

WHITE PAPER

# The Financed Emissions Imperative: Measurement, Disclosure, & Beyond










April 2023

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The Paris Agreement on Climate Change has fundamentally reshaped expectations around bank capital allocation decisions – both in terms of facilitating investment in low-carbon technologies and rethinking how capital is allocated to the highest-emitting sectors. To meet these expectations, banks require new data and metrics, including visibility on the emissions associated with lending and investment activities – also known as financed emissions.

Bank financed emissions are the most material component of a bank’s carbon footprint (~700 times larger than bank operational emissions),<sup>1</sup> and are notoriously complex to estimate. Despite this complexity, **financed emissions measurement and disclosure are a near-term imperative for the industry**, due to: (i) heightened expectations from global standard-setters and regulators on financed emissions disclosures (See Exhibit 1); and (ii) growing expectations from other stakeholders (namely investors) on Net Zero targets.

## Exhibit 1: Global standard-setters and regulators have moved forward with disclosure requirements for banks

 TCFD	TCFD directs banks, asset owners, and asset managers to disclose emissions associated with loans and investments using the PCAF Standard or a comparable methodology
 ISSB	ISSB will require financed emissions disclosure among asset managers, commercial banks, and insurers
 Canada	Office of the Superintendent of Financial Institutions to require financial institutions to publish TCFD-aligned climate disclosures, beginning in 2024
 European Union	European Banking Authority’s Implementing Technical Standards on Pillar 3 disclosures for ESG risks includes financed emissions disclosure requirements
 Hong Kong	Hong Kong’s Securities and Futures Commission and Stock Exchange require listed companies and funds to make mandatory TCFD-aligned reporting by 2025
 Japan	Financial Services Agency requires all companies submitting annual securities reports to make TCFD-aligned climate-related disclosures by FY2023
 Singapore	SGX is requiring listed banks to make mandatory climate-related disclosures, consistent with the TCFD recommendations, in their FY2023 reporting
 United Kingdom	Financial Conduct Authority requires TCFD-aligned climate-related disclosures for UK asset managers, life insurers and FCA-regulated pension providers
 United States	Securities and Exchange Commission has proposed climate-related disclosures that could require financial institutions to publish financed emissions

1. “Finance sector’s funded emissions over 700 times greater than its own,” CDP, April 28, 2021.

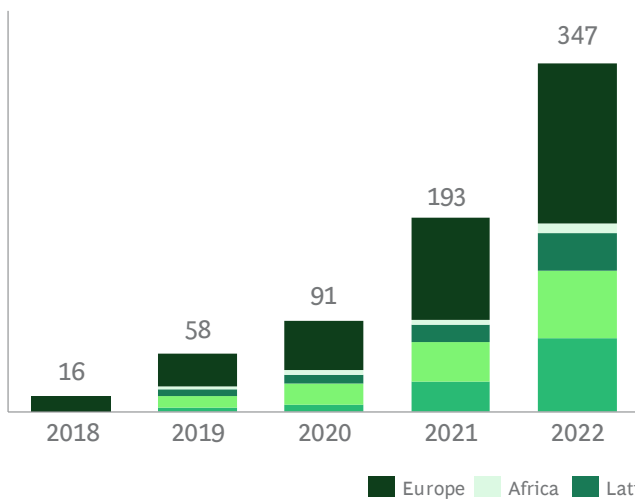
The development and rapid adoption of an industry-wide accounting framework through the Partnership for Carbon Accounting Financials (PCAF)<sup>2</sup> has been a positive force: to date, about 350 financial institutions<sup>3</sup> with \$87 trillion in assets have signed up (see Exhibit 2).

