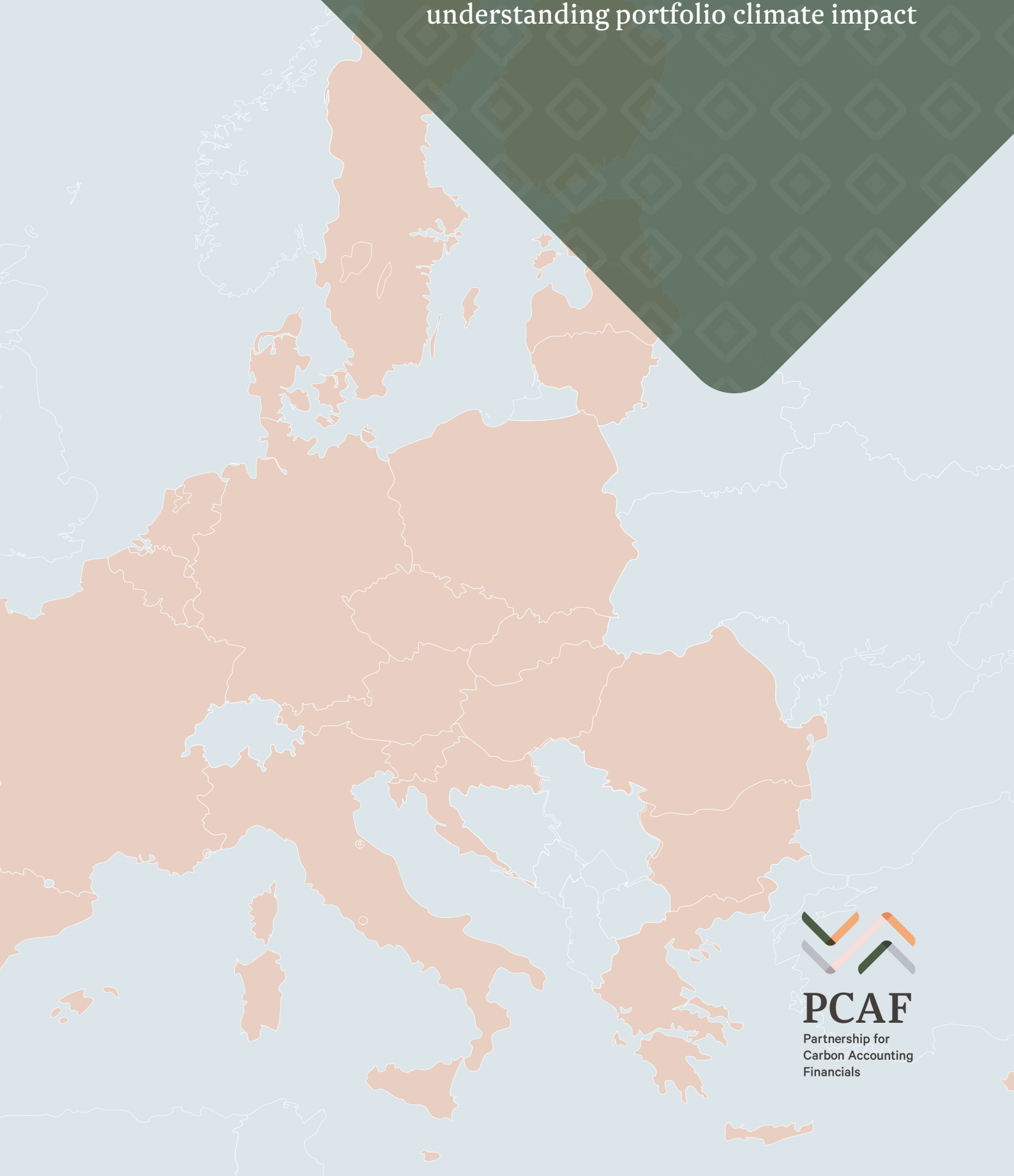


PCAF and the EU Taxonomy Regulation:

