Partnership for Carbon Accounting Financials

Enabling financial institutions to assess and disclose financed emissions

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PCAF Partnership for Carbon Accounting Financials

PCAF: A global industry-led initiative to standardize the measurement and disclosure of financed emissions

2015: Netherlands

2018: North America

2019: Global

Global Steering Committee

ABN·AMRO

amalgamated bank

asn bank

Global Alliance for Banking on Values

Morgan Stanley

NMB BANK
एनएमबि बैंक
समृद्ध नेपालको लागि

Triodos Bank

UN-convened Net-Zero Asset Owner Alliance

As of today, 130+ financial institutions in 40 countries are part of PCAF, representing 40+ trillion USD in total assets

Objectives of PCAF

1. Develop the Global GHG Accounting and Reporting Standard for the Financial Industry

2. Increase the number of financial institutions that use the Standard and disclose financed emissions to over **250 institutions worldwide**

Check the full list of PCAF participants here

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Since 2015, PCAF participants have developed and tested GHG accounting methods, leading to a globally harmonized Standard

WRI and WBCSD published Corporate Value Chain (Scope 3) Accounting and Reporting Standard
2011

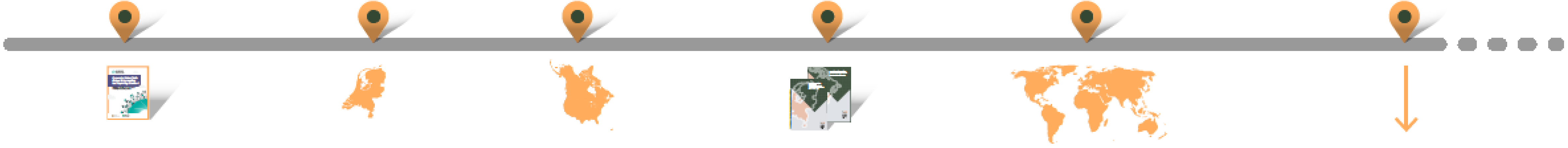
PCAF founded by Dutch financial institutions
2015

PCAF launched in North America
2018

PCAF published 2 reports on GHG accounting methods
2019

PCAF launched globally
2019

PCAF launches Global GHG Accounting and Reporting Standard for the financial industry
2020



The GLOBAL GHG ACCOUNTING & REPORTING Standard

FOR THE FINANCIAL INDUSTRY

BUILT ON GHG PROTOCOL

“This standard has been reviewed by the GHG Protocol and is in conformance with the requirements set forth in the Corporate Value Chain (Scope 3) Accounting and Reporting Standard, for Category 15 investment activities.”

The GLOBAL CARBON ACCOUNTING Standard

FOR THE FINANCIAL INDUSTRY

Listed Equity and Corporate Bonds

$$\frac{\textit{Outstanding amount}}{\textit{EVIC or Total company equity + debt}} \times \textit{Company emissions}$$

EVIC = enterprise value including cash

Business Loans and Unlisted Equity

$$\frac{\textit{Outstanding amount}}{\textit{EVIC or Total company equity + debt}} \times \textit{Company emissions}$$

EVIC = enterprise value including cash

Project Finance

$$\frac{\textit{Outstanding amount}}{\textit{Total project equity + debt}} \times \textit{Project emissions}$$

GHG accounting for six asset classes

Commercial Real Estate

$$\frac{\textit{Outstanding amount}}{\textit{Property value at origination}} \times \textit{Building emissions}$$

Mortgages

$$\frac{\textit{Outstanding amount}}{\textit{Property value at origination}} \times \textit{Building emissions}$$

Motor Vehicles Loans

$$\frac{\textit{Outstanding amount}}{\textit{Total value at origination}} \times \textit{Vehicle emissions}$$

Measuring and disclosing financed emissions furthers climate-related business goals and aligns with other initiatives