## Exhibit 2: Commitments to measure and disclose financed emissions through the PCAF Standard have grown significantly since 2018



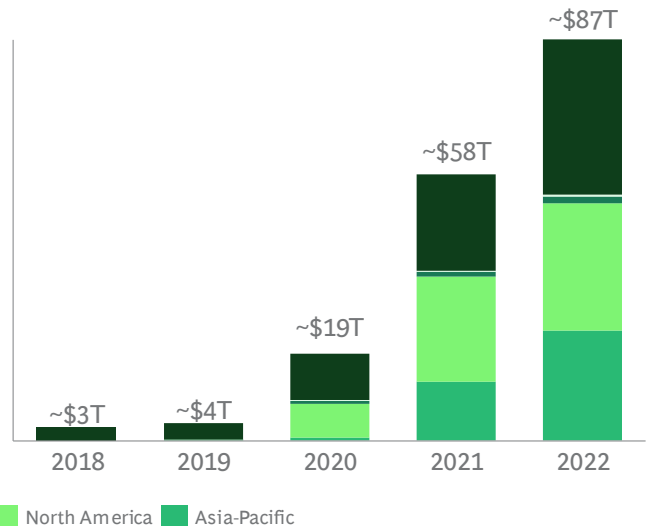
Growth across number of financial institutions...

Number of financial institutions



...and associated financial assets

Total assets (USD)



Source: Partnership for Carbon Accounting Financials (as of December 12, 2022)

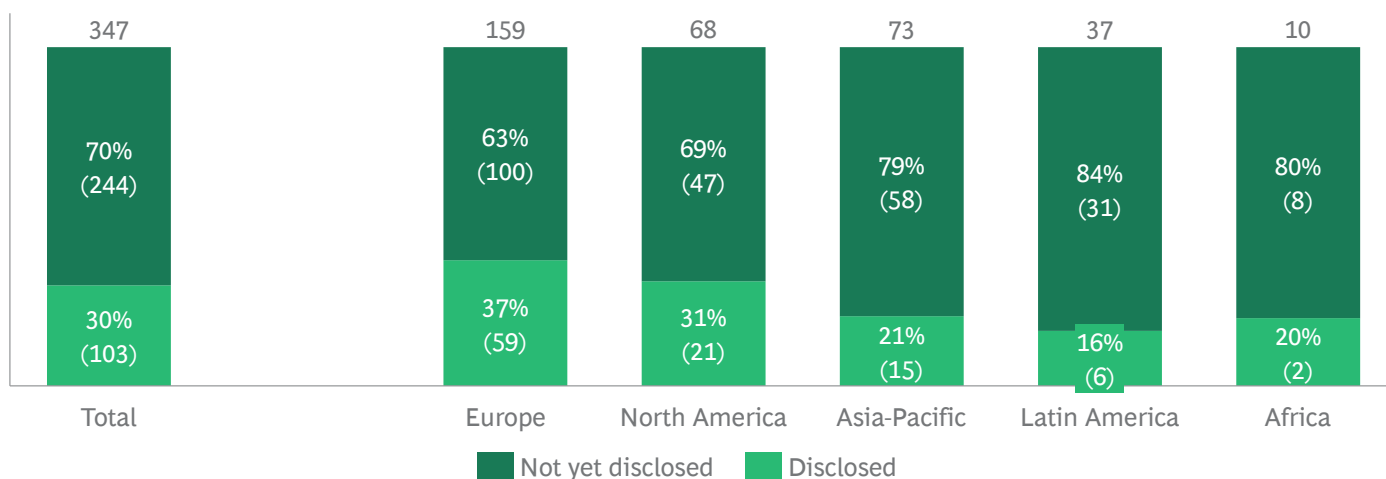
2. PCAF released the first version of its Global GHG Accounting and Reporting Standard for the Financial Industry in November 2020, and a second version in December 2022.

3. PCAF members include banks as well as other Financial Institutions players such as asset owners, asset managers, and insurers.

**But while many have committed to financed emissions disclosures, few have delivered.** Today, 70% of financial institutions that have committed to the PCAF Standard have yet to disclose any of the emissions associated with their loans and investments, representing approximately 50% of total financial assets in PCAF-committed institutions. (See Exhibit 3).

