



kenanga

**SUPPLEMENTARY METHODOLOGY NOTE FOR CALCULATING
SCOPE 3 CATEGORY 15 - INVESTMENT EMISSIONS (2025)**

SUPPLEMENTARY METHODOLOGY NOTE FOR CALCULATING SCOPE 3 CATEGORY 15 INVESTMENT EMISSION (2025)

1 Introduction

Kenanga Investment Bank Berhad ("**Kenanga**") and its subsidiaries ("**Kenanga**" or "**the Group**" or "**Kenanga Group**") is committed to measuring and managing the greenhouse gas ("**GHG**") emissions associated with its lending and investment activities.

In its Sustainability Report 2024, Kenanga disclosed its first assessment of the Group's financed and facilitated emissions (Scope 3, Category 15) using guidance from the Partnership for Carbon Accounting Financials ("**PCAF**"). This methodology note aims to document the approach for calculating financed emissions across Kenanga's Malaysia operational market, aligns with global standards and outlines procedures for data collection, calculation, quality assurance, and reporting. It has been prepared to fit Kenanga's internal procedure template and should be read together with the Group's Sustainability Reports.

2 Purpose of the Methodology Note

This document serves several purposes:

1. **Drive consistency and transparency.** It provides clear instructions to calculate Scope 3 Category 15 emissions so that results are consistent over time and across identified asset classes. Transparent documentation reduces the risk of misreporting and ensures comparability with peers.
1. **Align with recognised standards.** The methodology follows the PCAF Global GHG Accounting and Reporting Standard (Part A & B, the second edition). We are aware of the updates from PCAF standard December 2025 and will consider updating the methodology note in due course.
2. **Guide internal processes.** It details the steps for data collection, calculation, quality assurance, governance and reporting. The note can be integrated into Kenanga's risk management and sustainability processes.

3 Applicable Standards and Guidance

3.1 PCAF Global GHG Accounting and Reporting Standard – Part A (Financed Emissions)

PCAF's Global GHG Accounting and Reporting Standard provides detailed methodologies for measuring financed emissions across asset classes. The second edition (December 2022) is the primary reference for this methodology note. A third edition has been released in December 2025. As most of the asset classes that are relevant to Kenanga are already covered under the second edition, it is recommended that Kenanga continue to use the second edition and monitor future updates from PCAF.

The PCAF guidance is in line with GHG Protocol, the global standard for corporate GHG accounting. PCAF is fully aligned with the GHG Protocol. Therefore, financed emissions calculated in line with PCAF can be reported alongside emissions calculated under GHG Protocol.

PCAF emphasised the concept of attribution: financed emissions are calculated by multiplying an attribution factor by the borrower's or investee's GHG emissions. **Under PCAF Part A, a financial institution is assigned emissions from its counterparties according to the ownership in the company/asset or the counterparties' debt to the bank.** The attribution factor represents the financial institution's share of the counterparties' emissions and is calculated as the outstanding amount divided by the total equity and debt, or known as Enterprise Value Including Cash ("**EVIC**"), of the listed investee. This common denominator ensures 100 % of emissions are attributed across equity and debt providers and reduces double counting.

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PCAF requires financial institutions to use the highest quality data available and to apply a hierarchical data quality scoring system when emissions or financial data are missing. Where high-quality data are unavailable, the institution should use estimation or proxies (such as sector average emission intensities) and improve data quality over time. PCAF also advises aligning the GHG accounting period with the financial accounting period and using the most recent emissions data available.

3.2 PCAF Global GHG Accounting and Reporting Standard – Part B (Facilitated Emissions)

As facilitators of capital market instruments, financial institutions are only involved when the transaction is being arranged and launched, they will take no (or limited) capital risk. Given the temporary association with transactions, capital market facilitations are treated differently than lending and investing. **Facilitated emissions are included due to the bank supporting the access to capital by the issuers.**

This methodology refers to PCAF published Part B version 2 published in 2023. It addresses facilitated emissions from capital market activities in primary market, including the facilitated issuance of new bonds and equity. Facilitated emissions are measured and disclosed separately from on balance sheet financed emissions.

4 Scope and Boundary

4.1 Organisational Boundary

This methodology applies to Kenanga and adopts the operational control approach, meaning the financed emissions of all operated subsidiaries are included. The reporting boundary for financed emissions includes all on-balance sheet lending and investment activities as well as off-balance sheet facilitation activities undertaken by Kenanga during the reporting period. The current coverage includes six business units: (1) Corporate Islamic Banking, (2) Treasury, (3) Asset and Wealth Management, (4) Private Equity, (5) Debt Capital Market, and (6) Equity Capital Market. Business units not listed above are excluded from the financed emissions calculation, as the activities fall outside the scope of the PCAF methodology. Kenanga's operational GHG emissions (Scope 1, 2 and other Scope 3 such as business travel and employee commuting) are covered in separate sections of the Sustainability Reports and are not addressed here.

4.2 Reporting Period

The financial accounting period (1 January to 31 December) is used for emissions attribution, consistent with PCAF's guidance. Where emissions data are reported for a different year, the most recent available data are used and aligned as closely as possible with the financial reporting year. Our emissions are currently calculated on a one-year arrears basis, with FY2024 representing the most recently completed computation.

4.3 In-scope GHG Emissions for Counterparties

The GHG scopes of the counterparties currently cover Scope 1 (direct emissions) and Scope 2 emissions (indirect emissions from electricity, heating, steam and cooling consumption). As Kenanga begins assessing financed emissions, one of the key challenges is the lack of scope 3 emissions data. Scope 3 emissions of investees are not currently included. As data quality and availability improve, Kenanga expects this will be further refined and included into the inventory.