Business Goal 1
Create transparency for stakeholders

Business Goal 2
Manage climate-related transition risks

Business Goal 3
Develop climate-friendly financial products

Business Goal 4
Align financial flows with the Paris Agreement

Measurement of financed emissions PCAF

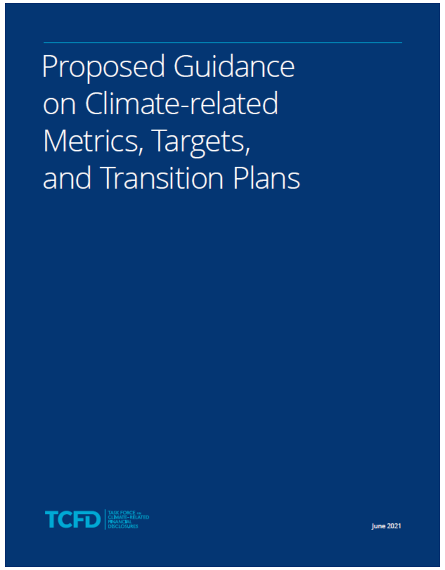
CDP DISCLOSURE INSIGHT ACTION

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Financed emissions are a key metric for financial institutions in understanding their climate-related transition risk, in line with TCFD recommendations

- One of the goals of the TCFD framework is to **measure and disclose the transition risks** posed to organizations by climate-related policies and regulations.
- The PCAF's Global Standard directly supports this objective by providing methodologies to measure financed emissions. That's why the **TCFD recommends financial institutions to disclose their financed emissions using PCAF's Standard**
- As a result of emissions assessments, financial institutions can **identify carbon-intensive hotspots** that could be subject to higher transition risk.



TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Measuring financed emissions sets the baseline for science-based targets using the Science Based Targets Initiative's (SBTi's) methodologies