Complementary approaches to
understanding portfolio climate impact



PCAF
Partnership for
Carbon Accounting
Financials

PCAF: Enabling financial institutions to assess and disclose greenhouse gas emissions of loans and investments

The [Partnership for Carbon Accounting Financials \(PCAF\)](#) is an industry-led initiative which enables financial institutions to consistently measure and disclose the absolute greenhouse gas (GHG) emissions associated with their loan and investment portfolios through GHG accounting. Currently, over 100 financial institutions from more than 35 countries globally have joined the initiative.

PCAF developed the [Global GHG Accounting and Reporting Standard for the Financial Industry](#) (“the Standard”) as a response to industry demand for a global, standardized approach to measure and report financed emissions. Written by a diverse, global team of financial institutions for financial institutions, the Standard combines deep industry insight with the rigor of the GHG Protocol, the supplier of the world’s most widely used GHG accounting standards.

The Standard has been reviewed by the GHG Protocol and is in conformance with the requirements set forth in the [Corporate Value Chain \(Scope 3\) Accounting and Reporting Standard](#), for Category 15 investment activities.

Measuring financed emissions is crucial in providing an understanding of climate risks to a portfolio and the GHG emissions (or climate impact) associated with loans and investments. This understanding helps FIs to better identify and manage risks, navigate emissions reduction goals, act to reduce their portfolio climate impact, and disclose progress.

PCAF was created in 2015 by Dutch financial institutions. It extended to North America in 2018 and scaled up globally in 2019. Its two objectives are to develop the Global GHG Accounting and Reporting Standard for the Financial Industry, which it achieved in November of 2020, and to increase the number of financial institutions that use the Standard to measure and disclose their financed emissions to over 250 institutions worldwide by 2022.



PCAF and the EU Taxonomy Regulation

This report illustrates the ways in which the PCAF Global GHG Accounting and Reporting Standard for the Financial Industry supports the EU Taxonomy Regulation’s objective of achievable sustainable business activities for all. Critically, it explores how measuring financed emissions with PCAF can support financial institutions that fund companies in transition.

The Goal: Net Zero

To avoid the most catastrophic effects of climate change, global greenhouse gas (GHG) emissions must drop by 50% by 2030 and reach net zero by 2050. Without a net-zero financial system, these goals cannot be achieved. [The Partnership for Carbon Accounting Financials \(PCAF\)](#) and the [EU Taxonomy Regulation \(TR\)](#) were both born of the acknowledgement that the financial industry plays a critical role in enabling the transition to a low-carbon, net-zero economy. Both provide methods which give financial institutions (FIs) a better understanding of their portfolios’ current climate impact, albeit from different angles, thus helping them to navigate this transition.

PCAF directly addresses emissions management through its [Global GHG Accounting and Reporting Standard for the Financial Industry](#), which enables FIs to measure and disclose the absolute GHG emissions of their loans and investments. The Standard, which is [built on and backed by the GHG Protocol](#), was the response to industry demand for a global, standardized GHG accounting approach. PCAF aims to trigger action through transparency, an effective antidote to greenwashing. Its primary metric for disclosure is **financed emissions**, expressed in tonnes CO₂e.

Consistently and periodically measuring financed emissions transforms a one-off, backward-looking measurement into a versatile, fundamental building block in a long-term journey toward Paris alignment.

The TR’s approach to aligning financial flows with the Paris Agreement is to establish criteria for determining whether an economic activity of a company qualifies as environmentally sustainable. These criteria are subsequently used to define the degree to which an investment is environmentally sustainable, providing investors the comparability needed to make informed decisions about where to channel funds to make genuinely sustainable investments. The TR’s primary metric for disclosure is the **green asset ratio (GAR)**: the proportion of underlying investments that are Taxonomy-aligned, expressed as a percentage.