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4.4 Asset Classes Included

Kenanga's Sustainability Reports identifies the asset classes covered in its calculation. These asset classes form the boundary for financed emissions:

Type	Asset class	Description
Financed Emissions	Listed equity and corporate bonds	Includes all on-balance sheet corporate bonds or listed equity that is traded on the market and is for general corporate purposes. Under this asset class, KIBB reports both financed emissions (on-balance-sheet investments) and portfolio emissions (assets managed on behalf of clients under Asset and Wealth Management). Portfolio emissions are calculated using the same PCAF methodology as listed equity and corporate bonds and are disclosed separately to reflect their nature.
	Business loans and unlisted equity	Include all on-balance sheet loans and lines of credit or equity investments to businesses, nonprofits, and any other structure of the organisation for general corporate purposes.
	Project finance	Includes all on-balance sheet loans or equities to projects or activities that are designated for specific purposes. (e.g., gas fired power plants, renewable energy projects).
	Sovereign Debt	Includes sovereign bonds and sovereign loans of all maturities issued in domestic or foreign currencies. Both sovereign loans and bonds lead to the transfer of funds to the country, which in turn creates a debt obligation to be repaid by the borrowing country.
Facilitated Emissions	Facilitated equity and debt transactions	Off-balance sheet facilitation of primary equity and debt instruments, such as underwriting initial public offerings or bond issuance.

Kenanga is aware that there are other asset classes recognised by PCAF (commercial real estate, mortgages, motor vehicle loans) that may become material to KENANGA in the future as its portfolio changes.

It is worth noting that IFRS S2 released an amendments document in December 2025¹, which clarifies that only financed emissions are required to be measured and disclosed under Scope 3 Category 15, including emissions attributed to loans, investments, and assets under management, while facilitated emissions are not required to be reported under this category.

4.5 Exclusions and Thresholds

PCAF's guidance does not apply to advisory services, brokerage activities, deposit accounts, margin financing or transactions in secondary markets, as these activities are not considered related to Scope 3 GHG emissions.

Kenanga applies the methodology across all activities covered by the PCAF standard without setting materiality thresholds; the only exceptions are transactions for which there is insufficient data.

Recognising that data limitations are a temporary challenge rather than a justification for inaction, Kenanga will continue to strengthen its data collection and reporting processes to minimise these exclusions over time and align more fully with PCAF guidance.

In line with PCAF guidance, Kenanga should disclose and exclusions and justify them. Although PCAF guidance does not specify the threshold on maximum number of emissions that can be excluded, in the future Kenanga should consider setting such a threshold.

¹ <https://www.ifrs.org/content/dam/ifrs/publications/amendments/english/2025/issb-2025-1-amendments-ifrs-s2.pdf>

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5 Methodology Overview

5.1 Key Principles

The calculation of financed emissions follows the core principles of relevance, completeness, transparency, consistency, and accuracy. These principles are derived from the GHG Protocol and are aligned with financial accounting principles. In addition, PCAF also requires principles of recognition, follow-the-money approach, attribution, data quality, and disclosure. The methodology aims to include all relevant activities, apply consistent approaches across asset classes, document assumptions, and use the best available data.

5.2 General Equation and Attribution Factor

Financed emissions are calculated by multiplying an **attribution factor** by the emissions of the counterparty:

$$\text{Financed Emissions} = \sum_i \text{Attribution factor} \times \text{Counterparty emissions}$$
$$\text{Attribution factor} = \frac{\text{Outstanding amount}}{\text{Counterparty or project value}}$$

Where i denotes a counterparty, investee, or project. The attribution factor represents Kenanga's proportional share of the counterparty's emissions and is calculated as the outstanding amount divided by the counterparty's total equity plus debt. This denominator (enterprise value including cash ("**EVIC**"), for listed entities) ensures that equity and debt are treated equally and that 100 % of emissions are allocated across financiers. For each asset class, the specific equation may vary, but the principle of proportional attribution remains consistent.

5.3 Data Sources

Data required for calculating financed emissions include:

1. **Outstanding financial exposure** – The drawn amount of loans or the carrying value of investments. For loans, the outstanding amount excludes interest and is taken at the end of the year to reflect repayments.
2. **Company value (denominator)** – EVIC for listed companies; total debt and equity for unlisted companies; total assets where other data are unavailable. Total debt includes both current and long-term debt on the balance sheet. While EVIC is not a commonly used metric in the finance industry, PCAF recommends its use to ensure that counterparty company's value is fully reflected to accurately reflect environmental impacts. PCAF reference for EVIC came from the EU TEG in its Handbook of Climate Transition Benchmarks, Paris-Aligned Benchmark and Benchmarks' ESG Disclosure, and Commission Delegated Regulation (EU) 2020/1818 of 17 July 2020.
3. **Emissions data** – Kenanga currently uses Scope 1 and Scope 2 emissions data of counterparties and intends to expand coverage to Scope 3 emissions as data availability improves. Where available, actual reported emissions—either audited or voluntarily disclosed—are used.

In the absence of reported emissions data, emissions are estimated using sector-specific, spend-based emission factors from credible public and third-party sources, such as USEEIO US Environmentally-Extended Input-Output ("**USEEIO**") and UNFCCC. As Kenanga is not currently a signatory to PCAF, it does not have access to the PCAF emissions factor database and therefore relies on publicly available and third-party sources, which may be subject to time lags. This approach is also consistent with PCAF principles.

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Kenanga acknowledges that spend-based emission factors provide less precise estimates than physical emission factors. However, given the large number of counterparties in its portfolio and the need for highly granular, sector-specific operational data (e.g. production capacity) to apply physical emission factors, Kenanga has adopted spend-based emission factors as a more efficient and scalable approach for portfolio-level emissions estimation. This approach will be reviewed in future as better data and scalable calculation methodologies become available.

5.4 Data Quality Score

PCAF's data quality hierarchy (1 = highest quality; 5 = lowest quality) is applied to guide the selection of data sources, support continuous improvement over time and provide transparency to stakeholders on the level of accuracy of data. Kenanga assigns a data quality score to each exposure based on the underlying emissions data and estimation approach and calculates a weighted average data quality score at the asset-class level. A lower data quality score (3-5) represents data with high uncertainty, while a higher data quality score (1-2) represents counterparty data with better accuracy. To illustrate the uncertainty of different data quality scores, a data quality score of 4 or 5 may imply an over or underestimate emissions by as much as 100%, while a data quality score of 1 should be accurate to around $\pm 5\%$ due to the data already passing third-party assurance. Despite these limitations, a data quality score of 4 or 5 still has value as the comparison of emissions between different sectors will still hold a high degree of accuracy.