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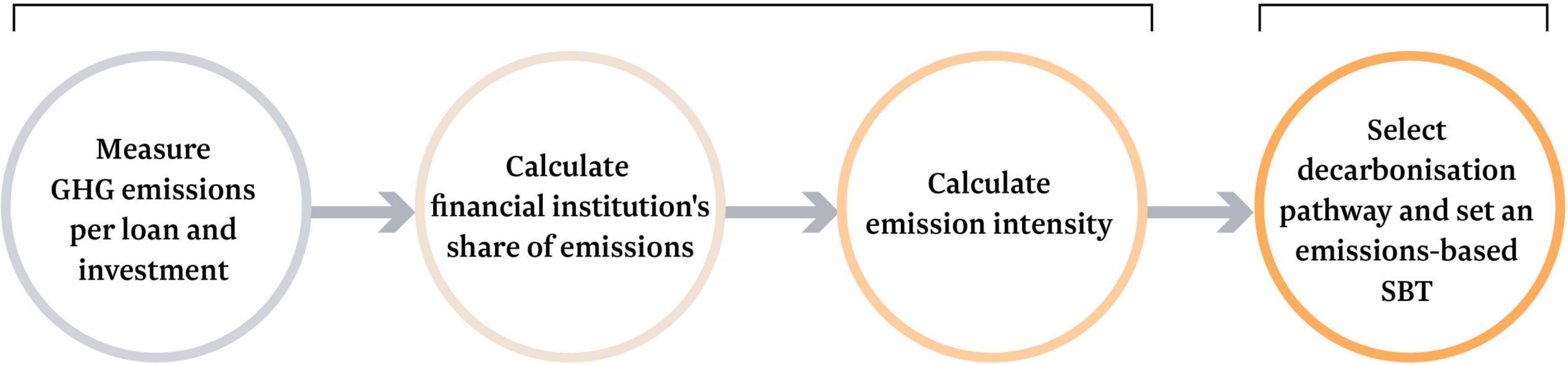
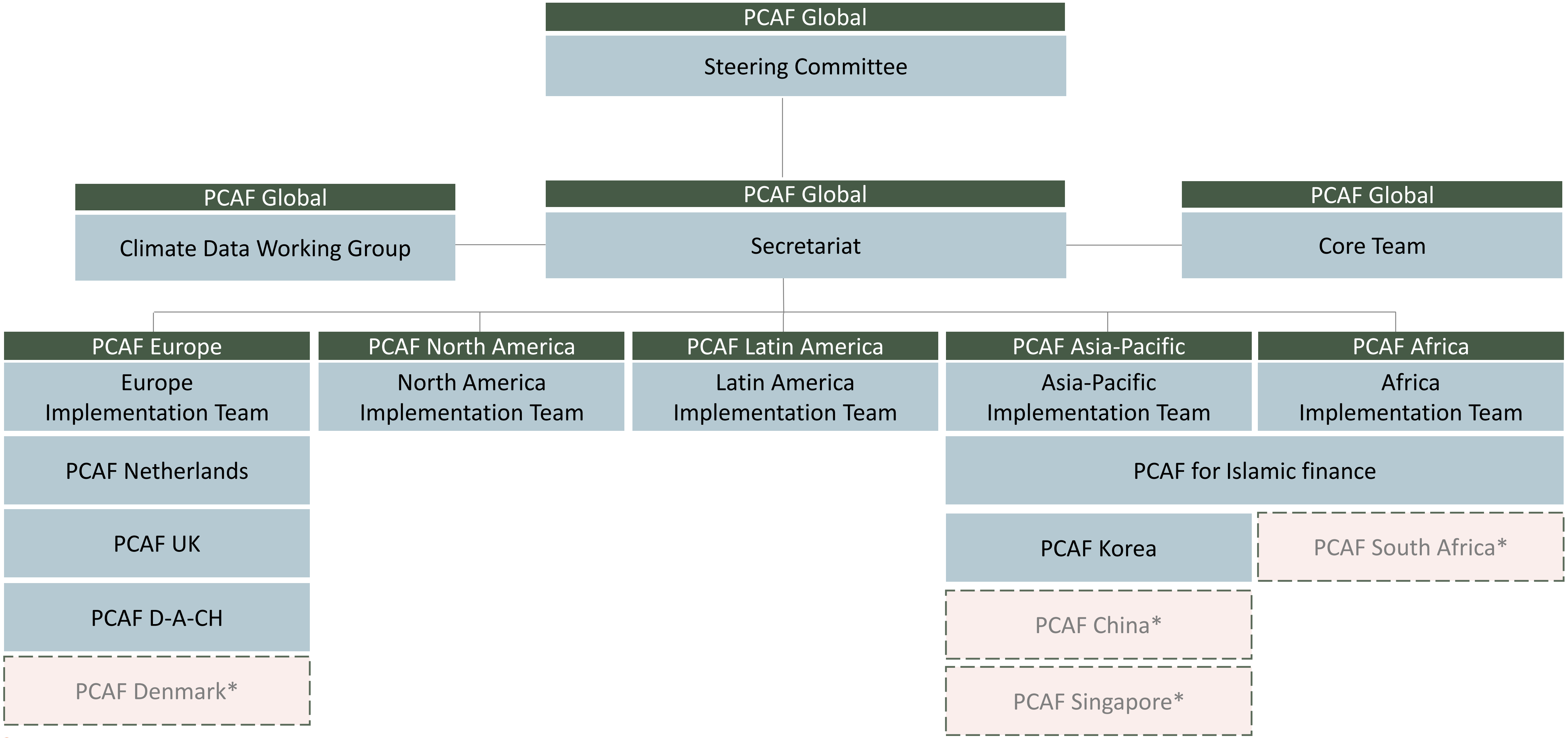
SCIENCE BASED TARGETS



Regional/Local collaboration and implementation

PCAF drives implementation through regional and national collaborations



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*Under consideration. Additional national chapters can be created upon demand.

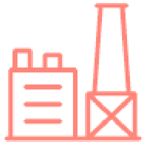
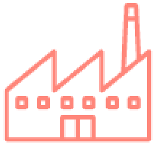
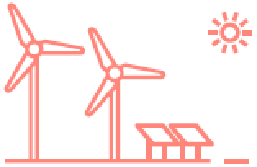
Emissions are attributed to financial institutions based on robust and consistent accounting rules

GHG accounting for financial institutions is the annual accounting and disclosure of GHG emissions associated with loans and investments at a fixed point in time in line with financial accounting periods.

$$\text{Portfolio GHG Emissions}_{FI} = \sum_{i} \underbrace{\frac{\text{Outstanding amount}_{FI}}{(\text{Equity} + \text{Debt})_{i}}}_{\text{Attribution factor}} \times \text{GHG Emissions}_{i}$$

