Greenhouse Gas Accounting and Reporting

FOR THE PRIVATE EQUITY SECTOR

initiative climat international

Private equity action on climate change

Produced in partnership with ERM

ERM

Supported by:

PRI Principles for Responsible Investment

Endorsed by:

CDP DISCLOSURE INSIGHT ACTION

Ceres

INTRODUCING THE PROJECT TEAM

Introducing the iCI

The Initiative Climat International (iCI) is a global, practitioner-led community of private equity firms and investors that seek to better understand and manage the risks associated with climate change.

The iCI was originally launched as the iC20 (Initiative Climat 2020) in 2015 by a group of French private equity firms to contribute to achieving the Paris Agreement's objectives.

The iCI has since expanded internationally and now counts more than 160 firms representing over US$3 trillion in AUM, as of 31 March 2022. Please see the full list of iCI members at the end of this document.

iCI's members share a commitment to reduce carbon emissions of private equity-backed companies and secure sustainable investment performance by recognising and incorporating the materiality of climate risk. In practice, this implies a commitment to effectively analyse and manage climate-related financial risk and greenhouse gas (GHG) emissions in their private equity portfolios, in line with the recommendations of the Financial Stability Board's Task Force for Climate-related Financial Disclosures (TCFD). Members commit to sharing knowledge, experience and best practice, working together to develop resources that will help standardise practices across the industry.

The iCI is supported by the Principles for Responsible Investment (PRI), is a Supporting Partner of The Investor Agenda, and is open to all private markets firms and investors to join.

Introducing ERM

ERM is the largest global pure play sustainability consultancy, partnering with the world's leading organisations to create innovative solutions to sustainability challenges and unlocking commercial opportunities that meet the needs of today while preserving opportunity for future generations. ERM is a thought leader and contributes widely to key industry initiatives.

The ERM SustainAbility Institute is ERM's primary platform for thought leadership on sustainability. Engaging with experts across ERM and external partners, the Institute addresses the critical sustainability challenges facing private sector leaders and policymakers across all sectors and geographies. Our analysis informs decisions that accelerate development of circular business models and the creation of a more just and sustainable society and economy.

ERM has over 160 offices across the following countries and territories worldwide.

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The iCI Carbon Footprint Working Group was established to develop a harmonised approach to GHG emissions accounting and reporting by General Parners (GPs). In partnership with specialist consultancy firm ERM, we have developed this guidance to set the standard for our industry.

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- Radhika Mehrotra, CDP
- Daisy Streatfield, IIGCC
- Chendan Yan, WRI, on behalf of SBTi

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INTRODUCTION

Climate change is an issue of increasing concern for governments, corporate and financial institutions and for the entire global population. The Intergovernmental Panel on Climate Change (IPCC) published the first part of its sixth Assessment Report (AR6) in August 2021, regarded as "a code red for humanity" by UN Secretary-General António Guterres.

The Report confirms climate change is "unequivocally caused by human activities", announcing there will be "more intense heat waves and extreme weather phenomena" and stating that under all scenarios the Earth will hit the 1.5°C temperature limit within 20 years (near term), compared to pre-industrial levels. Although the near and medium term could see temperatures rise, ambitious action could, under some scenarios see temperatures lower to 1.4°C above pre-industrial levels by mid-century. The second report published as part of the sixth assessment cycle, in February 2022, looks at the impacts, adaptation and vulnerabilities associated with climate change. The report stated that climate change is a threat to human wellbeing and the health of the planet. Any further delay in concerted global action will miss the brief, rapidly closing window to secure a liveable future. Further reports are scheduled for release throughout 2022. Limiting the impacts of climate change requires immediate action and "nothing short of a total transformation of the energy systems that underpin our economies" (IEA, 2021, A Roadmap for the Global Energy Sector).

The COP26 summit in November 2021 brought together parties to accelerate action towards the goals of the Paris Agreement (to keep global warming to below 2 °C) and the UN Framework Convention on Climate Change.

The Glasgow Financial Alliance for Net Zero (GFANZ), was launched to consolidate existing and new net zero finance initiatives into a single forum, prior to COP26. The aim is to broaden, deepen and raise ambition in the financial sector, to achieve the goals of the Paris Agreement.

The foreword to the Partnership for Carbon Accounting Financial (PCAF) Global GHG Accounting & Reporting Standard summarises the need for the finance sector, including private equity to take action, which starts with the calculation of the entity's carbon footprint, including financed emissions:

> "To achieve net zero emissions by 2050, we need a whole economy transition - every company, every bank, every insurer and investor will have to adjust their business models, develop credible plans for the transition and implement them. Private finance will fund the initiative and innovation of these plans, provided that it has the necessary information, tools and markets. Financial firms will need to review more than the emissions generated by their own business activity. They must measure and report the financed emissions generated by the companies, properties and projects to which they lend.

But only by first understanding the emissions resulting from an activity or entity, and therefore by accounting and reporting these emissions, can financed emissions be calculated and targeted actions be taken to reduce these. Private equity can play a pivotal engagement role in getting private companies to accurately account for and manage their emissions, at a critical stage in the company's lifecycle.

A recent joint report between Ceres and The SustainAbility Institute by ERM, The Changing Climate for Private Equity, highlighted some of the key challenges facing private equity firms in addressing climate action, including the need for greater industry alignment. It is expected that this guidance will support an effective and consistent response by private equity firms to increased greenhouse gas (GHG) reporting and transparency expectations driven by regulatory developments, Limited Partner (LP) requests, lenders and other stakeholders.

Key regulatory drivers

There are various drivers for PE firms and portfolio companies to undertake GHG emissions accounting. A growing number of regulations require companies to report emissions associated with their direct operations and investment activities. Examples of such current and emerging requirements include the EU Non-Financial Reporting Directive and the subsequent Corporate Sustainability Reporting Directive (CSRD) from 2023, the EU Sustainable Finance Disclosure Regulation (SFDR), the EU Taxonomy, and regulatory requirements in some jurisdictions for companies to report in alignment with TCFD recommendations. Stakeholders are also increasingly requesting companies to report GHG emissions to voluntary schemes such as CDP, and may make direct requests to companies for companies for GHG emissions disclosure.

INTRODUCTION

Purpose of this Guidance

General Partners (GPs) are being increasingly called upon to disclose climate-related data and establish ambitious targets for GHG emissions reduction across their portfolios, although there is currently no agreed standard for aggregating and reporting this information at fund level. Disclosure and target setting frameworks assume that carbon footprint data is readily available, but many GPs have not yet established robust processes for carbon footprinting data calculation, target setting or benchmarking.

This guidance looks to combine industry knowledge and existing best practices, in addition to practical examples, to enable a consistent approach across the sector. A lack of consistency in approach impedes the ability to make comparisons between portfolio companies and funds. This, in turn, leads to a limited ability to truly appreciate the impact on climate and how to integrate GHG emissions collection and reporting into the investment cycle. Furthermore, from the LP's perspective, inconsistency in approaches to emissions data reporting impedes their ability to aggregate comparable data on emissions across asset classes.

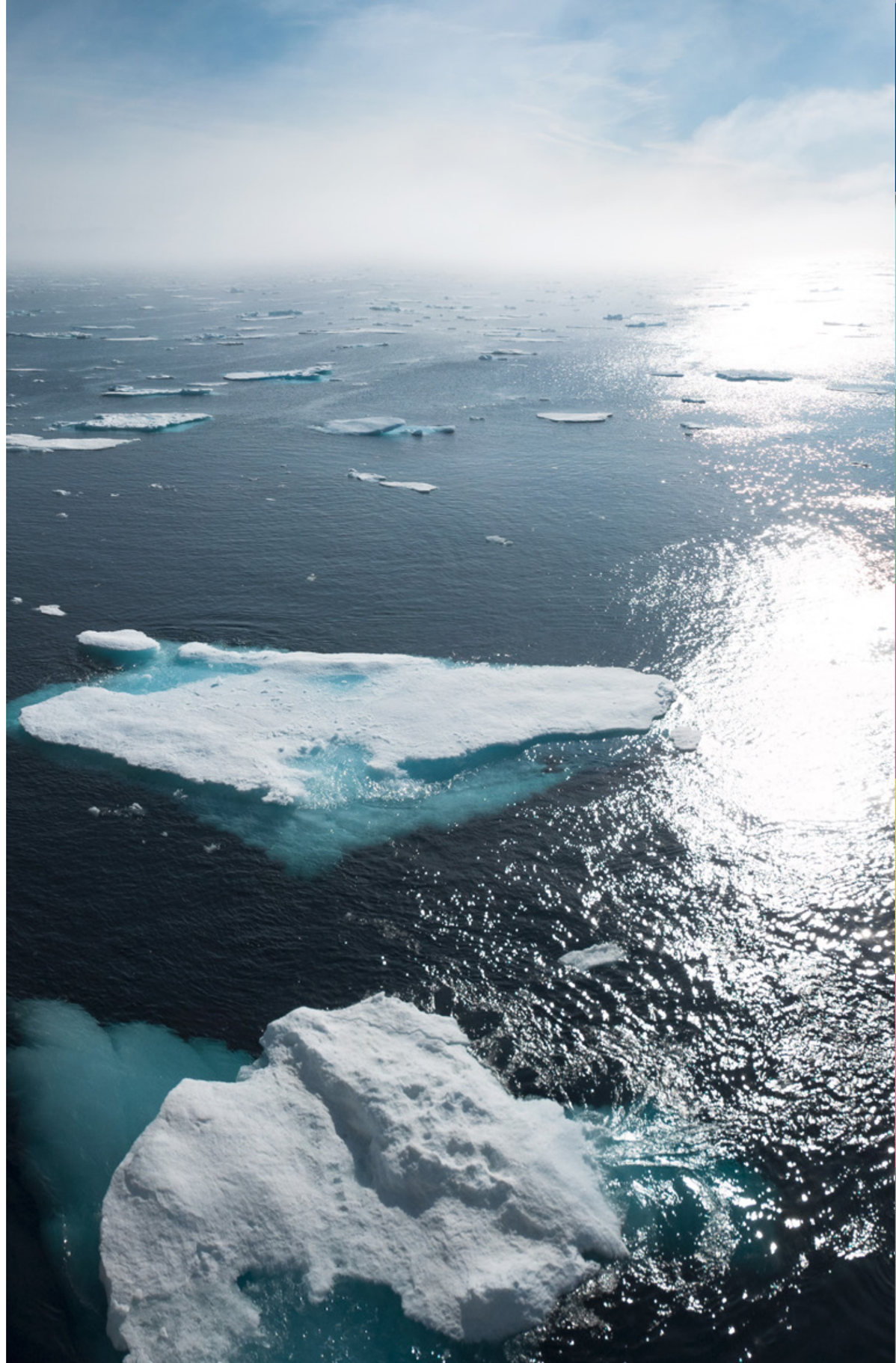
GHG emissions accounting (calculating a carbon footprint) is the first step for companies. It offers an important foundation to support private equity firms and their portfolio companies to:

- Identify emission 'hotspots' within operations, value chains or portfolios where emission reductions can be targeted.
- Set targets aligned with climate science to help contribute to the wider ambition set out in the 2015 Paris Agreement to limit global temperature rise to well below 2°C, preferably to 1.5°C, by the end of the century compared to pre-industrial levels.
- Align financial flows with the goals of the Paris Agreement and develop a strategy to support the transition to a net zero economy.
- Understand and improve climate reporting.
- Respond to GP and LP stakeholder requests.
- Contribute to active identification, assessment and management of climate related risks and opportunities.
- Test the resilience of the portfolio or operations against different climate scenarios, including alignment with the Paris Agreement Goals.

This guidance explains the principles for GHG emissions data collection and the methodologies for calculating emissions at fund level and firm level for reporting to LPs and other stakeholders.

When following the guidance, please note that it:

- Is not intended to rewrite the existing and established GHG emissions accounting standards, such as the GHG Protocol. It seeks to recommend an approach to the collection, calculation and reporting of carbon footprint data that can be directly applied to GPs' operations and investment activities across both private portfolios. One of the key objectives of the guidance is to enable GPs to establish their processes for carbon footprint data collection and thus improve the quality of their GHG emissions reporting, providing a path to portfolio analysis and target-setting. In doing so, GPs would enable asset owners to better compare the GHG emissions data for their portfolios and compile their own carbon footprints for target setting towards the delivery of net zero ambitions.
- Focuses only on GHG inventory accounting for portfolio companies, private equity funds and GPs.
- Draws on information from a wide range of established sources, such as GHG Protocol, PCAF, TCFD, SBTi, CDP, and the IIGCC, to ensure alignment and consistency within the industry.



INTRODUCTION

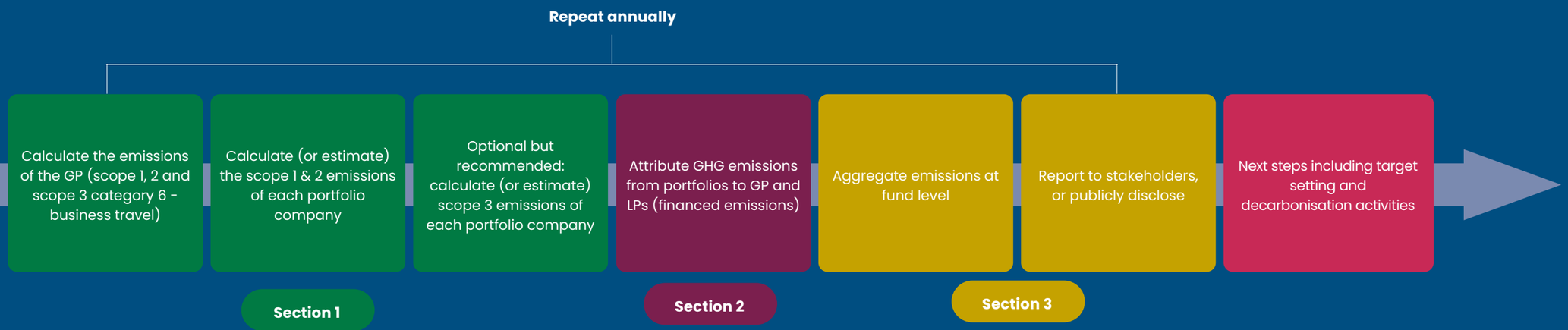
About this guidance

The guidance is tailored to the unique business models and investment characteristics of private equity (PE) firms and therefore aims to provide an industry specific overlay to global standards in order to support the unique process of GHG emission collection, accounting and reporting that PE firms have to navigate.

FIGURE 1

Outline of GHG accounting and reporting process

The guidance is set out into three sections, aligning with a process a private equity firm should undertake when accounting for, and reporting, its GHG emissions:



SECTION 1

GHG EMISSIONS ACCOUNTING: SCOPE 1, 2 AND 3.

Within this section we describe five steps used to calculate GHG emissions, from setting boundaries, identifying emissions sources, collecting data and calculating emissions. This section also includes an explanation of how emissions sources should be classified, across scopes 1, 2 and 3, and how screening is applied to determine the relevant and material scope 3 emissions categories.

This section also explains the possible challenges which may be faced during the five step process and how these can be overcome, including examples.

SECTION 2

GHG EMISSIONS ACCOUNTING: FINANCED EMISSIONS

This section explains how financed emissions (scope 3 category 15) should be reported by funds, GPs and LPs, including attribution and aggregation of emissions. Financed emissions are the share of GHG emissions associated with investments and are likely to represent the largest part of a GP's or LP's carbon footprint (typically greater than 95%).

This section also emphasises the importance of data quality and improving this over time.

SECTION 3

REPORTING & METRICS

This section advises on best practice for reporting GHG emissions to LPs (and other stakeholders) and in public disclosures.

