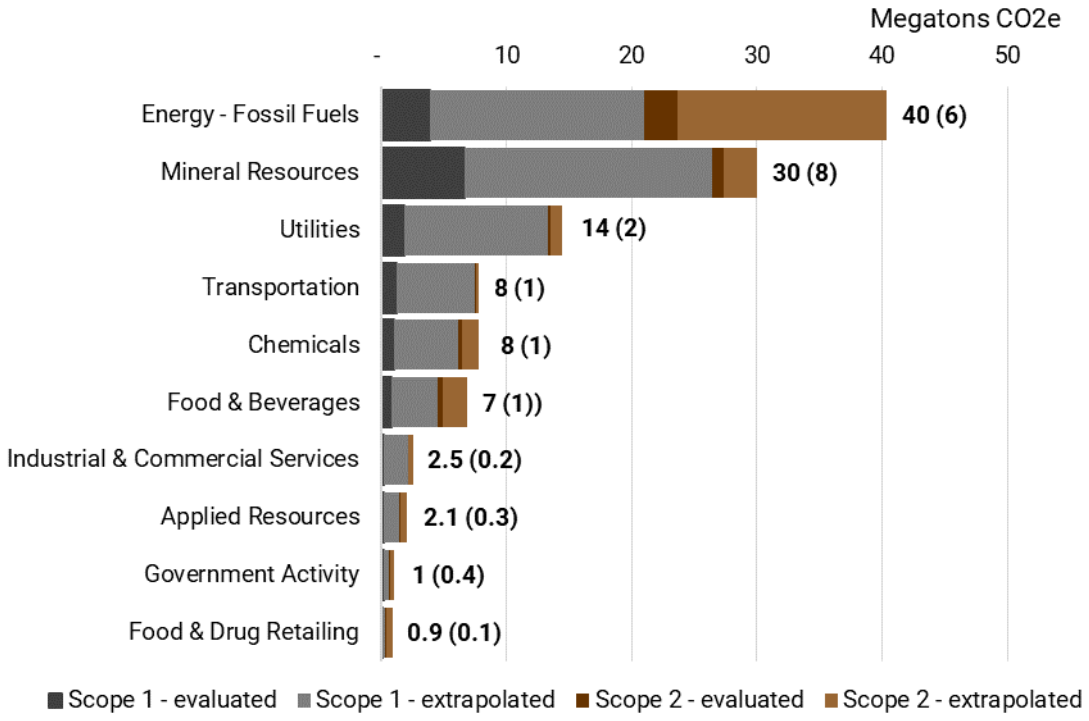


Note: Total extrapolated value with total evaluated value in brackets.

In addition to being the largest emitter among the Dutch banks, ING Group was also estimated to have the highest emissions intensity from its financed emissions with an estimated emission intensity of 185 tons of CO2e per million EUR. ABN Amro was estimated to have the second highest emissions intensity with 170 tons of CO2e per million EUR, followed by Rabobank with an estimated 144.

The top 10 sectors estimated to generate the most financed emissions accounted for 97% of all estimated financed scope 1 and 2 emissions from the Dutch banks. This is equal to 113 MtCO2e. The selected banks were estimated to finance the most emissions in the fossil fuels and mineral resources sectors, with 40 MtCO2e and 30 MtCO2e respectively (see Figure 9). Together these two sectors were estimated to account for 60% of the attributable emissions financed by the three Dutch banks.

Figure 9 Dutch Banks: Financed (scope 1 and 2) emissions per business sector (2021, MtCO2e)



Note: Total extrapolated value with total evaluated value in brackets.

A closer look at the top 5 sectors estimated to have the highest emissions per bank shows some notable differences (Table 3). 30% of ABN Amro's estimated financed emissions were attributable to fossil fuels, and 24% to transportation. For ING Group, almost 40% of its attributable scope 1 and 2 emissions from its clients were estimated to be generated from companies engaged in mineral resources, followed by companies engaged in fossil fuels. More than 45% of Rabobank's estimated financed emissions were generated by companies engaged in fossil fuels, and just under a quarter from companies engaged in food & beverages.

Table 3 Dutch Banks: Top 5 financed emissions sectors per bank (2021, scope 1 and 2, MtCO2e)

Bank	Business sector	Evaluated				Extrapolated			
		Scope 1	*Scope 2*	*Total*	*% of total*	*Scope 1*	*Scope 2*	*Total*	*% of total*
ABN Amro	Energy - Fossil Fuels	0.9	0.0	0.9	37%	3.8	0.2	4.0	30%

Bank	Business sector	Evaluated				Extrapolated			
		Scope 1	*Scope 2*	*Total*	*% of total*	*Scope 1*	*Scope 2*	*Total*	*% of total*
	Transportation	0.4	0.0	0.4	16%	3.1	0.0	3.1	24%
	Utilities	0.3	0.0	0.3	13%	1.7	0.1	1.8	14%
	Mineral Resources	0.3	0.1	0.4	17%	1.1	0.3	1.3	10%
	Chemicals	0.2	0.0	0.2	7%	1.1	0.2	1.3	9%
ABN Amro Total		*2.0*	*0.2*	*2.2*	*91%*	*10.8*	*0.8*	*11.6*	*87%*
ING Group	Mineral Resources	6.2	0.8	7.0	45%	24.6	3.2	27.8	38%
	Energy - Fossil Fuels	2.8	1.3	4.1	26%	15.0	7.2	22.2	30%
	Utilities	1.2	0.1	1.3	9%	6.9	0.7	7.6	10%
	Transportation	0.8	0.0	0.8	5%	4.3	0.3	4.5	6%
	Chemicals	0.6	0.2	0.9	6%	3.1	1.2	4.3	6%
ING Group Total		*11.6*	*2.6*	*14.2*	*91%*	53.9	12.5	66.4	91%
Rabobank	Energy - Fossil Fuels	0.2	1.2	1.4	43%	2.2	11.9	14.1	46%
	Food & Beverages	0.5	0.3	0.7	22%	3.2	1.8	4.9	16%
	Utilities	0.3	0.0	0.3	9%	4.7	0.2	4.9	16%
	Chemicals	0.2	0.0	0.2	8%	1.9	0.3	2.2	7%
	Applied Resources	0.2	0.1	0.2	7%	0.9	0.5	1.4	5%
Rabobank Total		*1.4*	*1.6*	*2.9*	*90%*	*12.9*	*14.7*	*27.6*	*90%*
Total		**15.0**	**4.3**	**19.4**	**90%**	**77.6**	**28.0**	**105.6**	**90%**

