TPI Global Climate Transition Centre
Research and Data at LSE

LSE Global School of Sustainability

Carbon Performance for Banks: methodology note v1.0

December 2025

The TPI Global Climate Transition Centre at LSE

The TPI Global Climate Transition Centre (TPI Centre) is an independent, authoritative source of research and data on the progress of corporate and sovereign entities in transitioning to a low-carbon economy. It is part of the Global School of Sustainability at the London School of Economics and Political Science (LSE). The TPI Centre is the academic partner of the Transition Pathway Initiative (TPI), a global initiative led by asset owners and supported by asset managers, aimed at helping investors and other stakeholders assess company, bank and sovereign preparedness for the transition to a low-carbon economy and supporting efforts to address climate change. More than 155 investors globally, representing approximately US$87 trillion[1] combined Assets Under Management and Advice, have pledged support for TPI.

The TPI Centre provides data on publicly listed equities, corporate bond issuers, banks and sovereign bond issuers. The TPI Centre's company data:

- Assess the quality of companies' governance and management of their carbon emissions and of risks and opportunities related to the low-carbon transition.
- Evaluate whether companies' current and planned future emissions are aligned with international climate targets and national climate pledges, including those made as part of the Paris Agreement.
- Form the basis for the Climate Action 100+ Net Zero Company Benchmark Disclosure Framework assessments.
- Are published alongside the methods online. They are public and free to use for non-commercial purposes and available at www.transitionpathwayinitiative.org.

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The views in this report are those of the authors and do not necessarily represent those of the host institution or funders. The authors declare no conflict of interest in preparing this report.

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[1] This figure is subject to market-price and foreign-exchange fluctuations and, as the sum of self-reported data by TPI supporters, may double-count some assets.

Content

1. Design principles behind the development of Carbon Performance for Banks

The TPI Centre's Carbon Performance for Banks assessments are guided by key design principles of transparency, accountability and robustness, which are essential for ensuring the credibility of the assessment process. The assessment principles in full are:

1. **Assessments must be based solely on publicly available bank disclosures.** Transparency from banks regarding their greenhouse gas (GHG) emissions, GHG emissions targets, and the methodologies used to set these targets is central to the TPI Centre's ability to assess them, and it enables users to understand and verify assessment outcomes. Using only publicly available data ensures that banks are assessed consistently and fairly.
2. **Banks' historical and targeted emissions pathways are assessable objectively, ensuring comparability.** All stakeholders who use TPI Centre data should be able to understand the rationale behind our assessments. For clarity, comparability and ease of interpretation, our work is based on the Sectoral Decarbonisation Approach (SDA).
3. **The Carbon Performance for Banks assessment is relevant for all types of banks.** The framework should consider the variety of banks' business models and be applicable to a wide range of different banks.
4. **Assessments align with existing initiatives.** The Carbon Performance for Banks tool is designed to align with a wide range of initiatives and guidelines in the banking sector. This includes compatibility of emissions data reported according to the Partnership for Carbon Accounting Financials (PCAF) GHG accounting methodologies[2] and a focus on sectoral decarbonisation targets as advocated for by organisations such as Glasgow Financial Alliance for Net Zero (GFANZ)[3] and the United Nations Environment Programme Finance Initiative (UNEP FI).[4] Elements of the work described in this document have been referenced by the Climate Bonds Initiative (CBI),[5] Network for Greening the Financial System (NGFS)[6] and the World Research Institute (WRI).[7]
5. **The TPI Centre assesses banks as an aggregated entity.** Our analysis reflects disclosures, practices and GHG emissions targets set at the group level.
6. **Carbon Performance assessments are clear, useful and accessible to investors, including those with limited resources to assess climate change.** To create an easy-to-use framework, efforts have been taken to focus on the most important aspects of banks' GHG emissions disclosures and sectoral decarbonisation targets.

Our methodology and individual banks' assessments are open-access and available on the TPI Centre's website.

[2] PCAF methodologies are available at: https://carbonaccountingfinancials.com/standard.
[3] GFANZ (2022) *Financial Institution Net Zero Transition Plans*.
[4] UNEP FI (2025) *Guidance for Climate Target Setting for Banks, Version 4*.
[5] Creed A and Martini M (2025) *Bank Transition Disclosure: Recommended Best Practice*.
[6] NGFS (2025) *Target Setting and Transition Plans*.
[7] WRI (2023) *Financial Institutions Net Zero Tracker*.

2. Important definitions and concepts

2.1. Scope 3 Category 15 emissions

According to the Greenhouse Gas Protocol,[8] Scope 3 Category 15 emissions are the GHG emissions associated with the reporting of a company's investments that are not already included in Scope 1 or Scope 2 emissions. This category applies to investors (i.e. companies that invest with the objective of making a profit) and companies that provide financial services, including banks. Scope 3 Category 15 is primarily designed for private financial institutions (e.g. commercial banks), but is also relevant to public financial institutions (e.g. multilateral development banks, export credit agencies), as well as other entities with investments not included in Scope 1 and Scope 2 emissions. These emissions significantly outweigh emissions produced in other parts of banks' value chain, with the Carbon Disclosure Project (CDP) estimating that over 99% of a bank's overall carbon footprint is attributable to Scope 3 Category 15.[9]

2.2. Financed, facilitated and insurance-associated emissions

For banks, GHG emissions arising from lending, investment activities and the provision of other financial services provided to real-economy companies constitute their most material climate-change impact. Together, these emissions are often referred to as financed and facilitated emissions.

Financed emissions encompass GHG emissions related to on-balance sheet lending and investment exposures, as well as off-balance sheet committed financing, guarantees and letters of credit.