This guidance recommends focusing on portfolio companies' scope 1 and 2 emissions at first and building scope 3 emissions data over time – reporting separately on scope 3 emissions from scope 1 and 2 emissions.

This section also includes an overview of key metrics.

The Appendices provide further materials and links to other useful resources in support of Section 1, 2 and 3.

Reference Section

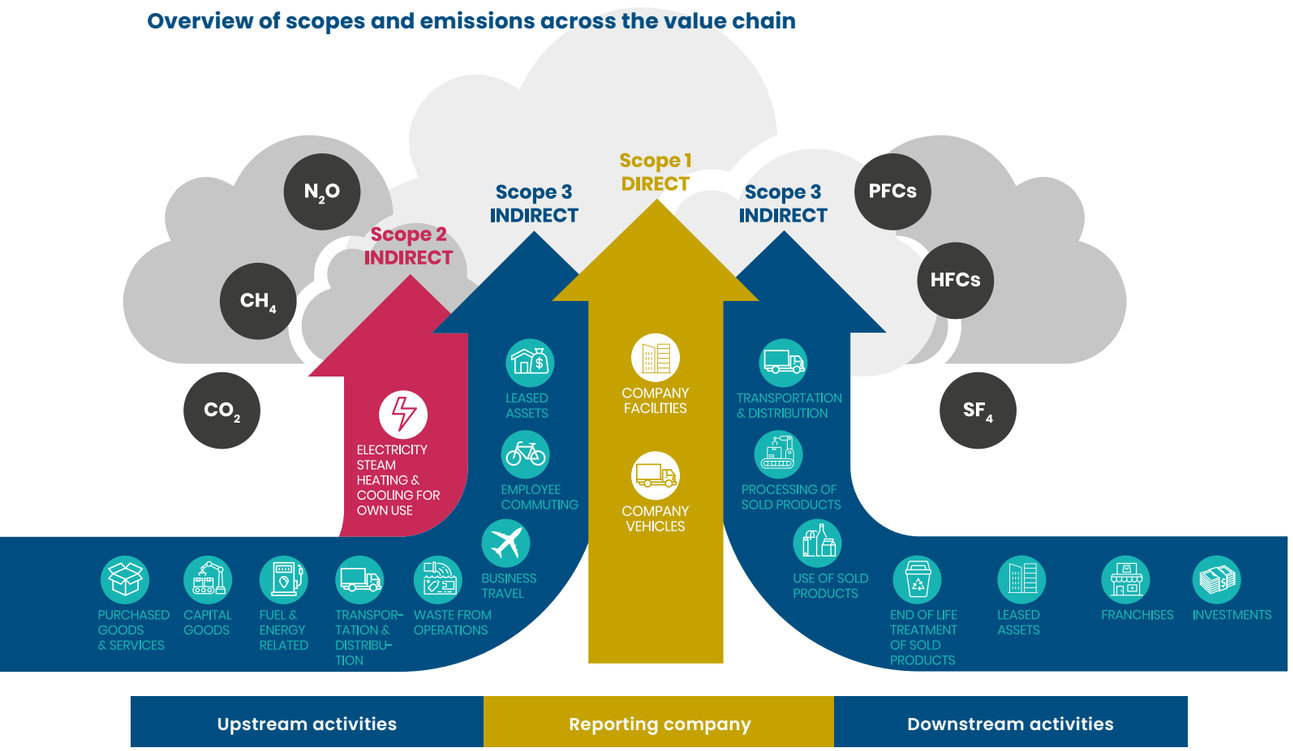
- GHG accounting and reporting fundamentals
- Partnership for Carbon Accounting Financial (PCAF)
- Key terms for GHG emissions accounting and reporting
- Relevant industry initiatives
- Private equity terms
- Private equity structure

REFERENCE SECTION

The reference section sets out and explains terms, standards, principles and initiatives that are relevant to greenhouse gas accounting and reporting. It is not necessary to read this section in full before progressing to the next section, but the reader is invited to refer back to this section for definitions and clarifications.

FIGURE 2

Overview of scopes and emissions across the value chain



Source: WRI and wbcsd, 2011, Corporate Value Chain (Scope 3) Accounting and Reporting Standard

GHG accounting and reporting fundamentals

Greenhouse Gas (GHG) Protocol

Comprehensive global standardised frameworks to measure and manage GHG emissions from private and public sector operations, value chains, and mitigation actions. The GHG Protocol supplies the world's most widely used GHG accounting standards. The Corporate Accounting and Reporting Standard provides the accounting platform for most corporate GHG reporting programmes in the world.

GHG emissions

The emission of gases into the earth's atmosphere, that contributes to the greenhouse effect by absorbing infrared radiation. It is best practice to report the following seven greenhouse gases as included in the Kyoto Protocol (UN Climate Change Conference, COP3 1997):

- Carbon dioxide (CO_2),
- Methane (CH_4),
- Nitrous oxide (N_2O),
- Hydrofluorocarbons (HFCs),
- Perfluorocarbons (PFCs),
- Sulphur hexafluoride (SF_6), and
- Nitrogen trifluoride (NF_3)

Scope 1

Direct GHG emissions - occur from sources that are owned or controlled by the organisation. For example emissions from combustion in owned or controlled boilers, generators, vehicles, as well as process and fugitive emissions.

Scope 2

Indirect GHG emissions - occur from the generation of purchased electricity, heating, cooling and steam.

Scope 3

Other indirect GHG emissions - occur from activities relating to the value chain, from sources not owned or controlled by the organisation.

Fundamental principles for GHG accounting have been presented by the GHG Protocol and have been widely adopted. These principles, outlined below, should be considered throughout the process of calculating GHG emissions.

GHG Protocol Principles

Completeness
Account for and report on all GHG emissions sources and activities within the inventory boundary. Disclose and justify any specific exclusions.

Consistency
Use consistent methodologies to allow for meaningful performance tracking of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.

Relevance
Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users — both internal and external to the company.

Accuracy
Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable confidence as to the integrity of the reported information.

Transparency
Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.

Partnership for Carbon Accounting Financial (PCAF)

The Partnership for Carbon Accounting Financials (PCAF) is an initiative led by the financial industry to develop a harmonised global standard to measure and disclose the greenhouse gas (GHG) emissions of loans and investments, in order to ultimately enable financial institutions to set science-based targets and align their portfolio with the Paris Agreement.

PCAF developed the Global GHG Accounting and Reporting Standard for the Financial Industry.

The partnership is open-access and free-of-charge. Organisations can join PCAF for free and get access and tools to support institutions assessing and disclosing the greenhouse gas emissions financed by their loans and investments.

PCAF Principles

The PCAF standard has been reviewed by the GHG Protocol and conforms with the requirements set forth in the Corporate Value Chain (Scope 3) Accounting and Reporting Standard for Category 15 investment activities.

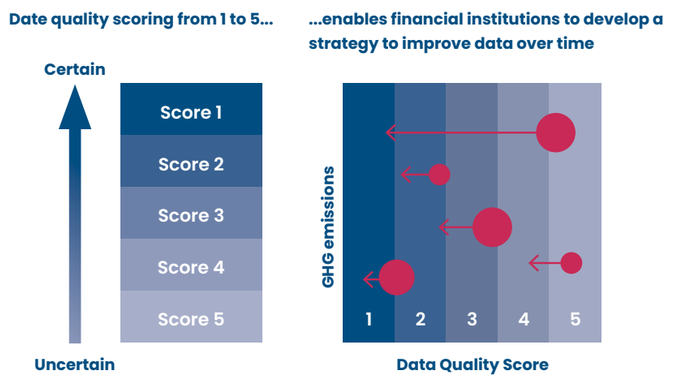
The Global GHG Accounting and Reporting Standard for the Financial Industry follows the five GHG Protocol Principles and provides additional requirements on the application of these principles that are directly relevant for financial institutions wishing to assess their financed emissions:

- **Recognition:**
  Financial institutions shall account for all financed emissions under scope 3 category 15 (Investment), as defined by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Any exclusions shall be disclosed and justified.
- **Measurement:**
  Financial institutions shall measure and report their financed emissions for each asset class by "following the money" and using the PCAF methodologies. As a minimum, absolute emissions shall be measured, however avoided and removed emissions can also be measured if data is available and methodologies allow.
- **Attribution:**
  The financial institution's share of emissions shall be proportional to the size of its exposure to the borrower's or investee's total (company or project) value.
- **Data quality:**
  Financial institutions shall use the highest quality data available for each asset class and improve the quality of the data over time (see Figure 3).
- **Disclosure:**
  Public disclosure of the results of PCAF assessments is crucial for external stakeholders and financial institutions using the methodology to have a clear, comparable view of how the investments of financial institutions contribute to the Paris climate goals.

High quality data is often not available to the financial institution for all asset classes. In these instances, the institution should use the best available data in accordance with the data hierarchy developed by PCAF.

FIGURE 3

General data quality scorecard

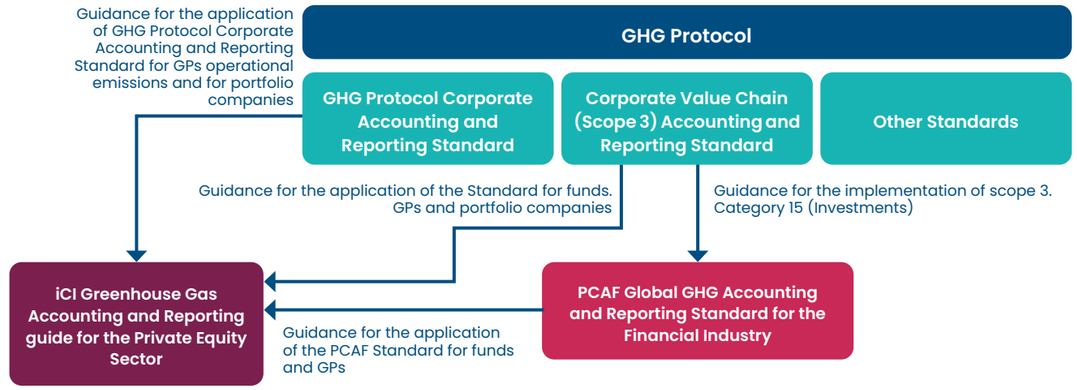


Source: PCAF, 2020, The Global GHG Accounting and Reporting Standard for the Financial Industry. First edition

This guidance is designed to complement the PCAF Global GHG Accounting and Reporting Standard for the Financial Industry and relevant standards published by the GHG Protocol.

FIGURE 4

The relationship between this guidance and the GHG Protocol and PCAF Standard



Key terms for GHG emissions accounting and reporting

Avoided emissions

Emissions produced by the financed project versus what would have been emitted in the absence of the project (baseline emissions). Avoided emissions should be reported separately to scope 1, 2 and 3 emissions.

Carbon accounting of financial portfolios

The annual accounting and disclosure of GHG emissions associated with loans and investments at a fixed point in time in line with financial accounting periods. This is also called 'portfolio carbon accounting'.

Carbon dioxide equivalent (CO_2e)

A carbon dioxide equivalent or CO_2 equivalent, abbreviated as CO_2e, is a measure used to compare the emissions from various greenhouse gases on the basis of their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.

Carbon Dioxide Removal

The IPCC defines a carbon dioxide removal (CDR) as "anthropogenic activities removing CO_2 from the atmosphere and durably storing it in geological, terrestrial, or ocean reservoirs, or in products". The removals are either nature-based, geological or a hybrid. This definition is also used by the SBTi.

Carbon footprint

The total amount of greenhouse gases that are emitted into the atmosphere based on a defined boundary and time period, e.g. person, product, building, organisation. A private equity firm can define a carbon footprint as accounting for its own operational GHG emissions. For the purpose of this guidance, the total carbon footprint of a private equity firm is accounting for both its own operational GHG emissions (across scope 1, 2 and 3 categories 1-14) and its financed emissions (those of its managed funds and underlying investments – scope 3 category 15).

Decarbonisation

Decarbonisation is the term used for the reduction or elimination of carbon dioxide (CO_2) emissions, for example by switching to low-carbon energy/power sources, achieving a lower output of greenhouse gases into the atmosphere.

Carbon offsetting
Carbon offsetting is a mechanism used to compensate for corporate or individual carbon footprints through the purchase and retirement of a verified 'carbon credit' issued via an internationally-recognised and publicly-accessible registry. Each credit represents one tonne of CO_2e avoided or removed from the atmosphere and is equivalent to one tonne of CO_2e emitted by the entity.

Direct emissions
Emissions from sources owned or controlled by the reporting entity.

Environmentally-Extended Input Output (EEIO)
Environmentally-extended input output (EEIO) models estimate energy use and/or GHG emissions resulting from the production and upstream supply chain activities of different sectors and products within an economy. The resulting EEIO emission factors can be used to estimate GHG emissions for a given industry or product category.

Financed emissions
The emissions that banks and investors finance through loans and investments. These can be calculated and disclosed at an asset class level. Financed emissions are the share of total GHG emissions of the borrower or investee that are allocated to the loan or investments.

Global Warming Potential (GWP)
Global warming potential (GWP) values describe the radiative forcing impact (or degree of harm to the atmosphere) of one unit of a given GHG relative to one unit of carbon dioxide. GWP values convert GHG emissions data for non-CO_2 gases into units of carbon dioxide equivalent (CO_2e).

Paris Agreement
Adopted within the United Nations Framework Convention on Climate Change (UNFCCC) in December 2015, the Paris Agreement commits all participating countries to limit global temperature rise to well-below 2 degrees Celsius above preindustrial levels and pursue efforts to limit warming to 1.5 degrees Celsius, to better adapt to and increase efforts towards tackling climate change.

Science-based target (SBT)
Science-based targets (SBTs) provide a clearly defined pathway for companies to reduce greenhouse gas emissions, helping prevent the worst impacts of climate change and future-proof business growth. Targets are considered "science-based" if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to well below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C.

Relevant industry initiatives

CDP
CDP is a global non-profit that runs the world's environmental disclosure system requested by investors, purchasers and city stakeholders. Fully TCFD aligned, CDP supports thousands of companies, cities, states and regions to measure and manage their risks and opportunities on climate change, water security and deforestation. CDP is a founding partner of the Science Based Targets initiative, We Mean Business Coalition, The Investor Agenda and the Net Zero Asset Managers initiative.

Ceres
Ceres is a non-profit organisation whose mission is to transform the economy to build a just and sustainable future for people and the planet. Ceres makes the financial business case for sustainability to the largest, most influential investors, companies, policymakers and regulators. Ceres co-leads global initiatives that drive collective actions and economy-wide solutions.

Glasgow Financial Alliance for Net Zero (GFANZ)
The Glasgow Financial Alliance for Net Zero (GFANZ) was launched in April 2021 by Mark Carney, UN Special Envoy for Climate Action and Finance, the UK's Finance Adviser for COP26, the COP26 Private Finance Hub in partnership with the UNFCCC Climate Action Champions, the Race to Zero campaign and the COP26 Presidency. Bringing together existing and new net zero finance initiatives in one sector-wide coalition, GFANZ provides a forum to accelerate the transition to a net zero global economy.

GRESB
GRESB is the global ESG benchmark for real assets. GRESB collects, validates, scores and benchmarks ESG data to provide business intelligence, engagement tools and regulatory reporting solutions for investors and asset managers in real estate and infrastructure..

International Energy Agency (IEA)
The IEA is an intergovernmental organisation within the OECD framework, working with government and industry with the mission to shape a secure and sustainable energy future for all.

Institutional Investors Group on Climate Change (IIGCC)
The IIGCC is a European membership body for investor collaboration on climate change, with a mission to support and enable the investment community in driving significant and real progress by 2030 towards net zero.