As a result, Kenanga's portfolio data quality scores currently comprise:

- **Scores 1-2:** reported emissions (audited or not audited),
- **Score 4:** revenue-based emission factor estimates, and
- **Score 5:** asset-turnover-based estimates combined with spend-based emission factors.

Data quality score 3 is not currently applied in Kenanga's portfolio. Under the PCAF Standard, score 3 typically reflects the use of physical activity-based data (e.g. counterparty power generation in MWh) combined with sector-average or modelled emission intensities (e.g. $\text{tCO}_2\text{e/MWh}$). While such approaches may offer improved accuracy relative to purely spend-based methods, they require consistent and granular operational data (e.g. production volumes or capacity) across counterparties. Given the breadth of Kenanga's portfolio and current limitations in the availability and consistency of such data, Kenanga has not applied Score 3 methodologies at this stage.

Kenanga will continue to improve data quality over time as counterparties' emissions reporting maturity and more granular data becomes available, which may enable the application of higher-quality estimation approaches in the future.

A detailed mapping of approaches for different PCAF data quality scores is provided in the References and Appendix, of Note 12 within this methodology note. Kenanga will continue to improve data quality over time as counterparties' emissions report maturity and more granular data becomes available.

6 Calculating Financed Emissions by Asset Class

As of FY2024, Kenanga's loan and investment portfolio comprises four(4) asset classes:

- listed equity and corporate bonds.
- business loans and unlisted equity
- project finance
- sovereign debt

This methodology note therefore sets out the calculation methodologies applied to each asset class. Should Kenanga expand into additional asset classes in the future, the relevant methodologies will be developed and documented accordingly.

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6.1 Listed Equity and Corporate Bonds

Definition and coverage. This asset class includes all on-balance sheet investments in listed corporate bonds and listed equity. It excludes sovereign bonds, supranational debt, and bonds with known use of proceeds (which may be treated as project finance).

In addition to financed emissions, KIBB also calculates portfolio emissions for assets managed on behalf of clients under its Asset and Wealth Management (AWM) business. Portfolio emissions reflect the emissions associated with investments where KIBB acts as an asset manager, rather than deploying its own capital. Portfolio emissions are calculated using the same methodological approach as financed emissions for listed equity and corporate bonds, in alignment with the PCAF Standard.

KIBB discloses portfolio emissions separately to enhance transparency and provide a more complete view of emissions associated with its investment activities.

Formula. Financed emissions for borrower or investee company c are calculated as:

For listed companies:

$$\text{Financed emissions} = \sum_c \frac{\text{Outstanding amount}_c}{\text{Enterprise Value Including Cash}_c} \times \text{Company emissions}_c$$

For bonds to private companies:

$$\text{Financed emissions} = \sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Company emissions}_c$$

EVIC is the company's enterprise value, including cash. PCAF standards have also stated a basis for calculating EVIC as market capitalisation and total book value of debt. For private firms without market capitalisation, total debt and equity is used; if debt and equity data are unavailable, total assets may be used as a proxy.

The outstanding amount is the book value of Kenanga's investment at year end of the reporting period. Company emissions currently cover the investee's scope 1 and 2 emissions. When company emissions are unavailable, estimations using sector-average emission factors per revenue or per asset are applied.

Data quality scoring Kenanga assigns data quality scores (1 to 5) based on the source and accuracy of emissions and financial data.

1. Using audited emissions disclosures would result in a score of 1.
2. Using unaudited emissions disclosures would result in a score of 2.
3. Using physical activity emission factors would result in a score of 3.
4. Using emission factors for the sector per unit of revenue would result in a score of 4.
5. Using emission factors for the sector per unit of revenue and asset turnover ratios would result in a score of 5. For more detailed equations, please refer to the reference section.

It is worth noting that score 5 will be applied to transactions without company revenue, EVIC, total equity, and total debt data.

Procedure

1. Determine Kenanga's outstanding amount in the listed equity or bond.
2. Obtain the investee's EVIC or total debt and total equity.
3. Obtain or estimate the investee's scope 1 and 2 emissions.
4. Calculate the attribution factor and multiply by the investee's emissions to obtain financed emissions.
5. Assign and record the data quality score and document sources and assumptions.

Emissions and financial data from the same reporting year shall be used where available. Where this is not feasible, Kenanga will apply the latest available data.

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6.2 Business Loans and Unlisted Equity

Definition and coverage. This asset class includes on-balance sheet loans and lines of credit to businesses, non-profits, and any other structure of organisation that are not traded on a market and are for general corporate purposes, i.e. with unknown use of proceeds. Revolving credit facilities, overdraft facilities, and business loans secured by real estate such as commercial real estate secured lines of credit are also included. Any off-balance sheet loans and lines of credit are excluded.

Formula. Financed emissions for borrower or investee *c* are calculated as:

For business loans and equity investments to/in private companies:

$$\text{Financed emissions} = \sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity + debt}_c} \times \text{Company emissions}_c$$

For business loans to listed companies:

$$\text{Financed emissions} = \sum_c \frac{\text{Outstanding amount}_c}{\text{Enterprise Value Including Cash}_c} \times \text{Company emissions}_c$$

(with *c* = borrower or investee company)

The denominator is the borrower’s total equity and total debt (book values) for private companies. When company financial data are unavailable, total assets may be used as a proxy for total equity and total debt, consistent with PCAF guidance. Where the borrower is a listed company, EVIC should be used as a denominator. If EVIC is not available, total equity and total debt should be used.

The outstanding amount is the book value of Kenanga’s loan or investment at year end of the reporting period. Company emissions currently cover the investee’s scope 1 and 2 emissions. When company emissions are unavailable, estimations using sector-average emission factors per revenue or per asset are applied.

Procedure. Follow the same steps as for listed equity and corporate bonds, replacing EVIC with total equity and debt for private companies. For revolving credit facilities, use the drawn amount rather than the credit limit and include only the principal amount. For unlisted equity, use the proportion of total equity held by Kenanga.