Facilitated emissions, on the other hand, refer to GHG emissions associated with financial services provided by institutions when arranging financing, such as underwriting, securitisation and advisory services. As PCAF notes, facilitated emissions differ from financed emissions in two key respects: i) they are rarely held on a bank's balance sheet and represent services rather than financing, and ii) a bank's involvement in the transaction is temporary.[10]

The majority of financed and facilitated emissions disclosures follow the accounting methodologies developed by PCAF. The TPI Centre's Carbon Performance for Banks methodology has therefore been designed to allow for the assessment of banks' sectoral targets using PCAF accounting methodologies. Banks' sectoral targets, which use other accounting methodologies, can also be assessed if they are clearly disclosed and consistent with the TPI Centre's sectoral benchmark methodologies.

In addition to traditional lending and investment activities, some banks may also engage in insurance-related activities. As PCAF notes, the insurance industry is in a unique position as it has asset owner and underwriting activities on the same balance sheet.[11]

For asset owner and management activities, the definition of financed emissions outlined above applies. For **insurance-associated GHG emissions**, PCAF defines these as GHG emissions in the real economy, which are associated with specific re/insurance policies aggregated in the re/insurance portfolio.[12]

Financed and facilitated emissions, and insurance-associated emissions differ in multiple ways, notably the nature of the financing relationship. Financed emissions are associated with financial control through lending and investment activities. Facilitated emissions are associated with arranging financing as

[8] Greenhouse Gas Protocol (2013) *Category 15: Investments*.

[9] Carbon Disclosure Project [CDP] (2024) *Technical Note: Relevance of Scope 3 Categories by Sector*.

[10] Partnership for Carbon Accounting Financials [PCAF] (2023) *Facilitated Emissions Standard, Version 1*.

[11] PCAF (2022a) *Insurance-Associated Emissions Standard, Version 1*; PCAF (2022b) *Insurance-Associated Emissions FAQ*.

[12] PCAF (2022a) *Insurance-Associated Emissions Standard, Version 1*.

opposed to direct financing through lending and investment. Insurance-associated emissions, on the other hand, encompass GHG emissions of assets or companies covered by insurance policies within a re/insurer's underwriting portfolio.

2.3. Banks' sectoral pathways

Real-economy companies assessed in our Carbon Performance for corporates tool tend to operate in one high-emission sector. When the relevant methodology from the TPI Centre is comparable with that used by a company to report on its emissions, we compare these two pathways to determine alignment in the short, medium and long term.

Banks are multifaceted businesses involved in many sectors and various business activities. This means that, contrary to real-economy companies, it is not possible to have a unique bank-wide emissions pathway.

To assess a bank, we review the high-emissions sectors in which it operates in at least one of its material business activities, such as lending. We construct a bank's sectoral pathway using its historical financed and/or facilitated emissions for a given high-emission sector and its targeted emissions. Between the latest reported financed and/or facilitated emissions figure and the targeted figure, we linearly interpolate the missing values.

2.4. Low-carbon benchmark

The TPI Centre has developed low-carbon benchmark emissions pathways for 14 high-emission sectors: airlines, aluminium, autos, cement, chemicals, coal mining (thermal), coal mining (metallurgical), diversified mining, electric utilities (global and regional), food producers, oil and gas, paper, shipping, and steel.

For each of these sectors, we have developed three low-carbon benchmarks: 1.5°C, Below 2°C and a National Pledges benchmark. These are based on the Sectoral Decarbonisation Approach (SDA), explained in Section 3. They outline a sector's decarbonisation trajectory until 2050.

In our Carbon Performance for Banks assessments, we compare banks' sectoral decarbonisation pathways with our sectoral low-carbon benchmarks developed to determine alignment in the short, medium and long term.

3. The TPI Centre's use of the Sectoral Decarbonisation Approach (SDA)

The TPI Centre's Carbon Performance assessments to date have been predominantly based on the Sectoral Decarbonisation Approach (SDA).[13] The SDA translates GHG emissions targets made at the international level (e.g. under the 2015 UN Paris Agreement) into benchmarks, against which the performance of individual companies can be compared.

The SDA recognises that different sectors of the economy (e.g. food production, electricity generation and automobile manufacturing) face different challenges arising from the low-carbon transition, including where emissions are concentrated in the value chain and how costly it is to reduce emissions. Other approaches to translating international emissions targets into company benchmarks have applied the same decarbonisation pathway to all sectors, regardless of these differences.[14] Such approaches may result in suboptimal insights, as not all sectors have the same emissions profiles or face the same challenges: some sectors may be capable of faster decarbonisation, while others require more time and resources.

Therefore, the SDA takes a sector-by-sector approach, comparing companies within each sector against each other and against sector-specific benchmarks, which establish the performance of an average company that is aligned with international emissions targets.

The SDA can be applied by taking the following steps:

- A global carbon budget is established, which is consistent with international emissions targets, for example, keeping global warming below 2°C. To do this rigorously, some input from a climate model is required.
- The global carbon budget is allocated across time and to different regions and industrial sectors. This typically requires an Integrated Assessment Model (IAM), and these models usually allocate emissions reductions by region and by sector according to where it is cheapest to reduce emissions and when. Cost-effectiveness is, however, subject to some constraints, such as political and societal preferences, and the availability of capital. This step is therefore driven primarily by economic and engineering considerations, but with some awareness of political and social factors.
- In order to compare companies of different sizes, sectoral emissions are normalised by a relevant measure of sectoral activity (e.g. physical production or economic activity). This results in a benchmark pathway for emissions intensity in each sector:

$$\text{Emissions intensity} = \frac{\text{Emissions}}{\text{Activity}}$$

- Assumptions about sectoral activity need to be consistent with the emissions modelled and therefore should be taken from the same economy–energy modelling where possible.