Both the PCAF Standard and the TR champion standardized ways of describing investments and portfolios to facilitate alignment of cash flows with the Paris Agreement. Similarly, both are tools which allow investors to make informed decisions according to the available information. Just as PCAF does not judge what constitutes a “good” or “bad” amount of financed emissions, neither does the TR define what constitutes a “good” or “bad” degree of an investment’s alignment with the sustainability criteria in the regulation. That value judgment is reserved for individual investors.

On Green Asset Ratios: An incomplete measure of climate impact

The TR requires undertakings subject to the disclosure obligations in the Non-Financial Reporting Directive (NFRD) to disclose GARs: the percentage of their Taxonomy-aligned activities. For financial institutions, this implies the percentage of Taxonomy-aligned investments in their portfolio. More importantly, the TR provides a common language which helps investors understand which investments meet the criteria of Taxonomy alignment. This enables investors to not only understand the Taxonomy alignment of their present portfolios, but also seek out and identify Taxonomy-aligned investments which could be undertaken to increase their portfolios' GARs.

It is tempting to conclude that a portfolio's climate impact and progress towards Paris alignment could thus be monitored by observing the growth of investors' portfolio GARs as a proxy. The reality is that the TR is useful for steering capital toward Taxonomy-aligned investments, but GARs alone cannot provide a complete measure of Paris alignment because they do not currently capture the variability of the climate impact of investments which are not Taxonomy-aligned.

Investor A and **Investor B** both have portfolios that are each 40% Taxonomy-aligned according to the TR.

The remaining 60% of **Investor A's** portfolio is invested in mortgages while the remaining 60% of **Investor B's** portfolio is invested in coal-fired power plants.

Without additional criteria to provide context, the Taxonomy would currently regard both portfolios as equally "green" even if one portfolio were financing activities with a vastly worse environmental impact.

This is also important because it is possible that an FI's portfolio could consist of mostly non-Taxonomy-aligned investments. In these cases, using the TR alone would capture the climate impact of only a fraction of the portfolio. Additionally, GAR growth does not necessarily come at the expense of financing to carbon-intensive investments.

Consider **Investor B** from the previous example, whose portfolio of €100bn is 40% Taxonomy-aligned ($\frac{€40bn}{€100bn} = 40\%$ Taxonomy-aligned).

If **Investor B** invests an additional €10bn in Taxonomy-aligned activities and another €10bn in coal-fired power plants, they are currently still rewarded with a higher GAR

($\frac{€50bn}{€120bn} = 41.7\%$ Taxonomy-aligned), despite their investment's contribution to highly unsustainable and environmentally damaging assets.

GARs alone cannot be used as a proxy for monitoring progress towards the Paris Agreement's goal of net zero emissions by 2050. Investors and supervisors assessing the degree of Paris alignment of an FI's portfolio need additional information because financing "green" assets does not necessarily cancel out the climate impact of financing "harmful" ones.

Investor incentives could also undermine the use of GARs unless other measures are introduced to reach net zero. The absence of a mechanism to gradually increase minimum GAR requirements in a portfolio limits control over the speed of investment into green activities, which needs to accelerate to reach the goals of the Paris Agreement. For now, demand of green activities outstrips supply, so investment in green activities can only advance as quickly as these activities are created.

Financed Emissions: A building block and a catalyst for achieving multiple business objectives

To limit dangerous global warming and achieve the goals of the Paris Agreement, global GHG emissions must decline drastically. GHG accounting is a necessary step for organizations to better manage their emissions and align with the Paris Agreement. For an FI, scope 3 category 15 emissions (i.e., financed emissions) are often the most significant part of its GHG emissions inventory and special consideration must be made regarding how these are measured. For firms, tracking their GHG emissions is essential as part of their transition path.

Despite the imperfections endemic to measuring with proxies and estimates, it is more important that an FI overcomes the first and largest barrier in the climate journey: starting it.

