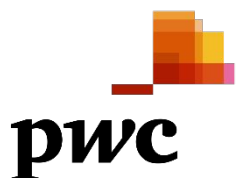




ESG

# YE 22 Financed Emissions: PwC Benchmarking

December 2023



# Executive summary – Overview

## What is it?

The PwC Financed Emissions Benchmark is an **in-depth analysis of the financed emissions metrics** being disclosed by several FI (FIs) as part of their **annual publicly available year end sustainability disclosures**.

Under existing [TCFD](#) requirements as well as upcoming sustainability framework and local disclosure requirements such as [ISSB](#) and [CSRD](#) respectively, **FIs will be required to disclose their financed emissions**. The CDP (Carbon Disclosure Project - A global carbon disclosure charity) estimates that FIs' **financed emissions are around 700 times larger** than their operational emissions. Hence this is a **key metric to measure, manage, monitor and report** as part of a financial institution's decarbonisation strategy.

This is the **second iteration of this exercise** focused on YE 22 sustainability disclosures with an **increased coverage** from last year's iteration to 26 FIs namely across:

- Global Wholesale, Retail and Investment banks: **8 to 14**. This benchmarking covers only the lending book of banks and investments are hence out of scope.
- The inclusion of **12** asset managers and life insurance companies
- Asset coverage: **from \$9.7tn to \$28tn**

This is **reflective of the increasing level and transparency of sustainability disclosures** within the financial services space as well as the noted synergy on the in-scope asset types on how to quantify financed emissions metrics across FIs.

The analysis focused on the **carbon footprint metrics** disclosed by the aforementioned FIs and covers the **lending activities** of banks and **investment activities** of life insurers and asset managers (i.e. financed emissions).

**Our benchmarking exercise covers 26 FIs split across:**

**14** Banks corresponding to

**\$17Tn** total assets on balance sheet

## What are we seeing?

The **sustainability reporting landscape is fast evolving and complex** with increasing number of various sustainability frameworks and standards that FIs need to navigate such as [TCFD](#), [ISSB](#) and [CSRD](#).

There is **expected level of interoperability between all upcoming standards with a view of convergence** of disclosure requirements over the next few years.

Furthermore, we note **increasing level of external assurance** being carried out by FIs (20 out of the 26 participants).

However, from our benchmarking exercise, as it stands, we note a number of variations in approach and level of disclosures namely around:

1. **Divergence in level of disclosures:** The **level of disclosure varies significantly** between FIs and hence impacts comparability by stakeholders. Furthermore, among FIs assessed, **banks** tend to have **more detailed disclosures at sector level** while life insurers and asset managers are reporting at **asset class level**.
2. **Variations in scope and approach:** Although **24 out of the 26 FIs participants adopt PCAF**, we observe that there are still noted **deviations in scope and approach** in deriving their carbon footprint disclosures especially in areas for where existing **guidance is not prescriptive**.

In the following sections, we deep dive into the aforementioned observations and bring out the key insights from the benchmarking exercise across 4 key areas namely: **Disclosure, Scope, Data and Target setting and forecasting**.

**12** Asset managers and life insurers corresponding to





**\$11Tn** total assets on balance sheet

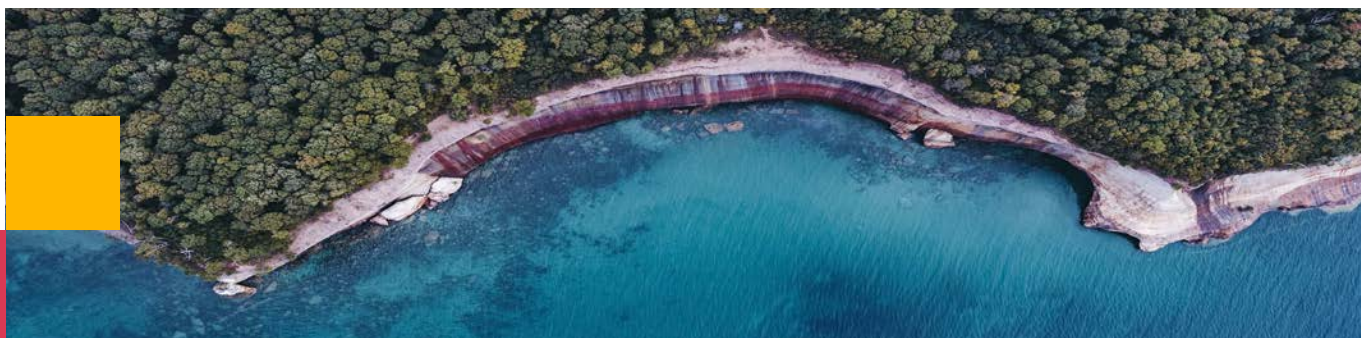




# Executive summary – Key insights

Whilst **guidance** exists around **scoping and measuring** carbon footprint associated with an FI's lending or investment activities, we note that these are **not prescriptive in some areas**. This is reflected in the deviations noted in the sustainability reports and the reported carbon footprint number by FIs. The exercise revealed key findings and considerations for FIs which can be categorised into 4 broad pillars and detailed below:

Pillars	Thematic insights
<b>1. Disclosure</b> 	<b>Need for transparency:</b> FI are applying for a <b>phased approach to assurance on emission numbers</b> . This increases the need for <b>transparency</b> in disclosures around <b>scope and data</b> . For instance, as the emissions data availability, asset scoping and model design improve year on year, FI are <b>revisiting</b> their <b>baseline numbers</b> and <b>restating</b> accordingly. We have identified <b>several institutions</b> restating the numbers but only a few include the <b>narrative around these restated numbers</b> .
<b>2. Scope</b> 	<b>Variations in the scope across FIs:</b> We have noted variations in the scope of carbon footprint numbers in terms of <b>asset classes, scope 3 emissions of borrowers and investees and sector level value chain inclusions / exclusions</b> . <b>Lack of monitoring to reflect changes in scope over time:</b> We also note the lack of monitoring on the emissions numbers and portfolio coverage as institutions take a phased approach to include more asset classes and sectors over time.
<b>3. Data</b> 	<b>Data availability and transparency:</b> There is a <b>gap in availability of emissions data</b> and institutions are using <b>proxies to fill these gaps</b> as set out by the guidance.  This is reflected in the PCAF data quality scores. We note that for asset managers, 6 participants have either <b>committed to PCAF or disclosed in line with PCAF</b> but have <b>not reported a PCAF data quality score</b> . Please refer to the 'Portfolio emissions: The importance of data and getting it right' paper for further insights on the data considerations in emissions modelling.
<b>4. Target setting and forecasting</b> 	<b>Gaps in guidance:</b> There are areas around <b>key decisions on target setting and forecasting</b> which are <b>not prescriptive in the guidance</b> and hence FIs are looking to make <b>bespoke assumptions</b> to allow for this.  We note that some institutions <b>have clearly disclosed these bespoke assumptions</b> as well as how these will be <b>monitored going forwards</b> .



# Financed Emissions: Key insights – Disclosure

FIs are increasingly disclosing the emissions associated with their operation and their lending and / or investment activities. In this section, we summarise key findings from the overall level of disclosures including the adopted guidance and level of assurance over these disclosures.

1

## 1.1: Disclosure – Assurance over emission disclosures

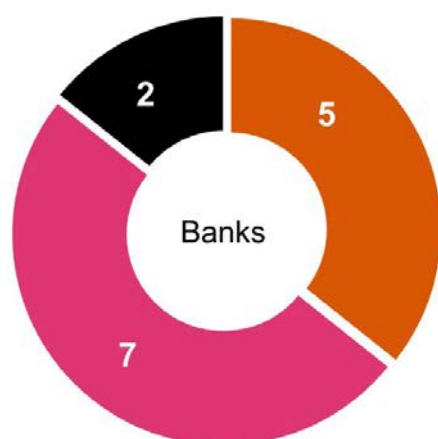
“Over time and where possible, data should be verified to at least a level of limited assurance. Financial institutions should disclose whether data is verified and to what level.”