## Exhibit 3: About 70% of financial institutions committed to the PCAF Standard have yet to disclose financed emissions

Financial institutions committed to the PCAF Standard



Source: Partnership for Carbon Accounting Financials (as of December 12, 2022)

By delaying initial financed emissions disclosures, banks are missing opportunities across four dimensions:

**1. Meeting stakeholder expectations.** Investors expect greater transparency from banks on climate – and are looking for it now. In most jurisdictions, climate reporting remains voluntary; regardless, investors are increasingly expecting decision-relevant climate disclosures aligned to financial reporting requirements, with similar levels of validation and controls, and with greater frequency (e.g. quarterly or bi-annual submissions). PCAF-aligned banks are given three years to complete initial financed emissions disclosures and have “flexibility to decide where they want to start,”<sup>4</sup> but failing to move ahead of these guidelines creates risks of falling out of step with investor expectations.

**2. Building capabilities for regulatory expectations.** Mandatory disclosure is inevitable in due course (next 3 years in all major jurisdictions). If banks build, deploy, and iterate capabilities and technological solutions quickly, they will make disclosures that are more accurate, credible, and well-documented when mandatory reporting is implemented. In addition, these disclosures will also provide transparency on areas where policy changes are needed for a jurisdiction to progress toward net zero.

**3. Aligning with growing industry consensus.** Banks that fail to disclose will soon be out-of-step with their peers. While the consensus is stronger in some geographies than others, there are tailwinds around disclosure across all geographies.

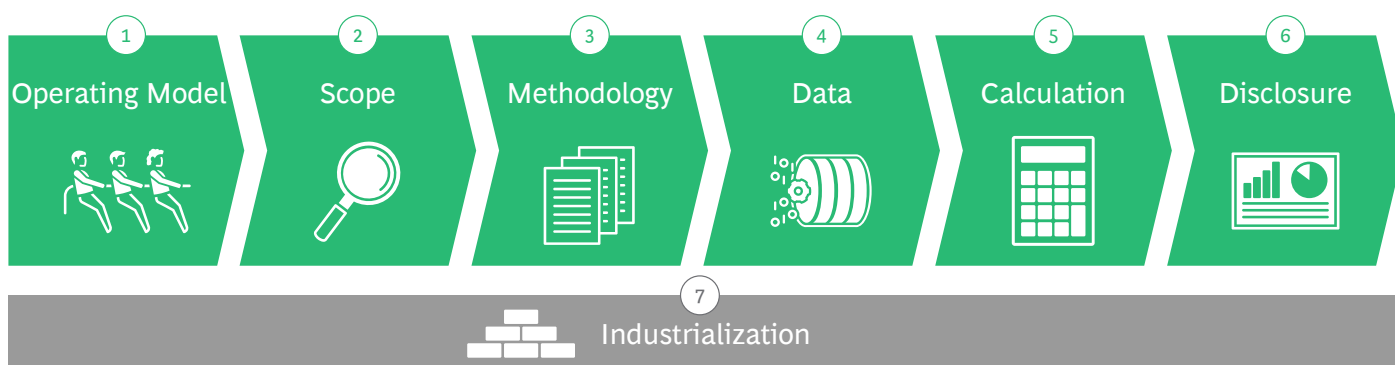
4. PCAF (2022). The Global GHG Accounting and Reporting Standard Part A: Financed Emissions. Second Edition.

**4. Unlocking new business capabilities.** A growing focus on decarbonization, spurred by the U.S.'s Inflation Reduction Act and similar legislation globally, underscores the role that banks can play in supporting their clients through the energy transition. Banks that industrialize their financed emissions capabilities can utilize these metrics to inform client engagement, strategic planning, credit decision making, and even pricing.