The lack of data is the most common challenge FIs face when starting to measure their financed emissions. To address this issue, PCAF uses public data sets to produce estimates that guide FIs to focus on those corporate clients that need the most transition guidance. Like the TR, PCAF's Standard alone cannot provide the full picture of a portfolio's climate impact: the imprecision of sector averages, potential for double counting and susceptibility to deviations in asset valuation all bring their own set of challenges. However, these imperfections do not diminish the value of using PCAF to steer the transition of an FI's portfolio towards the carbon intensity thresholds of the TR.

PCAF's Global GHG Accounting and Reporting Standard for the Financial Industry provides a standardized approach to account for financed emissions and thereby provides FIs with a baseline on which to set their emission targets. This is vital because it is impossible to track emissions reduction progress without an understanding of baseline emissions. The Standard ensures that the approach used by FIs is robust, transparent, and comparable over time and across asset classes.

The TR focuses on achieving Paris-aligned cash flows through increased investment in qualifying green investments, while the PCAF Standard contributes to Paris alignment through the mitigation of portfolio emissions.

Measuring financed emissions is a crucial first step which FIs take to assess climate-related risks and opportunities, set targets in line with the Paris Agreement, and develop effective strategies to support the decarbonization of society. The Standard provides FIs with the methodologies to take this fundamental step, which enables them to then set decarbonization targets, perform scenario analysis, and take climate action. It is important to stress that GHG accounting is a means to many ends rather than the end itself. In isolation, financed emissions are only a backward-looking snapshot of an FI's portfolio climate impact at a specified point in the past. However, consistently and periodically measuring financed emissions transforms a one-off, backward-looking measurement into a versatile, fundamental building block in a long-term journey toward Paris alignment.

Measuring and monitoring financed emissions provides an understanding of portfolio climate impact and its changes over time. This understanding in turn enables FIs to achieve several business objectives that both strengthen and complement the GAR approach of the TR:

- Aligning financial flows with the Paris Agreement,
- Increasing transparency for stakeholders,
- Developing climate-friendly financial products and
- Managing climate-related financial risks.

Comparing PCAF and the EU Taxonomy Regulation

Paris Alignment & Investment Decisions

The Standard enables FIs to measure the absolute GHG emissions associated with their loans and investments. FIs can then use this understanding of their portfolios' climate impact to steer investments away from emissions-intensive assets and lower the GHG emissions of their portfolio. This result strengthens both the TR's goal of aligning financial flows with the Paris Agreement and the mutual goal of net-zero emissions. Here lies an important distinction: while the TR focuses on achieving Paris-aligned cash flows through increased investment in qualifying green investments, the PCAF Standard contributes to Paris alignment through the mitigation of portfolio emissions.

A financial institution can thus use the PCAF Standard and the TR in concert as a holistic approach to transition towards Paris alignment: On one hand, PCAF helps to reduce negative portfolio climate impact by measuring the financed emissions of a portfolio's assets, thus enabling FIs to identify high-emitting assets from which to divest or to support in transition. On the other hand, the TR helps to increase positive portfolio environmental impact by enabling FIs to identify climate-positive investments to which capital would be better allocated.

PCAF incentivizes FIs to engage with their borrowers and investees to reduce their emissions, while the TR incentivizes borrower/investee firms to make their business models and operations more sustainable.

Transparency & Improving Firms' Climate Impact

Both the PCAF Standard and the TR promote accountability to stakeholders through increased transparency of the portfolio climate impact of a financial institution's investments. Using the financed emissions data obtained through the PCAF Standard and the supplementing green criteria from the TR, investors are enabled to make more informed decisions about where to allocate their capital. PCAF takes this a step further, allowing FIs to hold their borrowers and investees accountable by measuring and monitoring financed emissions, regardless of whether the borrower or investee measures their own climate impact.