- The equation above is general and is **applied for each asset class** in a financial institution's portfolio
- The **attribution factor** is used to show the financial institution's share of the borrow or investee's emissions
- A borrower or investee is a general term and could represent a **company, property, project or motor vehicle** (depending on the asset class)

For each asset class, specific accounting rules have been defined (1/2)

Asset class	Specific accounting rules
 Listed equity and corporate bonds	• Attribution based on **Enterprise Value Including Cash (EVIC) for listed companies & total equity and debt for private companies** • **Phase in of scope 3** of investees, starting with high emitting sectors
 Business loans and unlisted equity	• Attribution based on **Enterprise Value Including Cash (EVIC) for listed companies & total equity and debt for private companies** • **Phase in of scope 3** of investees, starting with high emitting sectors
 Project finance	• Attribution based on **project value (total equity + debt)** • **Scope 1+2** (and scope 3 if relevant) as well as **avoided emissions** covered • Emissions accounting in line with GHG Protocol on Project Accounting and **UNFCCC IFI Harmonization** Project • **Scope 1+2 lifetime emissions** should be assessed if the FI is an **initial sponsor/lender**

For each asset class, specific accounting rules have been defined (2/2)

Asset class	Specific accounting rules
 Commercial real estate	• Attribution based on the **property value at the time of origination** • Annual **Scope 1+2 emissions** of each building (operational phase) • **Scope 3 emissions** from construction and materials (embodied emissions) are **voluntary**
 Mortgages	• Attribution based on the **property value at the time of origination** • Annual **Scope 1+2 emissions** of each building (operational phase)
 Motor vehicle loans	• Attribution based on **total value at origination (equity + debt)** • Annual **Scope 1+2 emissions** of each vehicle (operational phase) • **Scope 3 emissions** from vehicle production are **voluntary** (construction phase)

The Standard addresses data quality issues and advises on which data can give the most robust results for each asset class

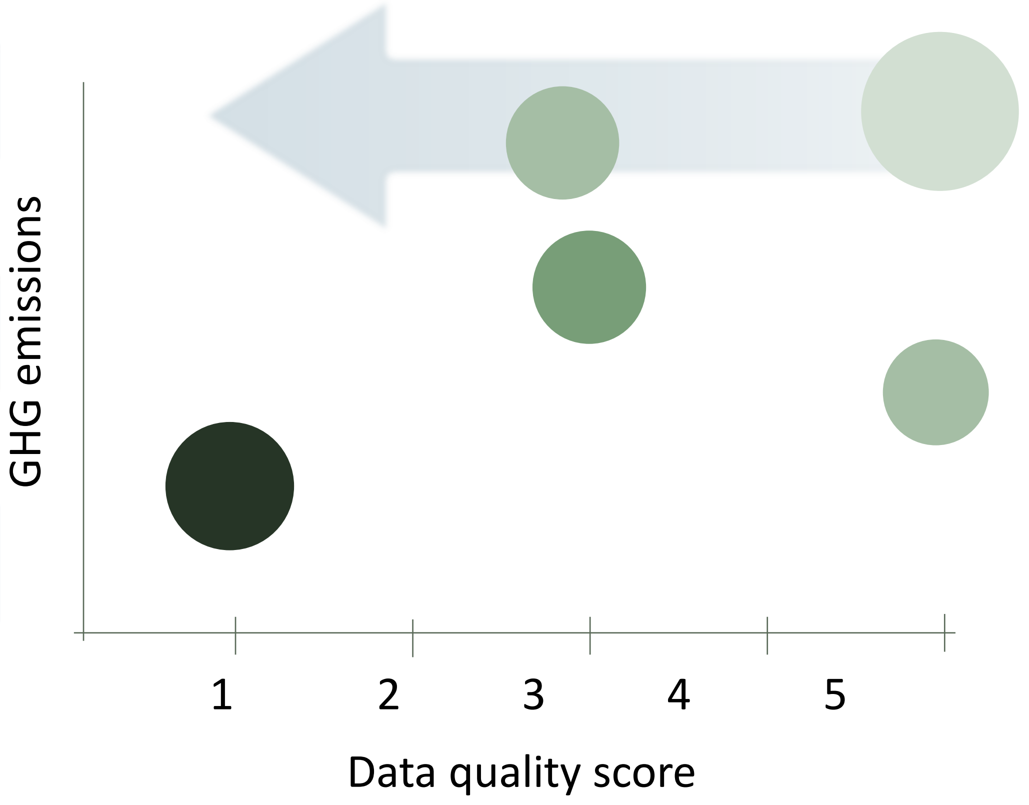
Data quality scoring from 1 to 5....