Intergovernmental Panel on Climate Change (IPCC)
The IPCC was created by the United Nations to provide policymakers with regular scientific assessments on climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation options.

Net Zero Asset Owner Alliance
The UN-convened Net Zero Asset Owner Alliance is a group of asset owners who have demonstrated leadership on the topic of decarbonisation and who have formed an alliance to promote greater alignment and coordination of investor initiatives on climate change. The alliance is convened by the United Nations Environment Programme – Finance Initiative (UNEP FI) and the Principles for Responsible Investment (PRI), and supported by WWF and Global optimism, an initiative led by Christiana Figueres, former Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC).

Net Zero Asset Managers initiative
The Net Zero Asset Managers Initiative is founded by six industry partners. The Net Zero Asset Managers initiative is an international group of asset managers committed to supporting the goal of net zero greenhouse gas emissions by 2050 or sooner, in line with global efforts to limit warming to 1.5 degrees Celsius; and to supporting investing aligned with net zero emissions by 2050 or sooner. The commitment requires signatories to set interim targets that are reviewed at least every five years, with a view to ratcheting up the proportion of AUM covered until 100% of assets are included.

Paris Aligned Investment Initiative (PAII)
The Paris Aligned Investment Initiative is a collaborative investor-led global forum enabling investors to align their portfolios and activities to the goals of the Paris Agreement. It was established by four industry partners and is working in collaboration with PCAF. The initiative supports investors to implement commitments, using their Net Zero Investment Framework.

Principles for Responsible Investment (PRI)
The six Principles for Responsible Investment (PRI) offer a menu of possible actions for incorporating ESG issues into investment practice. The Principles were developed by investors, for investors. In implementing them, signatories contribute to developing a more sustainable global financial system. They have attracted a global signatory base representing a majority of the world's professionally managed investments.

Science Based Targets initiative (SBTi)
A partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF). Established to drive ambitious climate action in the private sector by enabling companies to set science-based emissions reduction targets.

Sustainable Finance Disclosure Regulation (SFDR)
The acronym SFDR is commonly used to refer to the Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector.

Task Force on Climate-Related Financial Disclosures (TCFD)
The Financial Stability Board created the Task Force on Climate-related Financial Disclosures (TCFD) to improve and increase reporting of climate-related financial information. Concretely, it is a Task Force consisting of 32 members from across the G20, representing both preparers and users of financial disclosures, that develops recommendations for more effective climate-related disclosures.

The Investor Agenda
The Investor Agenda is a common leadership agenda on the climate crisis that is unifying, comprehensive, and focused on accelerating investor action for a net zero emissions economy. With global reach and regional depth, this collaboration brings together and coordinates a number of investor and finance sector initiatives on the climate crisis. The founding partners are AIGCC, Ceres, CDP, IIGCC, IGCC, PRI and the UNEP FI. The iCI is a Supporting Partner of The Investor Agenda**.**

World Resources Institute (WRI)
The World Resources Institute (WRI) is a global research organisation that works with governments, businesses, multilateral institutions and civil society groups to develop practical solutions that improve people's lives and protect nature.

What is Net Zero?

The Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C provided a widely accepted warning that to limit global warming to 1.5°C by the end of the century, the world needs to halve CO_2 emissions by 2030 and reach net zero emissions by 2050 or sooner.

Net zero (e.g. net zero emissions or net zero economy) refers to achieving a balance between emissions going into and out of the atmosphere. A credible net zero target requires a reduction in Scope 1, 2 and 3 GHG emissions, consistent with reaching net zero emissions no later than 2050. Any residual emissions that cannot be eliminated need to be offset using natural carbon sinks (e.g. trees, the ocean and soil) or man-made carbon removal methods (e.g. carbon capture and storage).

It is important to note that net zero emissions cannot be achieved by offsetting emissions but require steep reductions in carbon emissions.

At the time of publication, there were multiple initiatives working on applying net zero concepts to private equity investing. The SBTi is in the process of producing its net zero guidance for the financial sector, which will include private equity as an asset class. In addition, iCI's global Net Zero working group will publish additional guidance focused on supporting private equity firms in driving action by explaining what net zero refers to for the private equity industry and why firms should act, and by providing concrete and applicable guidance through a new roadmap for PE firms.

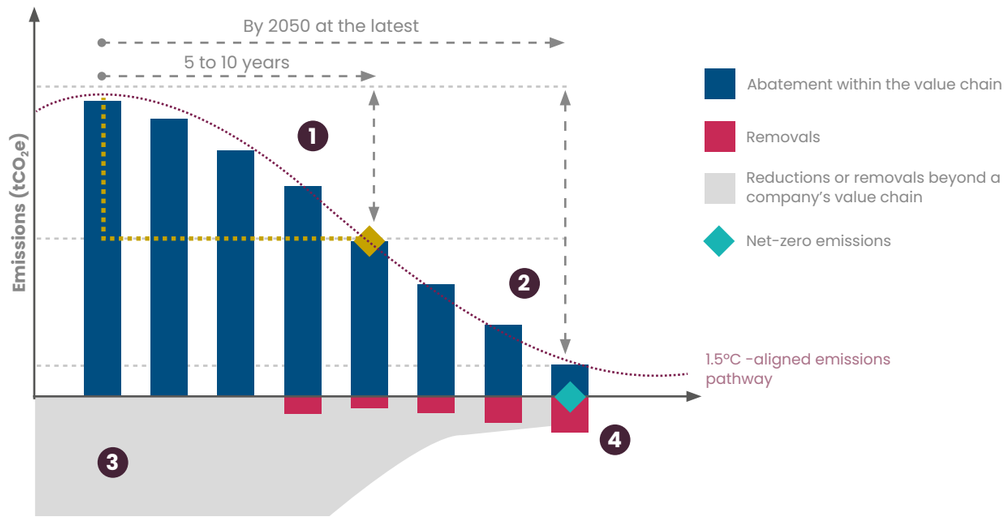
Based on the Net Zero Asset Managers Commitment and the Foundations for Science-Based Net-Zero Target Setting in the Financial Sector: Draft for Public Comment, 2021, Science Based Targets initiative

The SBTi's draft guidance for the financial sector proposes two ways how to achieve net zero:

1. Align all relevant financing and engagement activities such that each individual asset achieves a state of net zero consistent with 1.5˚C pathways.
2. Contribute to the net zero economy by explicitly reallocating financing activities to climate solutions at a rate consistent with global climate goals.

PE backed busines should refer to the SBTi Corporate Net Zero Standard, which sets out four key elements that make up a corporate net zero target, as depicted in Figure 5.

FIGURE 5
Key elements of the SBTi Corporate Net Zero Standard



1. **To set near-term SBTs:** 5-10 year emission reduction targets in line 1.5°C pathways
2. **To set long-term SBTs:** Target to reduce emissions to a residual level in line with 1.5°C scenarios by no later than 2050
3. **Beyond value chain mitigation:** In the transition to net-zero, companies should take action to mitigate emissions beyond their value chains. For example, purchasing high-quality, jurisdictional REDD+ credits or investing in direct air capture (DAC) and geologic storage
4. **Neutralization of residual emissions:** GHGs released into the atmosphere when the company has achieved its long-term SBT must be counterbalanced through the permanent removal and storage of carbon from the atmosphere

Source: SBTi CORPORATE NET-ZERO STANDARD, 2021, Science Based Targets initiative

Private equity terms

Co-investment
The syndication of a private equity financing round or an investment alongside a private equity fund in a financing round.

Fund
The pool of capital raised from third-party investors and established for the purposes of private equity activity. A General Partner (GP) will often be responsible for several funds that may vary according to mandate or investment period.

General Partner (GP)
Private equity (PE) fund structures usually take the form of limited partnerships where the PE fund manager is known as the General Partner (GP) with responsibility by law for the operation of the limited partnership. GP can refer to the management entity or to individual partners within such entities.

Limited Partner (LP)
In the context of private equity (PE), a limited partner (LP) is a third party institutional investor in a PE fund (which usually takes the form of a limited partnership). LPs are not involved in the day-to-day management of the partnership and generally the maximum loss of an LP is limited to its capital contribution.

Portfolio company
A business entity that has secured at least one round of financing from one or more private equity funds. Also known as an investee firm. A company in which a given fund has invested.

Private equity (PE)
An alternative investment asset class consisting of equity securities of companies that are not listed on a public exchange. Private equity investments are generally illiquid and are considered a long-term investment. For the purposes of this guidance, private equity refers collectively to funds, GPs and LPs, and is distinguished where necessary.

Vintage
The year of fund formation and/or its first takedown of capital. By placing a fund into a particular vintage year, the Limited Partner can compare the performance of a given fund with all other similar types of funds formed in that particular year.

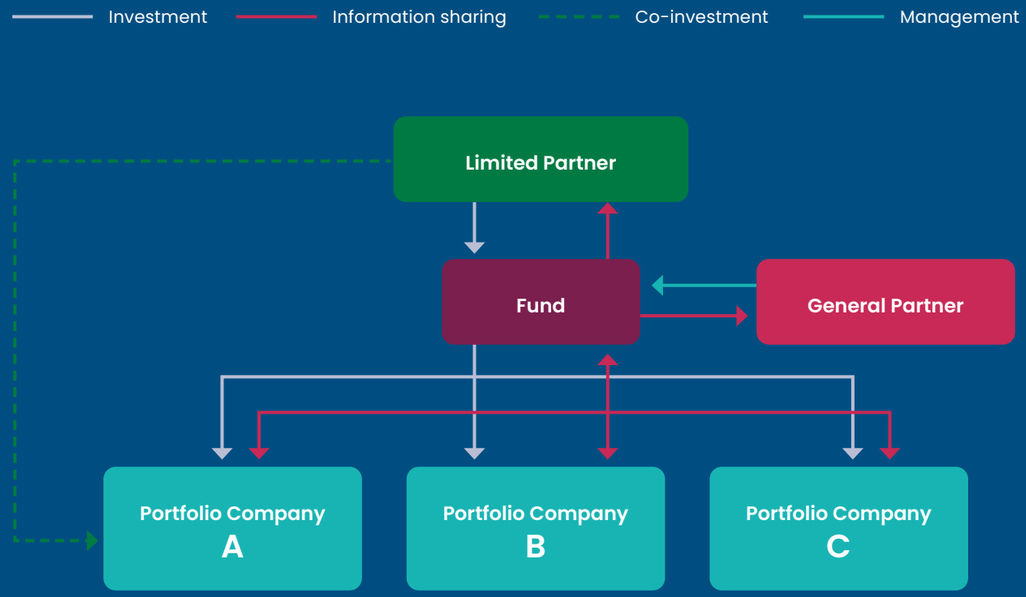
Private equity structure

This guidance focuses on emissions produced by private equity firms, their funds and the underlying portfolio companies. Throughout this guidance, references will be made to different types of entities within the private equity sector structure, including LPs, GPs, funds, and portfolio companies. Figure 6 below summarises how these entities interact, with regards to flows of investments or co-investing as well as information sharing.

It should be noted this does not cover the legal structuring specific to an individual fund, GP or portfolio company. Entities beyond those listed below, are not the focus of this guidance.

FIGURE 6

Overview of the interactions between entities in the private equity sector



This diagram shows how investment and information flows between portfolio companies, funds, and LPs, as well as co-investment directly between LPs and portfolio companies. GPs are responsible for managing the funds. Please note this is simplified for illustration purposes.

GHG Emissions Accounting

Scope 1, 2 and 3

- **Five step process for GHG emissions accounting**
  - Step 1 – Choose appropriate reporting boundaries
  - Step 2 – Identify emissions sources
  - Step 3 - Collect source data
  - Step 4 - Select appropriate emission factors
  - Step 5 – Calculate emissions
- **Sector considerations**
- **Tracking emissions over time**

GHG EMISSIONS ACCOUNTING SCOPE 1, 2 AND 3

This section explains GHG emissions data collection and accounting of scope 1, 2 and 3 emissions at corporate level. This approach applies to the day-to-day operations of any corporate organisation, including private equity firms and their portfolio companies. Emissions accounting at fund level is covered in Section 2.

In this section we have split the process of emissions accounting into five simple steps, as outlined in Figure 7. This process is documented in this section of the guidance, along with examples.

The most common way to calculate GHG emissions is through applying emission factors to activity data. Emission factors provide the emissions (most commonly kilograms of carbon dioxide equivalent) associated with certain activities (for example combustion of 1 litre of fuel or travelling 1 kilometre) and presented as an intensity (for example 2.5 kg CO_2e / litre). These factors are widely available from a range of commercial suppliers and governments for common activities, some of which are listed in Appendix A.

The formula to calculate GHG emissions using emission factors is:

Activity Data x Emission Factor
(x Global Warming Potential)
= GHG Emissions

FIGURE 7
Five step process for calculating GHG emissions

STEP 1
Choose appropriate reporting boundaries

STEP 2
Identify emissions sources

STEP 3
Collect source data

STEP 4
Select appropriate emission factors

STEP 5
Calculate emissions

STEP 1

Choose appropriate reporting boundaries

Organisational boundaries

Set an organisational boundary for emissions calculation by reviewing legal and organisational structures to determine which operations, ventures and subsidiaries are in scope for a GHG emissions inventory.

Setting organisational boundaries is important as this determines which operations to include in emissions calculations, and ensures emissions are reported consistently throughout a company. This is relevant for all companies, particularly for complex business structures including subsidiaries, joint ventures and franchises.

There are two main approaches to defining a company's organisational boundaries: CONTROL approach or EQUITY SHARE approach as outlined below.

Organisational boundaries

Control approach

A company accounts for 100% of emissions from operations over which it or one of its subsidiaries has control. The CONTROL approach can be determined in two ways:

- Operational control means a company has the authority to introduce and implement its operating policies, but this may need approval from joint financial partners.
- Financial control means the company receives the majority of the risk or rewards of the operation.

In most instances, if a company has financial control, it will also have operational control.

The control approach is recommended for GPs and their portfolios.

Equity Share approach

A company accounts for the GHG emissions from operations according to its share of equity in the operation.

For most industries, the CONTROL approach is preferred as it means reporting for either 0 or 100% of emissions from each entity or site. The EQUITY SHARE approach is preferred for sectors with complex ownership or operational structures such as the oil and gas industry.

The guidance developed by PCAF requires financial institutions to use a CONTROL approach. In line with this requirement, GPs should ensure that portfolio companies also use CONTROL approach for reporting, to provide consistency within and between portfolios, and to avoid double counting.

For portfolio companies which choose to use EQUITY SHARE approach in external reporting, which is common within the oil and gas sector, the portfolio company should nevertheless report based on CONTROL approach to the GP. This applies to energy funds also.