PCAF's methodologies allow FIs to perform "hotspot" analyses which identify the investments in their portfolios with the greatest amount of financed emissions. This enables FIs to prioritize the highest-emitting assets and clients in their portfolios and sparks a dialogue between the FIs and their borrowers and investees with the goal of reducing the emissions of loans and investments.

These dialogues spur innovation and help FIs focus their efforts on borrowers and investees that need transition guidance, which allow them to retain their clients while also reducing the financed emissions of their portfolios.

Measuring financed emissions helps to monitor progress against any goals set by the borrower or investee, keeping them accountable for the improvement of their activities. The ability to measure and monitor financed emissions could even play a role in helping high-emitting firms obtain capital: a net-zero commitment by a firm against which progress could be measured may convince an otherwise reluctant FI to lend to or invest in that firm.

PCAF's hotspot analyses provide financial institutions with an overview of the emissions of their portfolio and enable them to identify their most carbon-intensive segments.

The TR spurs dialogue between FIs and the firms they finance from a different angle. By categorizing activities that are sustainable, enabling, or transitional, the TR incentivizes borrower/investee firms to change their business models and operations if they wish to access sustainable finance. A firm could conceivably convince an FI to finance their activities if they could prove that the raised capital would result in Taxonomy-aligned operations.

PCAF and the TR both improve transparency and disclosure and enable FIs to leverage their capital to change the behaviour of the firms they finance. The difference is that PCAF incentivizes FIs to engage with their borrowers and investees to reduce their emissions, while the TR incentivizes borrower/investee firms to make their business models and operations more sustainable.

Risk Management

Importantly, the financed emissions measured with PCAF's Standard can serve an essential function beyond the scope of the TR: management of climate-related transition risks, and by extension, supporting corporate clients navigating towards more sustainable levels of risk. It is true that the TR contains a degree of risk management: it allows FIs to identify and report on investments which reduce environmental harm, a process which includes ensuring that the qualifying investments meet Do No Significant Harm (DNSH) and screening criteria. However, the TR's scope in an FI's portfolio is limited to these Taxonomy-aligned investments, which in some cases may only comprise a small percentage of a firm's portfolio. Thus, an FI cannot adequately assess its climate-related transition risk using the TR alone: here, financed emissions play a critical role.

Prudential supervisors require FIs in their jurisdiction to report on, closely monitor and mitigate their risk exposure. Attention has increasingly shifted to portfolio risks posed by climate-related policies and regulations. GHG accounting helps these institutions screen and identify areas of their lending and investment activities that fall under carbon-intensive assets. Such lending and investment activities could suffer setbacks due to the introduction of carbon prices and anti-fossil fuel policies and regulations. Additionally, FIs that do not disclose their climate-related risks could face reputational risk, especially when peers are increasingly doing so. Thus, absolute financed emissions become a measure of risk which becomes essential for all FIs to understand in their portfolio.

PCAF’s hotspot analyses provide FIs with an overview of the emissions of their portfolio and enable them to identify their most carbon-intensive segments. Once identified, these segments can then be prioritized from a risk perspective. As prudential supervisors put pressure on FIs to reduce their risk as much as possible, and manage remaining risks, FIs in turn engage with the firms in their portfolio to support their transition. For these firms, a reduction in absolute emissions could function as a proxy for a reduction in transition risk and the seizing of transition opportunities.

Reporting

TR Article 8 requires any firm in scope of the NFRD to publish their Taxonomy-alignment in the form of the Green Asset Ratio (GAR). This comes on top of the NFRD requirement to disclose absolute GHG emissions following the GHG Protocol.¹ To this end, firms need to know their absolute emissions and their production (in terms of kWh, or tonnes of cement, or transport-km, etc.), calculate the carbon intensity of their activities and compare the carbon intensity of their activities against the carbon intensity thresholds of the Taxonomy.