[PCAF – Financed Emissions GHG Standards Part A](#)

### Key insights:

- 20 out of the 26 FIs analysed have had at least limited assurance on the data underpinning the reported emissions disclosures.
- However, the **type and scope** of assurance differ considerably between FIs as detailed below.

### Banks – Assurance distribution



- Operational emissions only
- Operational and financed emissions
- None

### Life insurers / Asset managers – Assurance distribution



- Operational emissions only
- Operational and financed emissions
- None

We note the following **deviations in scope of assurance across FIs**:

- **Type of emissions:** 10 FIs included both operational emissions financed emissions whilst 10 included only operational emissions.
- **Metrics:** Some FIs included absolute emissions, emissions intensity, PCAF score or a combination of the above.
- **Year of emissions reporting:** Some FIs obtained assurance over the baseline year only, while others included both baseline and reporting years. We also identified an FI which assured their reporting year values only.
- **Out of scope:** As of yet, no FIs included targets and projections in their assurance scope.

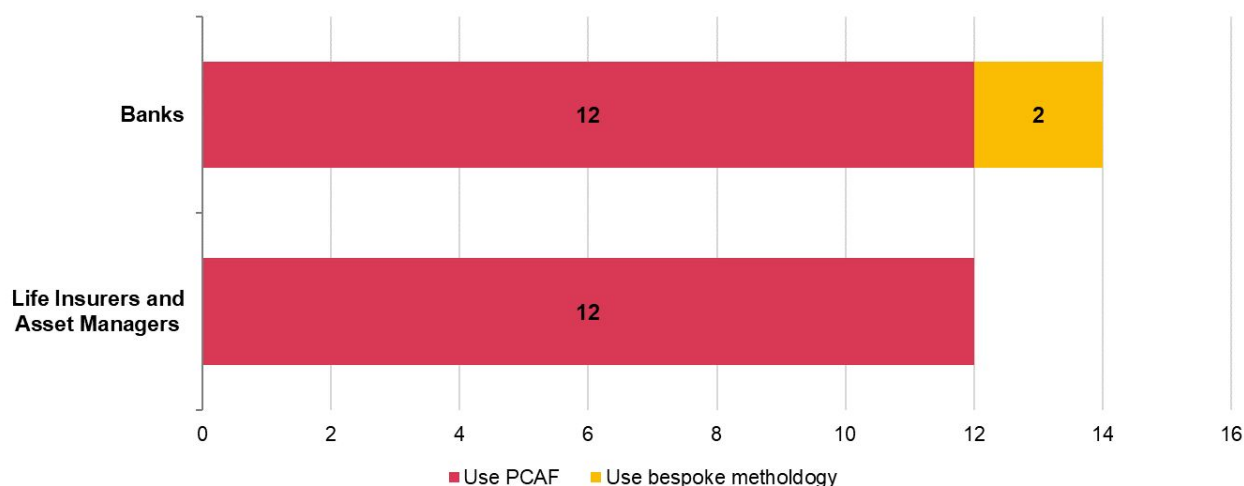
# Financed Emissions: Key insights – Disclosure

## 1.2: Disclosure – Use of PCAF (Partnership for Carbon Accounting Financials)

### Key insights:

- **24 out of the 26** the FIs analysed have measured their financed emissions baseline and reporting metrics in line with PCAF guidance.
  - For the 2 FIs, that do not disclose in line with PCAF, they are leveraging in-house bespoke approaches. Furthermore, one mentioned that it is looking to **adapt the approach to align to PCAF over time**.
- The Partnership for Carbon Accounting Financials (PCAF) is a **global industry-led initiative** to develop a **methodology for measuring financed emissions, and it aligns with GHG protocol for Scope 3 Category 15**.
  - As at November 2023, globally around **450 institutions** corresponding to **\$95Tn** of assets have committed to measure their financed emissions in line with the approach developed by PCAF<sup>1</sup>. This allows for **comparability of the emission disclosures by stakeholders**.
  - While PCAF provides **guidance** on the approach, the framework is **not prescriptive**. This paper hence also aims to **summarise the industry practice across the assumptions underpinning industry standards**.

<sup>1</sup>Source: [PCAF](#)



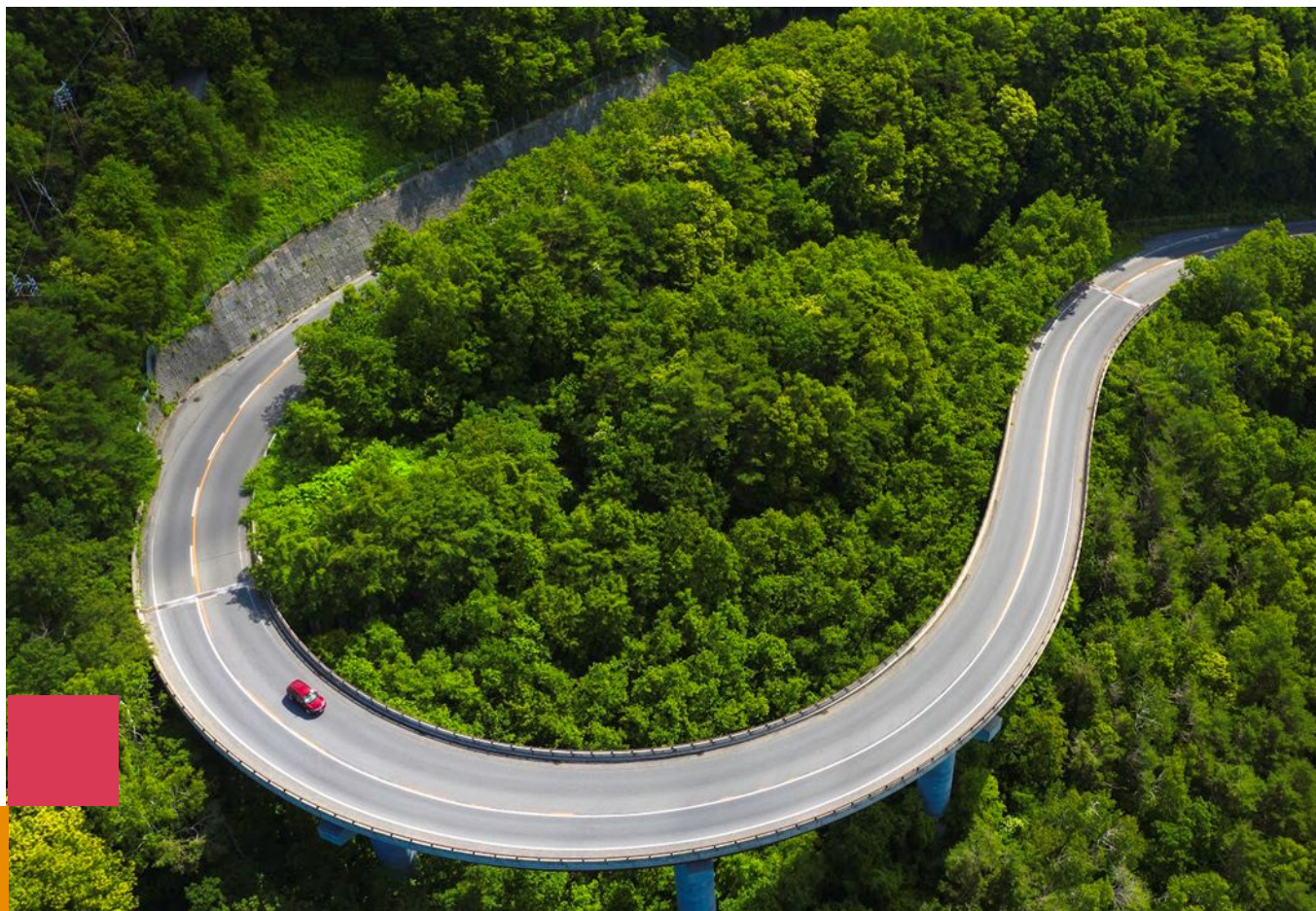


# Financed Emissions: Key insights – Disclosure

## 1.3: Disclosure – Variations in disclosures

### Key insights:

- **Metrics disclosed:** We noted a deviation between the metrics disclosed by participants. Some included absolute metrics while others included intensity metrics. Furthermore, this deviation was also noted between asset classes for selected participants (i.e., reporting intensity for Sovereign bond but absolute metric for equity and bonds).
- **Level and transparency of disclosures vary between participants.** Examples include:
  - Disclosing the % of AUM as part of emissions for each asset class and clear narrative on exclusions.
  - Disclose the emissions by asset class in line with PCAF methodology, noting where different methodologies have been applied.
  - Disclosing multiple reporting years in addition to baseline year. The % difference between reporting and baseline year were also included.
  - Disclosing scope of disclosed emissions numbers such as value chain or counterparty emissions included.