Operational Boundaries

Once the organisational boundaries have been determined and the company has established which entities and facilities to account for in its inventory, the operational boundaries determine which emissions sources to include, and how to categorise these emissions. Emissions sources can be identified as either:

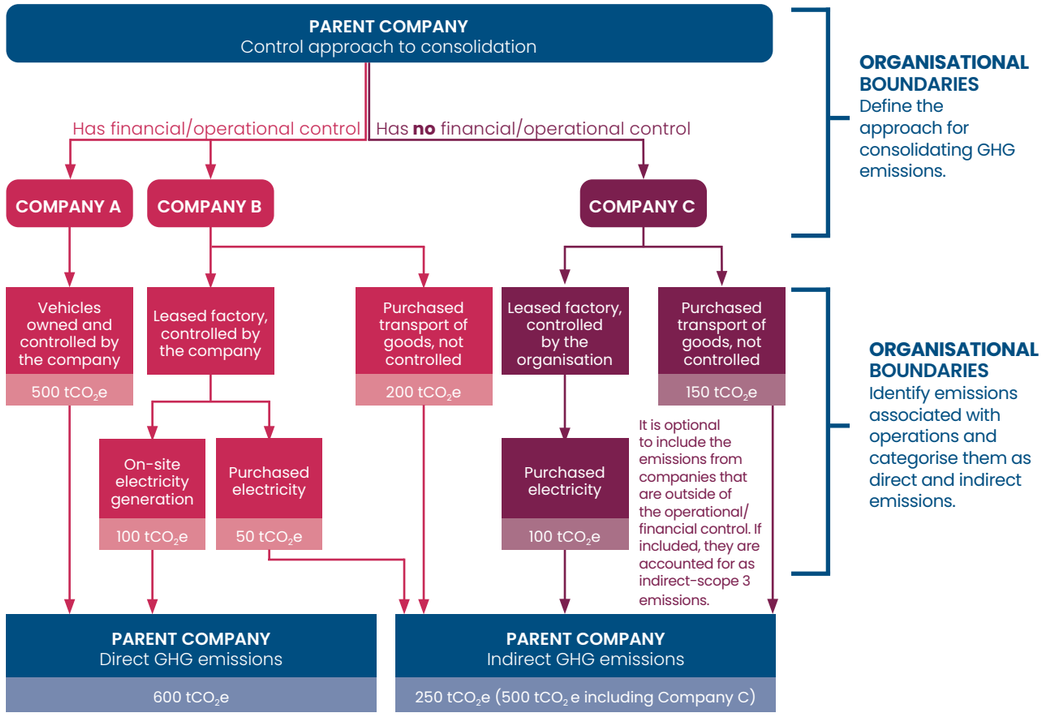
- Direct emissions owned or controlled by the company (scope 1), or
- Indirect emissions which occur as a consequence of business activities, but are not owned or controlled by the company (scope 2 and scope 3).

Emissions-generating activities "in the CONTROL boundary" will be reported as scope 1; and those emissions sources which fall outside of the boundary are reported as scope 2 or 3 emissions. This is explained further in Step 2 – identify emissions sources.

Figure 8 below shows how organisation and operational boundaries interact and are key to determining the relevant emissions for an inventory.

FIGURE 8

Organisational and operational boundaries (illustrative example)



Temporal boundaries

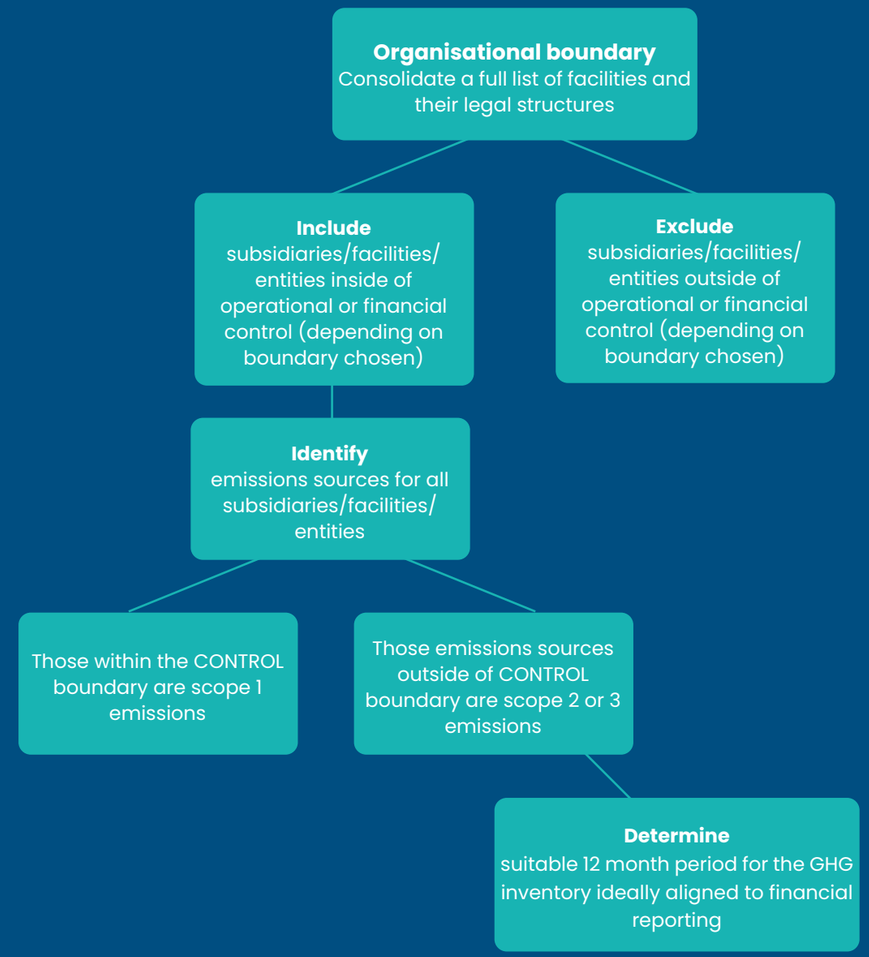
Temporal boundaries enable a company to determine the frequency of data collection, i.e. annually, quarterly, monthly. Data should be collated and calculated within a maximum temporal boundary of 12 months. Ideally, temporal boundaries should align with financial reporting schedules: for example, if financial accounts cover the calendar year, the reporting period for GHG emissions accounting and reporting should align with this schedule. The temporal boundary should be disclosed by the portfolio company and applied consistently year-on-year.

It can be valuable to collate data internally on a more regular basis to feed into management reports or measure progress against targets, or so any errors or anomalies in data or emissions can be identified early. It is important to consider seasonal fluctuations during more frequent reporting. For example, higher emissions during winter or summer months could reflect increased use of air conditioning or heating.

The below flow diagram (Figure 9) shows the decision-making process for setting the boundaries of an organisation's GHG inventory.

FIGURE 9

Decision tree for setting GHG inventory boundaries



STEP 2

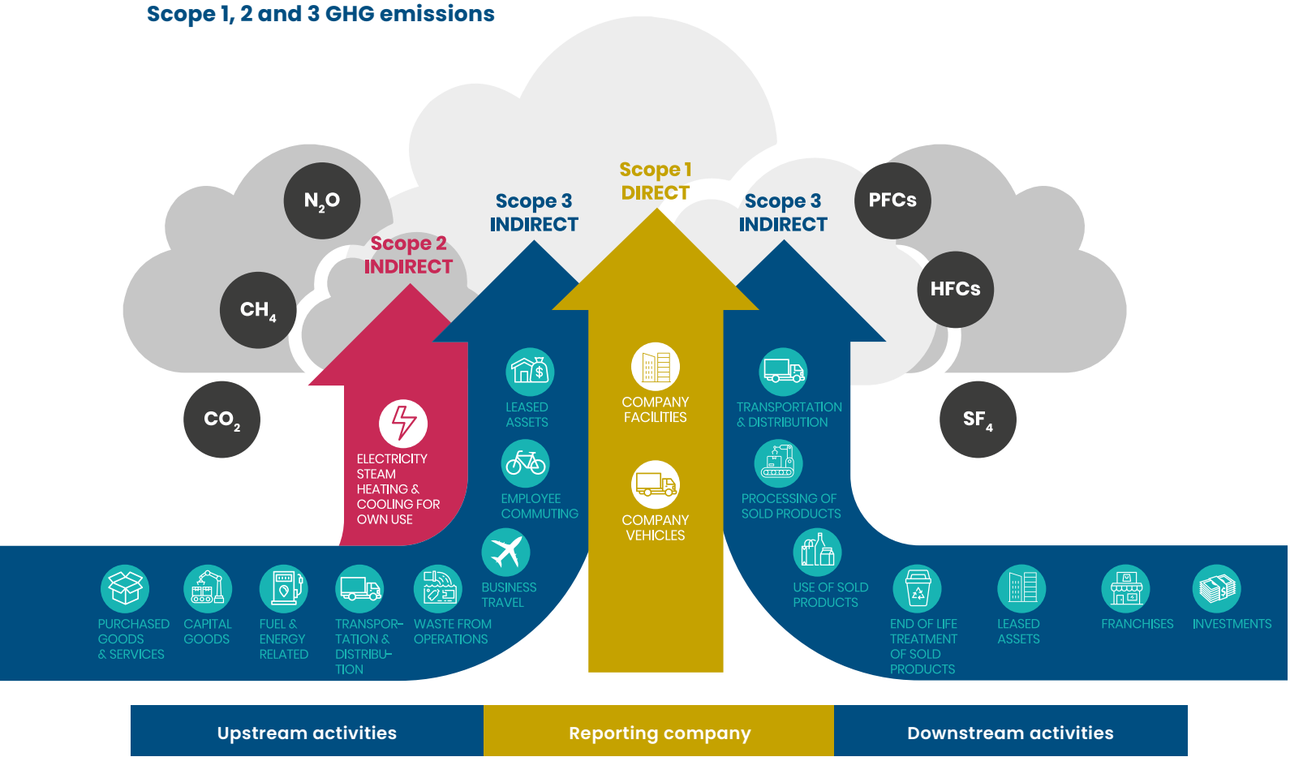
Identify emissions sources

Once the boundaries are set, it can sometimes be challenging to group these into scope 1, 2 and 3 emissions. Activities "in the CONTROL boundary" will be reported as scope 1; and those emissions sources which fall outside of the boundary are reported as scope 2 or 3 emissions.

Figure 10 provides an overview of the three scopes of emissions as defined by the GHG Protocol. When determining which scope 3 emissions to collect data on, the company will often undertake a screening exercise to identify the most material emissions for reporting purposes. Please refer to the end of 'Step 2- identify emissions sources' for guidance on scope 3 materiality screening.

FIGURE 10

Scope 1, 2 and 3 GHG emissions



Source: WRI and wbcsd, 2011, Corporate Value Chain (Scope 3) Accounting and Reporting Standard

Scope 1 emissions sources include:

- **Stationary combustion –** emissions from use of fuels for equipment such as generators, boilers, furnaces, incinerators, heaters.
- **Mobile combustion –** emissions from use of fuels for transport such as cars, trucks, ships, forklifts, aviation (see below for further guidance).
- **Fugitive emissions –** direct release of GHGs to the atmosphere, such as losses of refrigerants from air conditioning or refrigeration units, SF6 insulation of transformers, methane emissions from waste treatment.
- **Process emissions –** from chemical or physical processes such as smelting, catalytic cracking (usually only relevant to certain sector such as oil and gas, manufacturing and heavy industry).

In alignment with the GHG Protocol, direct CO_2 emissions from the combustion of biomass should not be included in scope 1 but reported separately. Other GHG emissions e.g. methane and nitrous oxide should be, however, accounted.

Land sector

If a portfolio company is involved in land sector activities (e.g., agriculture, forestry) the methodologies associated with land use are complex, and not consistently applied across industries. The GHG Protocol is developing guidance on carbon removals and land use, which will also cover bioenergy and biogenic products. A final version of this guidance is due to be published in early 2024.

For more information on the emissions sources for key sectors, and scope 3 emissions categories, please refer to Appendix E.

For further resources and guidance documents such as the GHG Protocol such as the GHG Protocol Corporate Value Chain (Scope 3) Standard please refer to Appendix B of this guidance.

Scope 2 emissions

Emissions by a third party to provide electricity, heating, steam or cooling, purchased and consumed by the reporting company.

Scope 3 emissions

There are 15 categories of scope 3 emissions, covering a wide range of activities in the value chain, upstream and downstream of the reporting organisation, as illustrated in Figure 11.

GHG EMISSIONS ACCOUNTING - SCOPE 1, 2 & 3

FIGURE 11

Overview of the 15 scope 3 categories

GHG emissions related to purchased or acquired goods and services

CATEGORY 1

Purchased goods & services

Emissions from activites up to manufacturing of raw materials parts & containers/packing materials.

CATEGORY 2

Capital goods

Extraction, production, and transportation of capital goods purchased or acquired.

CATEGORY 3

Fuel & energy-related activities

Upstream emissions of purchased electricity (extraction, production & transportation of fuels consumed by the company).

CATEGORY 4

Upstream transportation & distribution

Transportation and distribution of products and services purchased by the company between the company's major suppliers and its own operations (in vehicles and facilities not owned or controlled by the company).

CATEGORY 5

Waste generated in operations

Disposal and treatment of waste generated due to company operations (in facilities not owned or controlled by the reporting company).

CATEGORY 6

Business travel

Transportation of employees for business-related activities in non-company owned vehicles.

CATEGORY 7

Employee commuting

Transportation of employees between their homes and their worksites (in vehicles not owned or operated by the company).

CATEGORY 8

Upstream leased assets

Operation of assets leased by the company in the reporting year and not included in scope 1 and scope 2.

GHG emissions related to sold goods and services, franchises and investments

CATEGORY 9

Downstream transportation & distribution

Transportation and distribution of products sold by the company's operations and the end consumer (not paid for by the company), including retail and storage (in vehicles and facilities not owned or controlled by the company).

CATEGORY 10

Processing of sold products

Processing of intermediate products sold by downstream companies (e.g. manufacturers).

CATEGORY 11

Use of sold products

End use of goods and services sold by the company.

CATEGORY 12

End-of-life-treatment of sold products

Waste disposal and treatment of products sold by the company at the end of their life.

CATEGORY 13

Downstream leased assets

Operation of assets owned by the company (lessor) and leased to other entities, not included in scope 1 and scope 2 - reported by lessor.

CATEGORY 14

Franchises

Operation of assets owned by the company (lessor) and leased to other entities, not included in scope 1 and scope 2 - reported by franchisor.

CATEGORY 15

Investments

Operation of investments (including equity and debt investments and project finance), not included in scope 1 or scope 2.

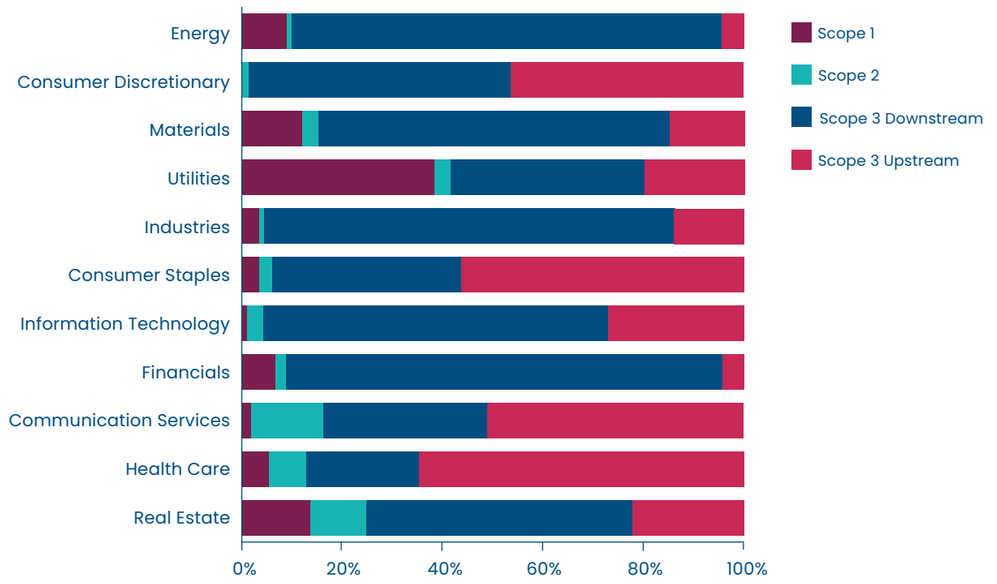
Although most companies will start with accounting and reporting scope 1 and 2 emissions as these are the emissions under their direct influence, a company's scope 3 (value chain) emissions will in most cases be significantly larger than its scope 1 and 2 emissions combined. CDP reported that on average value chain (upstream scope 3) emissions are 11.4 times higher than operational emissions (scope 1 and 2), although this varies between sectors[1]. Figure 12 shows how the ratio of scope 1, 2 and 3 emissions varies between sectors.