Emissions and financial data from the same reporting year shall be used where available. Where this is not feasible, Kenanga will apply the latest available data.

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6.3 Project Finance

Definition and coverage. Project finance refers to loans or equity investments designated for specific projects or activities. Examples include financing a power plant, renewable energy project or energy efficiency upgrade.

Formula. Financed emissions for project p are calculated as:

$$\text{Financed emissions} = \sum_p \frac{\text{Outstanding amount}_p}{\text{Total equity} + \text{debt}_p} \times \text{Project emissions}_p$$

(with $p = \text{project}$)

The denominator represents the project's total equity and debt. The outstanding amount is Kenanga's exposure to the project. Project emissions include the project's scope 1 and 2 emissions. When project emissions are unavailable, estimations using sector-average emission factors per revenue or per asset are applied.

The data quality score for project financing follows the same logic as for Business Loans and Unlisted Equity asset class. If project's total equity and debt is not available, the attribution factor cannot be calculated, but rough estimations on attribution can still be made using score 5 data quality.

Procedure.

1. Identify project finance exposures and collect financial data.
2. Obtain or estimate project emissions.
3. Calculate the attribution factor and financed emissions.
4. Document assumptions and assign data quality scores.

6.4 Sovereign Debt

Definition and coverage. This asset class includes sovereign bonds and sovereign loans of all maturities issued in domestic or foreign currencies. Sovereign debt is typically issued by the central government or treasury. It does not cover cash, foreign exchange, and derivative (repo) transactions exposure.

Formula. Financed emissions for sovereign debt are calculated as:

$$\text{Attributed Emissions} = \frac{\text{Exposure to Sovereign Bond (USD)}}{\text{PPP-adjusted GDP (international USD)}} \times \text{Sovereign Emissions (tCO}_2\text{e)}$$

PCAF approach allows GHG accounting of emissions of sovereign debt to take the consumption-based view. For consumption-based accounting, the emissions related to exports should be subtracted:

$$\text{Consumption Emissions} = \text{Production emissions} - \text{Exported emissions} + \text{Imported emissions.}$$

$$\text{Consumption Emissions} = \text{scope 1} + \text{2} + \text{3} - \text{Exported emissions.}$$

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The denominator, Purchasing Power Parity adjusted Gross Domestic Product ("**PPP-adjusted GDP**"), represents the closest value of sovereign's equity. Despite its limitation from inaccuracy, as sovereigns rarely finance themselves primarily with debt as opposed to tax revenue, this approach follows the general logic in the Financed Emissions Standard, where the financial institution's share of emissions shall be proportional to the size of its exposure to the borrower's total value.

The outstanding amount is Kenanga's exposure. Sovereign emissions are calculated as per the equation above. Scope 1 is the domestic GHG emissions from sources located within the country's territory. Scope 2 is GHG emissions occurring as a consequence of the domestic use of grid-supplied electricity, heat, steam and/or cooling which is imported from another territory. Scope 3 is emissions attributable to non-energy imports as a result of activities taking place within the country territory.

Kenanga currently holds investments in Malaysian sovereign debt. Country-level emissions data is publicly available from OECD and Climate Watch, resulting in a data quality score of 2.

A key limitation of these data sources is the reporting time lag of approximately three(3) years; for example, emissions used for the FY2023 reporting year are based on national inventories from 2020–2021. The PCAF Standard allows the use of emissions data from different reporting years where more recent data are not available.

Where sovereign emissions data are unavailable, Kenanga applies an estimation approach using a proxy country, which results in a data quality score of 5.

Procedure.

1. Identify sovereign debt exposures and collect PPP-adjusted GDP data.
2. Obtain or estimate country emissions.
3. Calculate the attribution factor and financed emissions.
4. Document assumptions and assign data quality scores.

6.4 Facilitated Emissions

Definition and coverage. Facilitated emissions arise from underwriting or arranging capital market transactions, such as initial public offerings (IPOs), bond issuances, and syndicated loans. These activities do not involve financing directly but assist clients (also called as issuers) to access capital. The raised capital plays a key role in an issuer's capacity to expand or transition. Therefore, the influence of financial institutions on Capital Markets and the associated financial flows can be substantial. If Capital Markets are to channel more financing into climate-friendly projects and businesses, all actors in these markets need to be as transparent as possible to the market and wider stakeholders about their role and the impact of these activities on climate change.

For Kenanga, the coverage covers debt capital market (DCM) and equity capital market (ECM) activities. This facilitated Emissions Standard relates to primary markets (new issuances) and does not cover the secondary markets and the trading of existing capital market instruments.

Methodology. Facilitated emissions are calculated using the approach described in PCAF Part B (version 2). The general equation is:

$$\text{Facilitated emissions} = \sum_c \frac{\text{Facilitated amount}_c}{\text{Company value}} \times \text{Weighting factor} \times \text{Annual emissions}_c$$

(Facilitated amount = Total raised amount × League table credit)
c = The issuing company

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Where:

- **Facilitated amount** is the specific volume facilitated by the individual financial institution and shall be used to determine what proportion of the 'facilitated' part of the transaction each facilitator takes responsibility for. If this is not readily available, league table credit shall be used. League tables allocate credit to financial institutions based on their role in a transaction and can be constructed using either fees or transaction volume. The facilitated amount is calculated by multiplying the institution's allocated share by the total debt or equity raised. Kenanga applies league tables based on transaction volume.
- **Attribution factor** is based on the facilitated amount (e.g., apportioned underwriting value) divided by the company's value (EVIC for listed companies or total equity + debt for unlisted companies).
- **Weighting factor** reflects the fact that a financial institution's role in facilitating capital market activities is different from its role as a lender. PCAF decided a 33% weighting for all capital market issuances in scope for this Facilitated Emissions Standard to appropriately distinguish between the relative importance of a financing activity versus a facilitation activity. The figures are in line with the Basel Committee on Banking Supervision's Basel Framework.
- **Annual emissions** are the absolute scope 1 and scope 2 emissions of issuers. When the reported emissions are unavailable, estimations using sector-average emission factors per revenue or per asset are applied (refer to Business Loans and Unlisted Equity asset class).