# Financed Emissions: Key insights - Scope

While guidance exists around modelling financed emissions, we note that this is not prescriptive and there are areas which are open to interpretation. This leads to variations in the scope of the disclosed numbers between FIs. This section summarises these deviations across key scoping decisions.

## 2

### 2.1: Scope - Asset classes and sector

The PCAF methodology provides an approach at asset class level. Institutions are hence expected to calculate the baseline emissions for each asset class separately.

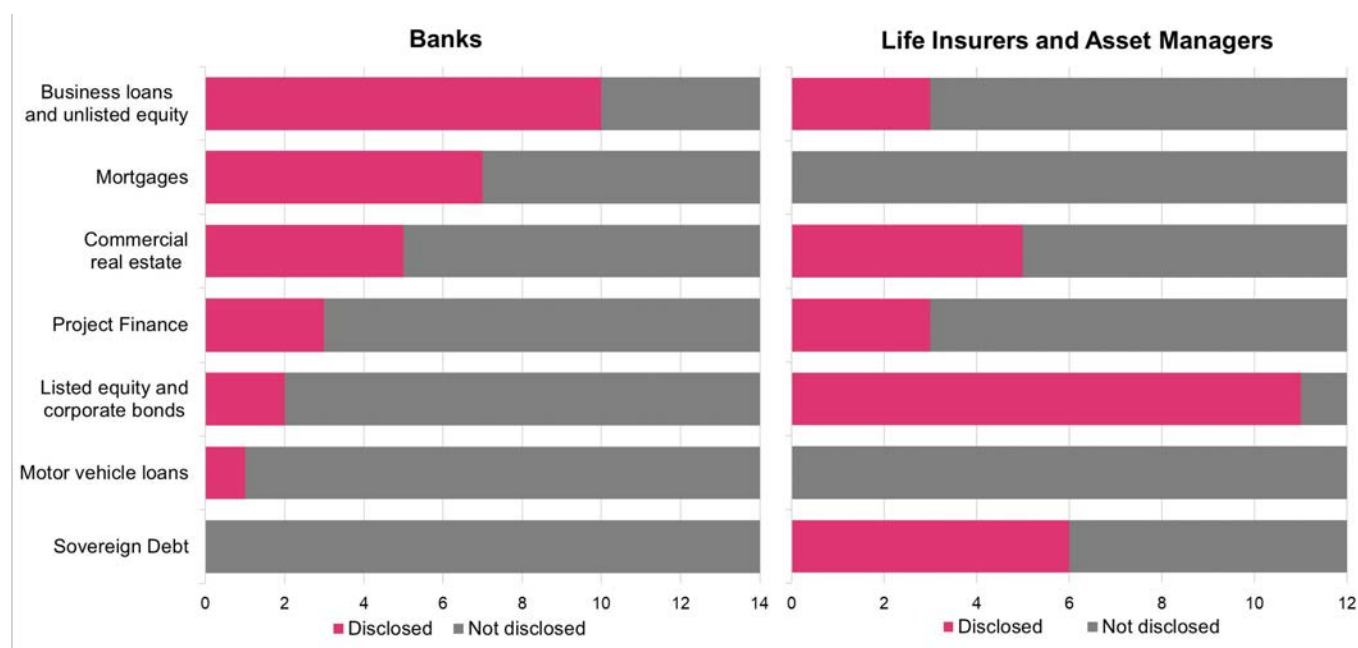
#### Key insights:

- **Business loans and mortgages** were the most reported asset class by **banks** while **listed equity and sovereign debt** were the most reported by **life insurers and asset managers**.

From the disclosures we also noted the following:

- FIs are taking a **phased approach** to disclosing financed emissions, focusing on the most **material asset class** and sectors first.
- Some asset managers disclosed their financed emissions at a **sub asset type level**, i.e., listed equity and corporate bonds separately.
- **Asset managers** disclosures were at **asset class level** while most **banks** disclosed at **sector level within each asset class** where relevant (e.g., equity and loans/bonds).

#### Distribution of PCAF asset classes



For completeness, the graphs above include all the 7 asset classes covered by PCAF guidance i.e. PCAF asset classes. However **we note that certain asset classes are more relevant to a lending book activities** (i.e banks) **compared to investments activities** (i.e life insurers and asset managers) and vice versa.

Examples include motor vehicle loans which are relevant to banks and not applicable for the life insurers and asset managers. Furthermore we note that FIs will have exposure to different asset classes and this is determined by their business activities.

# Financed Emissions:

## Key insights - Scope

### 2.2: Scope – Baseline and reporting years

#### Key insights:

##### Overall

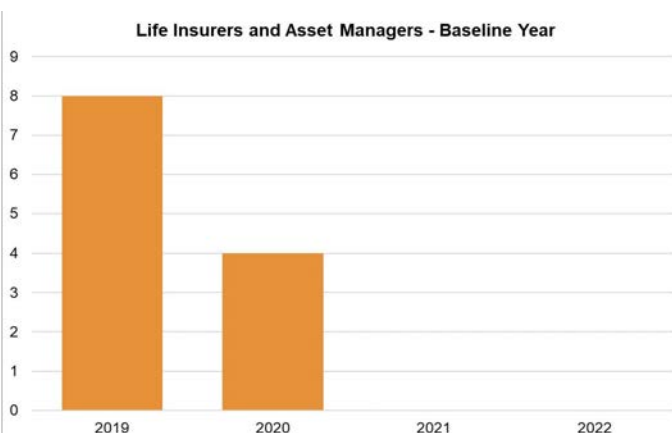
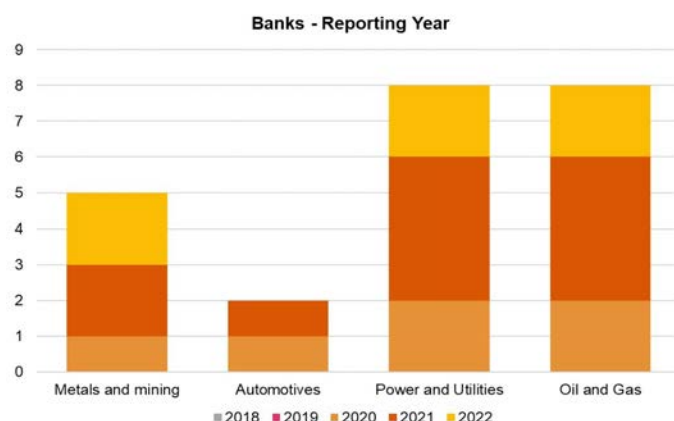
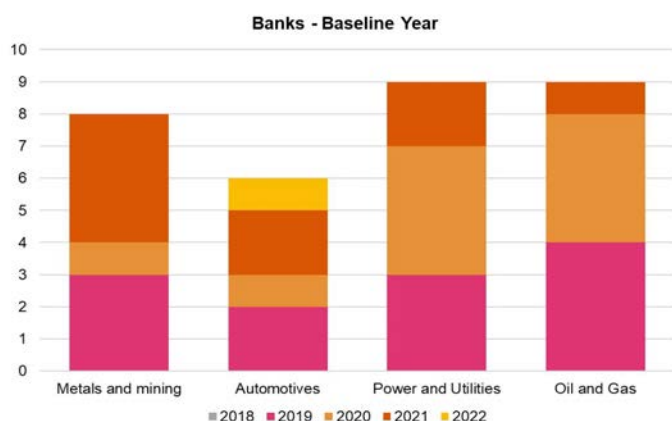
- Participants reported varying baseline years across asset class or sector, representing variations in the data available and phased approach to reporting baseline emissions.
- For reporting years, we noted that the FIs are reporting emissions over multiple years from baseline year.