Certain
(5-10% error margin in estimations)

Score 1	Audited GHG emissions data or actual primary energy data
Score 2	Non-audited GHG emissions data, or other primary data
Score 3	Averaged data that is peer/(sub)-sectorspecific
Score 4	Proxy data on the basis of region or country
Score 5	Estimated data with very limited support

Uncertain
(40-50% error margin in estimations)

...enables financial institutions to develop a strategy to improve data over time



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PCAF's open-source database enables financial institutions to start with GHG accounting

lists ▾ main ▾ logs ▾ thomash ▾

"**Administration hub**" with information on defined data lists, tracking of changes (logs) and user info

main / PCAF emission factor database

PCAF emission factor database

« 1 2 ... 11 ... 51 ... 101 ... 646 »

+ Add new | Refresh | Export ▾ | Print ▾

"**Tool bar I**" with page selection, an adding function for new emission factors, an refreshing function plus an exporting and printing function

Quick search

"**Tool bar II**" with quick search function, filter edits, sort function and page settings

Actions	Id	Region	Country	Asset Class	Emission Type	Sector	Subsector	Subsubsector	Functional Unit Of Emission Factor 1	Functional Unit Of Emission Factor Description	Functional Unit Of Emission Factor 2	Emission Factor Unit	Quality Of Emission Factor	Scope 1 Emission Factor	Scope 2 Emission Factor	Scope 3 Emission Factor	Generic Emission Factor
	1	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Paddy rice	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	n.a.	n.a.	n.a.	n.a.
	2	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Wheat	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	657.516	14.591	70.802	n.a.
	3	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Cereal grains nec	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	608.732	11.222	51.664	n.a.
	4	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Vegetables, fruit, nuts	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	156.181	22.807	59.742	n.a.
	5	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Oil seeds	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	467.437	5.764	50.186	n.a.
	6	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Sugar cane, sugar beet	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	350.350	3.487	22.657	n.a.
	7	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Plant-based fibers	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	72.570	19.029	408.804	n.a.
	8	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Crops nec	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	148.065	0.079	0.363	n.a.
	9	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Cattle	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	4,782.990	41.529	288.078	n.a.
	10	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Pigs	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	349.107	15.600	179.814	n.a.
	11	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Poultry	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	214.644	31.658	275.109	n.a.
	12	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Meat animals nec	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	2,858.460	77.214	576.044	n.a.
	13	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Animal products nec	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	2,505.400	109.248	807.690	n.a.
	14	Europe	Austria	Listed/private equity & Corporate bonds/loans & project finance	Emissions	Agriculture, hunting, forestry & fishing	Raw milk	n.a.	Revenue	Revenue generated per year	M€	tCO2e/M€	Medium	1,701.330	2.229	16.272	n.a.
	15	Europe	Austria	Listed/private equity & Corporate	Emissions	Agriculture, hunting, forestry &	Wool, silk-worm cocoons	n.a.	Revenue	Revenue generated per year		tCO2e/M€	Medium	0.307	0.001	0.010	n.a.