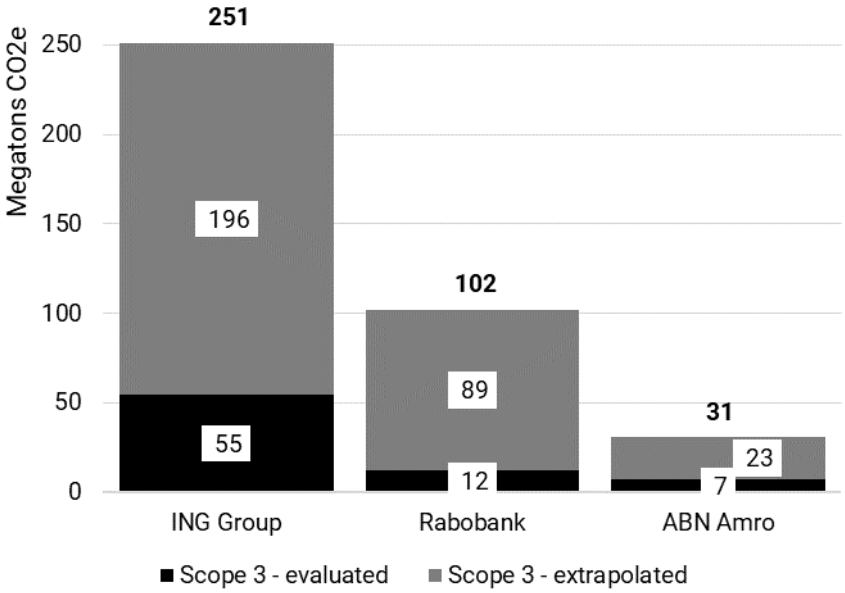
3.2 Financed scope 3 emissions

In line with the current PCAF standard, financed scope 3 emissions from borrowers and investees of financial institutions are reported separately here. It should be remembered that there is a risk of double counting within financed scope 3 emissions reporting. Nevertheless, scope 3 emissions account for a significant proportion of emissions of companies engaged in certain industries, such as oil & gas and the automotive industry. PCAF currently only requires the reporting of emissions attributable to companies engaged in energy (oil & gas) and mining, this study reports on emissions attributable to all sectors.

Together the three Dutch banks were estimated to generate 383 Mt of scope 3 emissions through their corporate lending and issuance underwriting services in 2021. This research calculated 74 MtCO2e of financed emissions. Extrapolation based on portfolio sizes estimated a further 309 MtCO2e.

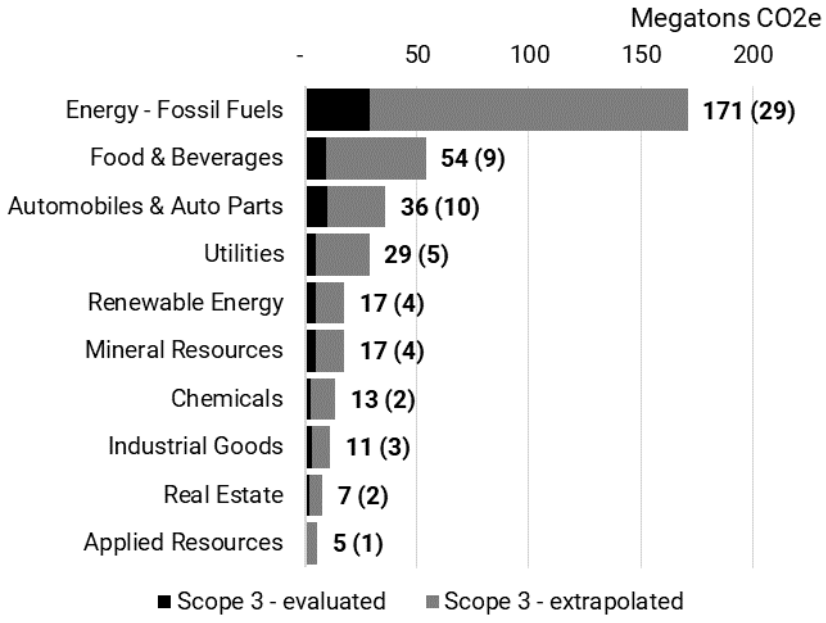
Figure 10 shows that ING Group was estimated to account for 251 MtCO2e of these emissions, approximately two thirds of the emissions estimated to be generated by the three Dutch banks. It was followed by Rabobank with an estimated 102 MtCO2e and ABN Amro with an estimated 31 megatons.

Figure 10 Dutch Banks: Financed (scope 3) emissions per financial institution (2021, MtCO2e)



In addition to being the largest emitter among the Dutch banks, ING Group was also estimated to have the highest emissions intensity from its financed scope 3 emissions with an estimated emission intensity of 637 tons of CO2e per million EUR. Rabobank was estimated to have the second highest emissions intensity with 479 tons of CO2e per million EUR, followed by ABN Amro with an estimated 393.

Figure 11 Dutch Banks: Financed (scope 3) emissions per business sector (2021, MtCO2e)



Note: Total extrapolated value with total evaluated value in brackets.

The top 10 sectors estimated to generate the most financed scope 3 emissions accounted for 94% of all estimated financed emissions, 361 MtCO2e. 45% of these estimated financed emissions – 171 MtCO2e – were generated by companies active in fossil fuels. Companies engaged in food & beverages were estimated to generate 54 MtCO2e emissions for the selected Dutch banks, 14% of estimated financed emissions (see Figure 11).