## Seven Steps to Execute on Financed Emissions Measurement and Disclosure

Moving from commitment to disclosure of financed emissions is a major challenge for banks of all sizes and business compositions. Financed emissions measurement and disclosure requires a bank to integrate knowledge, expertise, and data across several domains, including climate science, transition pathways, environmental and economic policy, decarbonization technology, client and sector-expertise, carbon accounting, data management, internal control, and risk management. Successful execution requires careful planning and coordination across the enterprise and seven key areas (See Exhibit 4).

### Exhibit 4: Seven key steps for a bank to execute financed emissions measurement & disclosure



**1. Operating model:** Multiple groups need to engage in a bank’s financed emissions measurement and disclosure process, including finance, risk, sustainability, business units, and data & technology. To marshal these groups, banks must define a front-to-back operating model for financed emissions calculation and reporting including governance, roles, and responsibilities. For example, banks must delineate responsibility for data aggregation and cleaning, third-party and client data sourcing, emissions estimation, data controls and validation, and public reporting of results. This will support strategic and operational decision-making, as well as on-going execution.

A successful operating model may include newly defined roles to own certain aspects of the process (and new climate data responsibilities more generally). A growing number of banks have nominated Finance as the main responsibility center and appointed a Climate Data Controller (reporting to the Financial Controller) as the accountable executive for financed emissions disclosures. Some leading banks have also appointed a Chief Climate Data Officer to ensure a strong data governance and management framework underpinning the financed emissions process.

**2. Scope:** Banks must identify the types of banking activities to include and the types of client and asset emissions activities to be included. Some scope choices are clear: for example, on-balance sheet exposures across corporate loans, commercial real estate, auto lending, and mortgage should be included. Others remain open for debate, such as whether a bank will include Scope 3 emissions for counterparties across all sectors, and how to handle emissions removals. Further, scope will need to evolve as the PCAF standard expands to cover new asset classes and / or activities (e.g., facilitation). Finally, banks will need to build capabilities to report financed emissions for material legal entities in foreign jurisdictions to ensure that the financed emission trajectory is aligned to NDCs.

**3. Methodology:** Banks need to select a methodology to calculate financed emissions for the stated scope—including a prioritization logic to leverage the best available data.

The PCAF methodology is emerging as an industry standard but, even when relying on PCAF, banks must make implementation decisions that are specific to each asset class.

- **Reported emissions:** Will the bank use reported emissions data from clients that have disclosed emissions? If yes, what is the time horizon it will accept for reported emissions data (for example, past two years, past three years)? And, will the bank establish processes to vet these reported figures, or take them all as given?
- **Production-based models:** For which sectors will the bank build production-based models? And, for each sector, how should the models be calibrated? For example, in oil & gas, how should the bank translate a barrel of oil produced or refined into Scope 1, 2, and 3 emissions?
- **Sector mapping and parents and subsidiaries:** How should a bank categorize businesses along industries and sectors? When the bank's client is a subsidiary, should it use parent-level reported emissions data? If so, when?
- **Mapping to data quality scores:** How should the bank map different calculation methodologies into PCAF data quality scores to support financed emissions disclosures?

Many of these scope choices appear benign, but their importance should not be overlooked. For example, most banks treat reported data from counterparties as the highest-quality measure of a firm's emissions. However, the reality is that the accuracy of these figures is far from guaranteed; further, these figures often have significant year-on-year restatements as corporates improve upon their own estimation process. The volatility and immaturity of reported figures has led at least one global bank to avoid reported figures entirely in lieu of production-based models, which can be better controlled by the bank.

**4. Data:** Obtaining accurate data remains a significant challenge. To optimize resources, banks should make use of both internal and external data. Data availability across the ecosystem is evolving rapidly, hence banks should expect to reassess and enhance their data inputs as the data landscape evolves. For each calculation cycle, banks should have a defined list of potential data enhancements that will be prioritized (for e.g., collecting data directly from clients for private companies by the business lines as part of the client onboarding or credit underwriting process).