"**Database**" with overview of all emission factors:
Rows with emission factors
Columns with specific information

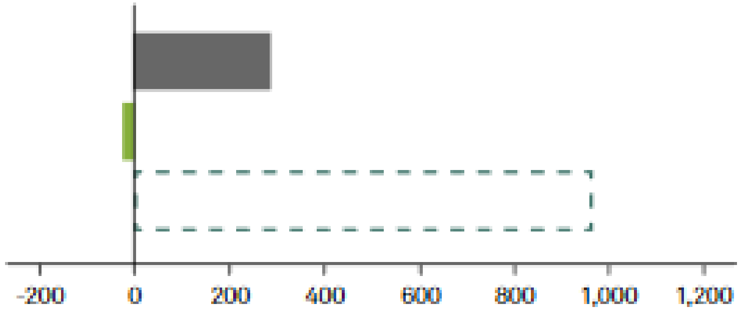
Characteristics

- Free access
- Transparent
- Editable and thus extendable through "authorized" users
- Comprehensive with as many geographies, asset classes & sectors as possible
- Includes data quality score card

Example of annual reporting by Triodos Bank

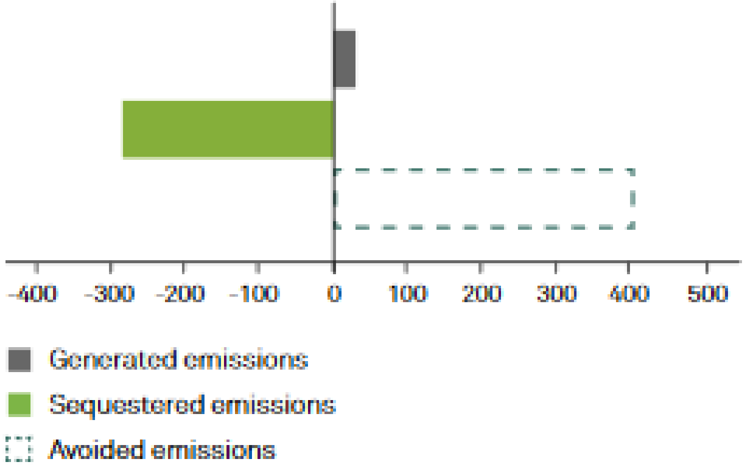
Climate impact of our loans & investments

in ktonne CO_2 eq. 2019



Climate impact in emission intensity 2019

in ktonne CO_2 eq./billion EUR financed



2019 – Climate impact of our loans and funds' investments

Impact sector	Total outstanding loans & funds investments covered (in 1,000 EUR)	Attributed emissions (in ktonne CO_2 eq.)	Emission intensity (in ktonne CO_2 eq./ billion EUR)	Data quality score high quality = 1 low quality = 5
Generated emissions				
Environment:				
Organic farming	327,548	15	46	2.9
Sustainable property	1,046,640	34	32	3.1
Residential mortgages	2,192,019	35	16	2.3
Environmental – other	239,128	10	42	5.0
Social:				
Care for the elderly	652,871	24	37	3.8
Healthcare – other	419,541	16	38	5.0
Social housing	535,901	22	41	4.0
Inclusive finance & development	838,140	9	11	5.0
Social other & municipalities	677,377	15	22	5.0
Culture:				
Arts and culture	458,911	33	72	4.7
Education	287,909	7	24	4.2
Culture – other	255,683	16	63	5.0
IEB funds	1,883,105	53	28	2.3
	9,814,773	**289**	**29**	**3.4**
Sequestered emissions				
Nature development & Forestry	84,769	-24	-283	2.9
Net emissions	**9,899,542**	**265**	**27**	**3.4**
Avoided emissions				
Renewable energy	2,391,993	962	402	1.6
Total[1]	**12,291,535**			**3.1**

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Example of annual reporting by NatWest Group