Due to the magnitude of scope 3 emissions, they are a very important aspect of disclosure. By accounting for scope 3 emissions, companies can assess their entire value chain and ultimately identify opportunities to reduce emissions.

For GPs and LPs reporting under the control approach, the most material scope 3 emissions source will be category 15, financed emissions (emissions from the activities of the portfolio companies). See Section 2 for details on accounting for financed emissions.

FIGURE 12

Scope 3 emissions in proportion to scope 1 and 2 emissions



Source: Allianz Global Investors, 2021, Are all net-zero goals created equal?

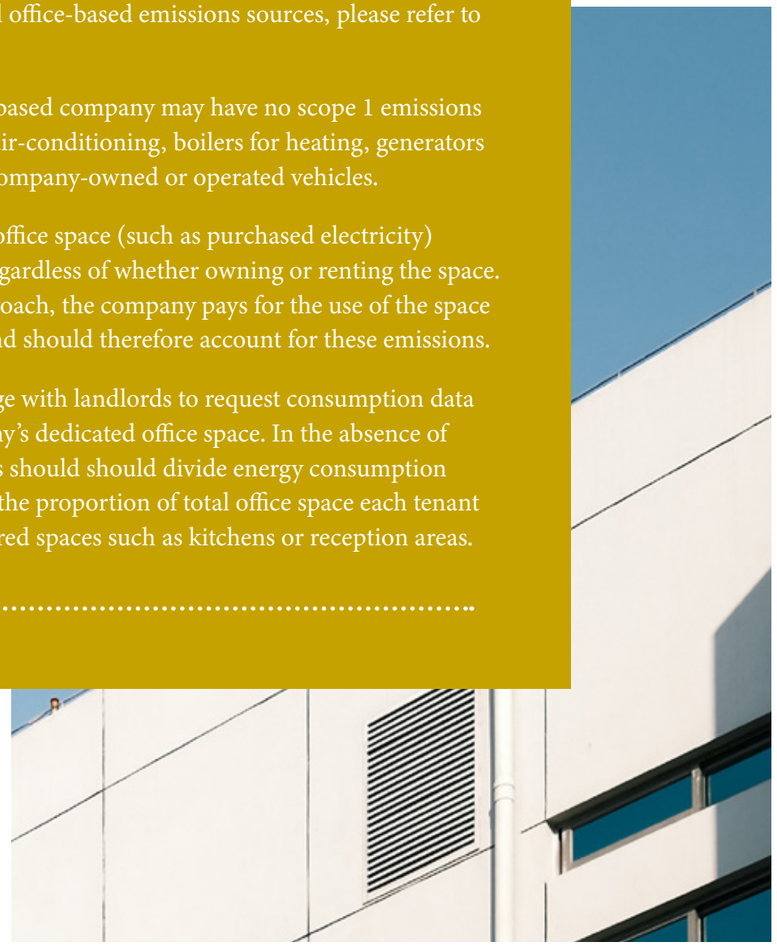
[1] *Transparent to Transformation: A Chain Reaction*

Emissions sources for office-based portfolio companies

GPs calculating their operational carbon footprint will have to collect data on these emissions sources.

For further guidance on typical office-based emissions sources, please refer to Appendix E of this guidance.

- It is possible that an office-based company may have no scope 1 emissions sources if it does not have air-conditioning, boilers for heating, generators for back-up electricity, or company-owned or operated vehicles.
- Emissions associated with office space (such as purchased electricity) should be accounted for, regardless of whether owning or renting the space. Using the CONTROL approach, the company pays for the use of the space and operates from there, and should therefore account for these emissions.
- Tenants often have to engage with landlords to request consumption data associated with the company's dedicated office space. In the absence of dedicated meters, landlords should should divide energy consumption between tenants, based on the proportion of total office space each tenant occupies, including for shared spaces such as kitchens or reception areas.



Is it scope 1 or scope 3?

One of the difficulties a company may face is determining if an emissions source is scope 1 or scope 3. This is why setting organisation and operational boundaries is a key first step (please refer to Step 1 in this section).

A common source of confusion is transport. Figure 13 illustrates some examples defined using a CONTROL approach (either financial or operational) to identify when emissions sources should be classified as scope 1 or scope 3:

FIGURE 13

Examples of scope 1 vs scope 3 emissions sources using the CONTROL boundary

Scope 1	Scope 3
A company owns and operates a bus; it pays for the fuel. This falls within the company's control boundary because the asset is owned and operated by the company.	**Employee takes a public bus to work.** The employee pays for the bus fare. This falls outside of the company's control boundary because the bus is not operated by or paid for by the company. However, this activity is associated with the business' value chain, and should be reported as scope 3 category 6 - employee commuting.
A company owns a private jet and pays for the fuel. This may be used to transport employees or clients. This falls within the company's control boundary because the asset is owned and operated by the company.	**A flight from London to New York for a business meeting, where the company pays for a seat on a commercial aircraft.** This falls outside of the company's control boundary because the flight is not operated by the company, and although the company pays for a ticket, this is a service, opposed to directly paying for the fuel for the aircraft. This should be reported as scope 3 category 7 - business travel.
A company leases a vehicle from a car leasing company to be used by its employees for work purposes. The company does not own the vehicle, but it pays for the fuel and operates it, so is within the company's control boundary and should be accounted for under scope 1. This would also apply for other vehicle types.	**The company owns vehicles (the lessor), and leases these to another company (the lessee).** This falls outside of the company's control boundary because the vehicle is operated for by a third party, which includes paying for the fuel. This should be reported as scope 3 category 13 - downstream leased assets.

An employee uses their own vehicle for business purposes, and the company reimburses them for the cost of the fuel, or they have a fuel card. This also applies to payment for business mileage (e.g. 45p per mile), which covers fuel but also contributes to upkeep e.g. insurance, MOT, wear and tear.

- **Under FINANCIAL CONTROL** this would be considered scope 1, as the company is paying for the fuel.
- **Under OPERATIONAL CONTROL**, the employee, who owns the car is operating the vehicle, on behalf of the company. However, the company does not have authority to control how the car is used (although in some instances a company may require employees to sign policies about the use of vehicles for work purposes). This could be argued as scope 1, or scope 3 (category 7 - business travel), however this guidance recommends accounting for these emissions as scope 1.

GHG EMISSIONS ACCOUNTING - SCOPE 1, 2 & 3

It is important to remember what is one company's scope 1 is another company's scope 3.
When identifying the emissions sources, ask the question: "Would another entity be reporting for this emissions source as part of their scope 1?" If in doubt, refer to the GHG Protocol Principles (in the Reference Section), specifically:

- If an emissions source is identified as scope 1, 2 or 3, the same approach should be taken year-on-year for CONSISTENCY.

- Account for and report on all scope 1 and 2 GHG emissions sources and activities within the organisational boundary for COMPLETENESS. Disclose and justify any specific exclusions.

Determining the appropriate scope 3 category

In some instances, it can be difficult to determine the most suitable category where an emissions source should be disclosed. Common issues and solutions for determining the most appropriate scope 3 emissions categories are detailed below:

Category 1

Purchased goods and services This category covers a wide range of emissions sources. These are the emissions associated with all goods or services purchased by the reporting company, not otherwise covered in category 2 to 8. The emissions should be "cradle-to-gate" which means the emissions associated with all activities in the good or services lifecycle prior to reaching the reporting company, including the extraction of the raw materials, manufacturing and transportation between suppliers.

Categories 1 and 2 - Purchased goods vs capital goods: According to the GHG Protocol, there are five types of purchases to consider:

Production related procurement, which relates directly to goods produced by the reporting company. These are split into:

1. Intermediate goods e.g. materials and components, which are transformed into a final product (category 1).
2. Final goods purchased for resale (relevant to retail and distribution only) (category 1).
3. Long term (capital) goods – goods which are not consumables or regularly replaced, typically requiring a larger investment, such as vehicles, equipment, laptops, construction materials (category 2).

Non-production related procurement, relating to operations, such as furniture, office equipment. These are split into:

4. Operations resource management such as computers, IT support, consulting services (category 1).
5. Maintenance, repairs and operations, such as replacement computers (category 1).

Category 2
Capital goods
Emissions from the use of capital goods such as fuel or electricity consumption are accounted for in scope 1 or scope 2 by the reporting company. The cradle-to-gate emissions of these goods are accounted in scope 3 category 2. Emissions from capital goods should be accounted for in the year of purchase only, which will mean that emissions from category 2 fluctuate between years, depending on the status of any capital projects. There can be ambiguity about whether to account for a good in category 1 or 2. Companies should align with their financial accounting, and not double count emissions between the two categories.

Category 3
Fuel and energy related activities
This includes emissions sources not accounted for in scope 1 and 2, such as transmission and distribution losses from electricity, or well to tank emissions associated with the extraction, processing and transportation of fuels purchased by the company or used in the production of electricity. Generation of purchased energy (applicable to utility and energy companies only) that is sold to an end user, is also considered here. This category of scope 3 emissions are calculated by applying a well-to-tank emission factor to the activity data associated with consumption of fuels and energy in the scope 1 and 2 emissions.

Categories 4 and 9
Upstream vs downstream transportation and distribution
It is a common misconception that upstream transportation and distribution covers sources upstream of the operations, e.g. from suppliers, and downstream covers emissions associated with those downstream of the operations e.g. to the end consumer. However, upstream transportation and distribution (Category 4), covers two key sources:

- Transportation and distribution of purchased products i.e. between a tier 1 supplier and the company's own operations.

- Transportation and distribution PURCHASED BY THE REPORTING COMPANY this includes inbound logistics as well as outbound logistics of sold products.

Downstream transportation and distribution covers emissions between the reporting company and the end consumer, where the reporting company is not paying for the transportation or distribution. This includes emissions from retail and storage.

Please note the definition for upstream and downstream when referring to scope 3 categories may not align with other sector definitions such as for oil and gas.

Categories 8 and 13
Upstream vs downstream leased assets
The differentiating factor between these two categories is whether the reporting company is the lessee (operating leased assets), or the lessors (leasing assets to other categories. The former is category 8, and latter is category 13 (downstream leased assets).

Categories 10 and 11
Processing of sold products vs use of sold products
category 10 relates to intermediate products (see definition above), opposed to final products. Use of sold products covers direct emissions, such as fuel consumption required to use product e.g. a car, and indirect emissions, associated with products which indirectly consume energy, such as clothing which requires washing and drying.

SCOPE 3 SCREENING

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard recommends that companies should conduct a screening process to identify and assess which scope 3 categories have the most expected impact on GHG emissions and offer the highest estimated reduction potential. Prior to attempting to calculate scope 3 emissions, organisations should first assess the RELEVANCE and MATERIALITY of each scope 3 category.

- **MATERIALITY:**
  Information is considered to be material if, by its inclusion or exclusion, it can be seen to influence any decisions or actions taken by users of it. A threshold is often used to determine whether an error or omission is a material discrepancy or not.
- **RELEVANCE:**
  Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users – both internal and external to the company.

The GHG Protocol Corporate Value Chain (Scope 3) Standard recommends completing a screening of all 15 scope 3 categories to indicate which categories are RELEVANT and potentially MATERIAL as a first step prior to data collection.

Screening can be undertaken by using either estimates, proxy data or industry-average data, such as environmentally-extended input output (EEIO) emission factors. Using high-level, less specific data can help determine the size of emissions for each of the 15 categories. These estimates can later be refined during a detailed calculation stage, focusing on those with the highest emissions, or most critical to the business and its stakeholders.

> “Environmentally-extended input output (EEIO) models estimate energy use and/or GHG emissions resulting from the production and upstream supply chain activities of different sectors and products within an economy (scope 1, 2 and upstream scope 3). The resulting EEIO emission factors can be used to estimate GHG emissions for a given industry or product category. EEIO data is particularly useful in screening emissions sources when prioritising data collection efforts. EEIO models are derived by allocating national GHG emissions to groups of finished products based on economic flows between industry sectors. EEIO models vary in the number of sectors and products included and how often they are updated. EEIO data is often comprehensive, but the level of granularity is relatively low compared to other sources of data.

Source: WRI and wbcsd, 2011, Corporate Value Chain (Scope 3) Accounting and Reporting Standard

It is important to ensure transparent disclosure on the definition of materiality. The IIGCC is developing guidance on materiality for scope 3 emissions; at the point of publication this is expected during the course of 2022.

The GHG Protocol Corporate Value Chain (Scope 3) Standard lists the following criteria to consider when assessing relevance for each scope 3 category.

FIGURE 14
Assessing relevance

Size	They contribute significantly to the company’s total anticipated scope 3 emissions
Influence	There are potential emissions reductions that could be undertaken or influenced by the company
Risk	They contribute to the company’s risk exposure (e.g., climate change related risks such as financial, regulatory, supply chain, product and technology, compliance/litigation, and reputational risks)
Stakeholders	They are deemed critical by key stakeholders (e.g., customers, suppliers, investors or civil society)
Outsourcing	They are outsourced activities previously performed in-house or activities outsourced by the reporting company that are typically performed in-house by other companies in the reporting company’s sector
Sector guidance	They have been identified as significant by sector-specific guidance
Spending or revenue analysis	They are areas that require a high level of spending or generate a high level of revenue (and are sometimes correlated with high GHG emissions)
Other	They meet any additional criteria developed by the company or industry sector

SCOPE 3 SCREENING

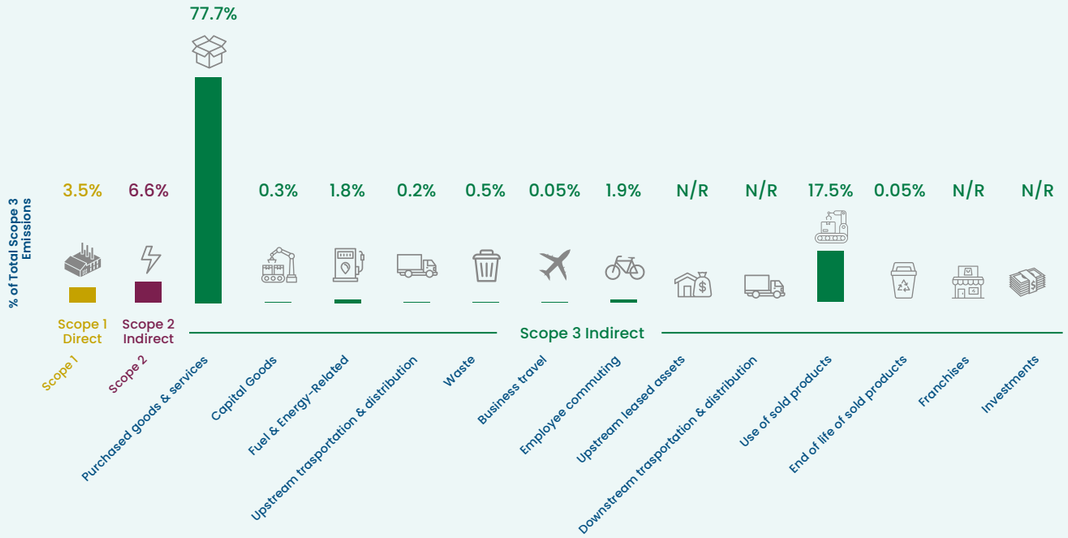
The scope 3 categories which are considered MATERIAL will vary between sectors; examples are shown opposite in Figure 15:

FIGURE 15

Example GHG emissions inventories for different sectors

N/R = Not Reported

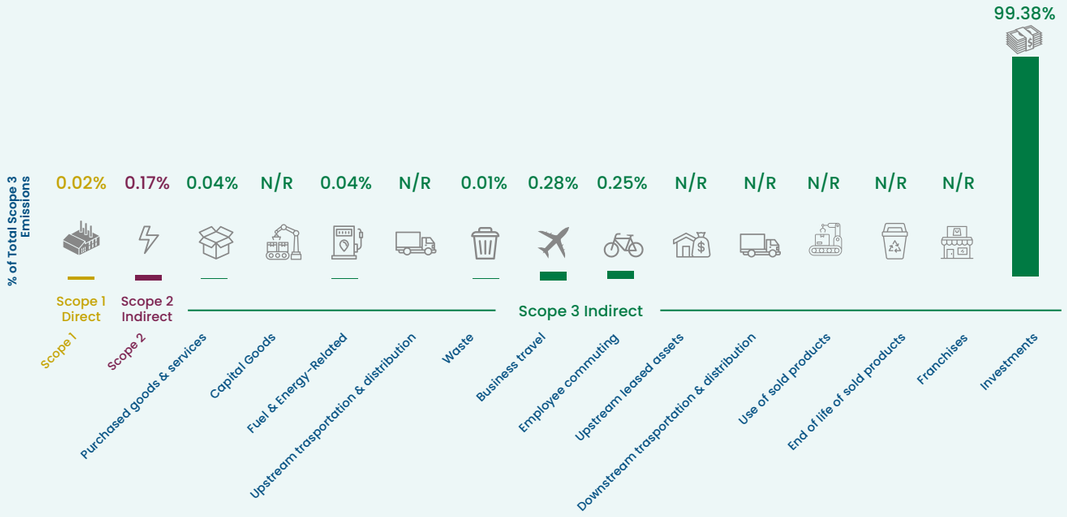
EXAMPLE RETAIL SECTOR COMPANY



EXAMPLE OIL AND GAS SECTOR COMPANY

Note: 'Not reported' results are either due to categories being classed as not relevant, or have not yet been evaluated by the company. Graphics based on 2020 data available from CDP reports and annual reports. The company names have not been disclosed.