Procedure.

1. Identify capital market transactions where Kenanga acted as bookrunner, lead arranger or underwriter during the reporting period.
2. For each transaction, determine the facilitation amount (or estimate using league table credit) and the company's value.
3. Obtain or estimate the company's emissions.
4. Calculate the attribution factor and apply the 33 % weighting factor to derive facilitated emissions.
5. Aggregate facilitated emissions by sector and report separately from on-balance sheet financed emissions.

It is worth noting that IFRS S2 released an amendments document in December 2025 , which clarifies that only financed emissions are required to be measured and disclosed under Scope 3 Category 15, including emissions attributed to loans, investments, and assets under management, while facilitated emissions are not required to be reported under this category, noting that major banks such as HSBC do report on their facilitated emissions and set target on facilitated emissions.

7 Sector Classification and Analysis

Kenanga discloses financed emissions by asset class and by sector. Sectoral classification enables Kenanga to separate counterparties with different business models, identify emissions hotspots and supports alignment with science-based decarbonisation pathways. In line with PCAF recommendations, Kenanga applies an internationally recognised classification system and ensures consistency across asset classes.

Kenanga currently uses Global Industry Classification Standard ("**GICS**") Sub-industry classifications, which can be mapped to U.S. Bureau of Economic Analysis (BEA) codes from the USEEIO emission factor database to support comparability and emissions calculation. Each counterparty is assigned to a primary sector based on its main revenue streams or core business activities. Sector classifications are reviewed annually as part of the financed emissions calculation, and revisions may be made to reflect changes in business activities or the true nature of the business.

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Sector-level emission intensities and decarbonisation pathways may then be applied to support future target setting and hotspot analysis. While Kenanga has not yet committed to financed emissions reduction targets, it intends to establish such targets in the future.

8 Calculation Consolidation

8.1 Aggregating Financed Emissions

Financed emissions from different functions are aggregated within each asset class and each sector. To avoid double counting, exposures to the same counterparty across multiple asset classes are treated separately and aggregated only at the reporting stage. Absolute financed emissions (tons CO₂e) are reported alongside emission intensities (e.g. economic emissions intensity in tons CO₂e per million MYR financed) and the share of portfolio covered. Facilitated emissions are reported separately from the financed emissions.

8.2 Metrics and Targets

In line with PCAF guidance, Kenanga reports on the following metrics:

- **Absolute financed emissions** – total Scope 3 Category 15 emissions attributable to Kenanga, segmented by asset class and sector.
- **Data quality score** – A score of 1 indicates the highest level of data quality, whereas a score of 5 indicates the lowest level, reflecting reliance on estimated data. The portfolio average data quality score is calculated using a weighted average based on the outstanding amount.
- **Financed emissions intensity** – emissions per MYR millions of exposures, enabling comparability across asset classes.
- **Coverage ratio** – proportion of portfolio exposures for which emissions have been calculated.

The Group intends to use these metrics to track progress against decarbonization targets. The output will be used to assess portfolio resilience and to inform risk management decisions.

9 Quality Assurance and Governance

9.1 Roles and Responsibilities

- **Sustainability Team** – Leads data collection and engages with functions, calculation and consolidation; assigns data quality scores; reviews and prepares disclosures. The Sustainability Team's review is considered as an "internal review", ensuring data quality is up to standard.
- **Credit & Investment Teams** – Provide information on outstanding loans, outstanding investments, EVIC, balance sheet values, and other critical data for emissions calculation; liaise with counterparties to obtain emissions data.
- **Third-party Assurance or External Consultant** – Review the implementation of the methodology and the accuracy of financed emissions calculations and provide recommendations for improvement. Kenanga plans to engage an independent third-party verifier to provide an assurance statement in the future, once financed emissions calculations have stabilised and matures in its comprehensiveness. Under the National Sustainability Report Framework (NSRF), Kenanga falls under Group 2 (market capitalisation less than RM 2 billion), for this group third party assurance of Scope 1 and 2, and Scope 3 reporting is required by 2028. Under NSRF, requirements for third-party assurance of Scope 3 emissions have not yet been determined.

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9.2 Tools and Calculators

Kenanga uses an internal Excel based calculator to estimate financed and facilitated emissions. The calculator incorporates PCAF formulae, data quality scoring, and sector emission factors and allows for internal and external auditing. As data quality improves, the Group may transition to specialised software or integrate financed emissions calculation into risk management systems.

10 Limitations and Challenges

Accurate calculation of financed emissions in lending and investment portfolios requires high-quality data, including GHG emissions information for the underlying investee and borrowing companies. Companies that measure and publicly report their emissions contribute to the availability of high-quality data. However, the Group's data is currently limited due to the lack of granular and sub-sector-specific counterparty data, as many counterparties and investees within the Group's portfolio have yet to measure and report their GHG emissions.

The PCAF Standard acknowledges these challenges and offers methodologies for calculating both financed and facilitated emissions using different approaches, each with varying levels of data quality depending on the estimates involved. In line with the PCAF Standard's calculation methodology, the Group has assessed our financed emissions using the best available data.

External datasets used in the analysis may involve time lags in reported emissions figures, financial data, and emission factors. The Group aims to address this limitation by subscribing to credible third-party databases. In addition, mapping external data sets to internal counterparty entities presents challenges due to complex ownership structures and the high volume of data involved in checks and calculations. As part of the estimation process, sector- and sub-sector-level data are applied as proxies to estimate absolute financed emissions, where necessary. Time lag issue is common for financed emissions as well as Scope 3 emissions overall and the recommended approach in this section is commonly accepted. The important thing for time lag is transparently tracking the time lag and optionally report on time lags identified.

The Group is committed to continuously refining its emissions estimates by enhancing our calculation methodologies and improving data quality. Additionally, we will focus on improving our processes for gathering actual emissions data from our counterparties and investees to support more accurate reporting and future calculations and encourage emissions reduction practices.