##### Banks

- From the underlying data, we noted that for some banks, the **chosen baseline year is not consistent between sectors**. This is because of the phased-in approach taken by institutions whereby new sectors are added in scope of emissions over time. Furthermore the Net Zero Banking Alliance ([NZBA](#)) require the baseline year to be at least 2 years from first reporting, we anticipate that the baseline years will be different between sectors. To ensure comparability, we have included only those sectors which are covered by most of the banks, namely Oil & Gas, Power & Utilities, Automotive and Metals and mining sectors.
- For Metals and mining 4 banks out of the 8 use a **baseline year of 2021**. For the automotive sector, the split between years is more varied and 1 bank even uses a baseline year of 2022. For the Power sector, we note that 4 of the 9 banks are using a baseline year of 2019. For Oil & Gas sector, we observe an equal split of 4 banks using a baseline year of 2019 and 4 banks using 2020.

##### Life insurers and asset managers.

- 8 out of the 12 participants have 2019 as a baseline year and they have noted the impact of Covid 19 on the 2020 emissions numbers and 9 asset managers are using 2021 as the reporting year.



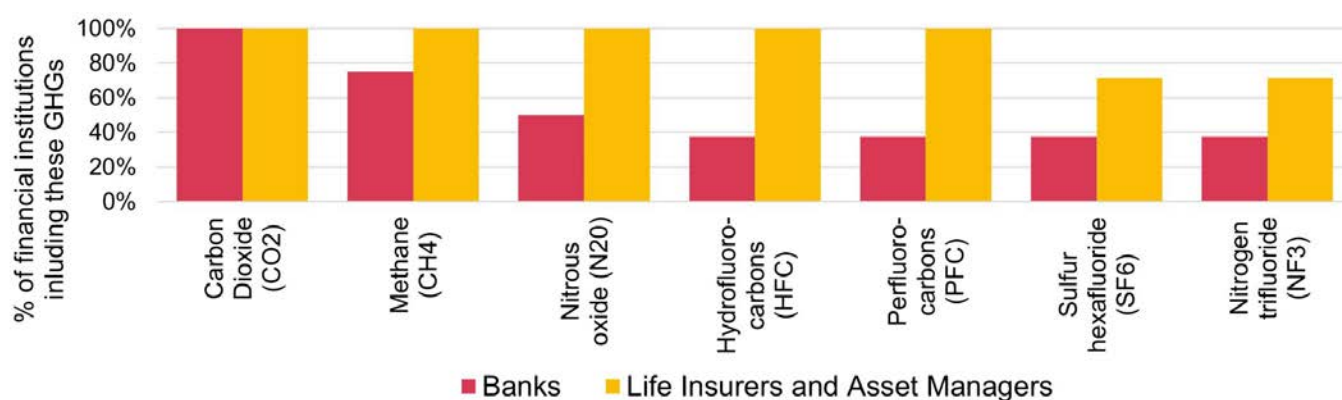


# Financed Emissions: Key insights - Scope

## 2.3: Scope - Greenhouse Gases (GHGs)

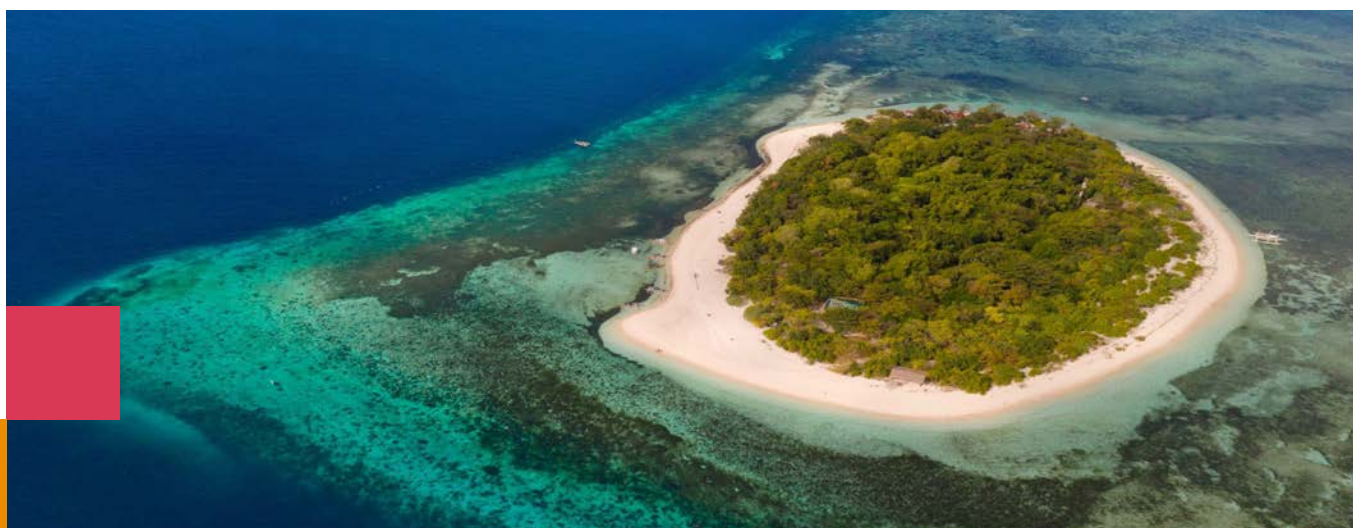
### Key insights:

- All participants which **disclosed absolute emissions** reported in either **CO<sub>2</sub> or CO<sub>2</sub> equivalent (CO<sub>2</sub>e)**.
- **6 banks and 5 life insurers and asset managers** are **not disclosing** which GHGs are within scope of their GHG measurement.
- For those that disclosed, **carbon dioxide is always in scope**.



There are **seven gases mandated under the Kyoto Protocol** and to be included in national inventories under the United Nations Framework Convention on Climate Change (UNFCCC).

Accounting for all greenhouse gases in the emissions calculation is helpful to capture broader climate impact, particularly in **sectors where non-CO<sub>2</sub> emissions are significant**, such as **methane emissions in Agriculture** or Oil and Gas. The Portfolio Alignment Team suggests portfolio tools cover all seven GHGs mandated by the Kyoto Protocol. In the immediate term, gases may be aggregated using the GWP framework detailed by the GHG Protocol.