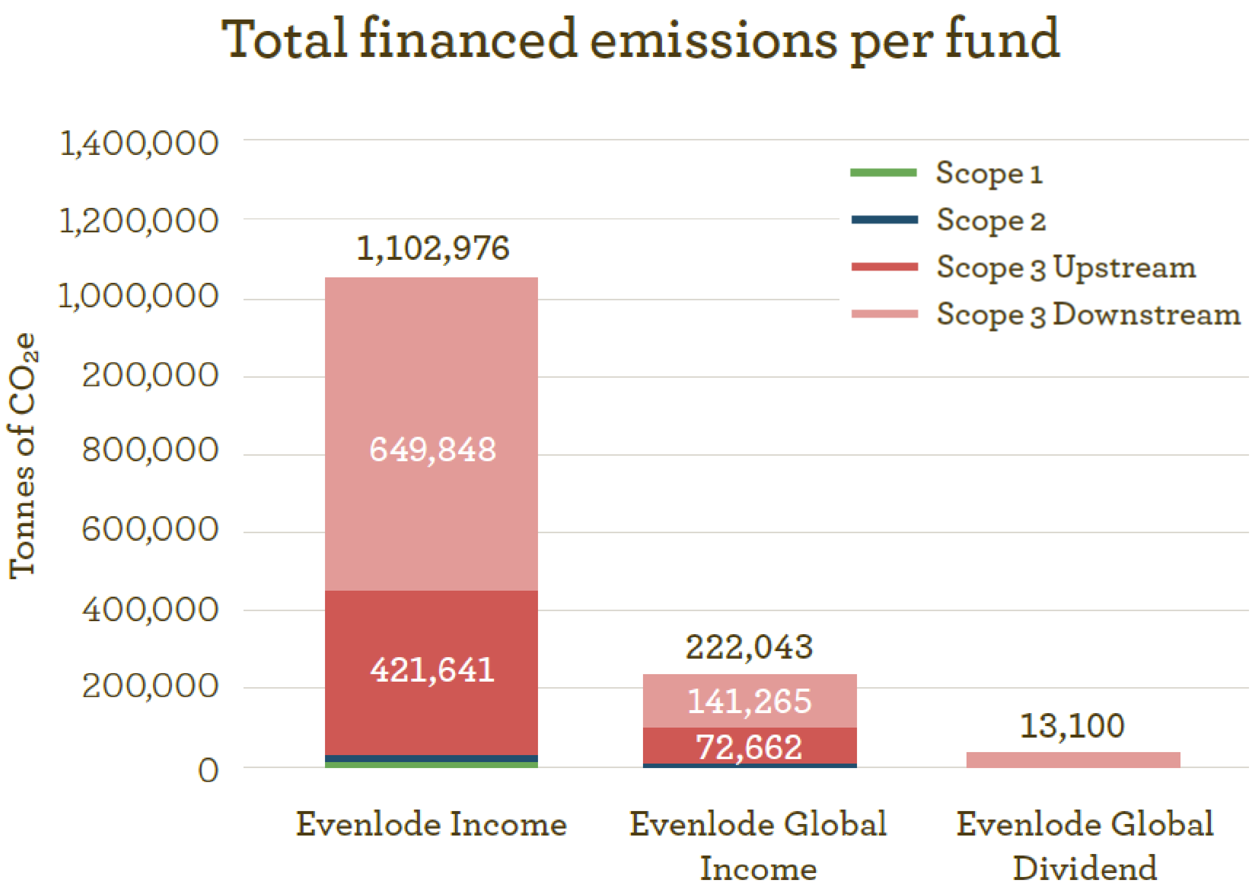
NatWest Group

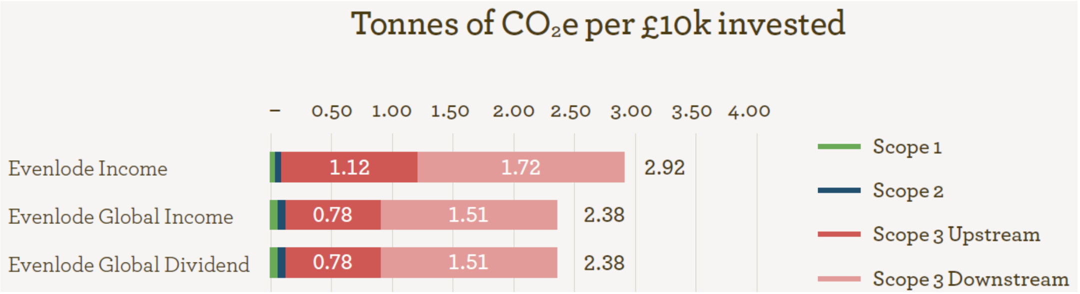
The table below shows our preliminary estimates based on our work to date and should be read in conjunction with Section 5.7 (Caution about climate metrics) and Risk factors included in the 2020 Annual Report and Accounts.
The table below shows NatWest Group's (i) estimated financed emissions, (ii) physical and economic emissions intensities for the four sectors reviewed, (iii) preliminary physical emissions intensity estimates for year 2030 aligned to NatWest Group's climate ambition to reduce climate impact of financing activity by 50%, as well as for Paris alignment, (iv) Paris alignment physical emissions intensity in 2050. We will continue to work on this in 2021 and further refine our estimates as we enhance our understanding, calculation methodologies and data. We have used a combination of methodologies (some of which are still under development) to calculate these emissions. See section 5.6.1 to 5.6.4 for further details, by sector, on methodologies and approaches used, as well as data limitations.