[13] The Sectoral Decarbonisation Approach (SDA) was created by the CDP, the WRI and the World Wide Fund for Nature (WWF) in 2015. See Science-Based Targets Initiative [SBTi]: https://files.sciencebasedtargets.org/production/files/Sectoral-Decarbonization-Approach-Report.pdf

[14] Randers J (2012) Greenhouse gas emissions per unit of value added ('GEVA'): a corporate guide to voluntary climate action. *Energy Policy* 48: 46–55.

- An entity's recent and current emissions intensity are calculated, and its future emissions intensity is based on emissions targets it has set (this assumes companies meet their targets).[15] Together, these establish emissions intensity pathways for companies.
- An entity's emissions intensity pathways are compared with each other and with the relevant sectoral benchmark pathway.

For the coal mining sector, the TPI Centre uses a different approach to derive low-carbon benchmarks due to sector-specific characteristics. For this sector, the TPI Centre follows the Emission Contraction Approach (ECA), as detailed in Box 3.1. In this approach, a company's Carbon Performance is based on absolute emissions rather than emissions intensity.

Box 3.1. Carbon Performance assessment of coal mining companies: the Emission Contraction Approach (ECA)

Decarbonisation pathways for coal mining are characterised by a steep decline in coal production. In the International Energy Agency's (IEA) Net Zero by 2050 scenario, global production of thermal and metallurgical coal falls by 92% and 91% respectively between 2023 and 2050.[i] This implies that both types of coal mining companies (thermal and metallurgical) will have to significantly reduce their coal output.

There are two main decarbonisation strategies coal mining companies can adopt: they can diversify their product portfolio away from coal assets; or they can wind down their 'pure-play' coal business. The latter approach focuses on the reduction of output rather than diversification. Diversification strategies can be assessed with the TPI Centre's diversified mining methodology,[ii] which is based on the SDA outlined above. However, for wind-down strategies, the ECA is more appropriate because coal production and Scope 1–3 emissions would reduce roughly proportionally. There would therefore be hardly any change to a company's emissions intensity: the pathway would resemble a flat line. Some reduction in emissions intensity could be achieved by abating operational Scope 1 and 2 emissions, but since these emissions account for a small share of coal miners' total carbon footprint, the impact would be small.

Like the SDA, the ECA is based on sectoral carbon budgets that are derived from an IAM. However, instead of dividing the sectoral carbon budget by a sector-specific activity metric, the benchmark pathways represent the relative (percentage) change in absolute emissions. The relative change in companies' absolute emissions is then compared with the absolute emissions reduction rate of the coal mining sector in the low-carbon benchmark.

The ECA is intended to respond to the question of managed phase-outs, which has been raised by investor alliances, such as the Glasgow Financial Alliance for Net Zero (GFANZ) and the Institutional Investors Group on Climate Change (IIGCC).[iii, iv] The ECA is not the first method to assess companies' transition efforts on the basis of absolute emissions. The Science-Based Targets initiative (SBTi) uses a similar method, the Absolute Contraction Approach (ACA), to assess absolute Scope 1 and 2 (and in certain cases also Scope 3) targets.[v] The key difference is that the ACA applies an economy-wide emissions reduction rate to all sectors while the ECA is based on a sector-specific carbon budget.

[i] IEA (2024) *World Energy Outlook*. Paris, IEA.
[ii] Dietz S, Jahn V, Scheer A, Cho H (2024) *Carbon Performance Assessment of Diversified Mining: Note on Methodology*. London: Transition Pathway Initiative Centre, London School of Economics and Political Science.
[iii] Glasgow Financial Alliance for Net Zero [GFANZ] (2022) *The Managed Phaseout of High-emitting Assets*.
[iv] Institutional Investors Group on Climate Change [IIGCC] (2023) *Net Zero Standard for Oil and Gas*.
[v] Science-Based Targets Initiative [SBTi] (2021) Understand the methods for science-based climate action. Blog post. 25 February.

[15] Alternatively, companies' future emissions intensity could be calculated based on other data provided by companies on their business strategy and capital expenditure plans.

4. Applying the SDA to the banking sector

4.1. Deriving the benchmark pathways

The TPI Centre evaluates banks against benchmark pathways, which translate the emission reductions required by the Paris Agreement goals into a measurable trajectory at the sectoral level. For each sector benchmark path, the key inputs are:

- A timeline for GHG emissions that is consistent with meeting a particular climate target (e.g. limiting global warming to 1.5°C) by keeping cumulative carbon emissions within the associated carbon budget.
- A breakdown of this economy-wide emissions pathway into emissions from key sectors (the numerator of sectoral emissions intensity), including the sector in focus.
- Consistent estimates of the timeline of physical production from, or economic activity in, these key sectors (the denominator of sectoral emissions intensity).

For most of the high-emission sectors identified by the TPI Centre, we obtain all three inputs from the International Energy Agency (IEA), via its Energy Technology Perspectives, Net Zero by 2050 and World Energy Outlook reports.[16] The IEA has established expertise in modelling the cost of achieving international emissions targets. It also provides detailed access to the modelling inputs and outputs in a form suitable for applying the SDA.

The IEA's economy-energy model simulates the supply of energy and the path of emissions in different sectors burning fossil fuels, or consuming energy generated by burning fossil fuels, given assumptions about key inputs, such as economic and population growth.