FIs are also subject to the NFRD and are expected to publish their absolute emissions following the NFRD-guidance just as well. For banks, Capital Requirements Regulation (CRR) Article 449a moreover requires disclosure of their material ESG risk, which includes climate related risk. Following advice from the EBA, it is expected that banks will have to disclose both their GAR and their exposures to harmful activities. For their absolute financed emissions, FIs draw from the same data source relevant to the companies they finance. For companies that don’t have the data of their absolute emissions, PCAF provides data that serve good estimates. To calculate their GAR, FIs compare the carbon intensity of the activities they finance to the carbon intensity thresholds of the Taxonomy, identify which ones meet those thresholds, and relate their exposure to those activities that meet the thresholds, and do no harm to other objectives, to their total outstanding assets.

Metric for NFRD & TR	Firm	Financial institution
Absolute emissions (NFRD)	Direct measurement, or estimated emissions	Financed proportion of absolute emissions (PCAF)
Carbon intensity (NFRD)	Relate emissions per activity to production (kWh, tonnes cement, transport-km, etc.)	Weighted average carbon intensity of each portfolio, where data are available or can be reasonably estimated
GAR (TR)	Proportion of activities that meet Taxonomy thresholds and do no harm / total CAPEX or turnover	Proportion of financed activities that meet Taxonomy threshold and do no harm / total CAPEX or turnover

PCAF offers a GHG accounting methodology that makes use of public data sources to allow for estimates and proxies that track financed emissions. This highlights PCAF’s added value in situations where data are lacking or insufficient, notably in portfolios of small and medium-sized enterprises (SMEs). The PCAF Standard details how the refinement and improvement of data quality is a natural part of the process and is catalysed by using initial estimates of financed emissions obtained with this public data. Despite the imperfections endemic to measuring with proxies and estimates, it is more important that an FI overcomes the first and largest barrier in the climate journey: starting it.

¹ See 2019 updated NFRD Guidance for climate related information: https://ec.europa.eu/finance/docs/policy/190618-climate-related-information-reporting-guidelines_en.pdf

The ability to establish a baseline of absolute GHG emissions and monitoring over time means that high-emitting firms could convince banks and insurers to finance them by committing to decarbonization targets.

PCAF's use of public data sources to generate estimated financed emissions means that banks can use the PCAF methodology to immediately comply with prudential rules rather than wait for the firms in their portfolios to produce those necessary emissions data. Using these estimates, PCAF guides FIs to focus their efforts on the high-emitting parts of their portfolios where the biggest difference can be made and where the carbon intensity thresholds as defined by the Taxonomy can be achieved. In directing the attention of FIs toward the firms in their portfolio most in need of decarbonization efforts, PCAF complements the TR and plays a significant role in facilitating FIs funding firms in transition.

Supporting firms in transition with PCAF and the EU Taxonomy Regulation: A Summary

A critical goal of any firm is to preserve its financial base both by refinancing and by acquiring new finance. The EU Taxonomy Regulation asks financial institutions to disclose how much of their financed activities meet the green criteria as described in the TR. In this way, it creates incentives for firms to adjust their business models and operations to earn the attractive label of a Taxonomy-aligned investment.

Attractive direct market finance thus turns its attention to green investments, forcing carbon-intensive firms to increasingly seek indirect financing from banks and insurers. Banks and insurers, in turn, wish to monitor these firms' paths to net zero. The market transparency supported by the EU Taxonomy Regulation induces banks' and insurers' monitoring of these firms' credible paths to zero carbon and in doing so supports these firms in reducing their emissions and eventually meeting the "green" criteria of the regulation. This is where the Partnership for Carbon Accounting Financials (PCAF) could be a mediator towards financing firms in transition by using GHG accounting methodologies to measure financed emissions and track their changes over time.

PCAF is an industry-led initiative which enables financial institutions to measure and disclose the absolute GHG emissions associated with their loan and investment portfolios. Using the PCAF methodology, financial institutions can measure their share of the emissions of each borrower and investee in their portfolio. The methodology enables financial institutions to make estimates even when emissions data for a borrower or investee is unavailable.