EXAMPLE GP



Diagrams were produced by ERM

Scope 3 category 15 for private equity

For private equity firms scope 3 category 15 (Investments) is the key category. This is also known as financed emissions, as it covers the emissions from all forms of finance - not just equity, but also debt and project finance. Scope 3 category 15 will be significantly larger than a GP's scope 1, 2 and other scope 3 categories, as a portion of the emissions of all the portfolio companies are attributed to the GP. This is confirmed by research undertaken by the CDP, which states that on average reported financed emissions are over 700 times larger than reported operational emissions (scope 1 and 2), based on disclosure of a group of 84 financial institutions worth US$27 trillion of assets, which disclose their financed emissions. For more information on financed emissions please refer to Section 2.

Scope 3 and science-based targets for corporates

In line with the Science Based Targets Corporate Manual (applicable for portfolio companies, not applicable for PE firms; please see Section 5 in the Corporate Guidance for applicability of science-based targets to private equity investing), targets must include scope 3 emissions where scope 3 emissions account for more than 40% of total emissions (scope 1, 2 and 3). Therefore a screening to understand the magnitude of scope 3 emissions is a minimum requirement for setting an SBTi-approved target.

If a portfolio company is defined by the SBTi as an SME (a company with less than 500 full time employees), only a scope 1and 2 emissions are required to be covered by the target but companies are encouraged to measure and reduce scope 3 emissions.

For more resources and guidance, please refer to Appendix B.

STEP 3

Collect source data

There is no threshold for equity ownership above which GHG reporting of portfolio companies is required. This guidance recommends that GPs plan to collect GHG data from all portfolio companies, regardless of equity ownership, striving for total portfolio coverage.

Data collection for scope 1 and 2

After boundaries are set, and emissions sources are identified, the data collection process can begin. For each emissions source, activity data needs to be collected.

Activity Data × Emission Factor (× Global Warming Potential) = GHG emissions

Examples of activity data include: litres of fuel consumed, kilowatt-hours (kWh) of electricity consumed, or the value of money spent on gas utilities. Based on the principles for GHG emissions accounting, the focus is on ACCURACY and COMPLETENESS. Therefore, there is a preference to use consumption data e.g. litres, kWh, tonnes, as opposed to spend data.

Consumption data for scope 1 and 2 emissions sources can typically be collected from direct meter readings, utility invoices from suppliers, maintenance records, vehicle fuel use, or mileage. It is important to note the correct units e.g. litres, or kWh, as this will influence the emission factor used (see Step 4 below). For electricity bills, one unit is typically one kWh.

Please see Appendix D of the GHG Protocol Corporate Standard for examples of emissions sources by scope for various sectors.

Scope 1: Refrigerants

A common use of refrigerants is in air conditioning units. Refrigerant gas is required to circulate cool air and over time, due to leakages, will need topping up. It is at this time that the emissions associated with the refrigerants are accounted for.

Typically, this does not occur each year, although leakage checks should be undertaken at least once a year. In most jurisdictions, refrigerant top-ups are required to be documented and therefore there should be a record available including if no top up has been required. The UK government requires checks every 3, 6 or 12 months depending on capacity.

Top-ups are typically only a few kilograms, as capacity is small (<100kg). Although usage might be small and sporadic, the global warming potential (GWP) of refrigerants is high.

Global Warming Potential – GWP

Not all greenhouse gases warm the atmosphere to the same extent. The global warming potential is typically measured over a 100 year period, in comparison to carbon dioxide, with carbon dioxide having a GWP of 1. Therefore, more potent greenhouses gases, such as refrigerants, have a large impact so even small consumption is important to account and report these sources. In comparison, R22/HCFC-22 has a GWP of 1810. Therefore 100 kg of R22 results in emissions of 181,000 kilograms of carbon dioxide equivalent.

For access to sources of GWPs see Appendix B.

Data gaps and estimations

If there are gaps in the data, estimations may need to be made. This could be achieved through one of the below approaches:

- **Spend data**
  For fuels and utilities, if consumption data is not available, it is possible to convert spend data by using an average cost (e.g. GBP per litre) for a location. It is recommended to use sources from publicly available, reputable sources such as those from government organisations or regulators.
- **Historical data**
  When using historical data, for example consumption from the same month the previous year, it is important to consider how consumption may fluctuate during a year, such due to as seasonality. Natural gas consumption will increase in winter months for example.
- **Pro-rata data for missing months**
  When using pro-rated data, consider if the rest of the year is representative. Data should also be pro-rated where the period of the data does not correspond to the reporting period. See examples overleaf.
- **Scaled data**
  Use equivalent or appropriately scaled data from a representative site. This is most appropriate where data is unavailable for an emissions source for a site. In these instances, it is important to identify a site(s) which is representative. Calculate an intensity value for the representative site(s), i.e. kWh/m^2 or kWh/employee, and multiply this by the m^2 of floor space or number of employees for the office without data. Using multiple sites and calculating an average will help to reduce the impact of any anomalies.

Pro-rating where data for a portion of the reporting period is missing

Reporting period:
1st January to 31st December 2021

Bill coverage period:
1st January to 18th November 2021

Bill consumption (electricity):
178,377 kWh

Pro-rated period:
19th November to 31st December 2021

Calculation:

Days covered by bill period: **322**

Days required in pro-rated period: **43**

Pro-rated consumption:
178,377 kWh x (43/322) = 23,821 kWh

Electricity consumption in the reporting period:

23,821 kWh + 178,377 kWh = 202,198 kWh

For more information on data management and record keeping, refer to Appendix C.

GHG EMISSIONS ACCOUNTING - SCOPE 1, 2 & 3

Engaging with portfolio companies

In order to improve data quality, GPs will want to engage with portfolio companies to collect data or to calculate GHG emissions. For some firms this may be a significant task due to the number of companies in their portfolio. Therefore, it may be useful to prioritise which portfolio companies to engage with to improve data quality.

It may be intuitive to focus first on the companies that are in the most emissions intensive sectors. Undertaking a screening using EEIO data, as described in Step 2, can be a useful first step. Although this is not always an accurate representation of emissions, the data requirements are low (geography of operations, revenue, and a way to map each company to the sectors in the EEIO database, e.g. GICS or NACE code), and it can help rank companies from high to low emissions. However, GPs and LPs may also wish to consider the following variables:

- **Exit date** – a portfolio company which is due to be exited within the next one to two years therefore may not be prioritised for engagement.
- **Regulatory obligations** – does the company already have to report GHG emissions data e.g. the UK Streamlined Energy and Carbon Reporting regulations in the UK, or under the EU Emissions Trading Scheme.
- **Investment value** – The private equity firm may wish to prioritise those where they have highest investment.
- **Influence** – The private equity firm first may wish to prioritise those where they have the most influence.
- **Company size** – larger companies are likely to have higher emissions. This is not a strict correlation, and does depend on sector, but within sectors, this could be an important consideration. This may also impact the resources available to respond to a request as well as the data collection systems in place.
- **Data requests** – Firms may be receiving requests from LPs for specific funds, so may choose to prioritise action here.

Based on findings from the ERM and Ceres publication The Changing Climate for Private Equity, direct engagement was determined as the most effective way to gather data from portfolio companies, despite this being more time consuming. This approach can allow GPs to communicate requirements clearly, alongside any wider requests, such as additional information for TCFD reporting. In addition, this can improve accuracy and reduce reliance on data from other sources such as proxies. This engagement can be done via a range of suitable formats such as questionnaires.

In addition to engaging with portfolio companies for GHG emissions data, GPs may also be engaging to collect oother climate-related data, such as commitment to net zero, or alignment with the TCFD recommendations. Therefore, it is recommended that all information and data requests are all combined for ease. GPs may utilise industry initiatives, such as CDP Private Markets, to engage with their portfolio companies to collect TCFD-aligned and GHG emission metrics, create GHG emission estimations and benchmark portfolios. GPs may wish to also collect other information such as revenue, GICS/NACE sub-industry code, to support with calculating metrics, or with other data requests. For more information on additional data points which may be of value to collect, please refer to Appendix D.

Data collection for scope 3

This section provides a high-level explanation of the approach to data collection and calculations for scope 3 emissions. More information is available in the GHG Protocol Corporate Value Chain (Scope 3) Standard. Due to the large quantity of data, as well as the complexity associated with the calculations, many companies may start using data built on assumptions, and may seek external support (e.g. from consultants) with their scope 3 emissions calculation.

A reminder that prior to data collection, an assessment should have already been performed on the MATERIALITY and RELEVANCE of each material scope 3 category. As scope 3 emissions relate to emissions within a company's value chain (outside of the organisational boundary and the company's control), data required for emissions calculations is likely to be harder to collect. For each scope 3 category, companies may use one of two types of data to calculate emissions, either primary or secondary data.

- **Primary data** – collected from specific activities within a company's value chain.
- **Secondary data** – calculated using industry average data.

Primary data will result in more ACCURATE GHG emissions calculations and offers a better representation of the company's value chain. This enables companies to track performance over time, and to have more control over meeting targets as the data is directly RELEVANT to their own value chain. However, this approach can be more costly, and it is not always possible to verify the source and quality of the supplied data, i.e. how complete this may be, unless it has been externally assured.

Secondary data allows companies to calculate GHG emissions where primary data is unavailable or of poor quality. It is often a cheaper, less time intensive approach, but it is not as ACCURATE. It is therefore recommended to only be used for less MATERIAL scope 3 categories, or where primary data is not available. Using secondary data makes it harder to reflect changes implemented across operations and value chain, as the calculations are not specific to the company's own activities. Therefore it limits the ability to track GHG emission reductions and progress against targets. An example of secondary data is using environmentally- extended input output (EEIO) datasets.

Data ACCURACY will also depend on the level of specificity the data is sourced, for example product data (life cycle analysis for a product) is more specific than process data (emissions associated with certain process), which is more specific than facilities or business unit data (site specific emissions).

Companies should be pragmatic in their approach to scope 3. Reducing complexity and cost will impact quality, but the aim is to minimise the overall impact. This could include applying secondary data for small contributors or focusing data collection on key suppliers.

Links to datasets covering a variety of emission factors for scope 3 reporting can be found in Appendix A.

STEP 4

Select appropriate emission factors

Where activity data is available, the next step is selecting emission factors for the calculations.

Activity Data × **Emission Factor** (× Global Warming Potential) = GHG emissions

An emission factor represents the GHG emissions that are released per unit of the activity data.

Select the most appropriate source for your emission factors. A list of sources can be found in Appendix A. For example, the source should be relevant to the country where the facility is located and the most up to date factor should be used, or factors aligning with the reporting period where historical consumption is considered. For most fuels, there is little difference between sources.

Make sure emission factors align with the unit of activity data collected. It is common for fuel emission factors to be available for kWh and most bills are provided in kWh. In addition, where available, emission factors which are for carbon dioxide equivalents (CO_2e) should be used, as reporting should cover all GHGs as opposed to just carbon dioxide.

Scope 2: Emission factors

There are two different approaches to calculating scope 2 emissions:

Location based
A method to quantify scope 2 emissions based on average energy generation emission factors for defined geographic locations, including local, subnational, or national boundaries.

Emission factors for electricity (& heat) vary between countries and regions, depending on the mix of generation sources e.g. coal, gas, wind. Emission factors are based on the average GHG emissions intensity of that location. These may be available at a country or regional level, depending on the location. The most RELEVANT emission factor should be used, such as a regional emission factor opposed to national where available.

Market based
A method to quantify the scope 2 emissions of a reporter based on GHG emissions emitted by the generators from which the reporter contractually purchases electricity bundled with contractual instruments, or contractual instruments on their own.

If a company has a contract to source renewable or green energy (for example via a green tariff or a direct power purchase agreement (PPA)), the carbon intensity of the supply is reduced in line with the contribution of renewable, or low carbon, sources. Renewable energy is evidenced by contractual instruments, including the PPA or issuance of energy attribute certificates (EACs), such as renewable energy certificates (RECs) or Guarantees of Origin (GO/REGO), supported by evidence of cancellation of these certificates equivalent to the kWh purchased are required in order to apply a market based emission factor which has a lower intensity than the location based factor (or zero). Alternatively the reporting company can purchase and retire EACs independent of its electricity provider as a means of matching its purchased electricity with renewable generation.

In line with the GHG Protocol, companies must report at a minimum a location based scope 2 value. A market based approach is not mandatory, and is reported in addition to a location based value, for example to show the impact of switching to a renewable energy supply. Whichever method is chosen, it should be applied consistently across a portfolio and over time.

If a company is considering setting an emission target, it may wish to set a target based on a market based scope 2 approach since this enables the reporting to reflect the purchase of renewable electricity, even if electricity consumption remains constant.

For more information on scope 2 please see the GHG Protocol Scope 2 Guidance.

Scope 2: Purchased heat, steam and cooling

Where a company purchases steam, heat or cooling,the GHG Protocol requires emissions to be accounted for based on the emissions associated with the production of the energy, such as accounting for any fuel combusted to produce the heat or steam.

For example, steam or heat may be sourced from a CHP plant, for which emissions associated with the steam or heat would be available from the supplier, or calculated based on the input fuel used (coal powered heat/steam will have higher emissions factor than gas powered heat/steam).

Care should be taken when sourcing activity data for purchased heat or cooling as this may be reported as purchased kWh. The scope 2 emissions associated with the purchased kWh should use emission factors that are based on the fuel input needed to generate the purchased energy.

STEP 5

Calculate emissions

Consolidated GHG emissions are reported in tonnes of carbon dioxide equivalent (CO_2e) to allow for consistency, as opposed to individually reporting emissions of each greenhouse gas.