11 Recalculation Policy

Kenanga will recalculate base-year of a target and historical financed emissions when material changes occur that affect the accuracy or comparability of reported results. Such circumstances may include the correction of material errors, significant improvements in data quality, changes in calculation methodologies or emission factors, or material changes in portfolio composition or reporting boundaries.

A recalculation or restatement of the base year of a target will be undertaken when the cumulative impact of such changes is assessed to be material, defined as a change of 5% or more in total base-year financed emissions. Where recalculation or a change in base year occurs, Kenanga will transparently disclose the nature, rationale, and quantitative impact of the changes in the subsequent reporting cycle (e.g. in a one to two sentence footnote).

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A recalculation of historically financed emissions can be performed at any time and does not require a 5% threshold, however this is optional. For example, if emissions have changed less than 5%, Kenanga can recalculate and restate historical emissions if it chooses to; however, it does not need to adjust its target. Consistent with base-year recalculation practices, Kenanga will transparently disclose the nature, rationale, and quantitative impact of such changes in the subsequent reporting cycle (e.g., via a brief footnote in a public report).

12 References and Appendix

1. **PCAF (2022)** – Global GHG Accounting and Reporting Standard for the Financial Industry – Part A: Financed Emissions (Second Edition).

LISTED EQUITY AND CORPORATE BONDS – DETAILED SUMMARY OF DATA NEEDS AND EQUATIONS TO CALCULATE FINANCED EMISSIONS
 Table 10.1-1. Detailed description of the data quality score table for listed equity and corporate bonds¹⁰⁴

Option	Description				Data quality Highest to lowest		
	Attribution		Emission factor			Financed emissions calculation	
	Financial data		Emission data			Equations	
Option 1a	Outstanding amount in the company	EVIC for listed companies and total equity plus debt for bonds to private companies	Verified GHG emissions data from the company in accordance with the GHG Protocol		For listed companies: $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Verified company emissions}_c$ For bonds to private companies: $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Verified company emissions}_c$	Score 1	
Option 1b			Unverified GHG emissions data calculated by the company in accordance with the GHG Protocol		For listed companies: $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Unverified company emissions}_c$ For bonds to private companies: $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Unverified company emissions}_c$		Score 2
Option 2a ¹⁰⁵			EVIC for listed companies and total equity plus debt for bonds to private companies	Primary physical activity data for the company's energy consumption by energy source (e.g., megawatt-hours of electricity) plus any process emissions	Emission factors specific to that primary data (e.g., energy source-specific emission factors) ¹⁰⁶	For listed companies: $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Energy consumption}_c \times \text{Emission factor}$ For bonds to private companies: $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Energy consumption}_c \times \text{Emission factor}$	Score 3
Option 2b				Primary physical activity data for the company's production (e.g., tonnes of rice produced)	Emission factors specific to that primary data (e.g., emission factor per tonne of rice)	For listed companies: $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Production}_c \times \text{Emission factor}$ For bonds to private companies: $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Production}_c \times \text{Emission factor}$	Score 3
Option 3a				Revenue of the company	GHG emissions per sector	Revenue per sector ¹⁰⁷	For listed companies: $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Revenue}_c \times \frac{\text{GHG emissions}_c}{\text{Revenue}_c}$ For bonds to private companies: $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Revenue}_c \times \frac{\text{GHG emissions}_c}{\text{Revenue}_c}$
Option 3b	N/A	GHG emissions per sector	Assets per sector	For listed companies and bonds to private companies: $\sum_c \text{Outstanding amount}_c \times \frac{\text{GHG emissions}_c}{\text{Assets}_c}$	Score 5		
Option 3c	Asset turnover ratio per sector	GHG emissions per sector	Revenue per sector	For listed companies and bonds to private companies: $\sum_c \text{Outstanding amount}_c \times \text{Asset turnover ratio}_c \times \frac{\text{GHG emissions}_c}{\text{Revenue}_c}$			

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BUSINESS LOANS AND UNLISTED EQUITY – DETAILED SUMMARY OF DATA NEEDS AND EQUATIONS TO CALCULATE FINANCED EMISSIONS

Table 10.1-2. Detailed description of the data quality score table for business loans and unlisted equity³⁰⁰

Option	Description				Data quality		
	Attribution		Emission factor		Financed emissions calculation		
	Financial data		Emission data		Equations		
					Highest to lowest		
Option 1a	Outstanding amount in the company	Total equity plus debt for business loans and equity investments to/in private companies, and EVIC for business loans to listed companies	Verified GHG emissions data from the company in accordance with the GHG Protocol		<p>For business loans and equity investments to/in private companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Verified company emissions}_c$ <p>For business loans to listed companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Verified company emissions}_c$	Score 1	
Option 1b			Unverified GHG emissions data calculated by the company in accordance with the GHG Protocol		<p>For business loans and equity investments to/in private companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Unverified company emissions}_c$ <p>For business loans to listed companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Unverified company emissions}_c$	Score 2	
Option 2a ³⁰¹			Primary physical activity data for the company's energy consumption by energy source (e.g., megawatt-hours of electricity) plus any process emissions	Emission factors specific to that primary data (e.g., energy source-specific emission factors) ³⁰²	<p>For business loans and equity investments to/in private companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Energy consumption}_c \times \text{Emission factor}$ <p>For business loans to listed companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Energy consumption}_c \times \text{Emission factor}$	Score 3	
Option 2b			Primary physical activity data for the company's production (e.g., tonnes of rice produced)	Emission factors specific to that primary data (e.g., emission factor per tonne of rice)	<p>For business loans and equity investments to/in private companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Production}_c \times \text{Emission factor}$ <p>For business loans to listed companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Production}_c \times \text{Emission factor}$	Score 4	
Option 3a			Total equity plus debt for business loans and equity investments to/in private companies, and EVIC for business loans to listed companies	GHG emissions per sector	Revenue per sector ³⁰⁶	<p>For business loans and equity investments to/in private companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{Total equity} + \text{debt}_c} \times \text{Revenue}_c \times \frac{\text{GHG emissions}_c}{\text{Revenue}_c}$ <p>For business loans to listed companies:</p> $\sum_c \frac{\text{Outstanding amount}_c}{\text{EVIC}_c} \times \text{Revenue}_c \times \frac{\text{GHG emissions}_c}{\text{Revenue}_c}$	Score 5
Option 3b			Revenue of the company	GHG emissions per sector	Assets per sector	$\sum_c \text{Outstanding amount}_c \times \frac{\text{GHG emissions}_c}{\text{Assets}_c}$	Score 5
Option 3c	N/A	GHG emissions per sector	Revenue per sector	$\sum_c \text{Outstanding amount}_c \times \text{Asset turnover ratio}_c \times \frac{\text{GHG emissions}_c}{\text{Revenue}_c}$	Score 5		