4

Insurance companies

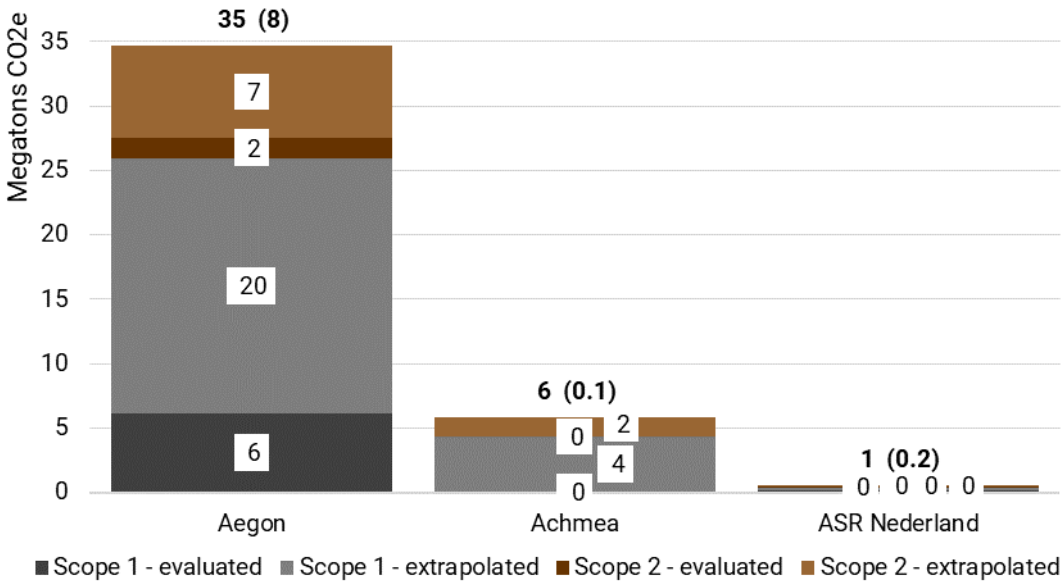
Selected Dutch insurance companies were estimated to generate 41 MtCO2e through their investment portfolios. That is approximately equal to the emissions by Portugal in 2019.[59] The largest emitter was Aegon, estimated to account for 85% of emissions of the three selected Dutch insurance companies.

4.1 Financed scope 1 and 2 emissions

Analysis of the investments in equities and fixed income (corporate and sovereign bonds) estimates that the three selected Dutch insurance companies financed 41 MtCO2e scope 1 and 2 emissions through their portfolios. This research calculated 8 MtCO2e of financed emissions. Extrapolation based on portfolio sizes estimated a further 33 MtCO2e.

As Figure 12 shows, Aegon was estimated to be the largest emitter with 35 MtCO2e, accounting for 85% of emissions of the selected Dutch insurance companies. Achmea and ASR Nederland were estimated to have much smaller financed emissions of 6 and 0.6 MtCO2e respectively.

Figure 12 Dutch Insurance companies: Financed (scope 1 and 2) emissions per financial institution (2021, MtCO2e)

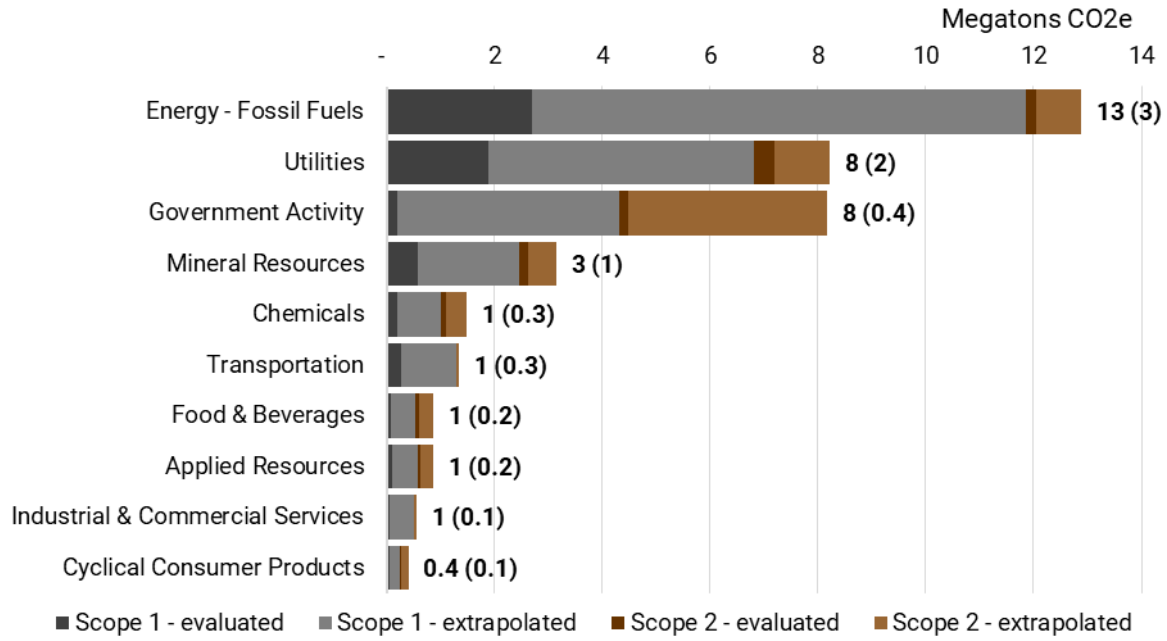


Note: Total extrapolated value with total evaluated value in brackets.

In addition to being the largest estimated emitter among the insurance companies, Aegon also had the highest estimated emissions intensity from its financed emissions with an estimated emission intensity of 85 tons of CO2e per million EUR. Achmea had the second highest estimated emissions intensity with 27 tons of CO2e per million EUR, followed by ASR Nederland with an estimated 20.

The top 10 sectors estimated to generate the most financed emissions accounted for 92% of all estimated financed emissions from the Dutch insurance companies – equal to 38 megatons. The selected insurance companies were estimated to finance the most emissions through fossil fuels, with an estimated 13 MtCO2e (see Figure 13). This accounted for 31% of the extrapolated financed emissions from Dutch insurance companies. Companies engaged in utilities were estimated to account for a further quarter – 8 MtCO2e.

Figure 13 Dutch Insurance companies: Financed (scope 1 and 2) emissions per business sector (2021, MtCO2e)



Note: Total extrapolated value with total evaluated value in brackets.

A closer look at the top 5 sectors estimated to have the highest financed emissions per insurance company shows some similarities and differences (Table 4). For all three insurance companies, fossil fuels were estimates to generate the most scope 1 and 2 emissions in their portfolios. For Achmea and Aegon this was estimated to be approximately 40%, and for ASR approximately a quarter.