- **Internal Data:** The bank must identify relevant internal data sources, including on-balance sheet exposures and information about clients and assets being financed. The quality of this data will need to be closely evaluated to determine if it is fit-for-purpose; for example, some banks have opted to use third-party data on counterparty financials rather than internal financial spreading data due to concerns about the quality of the latter.
- **External Data:** The bank will also need to rely on a range of external data sources. For commercial and industrial loans, this would include client-level reported emissions data, client-level production data, and emissions factors<sup>5</sup> based on variables such as financing exposures or client revenues, to estimate emissions. Banks need to carefully evaluate the third-party data sources they rely upon, to understand granularity, completeness, and quality. This is particularly true for emissions factor datasets, which have significant estimation complexity and require regular refreshes to maintain relevance.

**5. Calculation:** Calculation is a multi-step process that incorporates ingesting, cleaning, and validating data; making the calculation; and validating and triangulating the results, including identifying and pressure-testing outliers. Leading banks invest significant time and effort into the validation process, which often uncovers previously unidentified data discrepancies or methodological flaws.

**6. Disclosure:** The final step is to decide how to translate calculations into disclosures. Three key questions must be addressed: (i) What do we disclose publicly and what are the business consequences that can be anticipated from such disclosures?; (ii) when do we disclose publicly; and (iii) what standard should we adhere to in making disclosures? While there is an imperative to provide transparency to stakeholders, leading banks are taking a thoughtful approach to sharing information publicly, focusing initially on the most material sectors and/or those with higher estimation fidelity, alongside detailed methodological artifacts, recognized gaps in estimates, and clarity around planned steps for refinement. Banks will also need the ability to report financed emissions to clients, bankers, sector-teams, and product owners (e.g., mortgages) to drive client engagement, product innovation, business opportunities, and manage transition risk.

**7. Industrializing emissions data:** Too many banks start the financed emissions measurement journey in Excel spreadsheets, only to realize later they are unable to trace and replicate results. Restatement of financed emissions numbers can be a source of material reputation and legal risk for banks. Banks should avoid these mistakes and start from Day 1 with proper tools and disciplined processes: e.g. building data dictionaries and data lineage maps; documenting all assumptions, data sources, and data gaps; coding data ingestion, cleaning, and calculation; and codifying validation and triangulation processes. Banks should ensure that financed emissions calculation and reporting are subject to robust documentation, internal control, and data management framework, and can be subject to audit and independent verification.

Banks that have followed these steps have accelerated their transition to effective financed emissions measurement and disclosure, while ensuring the business stays aligned with core business objectives and meets the expectations of regulators and stakeholders. (See box out: A US bank took a structured approach to accelerate measurement and disclosure).

<sup>5</sup> Emissions factors are used to estimate financed emissions based on a client's annual revenue or the bank's outstanding exposure to the client. Emissions factors represent sector-geography averages, such as the average emissions per dollar of revenue for a U.S. healthcare company.

## Beyond Financed Emissions Measurement

What comes after financed emissions measurement and disclosure? The next imperative for banks will be to leverage the insights from financed emissions metrics to inform portfolio re-alignment actions (i.e. operationalize climate action) and prepare for an expansion of scope in terms of asset classes (e.g., sovereign exposures) and activities (facilitation). From a technical standpoint, beyond industrialization of emissions, there are three main challenges:

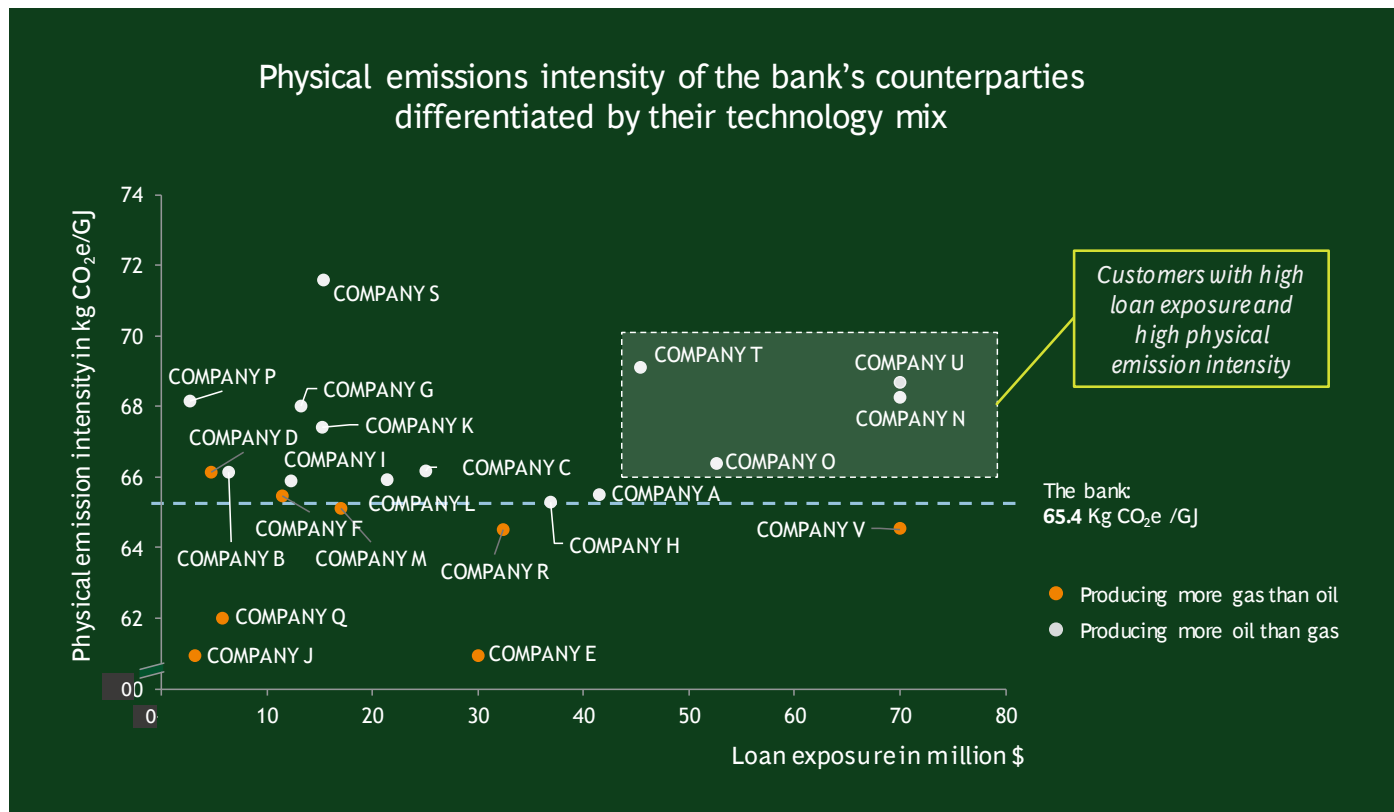
**1. Monitoring emissions over time:** Emissions measurement is still evolving, suggesting banks will need to manage volatility in results and differences in portfolio emissions that are not attributable to shifts in composition. To effectively steer their portfolios, banks will need to understand the drivers behind these changes. The key causes are likely to be: i) year-on-year differences in reported emissions data by the bank's counterparties, which can be substantial, particularly in the case of mergers and acquisitions or changes to operational or organizational boundaries; ii) variation in a counterparty's enterprise value; and iii) evolving accounting standards and emission measurement approaches. Disaggregating year-on-year fluctuations to account for what is driven by factors like the ones listed above, versus what is a true change in the composition of the portfolio emissions of the book, is critical to communicating the bank's climate progress.