In low-carbon scenarios, the IEA model minimises the cost of adhering to a carbon budget by always allocating emissions reductions to sectors where they can be made most cheaply, subject to some constraints as mentioned above. These scenarios are therefore cost-effective, within some limits of economic, political, social and technological feasibility.

The IEA's work can be used to derive three benchmark emissions pathways, against which companies are evaluated by the TPI Centre:

1. A **National Pledges and International Pledges scenario**, which is consistent with the global aggregate of emissions reductions related to policies introduced or under development as of mid-2023. According to the IEA, this aggregate is currently insufficient to put the world on a path to limit warming to 2°C, even if it will constitute a departure from a 'business-as-usual' trend. For aviation and international shipping, we use an 'International Pledges' scenario based on emissions commitments made by the International Maritime Organization and the International Civil Aviation Organization. Both existing nationally determined contributions (NDCs) to the Paris Agreement and international commitments are insufficient to limit global warming to 2°C or below, and if this does not change, a global temperature increase of 2.4°C by 2100 is projected with a probability of 50%.
2. A **Below 2°C scenario**, which is also consistent with the overall aim of the Paris Agreement to limit warming, albeit at the lower end of the range of ambition. This scenario gives a 50% probability of holding the global temperature increase to 1.7°C by 2100.[17]

[16] Sectors that use inputs other than the IEA include food, international shipping, and steel.

[17] For the paper sector, we use the 'Below 2°C', '2°C' and 'Paris Pledges' benchmarks. For the food sector, we use '1.5°C', 'Below 2°C' and '2°C' instead. For more details on these benchmark scenarios, please consult the relevant sector methodology on the TPI Centre's website.

3. A **1.5°C scenario**, which is consistent with the overall aim of the Paris Agreement to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels". This scenario gives a 50% probability of holding the global temperature increase to 1.4°C by 2100.

For each scenario, the IEA modelling output provides sector-specific emissions pathways. It also provides associated estimates of production in each sector. Alternatively, assumptions on overall economic growth can be used as a measure of sectoral activity (under the assumption that the sector grows at the same rate as the overall economy). Emissions are then divided by activity to derive sectoral pathways for emissions intensity. To illustrate the approach, Figure 4.1 shows the global emissions intensity benchmarks for the cement sector.

Figure 4.1. Global emissions intensity benchmarks by warming scenario for the cement sector

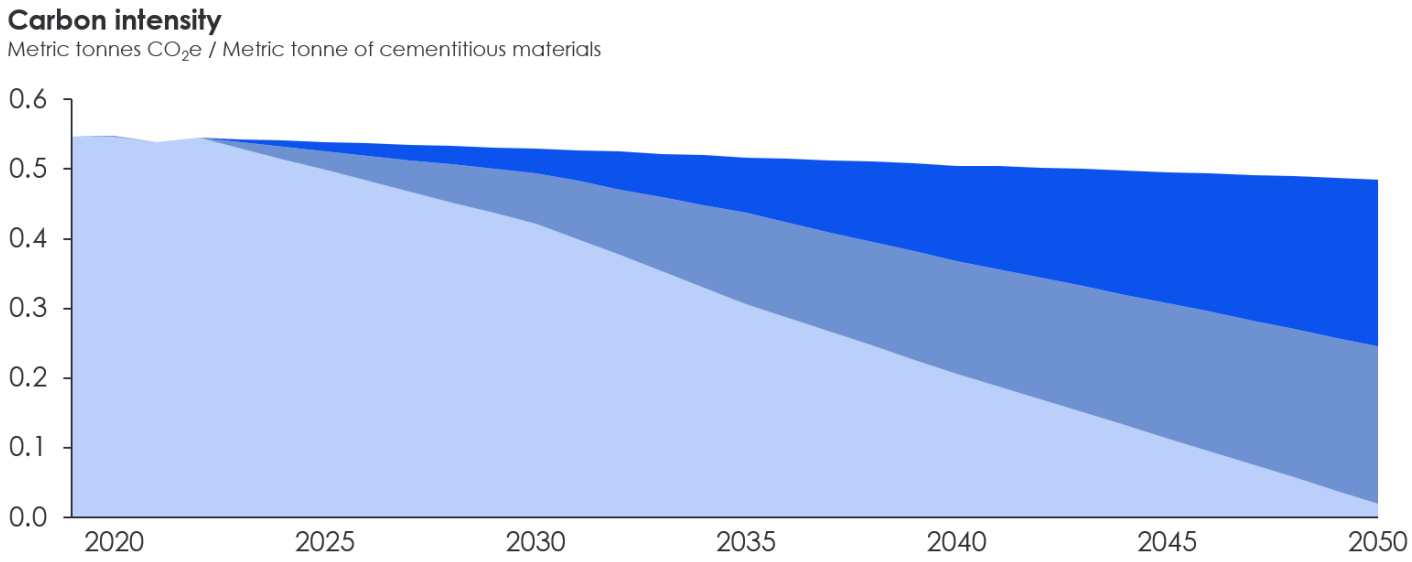


Table 4.1. Projections of emissions and cement production used to calculate emissions intensity pathways

	2022	2030	2040	2050
National Pledges scenario				
Specific 'net' CO_2 emissions from cement production (Mt)	2,289	2,392	2,429	2,376
Cementitious production (Mt)	4,200	4,516	4,794	4,896
Carbon intensity (tCO_2 / tonne)	**0.545**	**0.530**	**0.507**	**0.485**
Below 2°C scenario				
Specific 'net' CO_2 emissions from cement production (Mt)	2,290	2,185	1,637	1,092
Cementitious production (Mt)	4,200	4,419	4,445	4,437
Carbon intensity (tCO_2 / tonne)	**0.545**	**0.494**	**0.368**	**0.246**
1.5°C scenario				
Specific 'net' CO_2 emissions from	2,292	1,819	836	75

cement production (Mt)				
Cementitious production (Mt)	4,200	4,307	4,062	3,974
Carbon intensity (tCO_2 / tonne)	**0.545**	**0.422**	**0.206**	**0.019**

Because banks are active across many different high-emission sectors, their sectoral targets are assessed for the sectors summarised in Table 4.2 below using the corresponding TPI Centre sectoral low-carbon benchmarks. The results of the individual sector assessments are then summarised in the Carbon Performance Alignment Matrix (see Section 5.4).