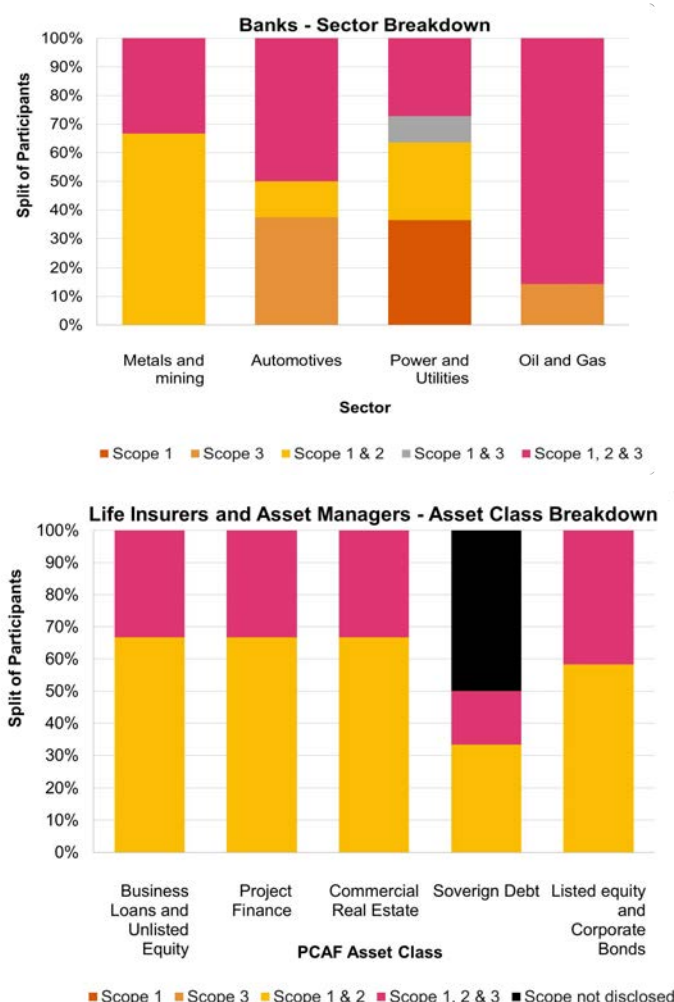
# Financed Emissions: Key insights - Scope

## 2.4: Scope - Borrowers and investees scope of emissions



Financial institutions **shall** report the absolute **scope 1 and scope 2 emissions** of borrowers and investees across all sectors. For reporting the **scope 3 emissions** of borrowers and investees, PCAF follows a **phase-in approach** which requires scope 3 reporting for lending to and making investments in companies depending on the sector in which they are active.”

### PCAF – Financed Emissions GHG Standards Part A



Life insurers and asset managers have disclosed the emissions at an asset class level while banks have disclosed this information at sector level. Hence the graphs to the left summarise the scope of emissions at sector level for banks and asset class level for insurers. Furthermore, to ensure comparability, we have included only those sectors which are covered by most of the banks, namely Oil & Gas, Power & Utilities, Automotive and Metals and mining sectors.

### Key insights:

- All **Life insurers and asset managers** have disclosed the emissions of investees and borrowers at an **asset class level** while **banks** provided this information at **sector level**.
- The **greatest deviation** between FIs are seen on the **counterparty scope 3 inclusion**.

### Banks

- Only 3 banks have included scope 3 emissions from **metals and mining**. From the underlying data, we also noted that there were **variations in the sector level** reporting by banks. For instance, some reported **emissions at granular level** across each **individual metals** whereas others reported on **metals in aggregate**.
- For **Automotive sector**, 3 participants included **scope 3 emissions only**.
- The **greatest variation** is noted for the **Power sector** whereby some are excluding scope 2 and others are excluding scope 3 only and a small proportion including all 3 scopes.
- For **Oil & Gas**, **banks** have consistently included **scope 3 emissions**.

### Life Insurers and Asset Managers

- All institutions have reported the **scope 1 and scope 2 emissions**.
- 3 participants which disclosed sovereign debt as an asset class **did not disclose the scope of emissions** included.
- Only 4 participants have consistently included **scope 3 emissions** across all asset classes in scope **noting the lack of data availability**.

# Financed Emissions: Key insights - Scope

## 2.5: Scope - Sector level value chain considerations

As part of scoping, FIs look to avoid double counting and as such apply value chain exclusions across sectors. This exclusion is also based on the investee and borrower emissions scope included which was detailed in the previous section.

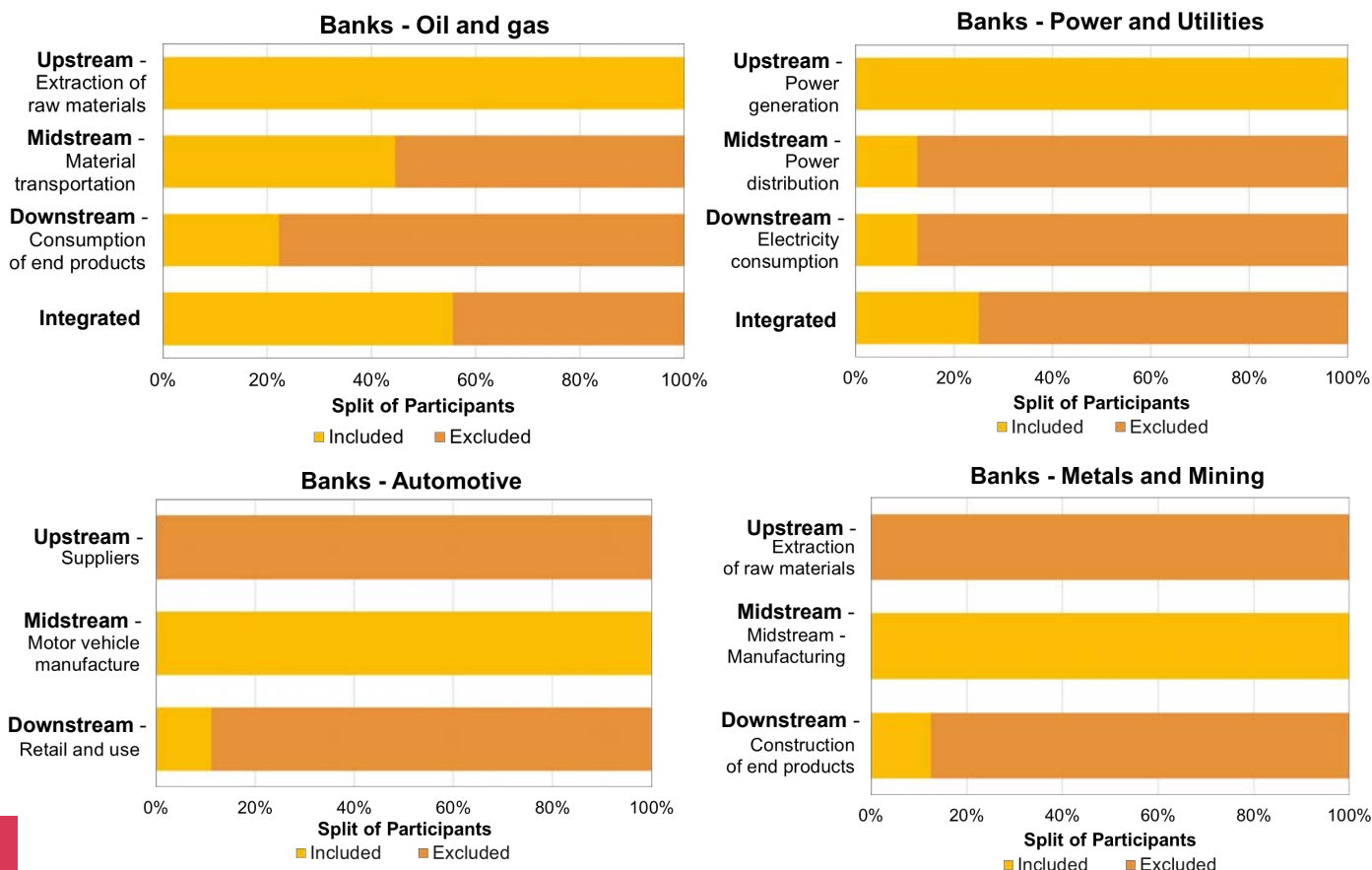
### Key insights:

#### Life insurers and Asset Managers

- We note that the **value chain information is not disclosed by life insurers and asset managers** since they have not disclosed sector level information.

#### Banks

- **Upstream companies are consistently included by all participants in the Oil & Gas and Power sector while for automotive and metals and mining sectors, upstream companies were consistently excluded.**
- For the **automotive and metals and mining sectors** we note that the **midstream** is consistently **included** since these correspond to **manufacturing** and is the **most carbon intensive area** of the value chain.