**2. Embedding financed emissions into portfolio steering governance:** To effectively steer portfolio emissions, suitable KPIs need to be integrated into core banking processes, such as credit reviews and approvals. Often the consideration of absolute financed emissions will not be sufficient for portfolio steering. Instead, greater context will be required through designing and monitoring KPIs that reflect technological drivers and decarbonization levers. These can also indicate forward-looking carbon emissions impacts as well (see Exhibit 5).

**3. Expanding scope of monitoring and reporting over time:** Reporting on environmental risks is a journey for banks. Just as the industry standard reporting scope has expanded to financed emissions in recent years, the industry standard will continue to evolve and expand in the years ahead. Banks will need to set targets for and monitor additional sectors, expand beyond corporate clients to sovereign wealth funds and financial institutions, report on facilitated emissions, and report on a wider range of nature-related metrics. In particular, standards such as the Science-Based Targets for Nature and Taskforce on Nature-related Financial Disclosures are defining reporting standards for environmental and ecological risks related to \$44 trillion in economic activity.<sup>6</sup>

6. "Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy," World Economic Forum, January 19, 2020, <https://www.weforum.org/reports/nature-risk-rising-why-the-crisis-engulfing-nature-matters-for-business-and-the-economy/>.

## Exhibit 5: Embedding financed emissions into portfolio steering governance



Source: CO2FI by BCG.

## A US bank took a structured approach to accelerate its measurement and disclosure

In late 2022, a US bank (\$100-500B asset size) was increasingly aware of the imperative for financed emissions measurement and disclosure—but was concerned about its capabilities to deliver in the near-term. The bank had recently committed to the PCAF Standard, requiring initial disclosure within a maximum of three years, but many stakeholders expected faster action so that the bank did not fall behind its peers. The bank also anticipated that it would soon need to comply with the SEC’s proposed rules on climate-related financial disclosures.

As a first step, the bank carried out an assessment across its full book, aiming to understand the scope of financed emissions based on the PCAF Standard and industry best practice. The bank then brought together climate risk, finance, sustainability, front-line, and other internal capabilities to make key design decisions aligned with the PCAF Standard. These included to use a client’s reported emissions figures if available and to build a production-based model for upstream oil & gas clients—by far the largest source of the bank’s financed emissions footprint. Although the bank leveraged the PCAF methodology it did not leverage the emission factors made available by PCAF – emissions factors were either directly sourced from client disclosures or modelled based on a range of production, revenue, or asset-based estimation models. To execute against methodological decisions, the bank’s data and technology team worked to identify internal and external data sources—including emissions factors across a range of asset classes.

With the scope, methodology, and data sources in place, the bank leveraged CO2 FI by BCG, a financed emissions calculation, target-setting and portfolio steering tool, to run calculations, as well as tests to identify outliers and sense-check the results. This yielded a comprehensive, credible financed emissions measurement covering nearly 100% of PCAF asset classes.

This year will be critical for banks to accelerate progress toward credible financed emissions measurement and disclosure. Stakeholders expect banks to play a critical role in aligning lending and investment activities to the Paris Goals, to set commitments, and then translate these commitments into action, leveraging the tool kits available through standard-setters and regulators. Additional expectations are already being layered onto banks by stakeholders, such as requirements for reporting facilitated emissions and impacts on biodiversity. Several international banks have begun disclosing their facilitated emissions, recognizing the role that facilitation services play in capital markets activities and the emissions associated with those services. The most successful institutions will act swiftly, in many cases leveraging tools such as CO2 FI by BCG. These will help them develop a strategic lens on climate financing that will both support clients and create the impetus for long-term competitive advantage.

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# Acknowledgements

The authors acknowledge the significant contribution of their colleagues Drew Fleeter, Ricardo Kennedy, Johannes Martens, Asher Mayerson, and Martin Reiche in the development of this paper. They also thank Amine Benayad, Jean-Michel Binefa, and Matteo Coppola for their input and perspective.

# For Further Contact

If you would like to discuss this white paper, please contact the authors.