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PROJECT FINANCE – DETAILED SUMMARY OF DATA NEEDS AND EQUATIONS TO CALCULATE FINANCED EMISSIONS
Table 20.1-3. Detailed description of the data quality score table for project finance²⁰⁰

Option	Description				Data quality Highest to lowest
	Attribution	Emission factor		Financed emissions calculation	
	Financial data	Emission data		Equations	
Option 1a	Outstanding amount in project	Total project equity and debt	Verified GHG emissions data of the project in accordance with the GHG Protocol	$\sum_p \frac{\text{Outstanding amount}_p}{\text{Total equity} + \text{debt}_p} \times \text{Verified project emissions}_p$	Score 1
Option 1b			Unverified GHG emissions data calculated by the project in accordance with the GHG Protocol	$\sum_p \frac{\text{Outstanding amount}_p}{\text{Total equity} + \text{debt}_p} \times \text{Unverified project emissions}_p$	
Option 2a ²⁰¹			Primary physical activity data for the project's energy consumption by energy source (e.g., megawatt-hours of electricity) plus any process emissions	Emission factors specific to that primary data (e.g., energy source specific emission factors) ²⁰²	$\sum_p \frac{\text{Outstanding amount}_p}{\text{Total equity} + \text{debt}_p} \times \text{Energy consumption}_p \times \text{Emission factor}$
Option 2b		Primary physical activity data for the project's production (e.g., tonnes of rice produced)	Emission factors specific to that primary data (e.g., emission factor per tonne of rice)	$\sum_p \frac{\text{Outstanding amount}_p}{\text{Total equity} + \text{debt}_p} \times \text{Production}_p \times \text{Emission factor}$	
Option 3a		GHG emissions per sector	Revenue per sector ²⁰³	$\sum_p \frac{\text{Outstanding amount}_p}{\text{Total equity} + \text{debt}_p} \times \text{Revenue}_p \times \frac{\text{GHG emissions}_s}{\text{Revenue}_s}$	Score 4
Option 3b		N/A	GHG emissions per sector	Assets per sector	
Option 3c	Asset turnover ratio per sector	GHG emissions per sector	Revenue per sector	$\sum_p \text{Outstanding amount}_p \times \text{Asset turnover ratio}_p \times \frac{\text{GHG emissions}_s}{\text{Revenue}_s}$	Score 5

COMMERCIAL REAL ESTATE – DETAILED SUMMARY OF DATA NEEDS AND EQUATIONS TO CALCULATE FINANCED EMISSIONS
Table 20.1-4. Detailed description of the data quality score table for commercial real estate²⁰¹

Options	Description				Data quality Highest to lowest
	Attribution	Emission factor		Financed emissions calculation	
	Financial data	Emission data		Equations	
Option 1a	Outstanding amount and property value at origination	Supplier-specific emission factors specific to the energy source	Primary data on actual building energy consumption	$\sum_{s,p} \frac{\text{Outstanding amount}_p}{\text{Property value at origination}_s} \times \text{Actual energy consumption}_{s,p} \times \text{Supplier specific emission factor}_s$	Score 1
Option 1b			Primary data on actual building energy consumption	$\sum_{s,p} \frac{\text{Outstanding amount}_p}{\text{Property value at origination}_s} \times \text{Actual energy consumption}_{s,p} \times \text{Average emission factor}_s$	
Option 2a		Average emission factors specific to the energy source	Estimated building energy consumption per floor area based on official building energy labels and floor area financed	$\sum_{s,p} \frac{\text{Outstanding amount}_p}{\text{Property value at origination}_s} \times \text{Estimated energy consumption from energy labels}_{s,p} \times \text{Floor area}_s \times \text{Average emission factor}_s$	Score 3
Option 2b			Estimated building energy consumption per floor area based on building type and location-specific statistical data and floor area financed	$\sum_{s,p} \frac{\text{Outstanding amount}_p}{\text{Property value at origination}_s} \times \text{Estimated energy consumption from statistics}_{s,p} \times \text{Floor area}_s \times \text{Average emission factor}_s$	Score 4
Option 3			Estimated building energy consumption per building based on building type and location-specific statistical data and number of buildings financed	$\sum_{s,p} \frac{\text{Outstanding amount}_p}{\text{Property value at origination}_s} \times \text{Estimated energy consumption from statistics}_{s,p} \times \text{Number of buildings}_s \times \text{Average emission factor}_s$	Score 5

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MORTGAGES – DETAILED SUMMARY OF DATA NEEDS AND EQUATIONS TO CALCULATE FINANCED EMISSIONS

Table 10.1-5. Detailed description of the data quality score table for mortgages²¹²