To ensure comparability, we have included only those sectors which are covered by most of the banks, namely Oil & Gas, Power & Utilities, Automotive and Metals and mining sectors.



# Financed Emissions: Key insights - Data quality

3

## 3.1 Data quality – PCAF score

**Data availability** is a **known challenge** for institutions measuring their carbon footprint and institutions are using proxies to fill these gaps. This is reflected in the data quality scores disclosed by institutions which leverage PCAF as guidance. This section summarises the key insights from the disclosed PCAF score (score of 1 corresponding to the best data quality and a score of 5 corresponding to the lowest data quality). Please refer to the [Appendix](#) for further details on the PCAF data quality score and the 'Portfolio emissions: The importance of data and getting it right' paper for more details on data challenges and considerations.

### Data quality score – Banks

**12** of the 14

Of the selected banks **disclosed a PCAF data quality score**. All banks which have stated leveraging PCAF approach have also disclosed a PCAF score as per the guidance.

**3.37** and **3.54**

Are the **exposure weighted average Scope 1 & 2** and **Scope 3 PCAF** data quality score respectively across the selected banks.

### Data quality score - Life insurers and asset managers

**6** of the 12

Of the selected life insurers and asset managers **disclosed a PCAF data quality score**. This score is mandated by PCAF guidance and allows for comparability.

**2.47** and **3.04**

Are the **exposure weighted average Scope 1 & 2** and **Scope 3 PCAF** data quality score respectively across the selected of life insurers and asset managers.



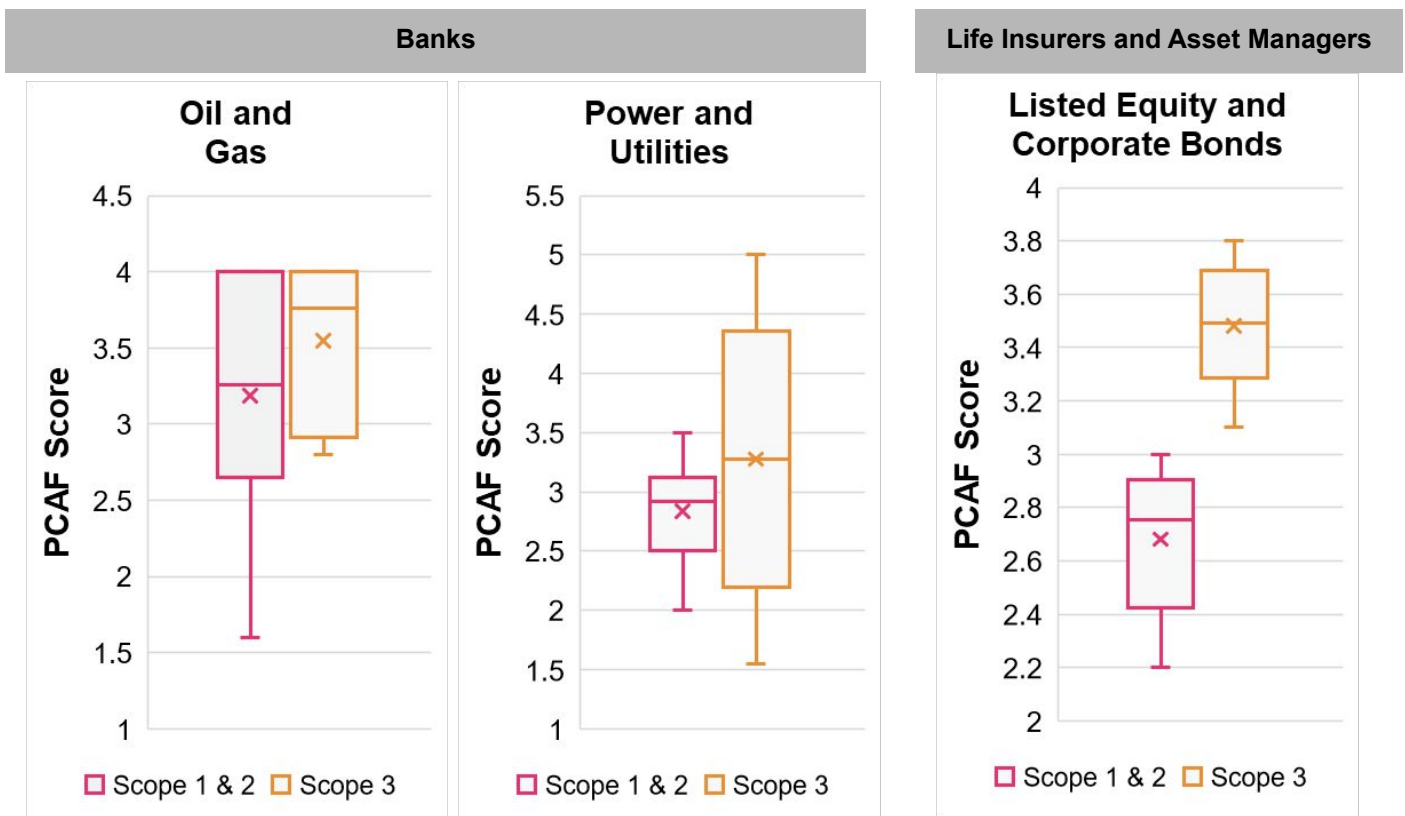
# Financed Emissions:

## Key insights - Data quality

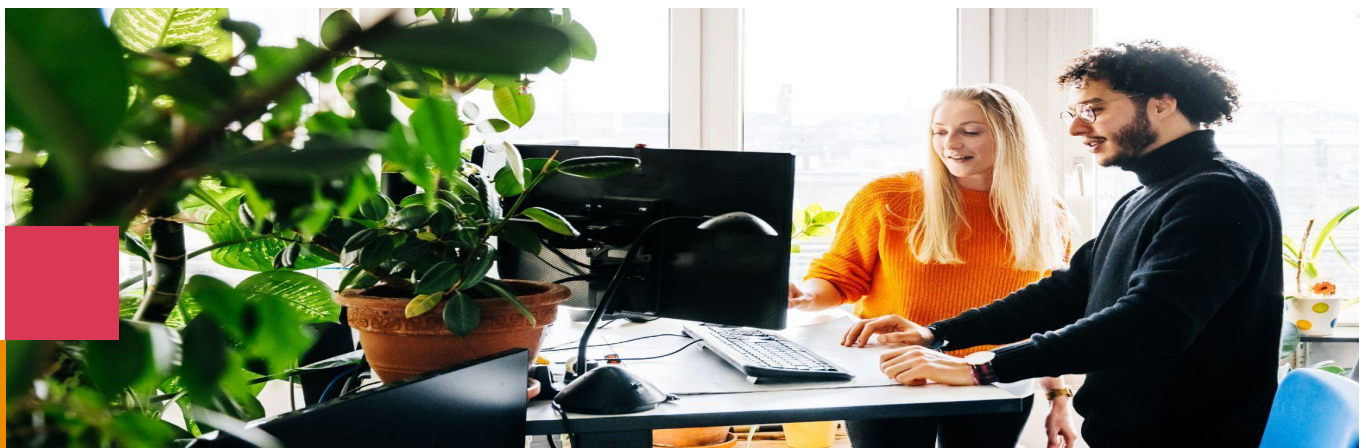
### Key Insights:

- All banks which have stated leveraging PCAF approach have also disclosed a PCAF score as per the guidance.
- 6 asset managers which have **either committed to or disclosed in line with PCAF** but have **not disclosed a PCAF score**.

Below we have summarized for the most material sectors/asset class the range of PCAF data quality scores in the following box whisker plots:



To ensure comparability, we have included only those sectors and asset classes which are covered by most of the institutions, namely Oil & Gas, Power & Utilities sectors and listed equity and corporate bonds asset class for life insurers and asset managers.