Table 4.2. Overview of the sectoral benchmarks developed by the TPI Centre[18]

Sector name	Scenarios	Metric unit	Scopes covered	Primary sources used
Airlines	1.5°C Below 2°C International Pledges	Carbon intensity (gCO_2/Revenue Tonne Kilometre)	Scope 1	IEA's World Energy Outlook 2023 Freight forecasts from the International Civil Aviation Organization
Aluminium	1.5°C Below 2°C National Pledges	Carbon intensity (tCO_2e/tonne aluminium)	Scopes 1 & 2	IAI Aluminium Sector Greenhouse Gas Pathways to 2050 2021
Autos	1.5°C Below 2°C National Pledges	Average new vehicle emissions (gCO_2/km, WLTP[19])	Scope 3 (Category 11)	IEA Mobility Model (MoMo) IEA Global EV Outlook 2023
Cement	1.5°C Below 2°C National Pledges	Carbon intensity (tCO_2/tonne of cementitious materials)	Scope 1	IEA's World Energy Outlook 2023 GCCA Getting the Numbers Right
Coal mining (thermal and metallurgical)	1.5°C Below 2°C National Pledges	Absolute emissions (indexed to 2019–2021 average [%])	Scopes 1, 2 & 3 (Category 11)	IEA's World Energy Outlook 2024 IEA Global Methane Tracker 2023 IEA Coal in Net Zero Transitions 2022
Diversified mining	1.5°C Below 2°C National Pledges	Carbon intensity (tCO_2e/tonne copper equivalent)	Scopes 1, 2 & 3 (Categories 10 and 11)	IEA's Net Zero by 2050 IEA's World Energy Outlook 2023
Electricity utilities (global and regional)	1.5°C Below 2°C National Pledges	Carbon intensity (tCO_2/MWh)	Scope 1	IEA's Net Zero by 2050 IEA's World Energy Outlook 2023

[18] The TPI Centre periodically updates its sectoral low-carbon benchmarks and methodologies. The most up-to-date methodologies are published on the Centre's website.

[19] Worldwide Harmonised Light Vehicle Test Procedure

Food	1.5°C Below 2°C 2°C	Emissions intensity (tCO_2e/tonnes agricultural inputs)	Scopes 1, 2 & 3 (Category 1)	United Nations Food and Agricultural Organisation (FAO) IMAGE REMIND-MAgPIE MESSAGE-GLOBIOM
Oil & gas	1.5°C Below 2°C National Pledges	Emissions intensity (gCO_2e/MJ)	Scopes 1, 2 & 3 (Category 11)	Integrated Assessment Modelling Consortium (IAMC) 1.5°C Scenario Explorer and Data IEA's World Energy Outlook 2023
Paper	Below 2°C 2°C Paris Pledges	Carbon intensity (tCO_2/tonne of pulp, paper and paperboard)	Scopes 1 & 2	IEA's Energy Technology Perspectives 2017
Shipping	1.5°C Below 2°C International Pledges	Carbon intensity (gCO_2/t-km)	Scope 1	IEA's World Energy Outlook 2023 ITF's 'Goods Transport' 2024
Steel	1.5°C Below 2°C National Pledges	Carbon intensity (tCO_2/tonne of steel)	Scopes 1 & 2	MPP's Steel Model IEA's World Energy Outlook 2023

5. Carbon Performance assessment of banks

5.1. Banks' sectoral emissions intensities

The TPI Centre's Carbon Performance assessments are based on public disclosures by banks. Disclosure that is useful to our assessments tends to come in one of three forms[20]:

1. Emissions intensity. Some banks report on their recent and current emissions intensity, and some also use intensity metrics to set their targets. Provided these are measured in a manner that can be compared with the benchmark scenarios and with other banks' sectoral pathways (e.g. in terms of scope of emissions covered and measure of activity chosen), these disclosures can be used directly. In isolated cases, minor adjustments need to be made to obtain estimates of emissions intensity on a consistent basis.
2. Absolute emissions. Some banks disclose emissions on an absolute (i.e. non-normalised) basis. Provided emissions are appropriately measured, and an accompanying disclosure of the bank's portfolio activity for the sector can be found that is also in the appropriate metric, historical emissions intensity can be calculated by the TPI Centre.
3. Absolute emissions targets. Some banks set future emissions targets in terms of absolute emissions. This raises the particular question of what to assume about those banks' financed and/or facilitated portfolio activity levels. The approach taken by the TPI Centre is to assume that the bank's sectoral financed emissions increase at the same rate as the sector as a whole (i.e. assuming a constant market share of portfolio financed companies), using sectoral growth rates from the same model that is used to derive the benchmark pathways, in order to be consistent. While companies' market shares in banks' portfolios are unlikely to remain constant, there is no obvious alternative assumption that can be made that treats all companies consistently. Sectoral growth rates from the National Pledges scenario (based on IEA's Stated Policies Scenario) are used.

The length of banks' sectoral emissions intensity pathways will vary depending on how much information banks provide on their historical sectoral emissions, as well as the time horizon for their emissions reduction targets.