Table 4 Dutch Insurance companies: Top 5 financed emissions sectors per insurance company (2021, scope 1 and 2, MtCO2e)

Insurance company	Business sector	Evaluated				Extrapolated			
		Scope 1	Scope 2	Total	% of total	Scope 1	Scope 2	Total	% of total
Achmea	Energy - Fossil Fuels	0.04	0.01	0.04	40%	2.1	0.3	2.3	40%
	Chemicals	0.01	0.002	0.01	8%	0.3	0.1	0.4	8%
	Mineral Resources	0.01	0.001	0.01	7%	0.3	0.1	0.4	7%
	Utilities	0.01	0.001	0.01	6%	0.3	0.05	0.3	6%
	Transportation	0.005	0.000	0.01	5%	0.3	0.02	0.3	5%
Achmea Total		*0.1*	*0.0*	*0.1*	*65%*	*3.3*	*0.6*	*3.8*	*65%*
Aegon	Energy - Fossil Fuels	2.6	0.2	2.8	37%	9.7	0.7	10.4	30%
	Utilities	1.8	0.4	2.2	29%	6.4	1.4	7.8	22%
	Government Activity	0.2	0.2	0.4	5%	4.2	3.8	8.0	23%
	Mineral Resources	0.6	0.2	0.7	10%	2.1	0.6	2.7	8%
	Transportation	0.3	0.0	0.3	3%	1.0	0.0	1.0	3%
Aegon Total		*5.5*	*0.9*	*6.4*	*84%*	*23.4*	*6.5*	*29.9*	*86%*
ASR Nederland	Energy - Fossil Fuels	0.04	0.00	0.04	25%	0.1	0.01	0.1	25%
	Utilities	0.03	0.00	0.03	17%	0.1	0.01	0.1	17%
	Chemicals	0.01	0.01	0.02	12%	0.04	0.03	0.1	12%
	Mineral Resources	0.01	0.00	0.01	9%	0.04	0.01	0.05	9%
	Transportation	0.01	0.00	0.01	7%	0.03	0.00	0.04	7%
ASR Nederland Total		*0.1*	*0.0*	*0.1*	*70%*	*0.3*	*0.1*	*0.4*	*70%*
Total		**5.7**	**1.0**	**6.6**	**89%**	**27.0**	**7.1**	**34.1**	**83%**

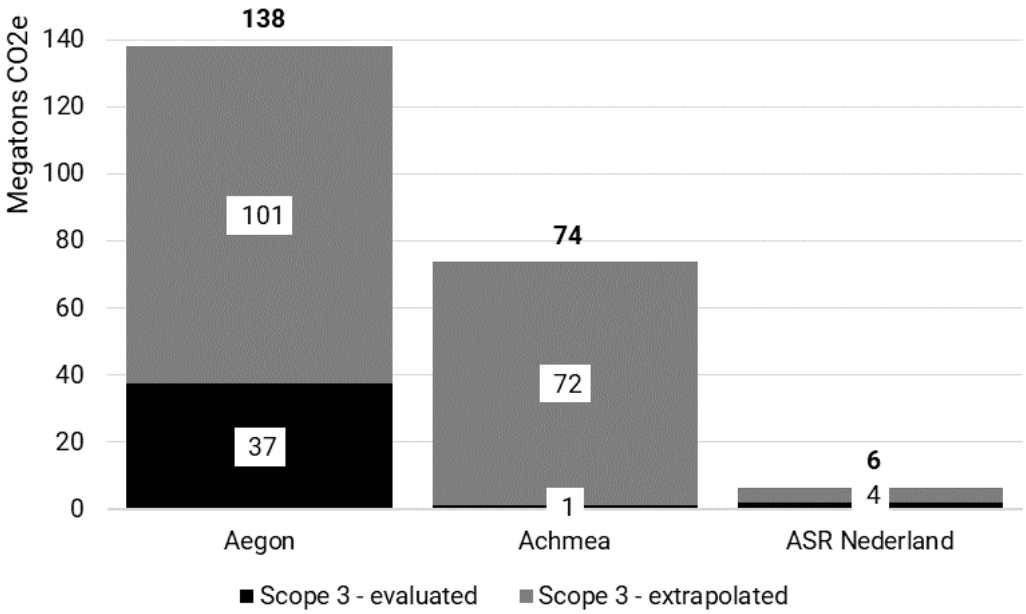
4.2 Financed scope 3 emissions

In line with the current PCAF standard, financed scope 3 emissions from borrowers and investees of financial institutions are reported separately here. It should be remembered that there is a risk of double counting within financed scope 3 emissions reporting. Nevertheless, scope 3 emissions account for a significant proportion of emissions of companies engaged in certain industries, such as oil & gas and the automotive industry. PCAF currently only requires the reporting of emissions attributable to companies engaged in energy (oil & gas) and mining, this study reports on emissions attributable to all sectors.

Together the three Dutch insurance companies were estimated to have generated 218 MtCO2e of scope 3 emissions through their investment portfolios in 2021. This research calculated 41 MtCO2e of financed emissions. Extrapolation based on portfolio sizes estimated a further 178 MtCO2e.

Figure 14 shows that Aegon was estimated to be the largest emitter with 138 MtCO2e (63%). Achmea was estimated to have generated 34% of the identified emissions of the selected insurance companies, equal to 74 MtCO2e.

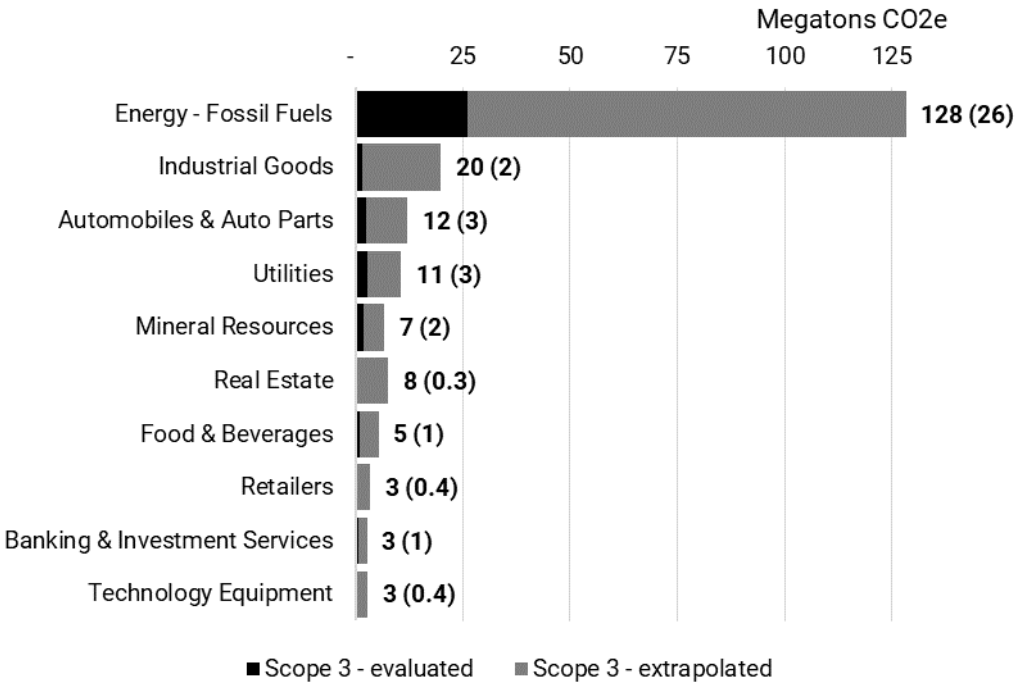
Figure 14 Dutch Insurance companies: Financed (scope 3) emissions per financial institution (2021, MtCO2e)