Activity Data × Emission Factor = GHG emissions

Or

Activity Data × Emission Factor (× **Global Warming Potential**) = GHG emissions

Most emission factors are available in carbon dioxide equivalence, meaning the activity data can simply be multiplied by the emission factor. However, some factors are applicable to specific GHGs. In these instances, the global warming potential (GWP) is required. GWP is the radiative forcing impact (degree of harm to the atmosphere) of one unit of a given GHG relative to one unit of CO_2. For example:

$$\text{Units of activity} \times \frac{\text{kg } CO_2e}{\text{unit of activity}} = \text{kg } CO_2e$$

OR

$$\text{Units of activity} \times \frac{\text{kg } CH_4}{\text{unit of activity}} \times \textbf{GWP of } \mathbf{CH_4} = \text{kg } CO_2e$$

GWPs can be sourced from the IPCC assessment reports and are uniform globally. However, they are updated based on the latest science, so it is therefore recommended to use the most recent value. GWPs are typically available shortly after the release of each new group of IPCC assessment reports. Companies should record and disclose the source of all emission factors and GWPs.

As a reminder - for refrigerants, no emission factor is needed as it is the direct emissions of the GHG into the atmosphere, so only the GWP is required. See Appendix B for more information.

EXAMPLE:
Sourcing emission factors and undertaking emissions calculations

A UK company is looking to assess the emissions associated with the consumption of 200 litres of diesel using a company owned vehicle during calendar year 2021. They are using the latest version of the UK Government Conversion factors, relevant to the reporting year.

01 Refer to the fuels tab of the UK Government Conversion Factors, and search for diesel, under liquid fuels

02 Diesel (average biofuel blend) is used, as the comment shows this is the correct diesel used at a local filling station

03 There are 16 different emission factors available. As the activity data is in litres, this row is selected

04 The emission factors for $kgCO_2e$ is selected as this includes the emissions from CO_2, CH_4 and N_2O with the GWP already applied

05 Emissions calculation is undertaken:
2.51233 $kgCO_2e$/litre X 200 litres = 502.5 $kgCO_2e$

06 Typically emissions are reported in tonnes of carbon dioxide equivalent:
502.5 $kgCO_2e$ / 1000 = 0.5 tCO_2e

FIGURE 16

Extract from the UK Government Conversion Factors (Jan 2022), fuels tab

Standard diesel bought from any local filling station (typically contains biofuel content)

Activity	Fuels	Unit	kg CO_2e	kg CO_2	kg CH_4	kg N_2O
Liquid fuels	Diesel (average bio-fuel blend)	tonnes	2,969.07	2,925.03	0.31	43.73
		litres	2.51233	2.47507	0.00026	0.03700
		kWh (Net CV)	0.25165	0.24792	0.00003	0.00371
		kWh (Gross CV)	0.23686	0.23335	0.0002	0.00349
	Diesel (100% mineral diesel)	tonnes	3,208.76	3,164.33	0.31	44.12
		litres	2,70553	2,66807	0.00026	0.03720
		kWh (Net CV)	0.26955	0.26582	0.00003	0.00371
		kWh (Gross CV)	0.25338	0.24987	0.00002	0.00348

Source: Department for Business, Energy & Industrial Strategy and Department for Environment, Food & Rural Affairs, 2022, UK Government GHG Conversion Factors for Company Reporting 2021"

GHG EMISSIONS ACCOUNTING - SCOPE 1, 2 & 3

Sector considerations

The nature of emissions sources, the complexity of data collection and therefore the effort related to calculating GHG emissions varies depending on the size of the company and its activities, but most importantly on its sector. For most service-based companies, scope 1 and 2 emissions sources are relatively simple, relating to offices, warehouses and distribution. However, for primary (raw material) and secondary (manufacturing) industries, the emissions sources are likely to be more complex, including process and fugitive emissions. In some instances, there are more detailed, industry specific guides which should be referred to such as IPIECA – Petroleum industry guidelines for reporting greenhouse gas emissions. The GHG Protocol also publishes guidance documents for selected sectors, which can be found on the GHG Protocol website.

Tracking emissions over time

Once a company has calculated its emissions, this should be repeated typically on an annual basis. Aside from reporting requirements, this will allow a company to see how emissions have changed over time.

To support measuring progress over time, and relative to a target, it is important to select a single year as a base year to track change against. Ideally, this should be the earliest reporting year where data and calculations are reliable to be representative of normal operations. Therefore, due to the impact of the global COVID-19 pandemic, 2020 and 2021 may not be suitable base years for many companies.

Based on the GHG Protocol, it may be appropriate to update the base year emissions for circumstances such as:

- Structural changes such as mergers, acquisitions and divestments, which have a significant impact on the magnitude or sources of emissions, or that alters the ownership or control or emissions between entities

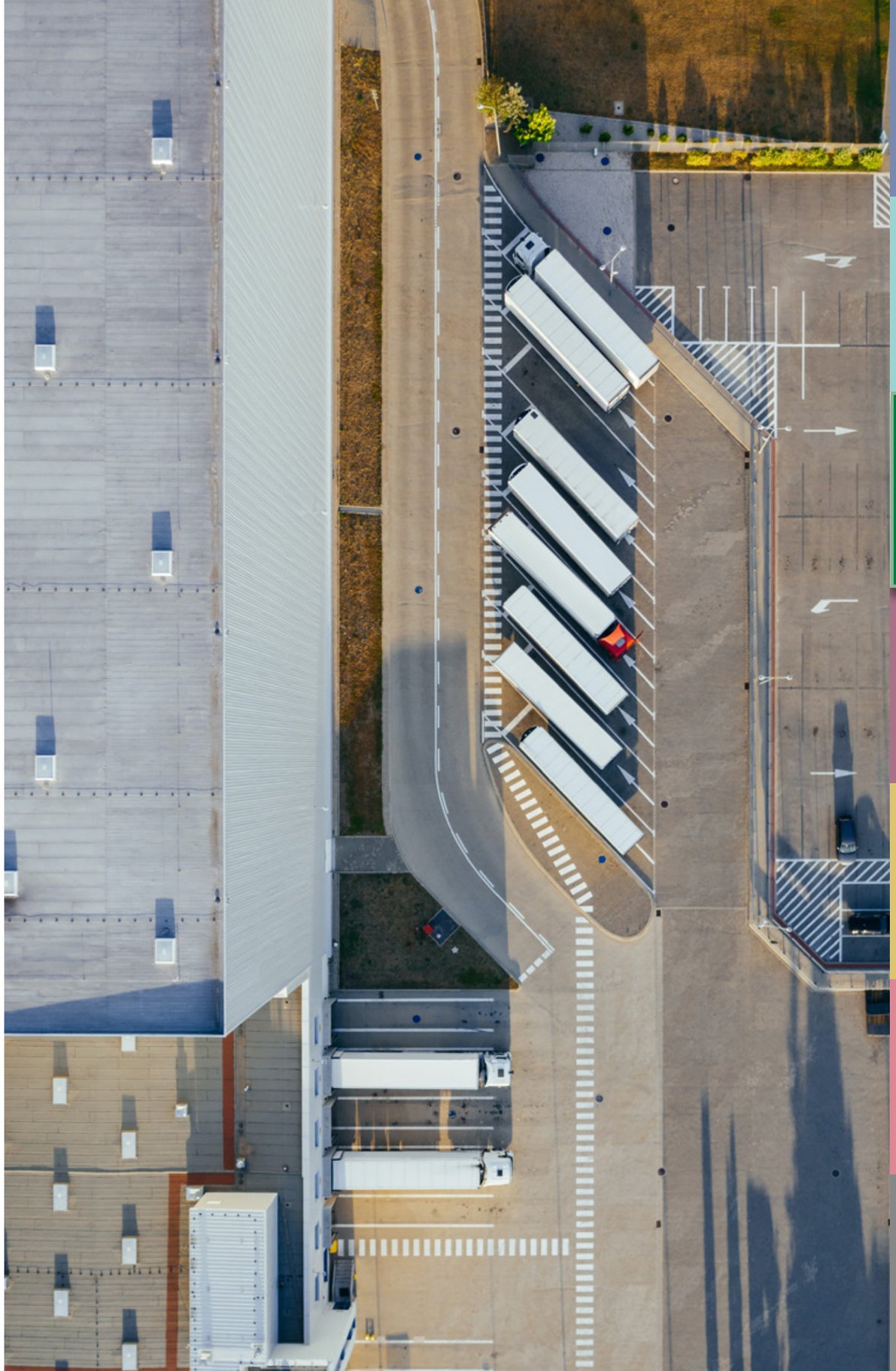
  In these instances, it is recommended to account for a full 12 months of emissions for an acquisition in the new baseline, even if the acquisition occurred mid-year.
- Changes to calculation methodology or source of activity data which are significant.
- Identification of errors which are significant.

In some instances, the base year could be retrospectively recalculated or restated e.g. for significant changes in company structure and activities, or to correct errors. In other instances a new base year should be selected.

Base years should not be recalculated for acquisition (or insourcing) or divestiture (or outsourcing) of a facility or business unit that did not exist in the base year, nor should they be recalculated for organic growth or decline.

It is important for each company to have a CONSISTENT approach for determining when a base year should be recalculated, such as setting a significance threshold e.g. change results in more than +/- 10% emissions.

For more information, please refer to Chapter 5 of the GHG Protocol Corporate Accounting and Reporting Standard.



GHG Emissions Accounting

Financed Emissions

- What are financed emissions
- How to calculate financed emissions

GHG EMISSIONS ACCOUNTING FINANCED EMISSIONS

This section explains the concept of financed emissions (scope 3 category 15). In the GP's case financed emissions refer to emissions associated with portfolio companies. This section explains how to calculate financed emissions using attribution factors, and aggregating emissions from portfolio companies and funds.

What are financed emissions

The GHG Protocol Corporate Value Chain (Scope 3) Standard category 15, relating to investments, refers to a wide range of types of finance, from equity to debt, to project finance and managed investments and client services. Two methods for calculating emissions for category 15 are offered.

1. **Investment-specific method,** which involves collecting emissions data from the investee company and allocating emissions based upon the share of investment; or

2. **Average-data method,** which involves using revenue data combined with environmentally-extended input output (EEIO) data to estimate emissions from the investee company and allocating emissions based upon share of investment.

The average-data method can be useful for screening the portfolio to understand hotspots and identify key investments which are more carbon intensive, or where there is a lack of data available from portfolio companies. However, Section 2 of this guidance focuses on the first method, which is a bottom-up approach.

In November 2020, PCAF published the first edition of the Global GHG Accounting and Reporting Standard for the Financial Industry. This is based on the GHG Protocol and sets out how emissions from certain asset classes should be accounted for and attributed to financial institutions. There are six asset classes:

- Listed equity and corporate bonds
- Business loans and unlisted equity
- Project finance
- Commercial real estate
- Mortgages
- Motor vehicle loans

This guidance document focuses on the private equity sector, which aligns with the "business loans and unlisted equity" methodology.

Scope 3 category 15, financed emissions (or investments), will be the most material emissions category for a financial institution, including GPs. For this reason the SBTi Financial Institution Guidance for Private Equity (published in November 2021) requires emission targets to be set for category 15, with optional targets for categories 1-14.

The GHG Protocol Corporate Value Chain (Scope 3) Standardstates that category 15 covers the scope 1 and 2 emissions of all portfolio companies. However, there is an increasing trend amongst the industry to consider and include scope 3 emissions from portfolio companies as well. The aim is to encourage improvements in reliability quality and availability of scope 3 data over time.

This approach to measuring and reporting financed emissions is also in line with the direction set by other leading standard-setting bodies and disclosure regulations:

- PCAF, which requires scope 1 and 2 reporting across all sectors, but has also introduced a phased-in approach for scope 3 based on sectors (see Figure 17 below). PCAF states "where scope 3 emissions reporting is required, the financial institutions shall separately disclose these absolute scope 3 emissions, including the specific sectors covered. This allows for full transparency, and to acknowledge potential double counting issues between investees' scope 1 and 2 emissions and scope 3 emissions".
- The EU Technical Expert Group (TEG) on Sustainable Finance, in Article 5 of the Supplementing Regulation (EU) 2016/1011 of the European Parliament and of the Council as regards minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks.
- Mandatory reporting against the TCFD recommendations in the UK (soon to be followed by other countries), which, from 2024, will require reporting of scope 3 emissions in addition to scope 1 and 2.

FIGURE 17

PCAF's phased-in approach for scope 3 reporting based on sectors

Time	Sectors (based on NACE[2] industry code, level 2 sectors)
From 2021	Energy, oil and gas, mining (NACE 05-09, 19, 20)
From 2024	Transportation, construction, buildings, materials and industrial activities (NACE 10-18, 21-33, 41-43, 49-53, 81)
From 2026	Every sector

[2]The Statistical Classification of Economic Activities in the European Community, commonly referred to as NACE, is the industry standard classification system used in the European Union. The system groups organisation according to their business activities.

PCAF data quality hierarchy

In addition to the five principles set out in the GHG Protocol, PCAF has also introduced five further principles, introduced at relevant points throughout this guidance.

- **Recognition:**
  Financial institutions shall account for all financed emissions under scope 3 category 15 (Investment) emissions, as defined by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Any exclusions shall be disclosed and justified.
- **Measurement:**
  Financial institutions shall measure and report their financed emissions for each asset class by "following the money" and using the PCAF methodologies. As a minimum, absolute emissions shall be measured, however avoided and removed emissions can also be measured if data is available and methodologies allow.
- **Attribution:**
  The financial institution's share of emissions shall be proportional to the site of its exposure to the borrower's or investee's total (company or project) value.
- **Data quality:**
  Financial institutions shall use the highest quality data available for each asset class and improve the quality of the data over time.
- **Disclosure:**
  Public disclosure of the results of PCAF assessments is crucial for external stakeholders and financial institutions using the methodology to have a clear, comparable view of how the investments of financial institutions contribute to the Paris climate goals.

It is acknowledged that data availability and quality are key factors which impact the ability of GPs and LPs to report on financed emissions. In response to this, to allow for a consistent way to disclose data quality, PCAF has developed a data quality hierarchy. PCAF sets this out for each of its six assets classes. The relevant data quality hierarchy is shown opposite for business loans and unlisted equity:

FIGURE 18

PCAF's data quality hierarchy

Data quality	Options to estimate the financed emissions		When to use each option
Score 1	Option 1: Reported emissions	1a	Outstanding amount in the company and total company equity plus debt are known. Verified emissions of the company are available.
Score 2		1b	Outstanding amount in the company and total company equity plus debt are known. Unverified emissions calculated by the company are available.
	Option 2: Physical activity-based emissions	2a	Outstanding amount in the company and total company equity plus debt are known. Reported company emissions are not known. Emissions are calculated using primary physical activity data for the company's energy consumption (e.g. MWh of natural gas consumed) and emission factors specific to that primary data. Relevant process emissions are added.
Score 3		2b	Outstanding amount in the company and total company equity plus debt are known. Reported company emissions are not known. Emissions are calculated using primary physical activity data (e.g. tons of steel produced) for the company's production and emission factors specific to that primary data.
Score 4	Option 3: Economic activity-based emissions	3a	Outstanding amount in the company, total company equity plus debt, and the company's revenue are known. Emission factors for the sector per unit of revenue are known (e.g. tCO_2e per euro of revenue earned in a sector).
Score 5		3b	Outstanding amount in the company is known. Emission factors for the sector per unit of asset or economic activity-based emission factors from similar companies (e.g., tCO_2e per euro of asset in a sector) are known.
		3c	Outstanding amount in the company is known. Emission factors for the sector per unit of revenue (e.g., tCO_2e per euro of revenue earned in a sector) and asset turnover ratios for the sector are known.