5.2. Emissions reporting boundaries

Banks disclose emissions using different organisational boundaries. There are two high-level approaches banks can take: (i) the financial control approach and (ii) the operational control approach.[21]

The TPI Centre uses emissions reported using any of the above approaches to setting organisational boundaries for its assessment, as long as:

- The boundary that has been set appears to enable a representative assessment of the bank's sectoral portfolio emission intensity.
- The same boundary is used for reporting financed emissions and activity to obtain a consistent estimate of emissions intensity.

[20] In accordance with the TPI Centre's use of the SDA to determine benchmark alignment, sectoral phase-out targets will only be recorded in the matrix if they are functionally equivalent to a target. This means that the sectoral target, at minimum, should have a base year and value, a target year and value, the scope of emissions, and the unit of the target.

[21] The Partnership for Carbon Accounting Financials (PCAF) Financed Emissions Standard states that using either of these approaches over the equity share approach "eliminates inconsistencies in accounting that could arise from using the equity share approach, which would require Scope 1 and 2 emissions from all equity investments to be reported under the financial institution's Scope 1 and 2 emissions (according to its share of equity in the operation)".

5.3. Assessing banks' sectoral targets against low-carbon benchmarks

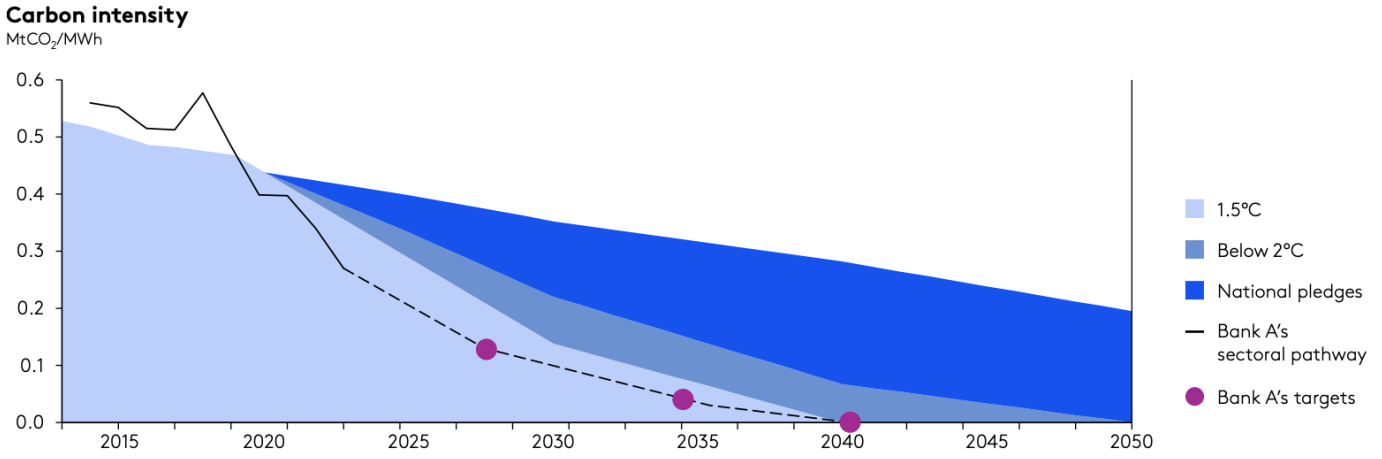
The first step in assessing banks' sectoral decarbonisation targets against our low-carbon benchmarks (Table 4.2) is to understand the data, methodologies and assumptions used by the bank to set its targets. This requires an assessment of:

- The metrics the bank uses as benchmarks for a given sector.
- The sector boundary applied to the sectoral target (e.g. oil & gas, oil & gas upstream or energy).
- Which types of greenhouse gases are included (e.g. CO_2 or CO_2e).
- Which scopes of emissions of underlying clients and investee entities are included (Scope 1, Scope 2, Scope 3).
- The methodology used by a bank to estimate its own Scope 1 and 2 as well as Scope 3 emissions attributable to its clients and the entities it invests in.

It is necessary that the bank's emissions pathway, estimated based on its decarbonisation targets, and the low-carbon benchmarks are stated on a comparable basis in order to perform a reliable Carbon Performance assessment for banks. Once all relevant bank target information is collected, we therefore compare the bank's target metric against our sectoral low-carbon benchmarks. If the methodologies are comparable, we construct a bank's sectoral pathway using its historical emissions figures and its short-, medium- and long-term targets.

To establish the alignment of the bank's target over time with low-carbon scenarios, we compare the estimated bank pathway against our low-carbon benchmarks. An example of this is illustrated in Figure 5.1 below.

Figure 5.1. Illustrative sectoral pathway for the electricity utilities sector – Bank A



Based on the sectoral low-carbon benchmarks, the following alignment scores may be awarded to banks' sectoral pathways in each alignment term:

- 1.5°C aligned: if the bank's current or projected pathway is on or within the boundaries of the 1.5°C-aligned sectoral benchmark.
- Below 2°C: if the bank's current or projected pathway is on or within the boundaries of the Below 2°C-aligned sectoral benchmark.
- National pledges: if the bank's current or projected pathway is on or within the boundaries of the National pledges-aligned sectoral benchmark in the short, medium or long term.[22]

[22] In the case of the airlines and the shipping sectors, the emissions fall outside the process of setting NDCs to the Paris Agreement. Accordingly, the benchmarks are estimated using the International Civil Aviation Organization and the International Maritime Organization emissions reduction methodologies.