In addition to being estimated to be the largest emitter among the insurance companies, Aegon also had the highest estimated emissions intensity from its financed scope 3 emissions with an estimated emission intensity of 337 tons of CO2e per million EUR. Achmea had the second highest estimated emissions intensity with 335 tons of CO2e per million EUR, followed by ASR Nederland with an estimated 230.

The top 10 sectors estimated have generated the most financed scope 3 emissions accounted for 92% of all estimated financed emissions, 200 MtCO2e. 60% of these estimated financed emissions – 128 MtCO2e – were generated by companies active in fossil fuels (see Figure 15).

Figure 15 Dutch Insurance companies: Financed (scope 3) emissions per business sector (2021, MtCO2e)



Note: Total extrapolated value with total evaluated value in brackets.

5

Pension funds

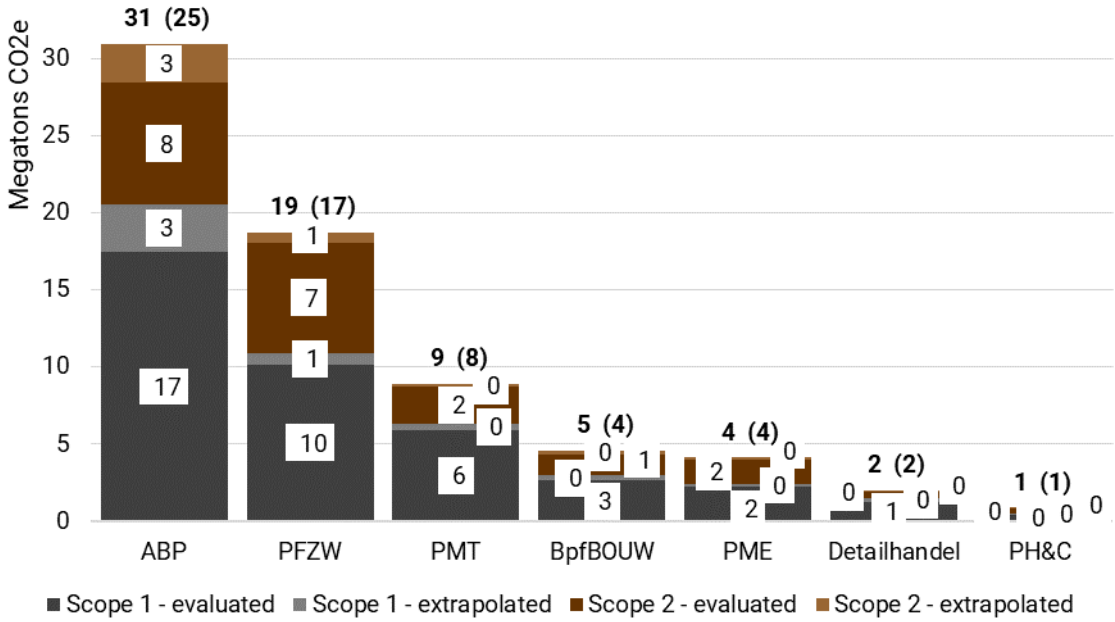
Selected Dutch pension funds were estimated to have generated 70 MtCO2e through their investment portfolios. That is approximately equal to the emissions by Morocco in 2019. [60] The largest emitter was estimated to be Algemeen Burgerlijk Pensioenfonds (ABP), accounting for almost 45% of the estimated emissions of the selected Dutch pension funds.

5.1 Financed scope 1 and 2 emissions

Analysis of the investments in equities and fixed income (corporate and sovereign bonds) estimates that the selected Dutch pension funds financed 70 MtCO2e scope 1 and 2 emissions through their portfolios. This research calculated 61 MtCO2e of financed emissions. Extrapolation based on portfolio sizes estimated a further 9 MtCO2e.

As Figure 16 shows, ABP was estimated to be the largest emitter with 31 MtCO2e, accounting for 44% of emissions of the selected Dutch pension funds. It was followed by PFZW (with an estimated 19 MtCO2e) and PMT (with an estimated 9 MtCO2e financed emissions).

Figure 16 Dutch Pension funds: Financed (scope 1 and 2) emissions per financial institution (2021, MtCO2e)