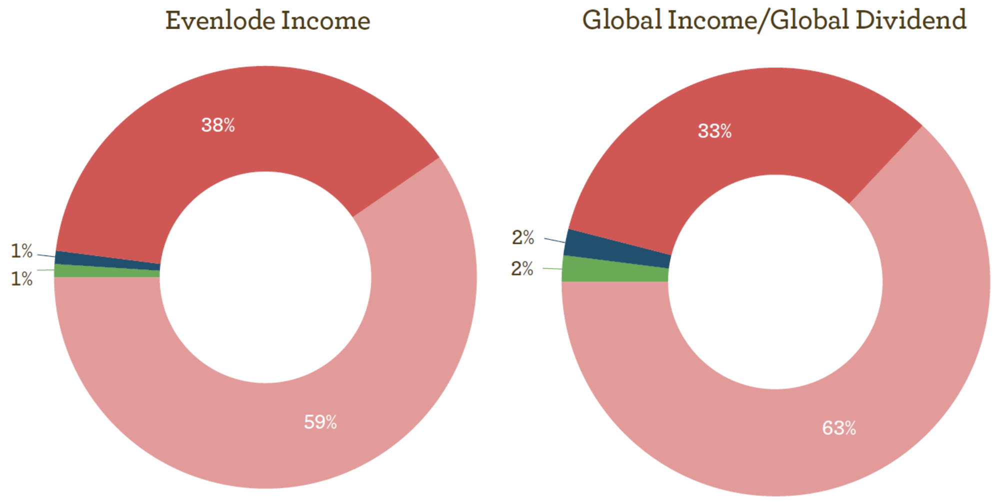
	Preliminary estimates of financed emissions and emission intensities 2019						Preliminary emission intensity estimates 2030 and 2050		
Sector	Financed emissions ($MtCO_2e/y$) (1)		Physical emissions intensity (2)	Economic emissions intensity (tCO_2e/£M invested) (3)	PCAF Data quality score		Proposed 50% absolute emissions reduction intensity (2030)	Paris alignment emissions intensity (2030)	Paris alignment emissions intensity (2050)
	Scope 1 and 2	Scope 3			Scope 1 and 2	Scope 3			
Residential mortgages	2.2		39 $kgCO_2e/m^2$	12	4.1		19 $kgCO_2e/m^2$	20 $kgCO_2e/m^2$	0.1 $kgCO_2e/m^2$
Agriculture (primary farming)	3.6		2,205 tCO_2e/ £m revenue	940	4.3		1,103 tCO_2e/£m revenue	1,449 tCO_2e/£m revenue	1,165 tCO_2e/£m revenue
Automotive manufacturing(4)	0.01	0.53	168 gCO_2/km	1,790	2.1	3.1	84 gCO_2/km	121 gCO_2/km	31 gCO_2/km
Oil and gas extraction	0.08	1.9	75 tCO_2e/TJ	3,054	2.4	2.6	38 tCO_2e/TJ	Guidance under development	Guidance under development

Notes:
(1) $MtCO_2e$/y is million tonnes of carbon dioxde equivalent emitted per year.
(2) Physical emissions intensity: Financed emissions divided by an output or activity value.
(3) Economic emissions intensity: Financed emissions divided by the loan and investment amount. This helps understand how the emissions intensity of different portfolios (or parts of portfolios) compare to each other per monetary unit.
(4) For automotive manufacturing, Scope 3 emissions and emissions intensity estimates only relate to tailpipe emissions.

Example of annual reporting by Evenlode







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