Once estimated or measured, absolute GHG emissions provide the basis for measuring different types of risk. This means that over time, a financial institution can monitor its climate risk for each of its loans and investments, allowing it to engage in a dialogue with its borrowers and investees and hold them accountable. The ability to establish a baseline of absolute GHG emissions and monitoring over time means that high-emitting firms could convince banks and insurers to finance them by committing to decarbonization targets.

PCAF's portfolio approach helps financial institutions estimate the emissions of their borrowers and investees using region- and sector-specific emission factors if the borrowers and investees have not measured those emissions themselves. This approach enables financial institutions to conduct "hotspot" analyses which identify the heaviest-emitting sections of their portfolios. The high-emitting firms are thus supported to change their business models and operations to eventually meet the requirements set by the EU Taxonomy Regulation, thus increasing their chances of finding financing from asset managers.

PCAF enables FIs to identify and prioritize the highest-emitting assets and clients in their portfolios and sparks a dialogue between the FIs and their borrowers and investees with the goal of reducing the emissions of loans and investments. These dialogues spur innovation and help FIs focus their efforts on investees that need transition guidance, which allow them to retain their clients while also reducing the financed emissions of their portfolios. Supervisors could confirm this progress by rewarding ever better performing portfolios in their Pillar 2 assessments.

Finally, the PCAF methodology requires disclosure of not only the absolute financed GHG emissions, but also of the quality of the data used to obtain that measurement. Data quality is often poor in the beginning of a firm's journey toward aligning its flows with the Paris Agreement. Identifying the areas where data quality can improve is the first step to developing strategies to improve data quality and therefore the accuracy of the measurement of absolute GHG emissions. PCAF provides a detailed data quality scoring system where the highest score always goes to verified/audited direct measurements of the firm's emissions, and as such also guides FIs towards high quality data as needed for audited TR-eligibility confirmations.

A complementary combination of approaches

The scale and complexity of the challenge posed by climate change makes it unlikely that any single approach or metric will be enough to address the issue at hand. As shown in this report, neither absolute financed emissions nor green asset ratios alone can provide a complete picture of a portfolio's climate impact and Paris alignment. But when combined, PCAF and the EU Taxonomy Regulation create an impact greater than the sum of their parts by working in concert to help financial institutions meet the goals of the Paris Agreement.

Financial institutions can achieve a much greater impact in a much shorter amount of time by starting with estimates and proxies and transparently refining their process over time.

Where PCAF enables FIs to identify the high-emitting assets in a portfolio from which to divest or to support in transition to mitigate negative portfolio environmental impact, the TR identifies investments to which capital would be better allocated to increase positive portfolio environmental impact. Where PCAF incentivizes FIs to engage with their borrowers and investees to reduce their GHG emissions, the TR incentivizes borrower/investee firms to make their business models and operations more actively sustainable. PCAF complements the TR by allowing FIs to adequately assess the climate-related transition risks of investments not aligned with the TR, which could be the vast majority of the portfolio of FIs in the initial stages of their climate journey. Critically, PCAF addresses the vital issue of data availability, showing that measurement and disclosure of financed emissions are already possible. And since firms subject to the NFRD—and therefore, the TR—already must report their absolute emissions, financial institutions do not require added resources to implement both PCAF and the TR in parallel.

PCAF stresses the importance of taking the first steps of the climate journey. With time in short supply to rise to the challenge of aligning with the Paris Agreement, it is better to act immediately and measure with imperfect data than it is to wait until the best possible data is available. Financial institutions can achieve a much greater impact in a much shorter amount of time by starting with estimates and proxies and transparently refining their process over time. The EU Taxonomy Regulation provides a similar opportunity to start taking immediate action. Though imperfect on its own, as all approaches are, it can rely on complementary methodologies such as PCAF's to support its goals and help financial institutions on their climate journey.



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