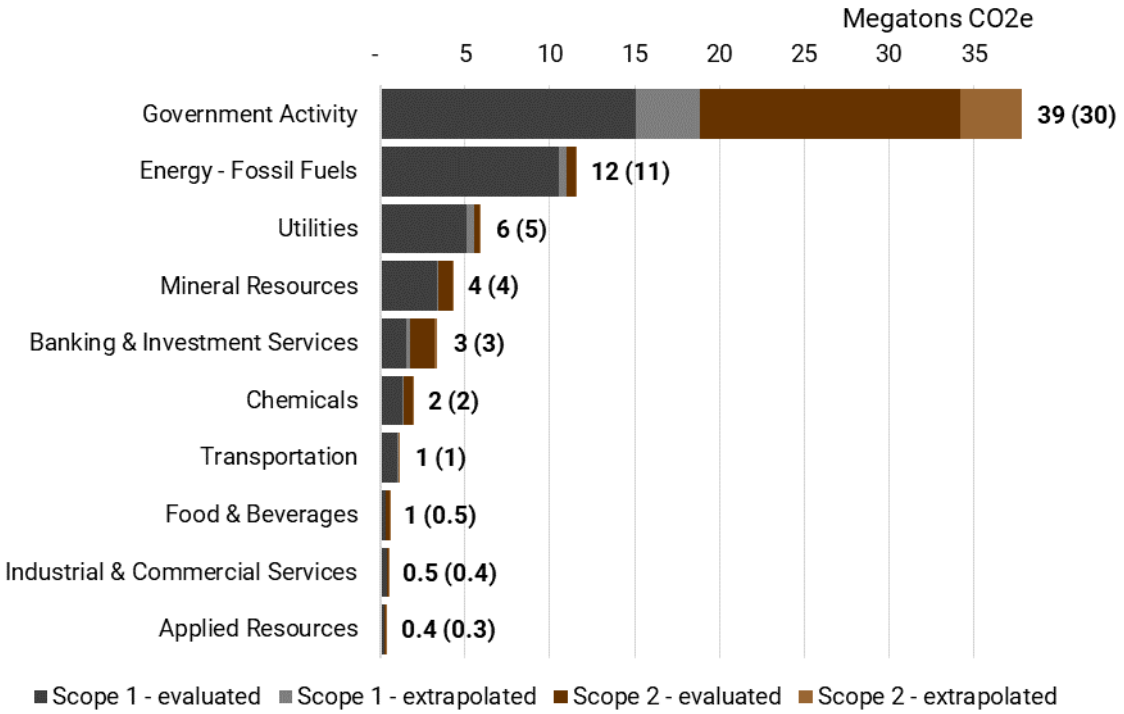


Note: Total extrapolated value with total evaluated value in brackets.

Although ABP had the highest estimated absolute financed emissions, PMT had the highest estimated financed emissions intensity. PMT had an estimated emission intensity of 125 tons of CO2e per million EUR. It was followed by Detailhandel with an estimated 104, and PFZW with an estimated 103 tons of CO2e per million EUR invested.

The top 10 sectors estimated to have generated the most financed emissions were responsible for 96% of all estimated financed scope 1 and 2 emissions from the Dutch pension funds. This is equal to 67 MtCO2e. The selected pension funds were estimated to have financed the most emissions through sovereign bonds – 39 MtCO2e emissions – accounting for more than 54% of estimated attributable emissions of the Dutch pension funds. Companies engaged in fossil fuels were estimated to have generated a further 12 MtCO2e for the pension funds, approximately 16% of the estimated financed emissions of these pension funds.

Figure 17 Dutch Pension funds: Financed (scope 1 and 2) emissions per business sector (2021, MtCO2e)



Note: Total extrapolated value with total evaluated value in brackets.

A closer look at the top 5 sectors with the highest estimated financed emissions per pension fund shows some strong similarities (Table 5). Sovereign bonds were estimated to have played the largest role in the financed emissions of all pension funds, contributing between 40% and 85% of the financed emissions for individual pension funds. Fossil fuels was an important driver of financed emissions for ABP (16%), BpfBOUW (12%), Pensioenfonds Detailhandel (31%), PMT (34%), and PFZW (13%).

Table 5 Dutch Pension funds: Top 5 financed emissions sectors per pension fund (2021, scope 1 and 2, MtCO2e)

Pension fund	Business sector	Evaluated				Extrapolated			
		Scope 1	Scope 2	Total	% of total	Scope 1	Scope 2	Total	% of total
ABP	Government Activity	5.6	5.3	10.9	43%	8.3	7.8	16.0	52%
	Energy - Fossil Fuels	4.6	0.2	4.8	19%	4.7	0.2	4.9	16%
	Utilities	3.0	0.2	3.1	12%	3.2	0.2	3.4	11%
	Mineral Resources	1.8	0.4	2.3	9%	1.8	0.4	2.3	7%
	Banking & Investment Services	0.6	0.6	1.1	4%	0.6	0.6	1.2	4%
ABP Total		*15.6*	*6.7*	*22.3*	*88%*	*18.6*	*9.2*	*27.8*	*90%*
BpfBOUW	Government Activity	1.0	1.0	2.0	49%	1.2	1.3	2.5	55%
	Utilities	0.6	0.0	0.6	15%	0.6	0.0	0.6	14%
	Energy - Fossil Fuels	0.5	0.0	0.5	14%	0.5	0.0	0.6	12%
	Mineral Resources	0.2	0.1	0.3	7%	0.2	0.1	0.3	6%
	Banking & Investment Services	0.1	0.1	0.1	4%	0.1	0.1	0.1	3%
BpfBOUW Total		*2.3*	*1.2*	*3.5*	*89%*	*2.7*	*1.5*	*4.2*	*90%*
Pensioenfonds Detailhandel	Government Activity	0.3	0.2	0.5	31%	0.5	0.3	0.8	40%
	Energy - Fossil Fuels	0.6	0.0	0.6	36%	0.6	0.0	0.6	31%
	Utilities	0.1	0.0	0.1	7%	0.1	0.0	0.1	6%
	Banking & Investment Services	0.0	0.0	0.1	6%	0.1	0.0	0.1	5%
	Mineral Resources	0.1	0.0	0.1	6%	0.1	0.0	0.1	5%
Pensioenfonds Detailhandel Total		*1.1*	*0.3*	*1.4*	*86%*	*1.4*	*0.4*	*1.8*	*88%*
PH&C	Government Activity	0.4	0.3	0.7	86%	0.4	0.3	0.7	85%
	Mineral Resources	0.0	0.0	0.0	4%	0.0	0.0	0.0	4%
	Utilities	0.0	0.0	0.0	2%	0.0	0.0	0.0	2%
	Energy - Fossil Fuels	0.0	0.0	0.0	2%	0.0	0.0	0.0	1%
	Transportation	0.0	0.0	0.0	1%	0.0	0.0	0.0	1%
PH&C Total		*0.4*	*0.3*	*0.8*	*94%*	*0.4*	*0.4*	*0.8*	*94%*
PMT	Government Activity	1.7	1.8	3.5	43%	1.9	1.9	3.8	43%
	Energy - Fossil Fuels	2.7	0.1	2.8	34%	2.9	0.1	3.0	34%
	Utilities	0.5	0.0	0.6	7%	0.6	0.1	0.7	7%
	Mineral Resources	0.4	0.1	0.5	6%	0.4	0.1	0.5	6%
	Chemicals	0.2	0.1	0.2	3%	0.2	0.1	0.2	3%
PMT Total		*5.5*	*2.1*	*7.6*	*49%*	*5.9*	*2.3*	*8.2*	*48%*
PME	Government Activity	1.3	1.3	2.5	66%	1.4	1.3	2.7	66%
	Utilities	0.3	0.0	0.4	10%	0.4	0.0	0.4	10%
	Mineral Resources	0.2	0.1	0.3	8%	0.3	0.1	0.3	8%