- **Not aligned**: if the bank's current or projected pathway is not within the boundaries of any of the low-carbon sectoral benchmarks.
- **Sector not assessed**: this category is reserved for the real estate sector (both retail and commercial), as the TPI Centre has not developed low-carbon benchmarks for the sector.
- **Unsuitable disclosure**: includes sectoral decarbonisation targets that are recognised by the TPI Centre's Carbon Performance methodology but cannot be compared against the TPI Centre's low-carbon benchmarks. This is primarily due to targets being set on different accounting boundaries or absolute emission reduction targets not having baseline intensities.
- **No target**: includes sectors and business activities for which the bank has not yet set decarbonisation targets.

5.4. Carbon Performance Alignment Matrix

The complexity of banks, compared to corporates, lies in their operations across a range of business activities as well as the provision of financial products and services to companies operating in different sectors. To capture these two dimensions, the TPI Centre has developed the Carbon Performance Alignment Matrix for Banks (the matrix) to:

- Provide a comprehensive overview of the sectors banks have set targets for.
- Assess the alignment of banks' sectoral decarbonisation targets with our sectoral low-carbon benchmarks.
- Capture material business activities within the scope of banks' sectoral decarbonisation targets.

Box 5.1. Complementarity between the Net Zero Banking Assessment Framework and the Carbon Performance Alignment Matrix for Banks

The matrix complements Area 2 (Sectoral targets) of the NZBAF. Indicator 2.1 of the framework looks at whether banks have set sectoral decarbonisation targets over the short-, medium- and long-term. Indicator 2.2 assesses banks' transparency in their target-setting methodologies. The matrix complements these assessments by looking at the alignment of these targets against the sectoral low-carbon benchmarks developed by the TPI Centre. The matrix also outlines which of the banks' business activities are in scope of these targets.

Figure 5.2. Illustrative emission reduction targets for banks within the Carbon Performance Alignment Matrix

Business segment	Consumer lending		Corporate and commercial banking		Investment banking and capital markets							Asset & Wealth mgmt	Insurance
Activities	Auto loans (retail)	Mortgages (retail)	General purpose finance & business lending	Project finance	Private debt & equity	Listed debt & equity	Debt & equity facilitation	Advisory services (e.g., M&A)	Derivatives & structured products	Treasury & payments	Sales & trading (incl. market making)	Asset & Wealth mgmt. (incl. private banking)	Insurance
Aluminium	-	-	●	●	-	-	●	-	-	-	-	-	-
Airlines	-	-	-	-	-	-	-	-	-	-	-	-	-
Autos	-	-	○	○	-	-	○	-	-	-	-	-	-
Cement	-	-	●	●	-	-	●	-	-	-	-	-	-
Chemicals	-	-	-	-	-	-	-	-	-	-	-	-	-
Coal mining (metallurgical)	-	-	-	-	-	-	-	-	-	-	-	-	-
Coal mining (thermal)	-	-	-	-	-	-	-	-	-	-	-	-	-
Diversified mining	-	-	-	-	-	-	-	-	-	-	-	-	-
Electric utilities (global)	-	-	●	●	-	-	●	-	-	-	-	-	-
Electric utilities (regional)	-	-	●	●	-	-	●	-	-	-	-	-	-
Food	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil & Gas	-	-	●	●	-	-	●	-	-	-	-	-	-
Paper	-	-	-	-	-	-	-	-	-	-	-	-	-
Real Estate	-	-	-	-	-	-	-	-	-	-	-	-	-
Shipping	-	-	-	-	-	-	-	-	-	-	-	-	-
Steel	-	-	●	●	-	-	●	-	-	-	-	-	-

The matrix is three-dimensional, covering:

- **15 real-economy high emission sectors**: airlines, aluminium, autos, cement, chemicals, coal mining (thermal), coal mining (metallurgical), diversified mining, electric utilities (global and regional), food producers, oil and gas, paper, real estate, shipping, and steel.
- **13 business activities**: auto loans (retail), mortgages (retail), general purpose finance & business lending, project finance, private debt & equity, public debt & equity, debt & equity facilitation, advisory services (e.g. M&A advisory), derivatives & structured products, treasury & payments, sales & trading (including market-making), asset & wealth management (including private banking), and insurance. We classified these business activities based on the reviews of banks' on-balance sheet asset classes, off-balance sheet business activities and segmental reporting. The 13 business activities together aim to reflect the areas most banks are engaged in. They exhibit banks' multifaceted business models, including those with primary operations in commercial banking and/or investment banking. For an overview of what each business activity comprises, see Appendix 1.
- **Three timeframes**: short term (up to 2030), medium term (2031–2035) and long term (2036–2050). Medium- and long-term targets are essential for shaping banks' full sectoral decarbonisation pathways, as cumulative emissions ultimately determine the resulting increase in global mean temperature.

5.5. Data sources and validation

All TPI Centre assessments are based on banks' own disclosures. The sources for the Carbon Performance assessment include banks' own reports, such as their sustainability and annual reports.

Given that our Carbon Performance assessment is both comparative and quantitative, it is essential to understand exactly what the data in bank disclosures refer to. Bank reporting varies not only in terms of what is reported, but also in the level of detail and explanation provided. The following cases can be distinguished:

- Banks that provide data in a suitable form and with enough detail for analysts to be confident that appropriate measures can be calculated or used.
- Banks that provide enough detail in their disclosures, but not in a form that is suitable for the assessment. These banks cannot be included in the assessment.
- Banks that do not provide enough detail on the data disclosed. These banks are also excluded from the assessment.
- Banks that do not disclose their GHG emissions or activity associated with their financing activities.