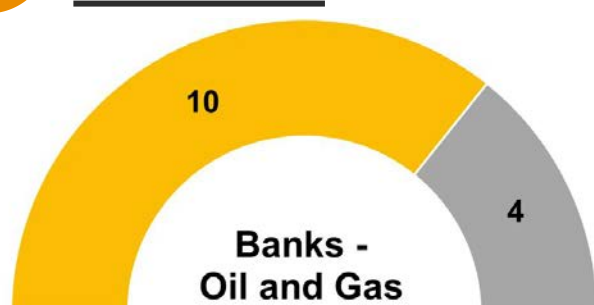
# Financed Emissions: Key insights - Model design

4

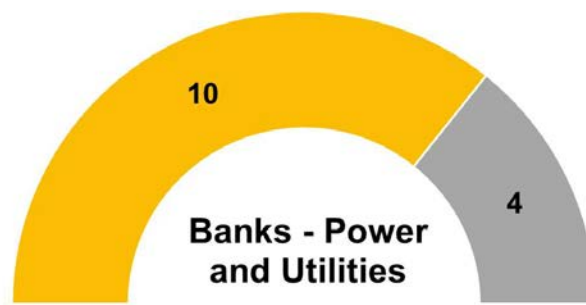
## 4.1: Model design – Forecasting and target setting

In addition to **disclosing the current carbon footprint** associated with the lending (Banks) and investment activities (life insurers and asset managers), some FIs have also **disclosed their targeted future level of carbon footprint** (i.e. interim target footprint) which **reflects their climate ambitions**. In this section, we aim to summarise the key insights on these **targets** as well as information on how the basis of these targets were available.

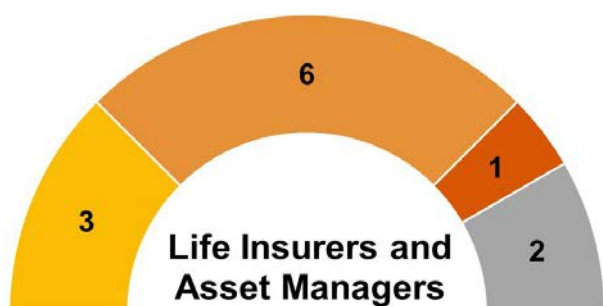
### Future target carbon footprint



■ Interim targets ■ No interim targets



■ Interim targets ■ No interim targets



■ One interim target ■ Two interim targets  
■ Three interim targets ■ No interim targets

### Key Insights:

- Overall, **20 of the 26 FIs** analysed have **disclosed interim targets**.
- We note that **banks are disclosing targets at sector level** while **life insurers and asset managers** are disclosing at **overall portfolio level**.
- Life insurers and asset managers have **disclosed targets over multiple periods of time** with one participant disclosing over 3 future time periods.

To ensure comparability, we have included only those sectors and asset classes which are covered by most of the institutions, namely Oil & Gas, Power & Utilities sectors for banks.

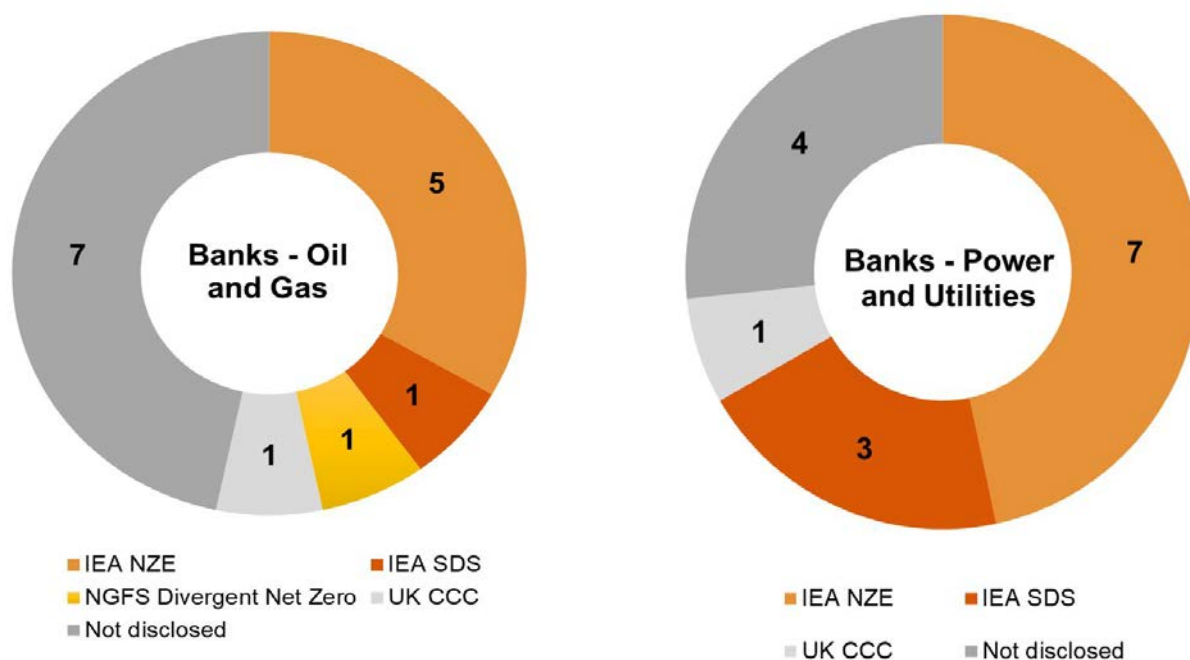




# Financed Emissions: Key insights - Model design

## 4.2: Model design – Benchmark scenario selection

FIs have used benchmark scenarios which are pathways set by relevant third parties (IEA or regional / UK) to determine their interim targets. This section summarises the scenarios used by banks across sectors.



To ensure comparability, we have included only those sectors and asset classes which are covered by most of the institutions, namely Oil & Gas, Power & Utilities sectors for banks.

### Key Insights:

#### Life insurers and asset managers







- Life insurers and asset managers have not disclosed the benchmark scenarios they have adopted.

#### Banks

- For the Oil and Gas sector, 4 different scenarios are being used across banks with the IEA NZE being the most common.
- Scope of emissions – different reference scenarios are used for Scope 1&2 and Scope 3 emissions for Oil and Gas.
- There is a lack of geographical considerations. 4 banks are using global scenarios like IEA NZE with no geographical breakdown for the Oil and Gas sector.
- 8 out of the 14 banks are using industry derived scenarios instead of bespoke pathways. This allows for benchmarking of targets between peers

# How can PwC help?

We have experience supporting our clients in the **Financial Services** sector with various challenges around **emissions modelling and measuring climate related risks**. This includes:

<b>1</b> <b>Data sourcing and processing</b> - selecting appropriate data based on defined criteria, sensitivity and benchmarking analysis, use of proxies when data not available. 	<b>2</b> <b>Emissions modelling</b> – model design, development, validation and implementation. 	<b>3</b> <b>Governance and monitoring</b> – defining and embedding, risk appetite, governance and monitoring framework. 
<b>4</b> <b>Portfolio and counterparty management using analytics and insights</b> - support active portfolio and counterparty management. 	<b>5</b> <b>Decarbonisation strategy and optimisation</b> - including dynamic balance sheet and credibility assessment considerations. 	<b>6</b> <b>Embedding financed emissions output into the business</b> – sustainability reporting, transition planning. 

Across all these offerings, we have a set of **digital assets** including a **cloud-based tool (Portfolio Emissions Manager – PEM)** which supports financial services in **quantifying their carbon footprint and forecasting their decarbonisation pathway**.

Please reach out for a demo of the tool and how it can help your institution in the net zero journey.