Option	Attribution		Description		Data quality			
	Financial data		Emission factor	Financed emissions calculation	Highest to lowest			
			Emissions data	Equations				
Option 1a	Outstanding amount and property value at origination	Supplier-specific emission factors specific to the energy source	Primary data on actual building energy consumption	$\sum_{i,j} \frac{\text{Outstanding amount}_{i,j}}{\text{Property value at origination}_{i,j}} \times \text{Actual energy consumption}_{i,j} \times \text{Supplier specific emission factor}_{i,j}$	Score 1			
Option 1b			Primary data on actual building energy consumption	$\sum_{i,j} \frac{\text{Outstanding amount}_{i,j}}{\text{Property value at origination}_{i,j}} \times \text{Actual energy consumption}_{i,j} \times \text{Average emission factor}_{i,j}$		Score 2		
Option 2a			Estimated building energy consumption per floor area based on official building energy labels and floor area financed	$\sum_{i,j} \frac{\text{Outstanding amount}_{i,j}}{\text{Property value at origination}_{i,j}} \times \text{Estimated energy consumption from energy labels}_{i,j} \times \text{Floor area}_{i,j} \times \text{Average emission factor}_{i,j}$			Score 3	
Option 2b			Estimated building energy consumption per floor area based on building type and location-specific statistical data and floor area financed	$\sum_{i,j} \frac{\text{Outstanding amount}_{i,j}}{\text{Property value at origination}_{i,j}} \times \text{Estimated energy consumption from statistics}_{i,j} \times \text{Floor area}_{i,j} \times \text{Average emission factor}_{i,j}$				Score 4
Option 3			Estimated building energy consumption per building based on building type and location-specific statistical data and number of buildings financed	$\sum_{i,j} \frac{\text{Outstanding amount}_{i,j}}{\text{Property value at origination}_{i,j}} \times \text{Estimated energy consumption from statistics}_{i,j} \times \text{Number of buildings}_{i,j} \times \text{Average emission factor}_{i,j}$				
	Average emission factors specific to the energy source							

MOTOR VEHICLE LOANS – DETAILED SUMMARY OF DATA NEEDS AND EQUATIONS TO CALCULATE FINANCED EMISSIONS

Table 10.1-6. Detailed description of the data quality score table for motor vehicle loans²¹³

Option	Attribution		Description		Data quality			
	Financial data		Emission factor	Financed emissions calculation	Highest to lowest			
			Emissions data	Equations				
Option 1a	Outstanding amount and total value of vehicle or vehicle fleet at origination	Emission factors ²¹⁴ specific to the fuel type	Primary data on actual vehicle fuel consumption	$\sum_{i,j} \frac{\text{Outstanding amount}_{i,j}}{\text{Total value at origination}_{i,j}} \times \text{Fuel consumption}_{i,j} \times \text{Emission factor}_{i,j}$	Score 1			
Option 1b			Primary data on actual vehicle distance traveled plus vehicle's fuel efficiency and fuel type from known vehicle make and model	$\sum_{i,j} \frac{\text{Outstanding amount}_{i,j}}{\text{Total value at origination}_{i,j}} \times \text{Distance traveled}_{i,j} \times \text{Efficiency}_{i,j} \times \text{Emission factor}_{i,j}$		Score 2		
Option 2a			Local statistical data for distance traveled plus vehicle's fuel efficiency and fuel type from known vehicle make and model	$\sum_{i,j} \frac{\text{Outstanding amount}_{i,j}}{\text{Total value at origination}_{i,j}} \times \text{Distance traveled}_{i,j} \times \text{Efficiency}_{i,j} \times \text{Emission factor}_{i,j}$	Score 3			
Option 2b			Regional statistical data for distance traveled plus vehicle's fuel efficiency and fuel type from known vehicle make and model	$\sum_{i,j} \frac{\text{Outstanding amount}_{i,j}}{\text{Total value at origination}_{i,j}} \times \text{Distance traveled}_{i,j} \times \text{Efficiency}_{i,j} \times \text{Emission factor}_{i,j}$			Score 4	
Option 3a			Local or regional statistical data for distance traveled plus vehicle's fuel efficiency and fuel type from known vehicle type	$\sum_{i,j} \frac{\text{Outstanding amount}_{i,j}}{\text{Total value at origination}_{i,j}} \times \text{Distance traveled}_{i,j} \times \text{Efficiency}_{i,j} \times \text{Emission factor}_{i,j}$				Score 5
Option 3b			Local or regional statistical data for distance traveled plus vehicle fuel's efficiency and fuel type from average vehicle	$\sum_{i,j} \frac{\text{Outstanding amount}_{i,j}}{\text{Total value at origination}_{i,j}} \times \text{Distance traveled}_{i,j} \times \text{Efficiency}_{i,j} \times \text{Emission factor}_{i,j}$				

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SOVEREIGN DEBT – DETAILED SUMMARY OF DATA NEEDS AND EQUATIONS TO CALCULATE FINANCED EMISSIONS
 Table 10.1-7. Detailed description of the data quality score table for sovereign debt

Option	Description				Data quality	
	Attribution		Emission factor	Financed emissions calculation	Highest to lowest	
	Financial data	Emission data	Equations			
Option 1a	Outstanding amount (loan or bond) to the sovereign	PPP ²⁰² , adjusted Gross Domestic Product (GDP)	Verified GHG emissions of the country, reported by the country to UNFCCC	$\sum_c \frac{\text{Outstanding amount}_c}{\text{PPP-adjusted GDP}_c} \times \text{Verified country emissions}_c$	Score 1	
Option 1b			Unverified GHG emissions of the country	$\sum_c \frac{\text{Outstanding amount}_c}{\text{PPP-adjusted GDP}_c} \times \text{Unverified country emissions}_c$	Score 2	
Option 2a			Primary physical activity data of the country's energy consumption (domestic generated and imported) by energy source (e.g., megawatt-hours of electricity) plus any process emissions	Emission factors specific to that primary data (e.g., energy source specific emission factors)	$\sum_c \frac{\text{Outstanding amount}_c}{\text{PPP-adjusted GDP}_c} \times \text{Energy consumption}_c \times \text{Emission factor}$	Score 3
Option 3a			GHG emissions per sector revenue	Revenue per sector ²¹⁴	$\sum_c \frac{\text{Outstanding amount}_c}{\text{PPP-adjusted GDP}_c} \times \text{Revenue}_{c,s} \times \frac{\text{GHG emissions}_{c,s}}{\text{Revenue}_{c,s}}$	Score 4
Option 3b			GHG emissions per PPP-adjusted GDP of proxy country	PPP-adjusted GDP of the country	$\sum_c \frac{\text{Outstanding amount}_c}{\text{PPP-adjusted GDP}_c} \times \text{PPP-adjusted GDP}_c \times \frac{\text{GHG emissions}_{\text{proxy}}}{\text{PPP-adjusted GDP}_{\text{proxy}}}$	Score 5

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