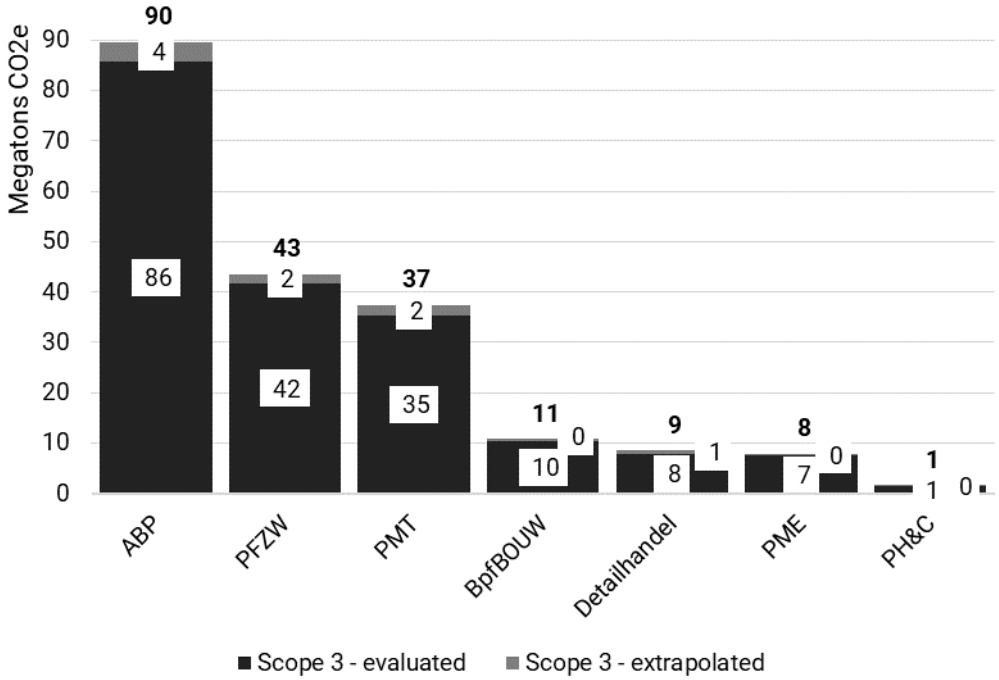
Pension fund	Business sector	Evaluated				Extrapolated			
		Scope 1	**Scope 2**	**Total**	**% of total**	**Scope 1**	**Scope 2**	**Total**	**% of total**
	Chemicals	0.1	0.0	0.2	4%	0.1	0.1	0.2	4%
	Transportation	0.1	0.0	0.1	2%	0.1	0.0	0.1	2%
PME Total		*2.1*	*1.4*	*3.5*	*90%*	*2.2*	*1.5*	*3.7*	*90%*
PFZW	Government Activity	4.8	5.5	10.3	59%	5.2	6.0	11.3	60%
	Energy - Fossil Fuels	2.2	0.1	2.3	13%	2.3	0.1	2.4	13%
	Banking & Investment Services	0.8	0.8	1.6	9%	0.9	0.9	1.8	10%
	Mineral Resources	0.6	0.1	0.7	4%	0.6	0.1	0.7	4%
	Utilities	0.6	0.1	0.6	4%	0.6	0.1	0.6	3%
PFZW Total		*8.9*	*6.6*	*15.5*	*89%*	*9.7*	*7.2*	*16.9*	*90%*
Total		**31.0**	**13.9**	**44.9**	**87%**	**33.8**	**15.8**	**49.5**	**88%**

5.2 Financed scope 3 emissions

In line with the current PCAF standard, financed scope 3 emissions from borrowers and investees of financial institutions are reported separately here. It should be remembered that there is a risk of double counting within financed scope 3 emissions reporting. Nevertheless, scope 3 emissions account for a significant proportion of emissions of companies engaged in certain industries, such as oil & gas and the automotive industry. PCAF currently only requires the reporting of emissions attributable to companies engaged in energy (oil & gas) and mining, this study reports on emissions attributable to all sectors.

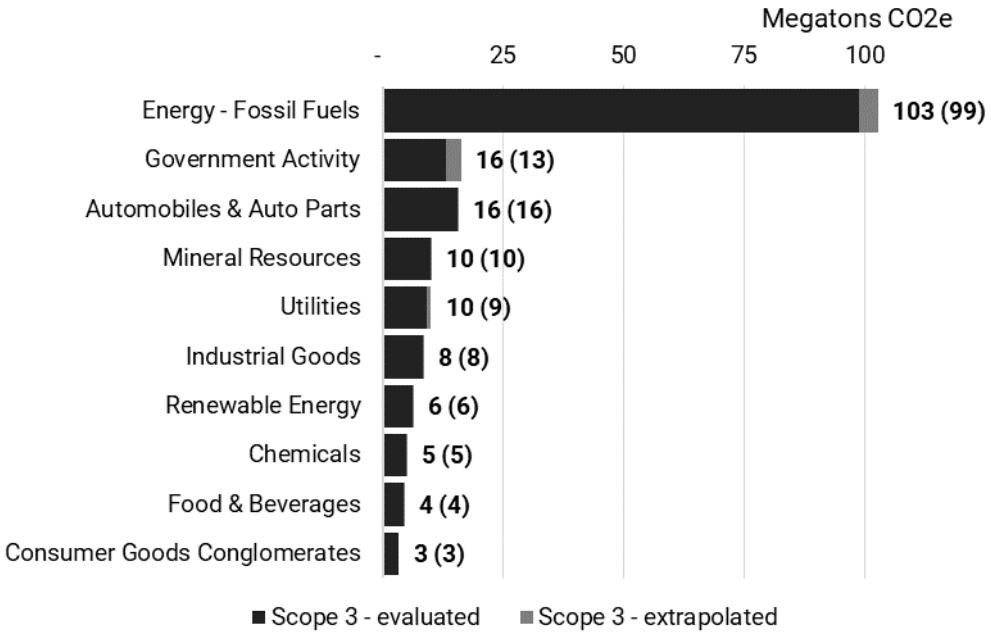
Together the selected Dutch pension funds were estimated to have generated 199 MtCO2e of scope 3 emissions through their investment portfolios in 2021. Figure 18 shows that ABP was estimated to be the largest emitter with 90 MtCO2e (45%). PFZW was estimated to have generated just under a quarter of the identified emissions of the selected insurance companies, equal to 43 MtCO2e.