## Other publications

- *Calculating your baseline carbon footprint: Facilitated emissions for capital markets 2023*
- *Portfolio emissions: The importance of data and getting it right*



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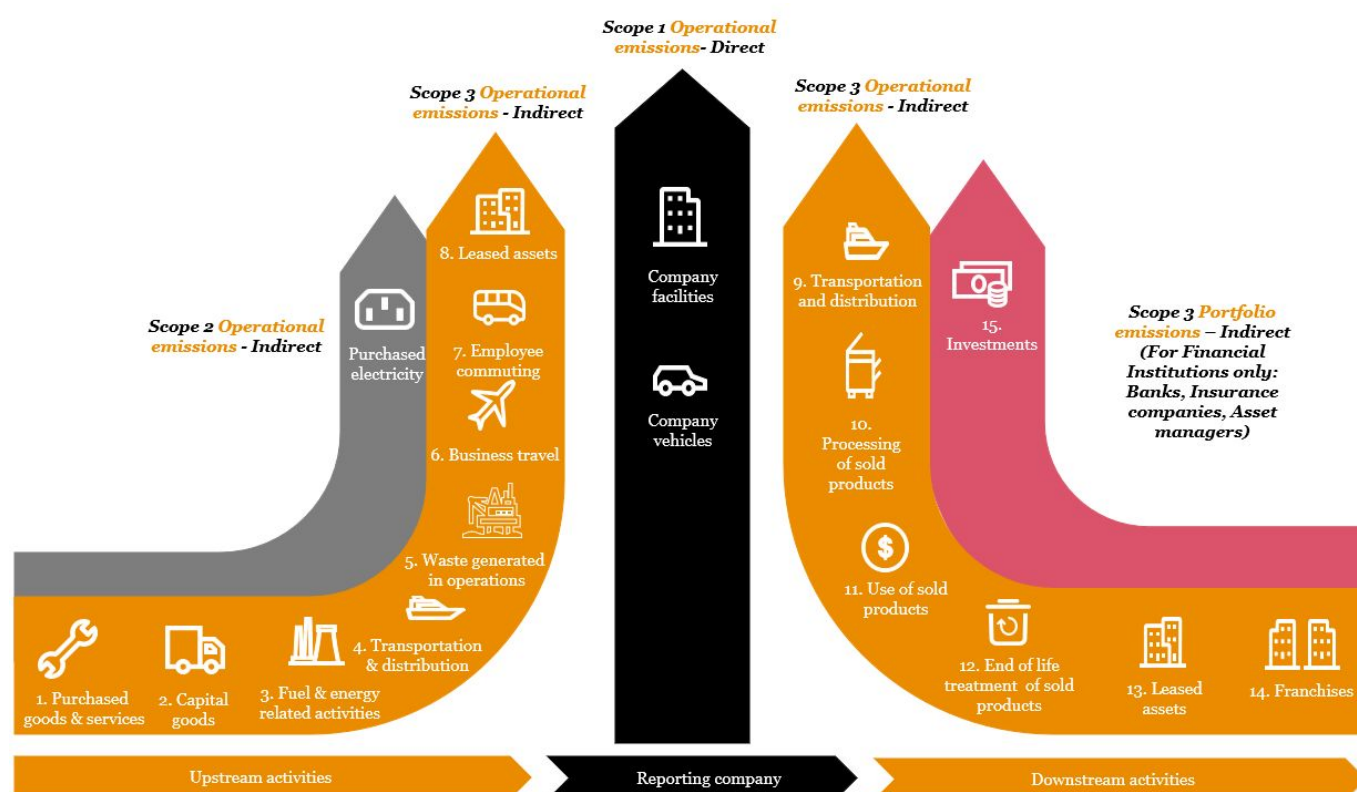


# Appendix

The granularity of emissions reporting can be increased by reporting emissions at scope level, where:

- **Scope 1** is direct GHG emissions.
- **Scope 2** is indirect GHG emissions.
- **Scope 3** is all other indirect GHG emissions not included in scope 2.  
Scope 3 emissions can be further broken down into **upstream** and **downstream** emissions, often referred to as the value chain.

The charts highlight the importance of **financed emissions reporting** in comparison to operational emissions. Which further emphasises the need for improved data, measurement and reporting.



## Brief description

<b>IEA NZE</b>	The Net Zero Emissions by 2050 Scenario (IEA NZE Scenario) is a normative scenario that describes a pathway towards achieving net-zero carbon dioxide emissions by 2050, for the global energy sector.
<b>TCFD</b>	The Financial Stability Board created the Task Force on Climate-related Financial Disclosures (TCFD) to improve and increase reporting of climate-related financial information. TCFD guidance recommends that financial institutions report financed emissions in line with PCAF as it provides the granularity required to contribute to a consistent implementation of TCFD and comply with UK government requirements.
<b>ISSB</b>	International Sustainability Standards Board (ISSB) is shaping the future of sustainable reporting with global standards on the basis of the recommendation from TCFD. In particular for the UK, they will be endorsed to create the "UK Sustainability Disclosure Standards (SDS)". Developed by the Department for Business and Trade, the UK SDS are expected to be released by July 2024. Source: <a href="https://gov.uk">gov.uk</a>
<b>CSRD</b>	The Corporate Sustainability Reporting Directive (CSRD) is an European Union initiative which builds on the existing Non-Financial Reporting Directive (NFRD). It aims to enhance transparency and accountability by requiring all large companies and listed SMEs to regularly report on their environmental and social activities.
<b>NZBA</b>	The Net-Zero Banking Alliance (NZBA) is the banking member of the Glasgow Financial Alliance for Net Zero (GFANZ). It comprises leading international banks dedicated to funding ambitious climate initiatives, aiming to transition the economy to net-zero greenhouse gas emissions by 2050

# Appendix

Illustrative PCAF data quality score table for listed equity and corporate bonds.

Source: PCAF (2022). [The Global GHG Accounting and Reporting Standard Part A: Financed Emissions, Second Edition](#).

LISTED EQUITY AND CORPORATE BONDS – DETAILED SUMMARY OF DATA NEEDS AND EQUATIONS TO CALCULATE FINANCED EMISSIONS

Table 10.1-1. Detailed description of the data quality score table for listed equity and corporate bonds<sup>2M</sup>

Option	Description				Data quality
	Attribution	Emission factor		Financed emissions calculation	
	Financial data	Emission data		Equations	Highest to lowest
Option 1a	Outstanding amount in the company	EVIC for listed companies and total equity plus debt for bonds to private companies	Verified GHG emissions data from the company in accordance with the GHG Protocol	<p>For listed companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Verified company emissions}_c$ <p>For bonds to private companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Verified company emissions}_c$	Score 1
Option 1b			Unverified GHG emissions data calculated by the company in accordance with the GHG Protocol	<p>For listed companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Unverified company emissions}_c$ <p>For bonds to private companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Unverified company emissions}_c$	Score 2
Option 2a <sup>2M</sup>		EVIC for listed companies and total equity plus debt for bonds to private companies	Primary physical activity data for the company's energy consumption by energy source (e.g., megawatt-hours of electricity) plus any process emissions	<p>For listed companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Energy consumption}_c \times \text{Emission factor}$ <p>For bonds to private companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Energy consumption}_c \times \text{Emission factor}$	Score 3
Option 2b			Primary physical activity data for the company's production (e.g., tonnes of rice produced)	<p>For listed companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Production}_c \times \text{Emission factor}$ <p>For bonds to private companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Production}_c \times \text{Emission factor}$	Score 3
Option 3a			GHG emissions per sector	<p>For listed companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Revenue}_c \times \frac{\text{GHG emissions}_c}{\text{Revenue}_c}$ <p>For bonds to private companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Revenue}_c \times \frac{\text{GHG emissions}_c}{\text{Revenue}_c}$	Score 4
Option 3b			Assets per sector	<p>For listed companies and bonds to private companies:</p> $\sum_c \text{Outstanding amount}_c \times \frac{\text{GHG emissions}_c}{\text{Assets}_c}$	Score 5
Option 3c		Asset turnover ratio per sector	Revenue per sector	<p>For listed companies and bonds to private companies:</p> $\sum_c \text{Outstanding amount}_c \times \text{Asset turnover ratio}_c \times \frac{\text{GHG emissions}_c}{\text{Revenue}_c}$	