Once a preliminary Carbon Performance assessment has been made, it is subject to the following procedure to provide quality assurance:

- **Internal review:** the preliminary assessment is reviewed by an analyst who was not involved in the original assessment.
- **Bank review:** the reviewed assessment is sent to the bank, which has the opportunity to review it and confirm the accuracy of the disclosures used. This review includes all banks, including those that provide unsuitable or insufficiently detailed disclosures.
- **Final assessment:** feedback from the bank is reviewed and incorporated if it is considered appropriate. Only information in the public domain can be accepted as a basis for any change.

Further details on the TPI Centre's approach to systems and controls, and how we engage with banks and companies, are set out in the TPI Centre's Statement of Application for the ICMA Code of Conduct for ESG Ratings and Data Products Providers document.

5.6. Presentation of assessment on the TPI Centre website

The results of the Carbon Performance for Banks assessments are posted on the TPI Centre's online tool. On each bank's page, its emissions intensity pathways are plotted on the same chart as the benchmark pathways for the relevant sectors. We also display the matrix for each bank, which looks at the temperature alignment of banks' sectoral decarbonisation targets as well as which of the banks' business activities these targets cover (see Section 5.4).

6. Additional considerations for the assessment of banks

6.1. Alignment score targets

Sectoral portfolio-level alignment scores follow methodologies that evaluate whether a bank's financed sectoral portfolio is aligned with sector-specific decarbonisation benchmarks.[23]

First, banks measure the physical emissions intensity of financed assets and/or companies to arrive at a sectoral portfolio-level intensity. They then compare this intensity with a reference benchmark and derive an alignment score from the distance between the bank's sectoral portfolio emissions intensity in a given year and the reference benchmark emissions intensity. While banks usually disclose the alignment score of their sectoral portfolios, which represents how aligned the portfolio is with the underlying benchmarks, they do not usually report the underlying physical emissions intensity figures.

Because of the lack of disclosure of the underlying physical emissions intensity figures, we cannot usually assess banks' alignment score targets. However, as the methodologies underpinning these alignment scores rely on physical emissions intensities and are based on real-economy emissions reductions (in line with the principles of the TPI Centre's sectoral methodologies), we recognise these targets in the matrix and mark them as 'Unsuitable disclosure'.

6.2. Targets covering multiple sectors

While most banks set one decarbonisation target per sector (e.g. one target specifically covering the electricity utilities sector), some banks set one decarbonisation target that covers multiple high-emissions sectors. For example, some banks have set an energy target, which covers both oil & gas and coal mining. To enable like-for-like comparisons across banks, instead of simply counting the number of targets that banks have set, we look at how many of the 15 high-emissions sectors identified by the TPI Centre are covered by at least one of the bank's decarbonisation targets. In such cases where a bank's sectoral decarbonisation target covers multiple high-emission sectors, as defined by the TPI Centre, the target will be recognised in all respective sectors in the matrix. Alignment estimation will depend on the sector boundaries of such targets. If we cannot estimate alignment, the target will be marked as 'Unsuitable disclosure' in the matrix.

6.3. Index-based targets

These targets are similar to alignment score targets. Banks may choose to disclose their physical emissions intensity or absolute emissions reduction targets as an index (100%) in the base year and index them to a target year (e.g. 70% decrease by 2030). If the underlying metric or methodology is directly linked to real-economy assets and not financing volume, the target is recognised. However, as banks often do not disclose the underlying emissions data used in index-based targets, the banks' sectoral emission pathways often cannot be constructed. These disclosures are marked as 'Unsuitable disclosure' in the matrix.

[23] Banks currently use alignment scores in the airlines, aluminium, shipping, and steel sectors.

Appendix 1. Business activity description

In describing the business activities included in the Carbon Performance Alignment Matrix, we draw from the following sources:

- PCAF's GHG Accounting and Reporting Standards for Financed Emissions, Facilitated Emissions and Insurance-Associated Emissions.
- IIGCC's Derivatives and Hedge Funds Guidance, Net Zero Investment Framework 2.0 and Net Zero Investment Framework for the Private Debt Industry.

Business segment	Business activity	Description
Consumer lending	Auto loans (retail)	This category includes auto loans and lease facilities to retail customers.
	Mortgages (retail)	This category includes loans for the purposes of purchasing and/or maintaining real estate for retail customers.
Corporate and commercial lending	General purpose finance & business lending	This category includes any direct lending to corporate borrowers (including SMEs and entrepreneurs), where the proceeds are not known. Both short- and long-term financing are considered.
	Project finance	This category includes asset, project and reserve-based lending or equities provided to a special purpose vehicle (ring-fenced financing).
Investment banking and capital markets	Private debt & equity	This category includes long-term on-balance sheet equity and debt investments to corporate entities that are not traded on a market and are for general purposes.
	Listed debt & equity	This category includes long-term on-balance sheet equity and debt investments to corporate entities that are traded on a market and are for general purposes.
	Debt & equity facilitation	This category includes all underwriting and structuring activities, in particular the facilitation of debt and equity securities.
	Advisory services (e.g. M&A)	This category includes any investment-banking advisory services, including mergers and acquisitions.
	Derivatives & structured products	This category includes all futures and forward contracts, swaps and option contracts for the purposes of trading and/or hedging. The category also includes structured products and related financial instruments.
	Treasury & payments	This category includes all treasury activities and transaction and information services.

	Sales & trading (including market making)	This category includes all sales and trading activities that are expected to be sold in the near term or to be held for a short period of time.
Asset & wealth management	Asset & wealth management (including private banking)	This category includes all asset management activities, including wealth management and private banking.
Insurance	Insurance	This category includes commercial and personal motor lines-related insurance services, in line with the PCAF standard.

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