Figure 18 Dutch Pension funds: Financed (scope 3) emissions per financial institution (2021, MtCO2e)



Similar to the scope 1 and 2 estimated financed emissions intensity, PMT had the highest estimated scope 3 financed emissions intensity. PMT had an estimated emission intensity of 528 tons of CO2e per million EUR. It was followed by Detailhandel with an estimated 441, and ABP with an estimated 280 tons of CO2e per million EUR invested.

Figure 19 Dutch Pension funds: Financed (scope 3) emissions per business sector (2021, MtCO2e)



Note: Total extrapolated value with total evaluated value in brackets.

The top 10 sectors estimated to have generated the most financed scope 3 emissions in 2021 accounted for 92% of all financed scope 3 emissions, 182 MtCO2e. 52% of these estimated financed scope 3 emissions – 103 MtCO2e – were generated by companies active in fossil fuels (see Figure 19).

6

Conclusions and recommendations

This research found that in 2021 the selected financial institutions were estimated to have financed 228 MtCO2e. That is roughly 60 MtCO2 more than emitted by the Netherlands in 2021. More financial institutions should report on their financed emissions for all of the relevant financial products and assets classes in a standardized manner to facilitate monitoring progress to reducing financed emissions.

6.1 Summary of findings

This research found that in 2021 the selected financial institutions were estimated to have financed 228 MtCO2e. That is roughly 60 MtCO2 more than emitted by the Netherlands in 2021. There were differences between the levels estimated financed emissions of the different segments of the Dutch financial sector. Banks were estimated to account for 117 MtCO2e of scope 1 and 2 emissions of their clients, or 51% of all estimated scope 1 and 2 attributable emissions. Pension funds were estimated to have generated 70 MtCO2e of scope 1 and 2 emissions from their equity and fixed income portfolios, 31% of estimated emissions. Finally, insurance companies were estimated to have financed 41 MtCO2e, 18% of estimated financed emissions.

Among the selected financial institutions, ING Group was estimated to be the largest emitter with 73 MtCO2e of financed scope 1 and 2 emissions through its clients in 2021. ING Group accounted for 32% of all estimated financed emissions of the selected financial institutions. ING Group was followed by Aegon (with 35 MtCO2e estimated financed emissions) and Rabobank (with 31 MtCO2e estimated financed emissions). Algemeen Burgerlijk Pensioenfonds (ABP) was estimated to have the highest attributable emissions of the pension funds, estimated to have financed 31 MtCO2e of emissions through its equity and fixed income portfolios.

The top 5 sectors estimated to generate the most financed emissions accounted for 82% of all estimated financed scope 1 and 2 emissions, 189 MtCO2e. Most of these estimated emissions were generated by the fossil fuels sectors (65 MtCO2e). Financing of this sector was estimated to account for 28% of all attributable emissions. It was followed by government activity / sovereign bonds with an estimated 47 MtCO2e, 21% of estimated emissions. If fossil fuels were excluded from the portfolios of the selected financial institutions, estimated financed emissions would be 153 MtCO2e, and intensity 74 tons of CO2e per million EUR.

6.2 Recommendations

This research recommends that more financial institutions report on their financed emissions and do so for all of the relevant financial products and assets classes. Moreover, they should do so in a more standardized and harmonized manner. While several financial institutions applied the PCAF methodology in the assessment and disclosure of their financed emissions, there were inconsistencies on how this was reported by different financial institutions. This made it difficult to compare the financial institutions with each other.

When financial institutions report the financed emissions in a more standardized way, and set targets that can be compared, then external parties – such as regulators or civil society organizations – can effectively monitor their progress to meeting those targets.

Appendix 1 Detailed evaluated and extrapolated financed emissions overviews

Table 6 provides an overview of the evaluated and extrapolated financed emissions (scope 1 and 2) per financial institution.

Table 6 Overview of evaluated and extrapolated financed emissions (scope 1 and 2) per financial institution (tons CO2e)

Financial institution	Evaluated		Extrapolated	
	Scope 1	*Scope 2*	*Scope 1*	*Scope 2*
ABN Amro	2,174,667	289,861	11,963,829	1,310,833
Achmea	78,070	27,603	4,317,101	1,532,349
Aegon	6,159,794	1,541,321	25,974,471	8,708,654
Algemeen Burgerlijk Pensioenfonds (ABP)	17,464,970	7,895,764	20,511,668	10,425,906
ASR Nederland	124,093	46,940	399,818	151,261
BpfBOUW	2,616,443	1,344,057	2,955,476	1,643,728
ING Group	12,382,086	3,261,224	57,478,259	15,357,153
Pensioenfonds Detailhandel	1,241,644	367,731	1,508,278	494,604
Pensioenfonds Horeca & Catering (PH&C)	447,285	371,385	464,306	384,046
Pensioenfonds Metaal en Techniek (PMT)	5,908,168	2,376,246	6,336,100	2,531,765
Pensioenfonds van de Metalelektro (PME)	2,244,365	1,622,173	2,395,199	1,712,794
Pensioenfonds Zorg en Welzijn (PFZW)	10,160,785	7,162,582	10,896,446	7,832,039
Rabobank	1,556,723	1,732,088	14,741,599	15,865,143
Total	**62,559,092**	**28,038,975**	**159,942,550**	**67,950,277**

Table 7 provides an overview of the evaluated and extrapolated financed emissions (scope 3) per financial institution.

Table 7 Overview of evaluated and extrapolated financed emissions (scope 3) per financial institution (tons CO2e)

Financial institution	Evaluated	Extrapolated
ABN Amro	7,271,552	30,623,112
Achmea	1,335,236	73,699,155
Aegon	37,359,737	138,093,902
Algemeen Burgerlijk Pensioenfonds (ABP)	85,818,561	89,599,057
ASR Nederland	2,000,682	6,446,212
BpfBOUW	10,408,680	10,805,881
ING Group	54,597,208	250,933,388
Pensioenfonds Detailhandel	7,939,072	8,508,720

Financial institution	Evaluated	Extrapolated
Pensioenfonds Horeca & Catering (PH&C)	1,435,885	1,474,315
Pensioenfonds Metaal en Techniek (PMT)	35,223,420	37,351,229
Pensioenfonds van de Metalelektro (PME)	7,482,964	7,770,282
Pensioenfonds Zorg en Welzijn (PFZW)	41,773,961	43,488,363
Rabobank	12,311,437	101,706,517
Total	**304,958,397**	**800,500,133**

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