Option 1

The methodology outlined in Section 2 of this guidance, aligns with Option 1, achieving a data quality score of 1 or 2, depending on whether the data has undergone external verification or not (see Next Steps).

However, where portfolio companies have not yet calculated scope 1 and 2 emissions, Options 2 or 3 can be used to fill gaps, so a more COMPLETE inventory of financed emissions can be achieved. It is assumed that GPs will have sufficient information to estimate emissions using option 3a, making options 3b and 3c obsolete.

Option 2

- 2a – this approach applies to scope 1 and 2 emissions only, and requires emissions calculations to be undertaken based on activity data. For example, the private equity firm (GPs) could request annual electricity consumption, in addition to fuel consumption by fuel type, during annual engagements, or data requests. Calculations as outlined in Section 2 would then be undertaken by the private equity firm on behalf of the portfolio company. Ideally this should cover material emissions sources for the company, so the sector needs to be considered. Where possible, this should use supplier specific emission factors (e.g. a market based approach opposed to location based).
- 2b – this approach focusses on physical activity data, which does not directly relate to scope 1 or 2 emissions sources, for example tonnes of products sold. These emission factors should be sourced from appropriate and verified calculation methodologies or tools, so private equity firms may require external support. It is more likely that private equity firms will have access to this data, or can easily request this from portfolio companies. Depending on the source of the emission factor, this may cover scope 1 and 2 emissions, or also include scope 3 e.g. well to tank emissions. This should be noted and disclosed. A list of sources for suitable emission factors can be found in Appendix A.

Option 3

- 3a – this approach uses economic data opposed to physical activity data. One source is EEIO emission factors, providing region or sector specific emission factors based on tCO_2e per unit or revenue within a sector. These may also be available from official statistics. The preference is to use revenue data as this aligns with the approach for calculating emissions within EEIO models. However, if revenue is not deemed a suitable financial indicator for estimating the emissions of a company in a certain sector, other suitable financial indicators can be used as a proxy, as long as the approach and reasoning is disclosed. If an alternative indicator is used, the reasoning for the selection of this alternative indicator should be made transparent. The data quality score will not be affected. Using physical activity data is preferred to revenue based models, as they are less sensitive to fluctuations within the market relating to exchange rates or commodity prices, hence the high data quality score. There is a high level of uncertainty associated with option 3, due to the wide range of emission intensities within an individual sector. Other factors to consider are also the ability to map a portfolio company to an appropriate sector within the EEIO dataset. Finally, EEIO datasets are not regularly updated, these can be for example 10 to 20 years old. Therefore these may not reflect current markets, or the intensity of the grid in certain locations. These factors should be considered when choosing an appropriate EEIO dataset. A list of source for suitable emission factors can be found in Appendix A.

For option 2 or 3, GPs and LPs may find it beneficial to engage with third parties for support. This could include engaging with iCI and its members, with PCAF, who has produced a web-based emission factor database, data providers or specialist consultants.

Where a data provider or external consultant is engaged, it is important to discuss the importance of disclosing the data quality score for any calculations, aligned with the PCAF data quality hierarchy, to align with reporting undertaken by GPs and LPs.

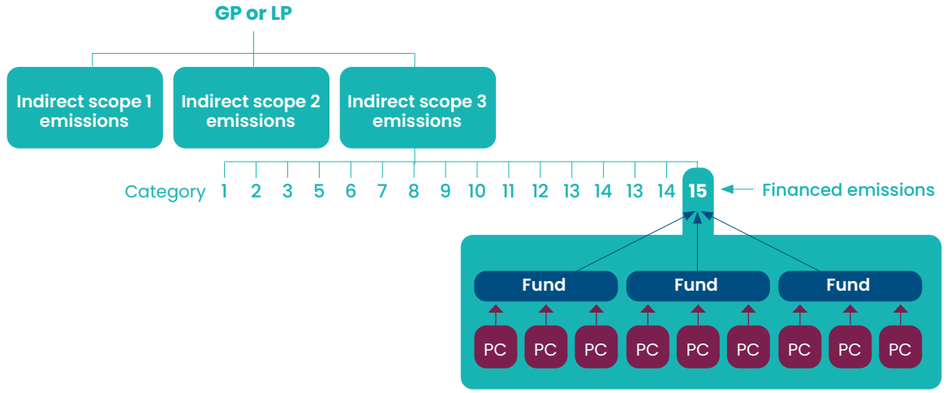
Disclosing the data quality score will help with comparison across the industry, identifying particular sectors where there are data gap issues and most importantly encourage improvement in data quality and availability over time .

How to calculate financed emissions

Scope 3 category 15 emissions are calculated by aggregating the portion of emissions attributed to the financial institution, in this instance the GP or LP. In the case of private equity, both scope 1 and 2 emissions for the underlying portfolio companies should be included in this calculation, however, the inclusion of scope 3 is optional but will be calculated in the same way. This is illustrated in Figure 19 below.

FIGURE 19

Financed emissions



Share of scope 1 & 2 emissions from PCs based on attribution factor

OPTIONAL-Share of scope 3 emissions from PCs based on attribution factor (reported separately)

Attribution factors

When calculating financed emissions, GPs and LPs attribute only a share of the GHG emissions of their portfolio companies as part of their financed emissions. This share is proportional to the equity held in the company by funds or accounts they manage or advise (GPs) or have interest in (LPs), including any co-investments. Avoided emissions and emission removals can be attributed to a private equity firm in the same way, but must be reported separately from absolute financed emissions.

In line with PCAF, attribution to the financial institution should be calculated as follows:

$$\text{Attribution factor}_c = \frac{\text{Value of equity and/or debt in the portfolio company}_c}{\text{Total equity + debt}_c}$$

(Adapted from the PCAF, 2020, Global GHG Accounting and Reporting Standard)

This is aligned with the PCAF Global GHG Standard, where the outstanding amount is defined as the outstanding value of the investment the GP or LP company holds in the portfolio company, referred to here as simply the value of equity and/or debt in the portfolio company.

GPs and LPs should determine the outstanding amount consistently across its portfolio, and choose either the calendar or financial year-end outstanding amount. The same approach should then be used each year. GPs and LPs should aim to align with other reporting cycles e.g. annual financial accounts.

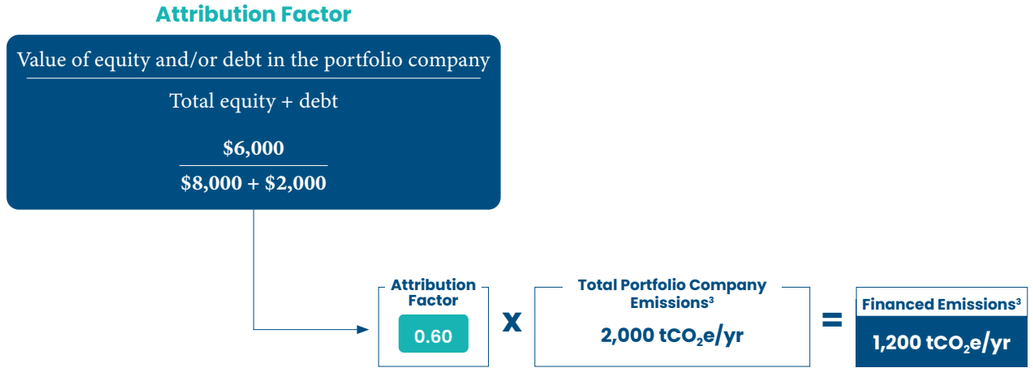
Figure 20 below outlines how financed emissions should be calculated.

FIGURE 20

Examples of calculating attributed (financed) emissions and aggregating emissions

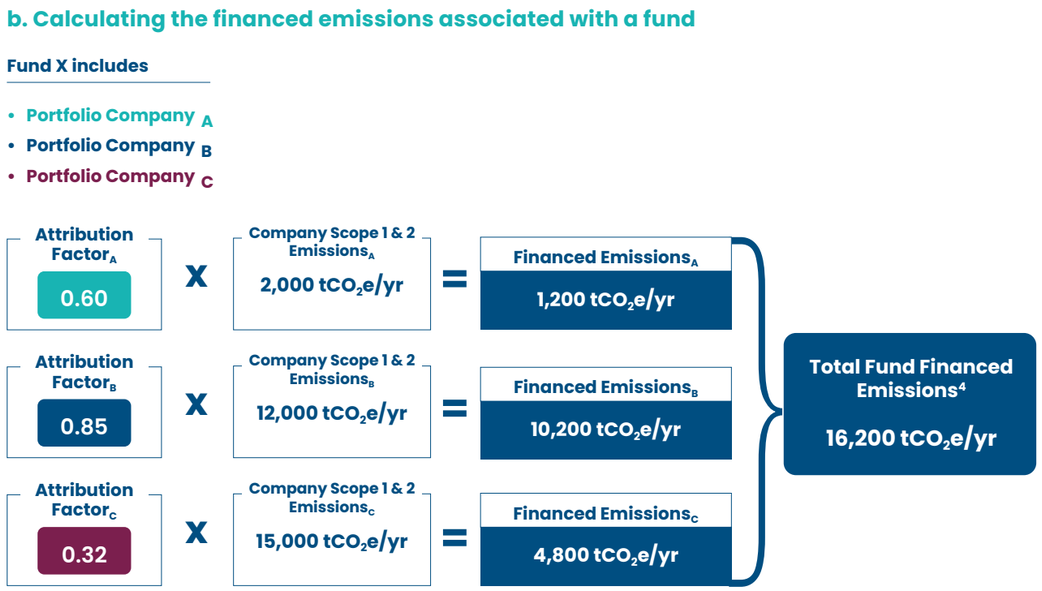
a. Calculating the attribution factor for a single portfolio company

This also applies for an LP co-investing in a portfolio company



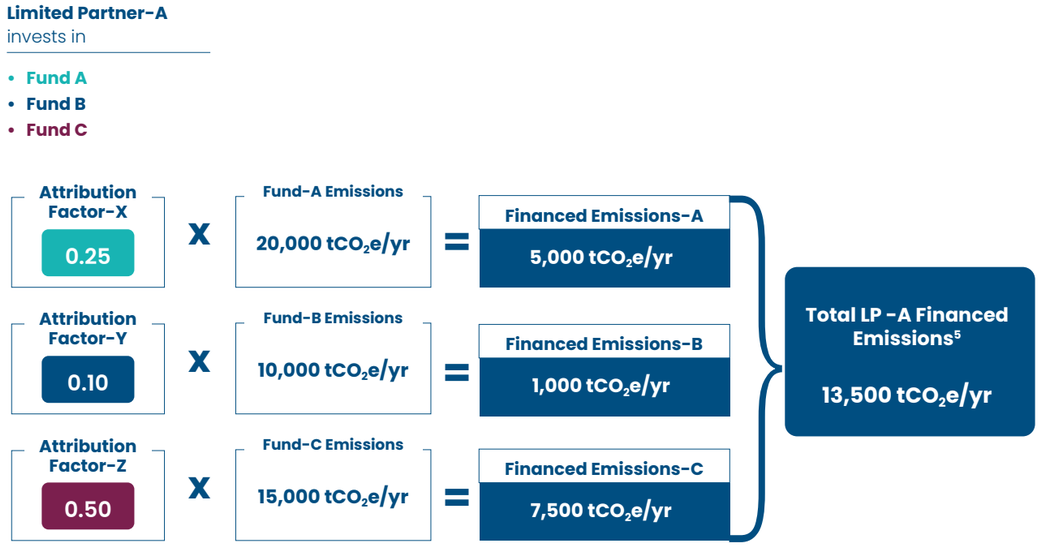
[3]Scope 1 and 2 emissions. The same process should be untertaken for scope 3 emissions should this data be obtained and reported.

b. Calculating the financed emissions associated with a fund



[4]Scope 1 and 2 emissions. The same process should be untertaken for scope 3 emissions should this data be obtained and reported.

c. Attribution to an LP investing in multiple funds



[5]Scope 1 and 2 emissions. The same process should be untertaken for scope 3 emissions should this data be obtained and reported.

GHG EMISSIONS ACCOUNTING - FINANCED EMISSIONS

Once GHG emissions from each portfolio company are attributed to the fund (or the co-investing LP), these can then be summed to provide the total aggregated financed emissions. For LPs the same approach should be taken to determine the share of emissions which should be attributed from a fund, based on the same attribution formula.

Best Practice

Below are some of the possible questions that GPs may face when calculating financed emissions. This guidance aims to set out a proposed approach to result in consistency across the sector.

- **Quality score** - When aggregating emissions, it is important to also record the data quality score. Each portfolio company should be assigned a quality score (see Figure 18 on PCAF data quality hierarchy). A weighted average should then be calculated using the following equation:

$$\frac{\sum \text{Value of equity and/or debt in the portfolio company x data quality score}}{\sum \text{Value of equity and/or debt in the portfolio}}$$

- **Location or market based scope 2 emissions** – Based on this guidance, it is recommended that portfolio companies report location based scope 2 emissions as a minimum, but aim to include a market based scope 2 approach if possible (see Section 1, Step 4). When aggregating portfolio companies' emissions, GPs and LPs should take a consistent approach to use either the location or market based approach and this should be disclosed. In alignment with the GHG Protocol scope 2 hierarchy, a location based figure can be used as part of the market based approach where these is no alternative data available. Therefore, should the GP chooses to use a market based approach for portfolio company scope 2 emissions, during the attribution and aggregation process, this is possible, even if some portfolio companies only provide a location based scope 2 value.
- **Differing reporting periods** – It is likely that data from portfolio companies will span different 12 month periods. It is therefore recommended that GPs set a single date, e.g. 31 December 2020, and portfolio companies provide GHG emissions data for the 12 month period that most closely aligns with that period.
- **Acquisitions and divestments** – During the reporting year, a GP's investment portfolio is likely to have changed with the acquisition of new investments and the divestment of other portfolio companies. It is recommended that new investments are only included in its first full 12 month period of reporting. For example, if the reporting year is 1 January to 31 December, and a company is acquired in July 2021, the portfolio company would start reporting for calendar year 2022 emissions. The same applies for divestments: only account for the last full year in which it is within the portfolio. By only accounting for a full 12 months of reporting, this reduces the fluctuations which would occur from part-year reporting e.g. for 3 months where the investment is active. In addition, this gives portfolio companies time to prepare for calculating GHG emissions. 12 months is the maximum period before which a portfolio company should be requested to provide this data. However, it is expected that different GPs will take different approaches, dependent on their own ambitions, therefore it is important to be transparent about the approach taken in any reporting.

Reporting & Metrics

- **Reporting**
- **Metrics**

REPORTING & METRICS

It is important for companies, whether as portfolio companies, GPs, or LPs, to report their emissions. This could be for regulatory purposes, to meet stakeholder requests, such as through CDP, or as part of annual reporting and TCFD reporting. It should not be assumed that calculating financed emissions for the finance sector, including private equity, is a simple task.

This is why initiatives such as PCAF and CDP request information such as data quality and percentage coverage. Having explained how emissions are calculated in Sections 1 and 2, this section explains how emissions are reported.

GP reporting on emissions

This section of the guidance is split into two reporting scenarios for GPs:

1. **Public Disclosures** - reporting aligned with GHG Protocol and PCAF, suited for public disclosure such as in sustainability or annual reports or in CDP disclosures.
2. **Reporting to Stakeholders** - fund reporting to LPs, focusing on fund and portfolio emissions.

In general, reporting should occur on at least an annual basis. Both commercial and regulatory drivers will determine how this information is reported, whether in an annual or sustainability report, or bilaterally to key stakeholders.

It is important that reporting aligns with the GHG Protocol Principles, please see the Reference Section.

For public disclosures, GP reporting should cover:

- Scope 1 and 2 operational emissions, based on organisational boundary (please see Fig 2.2).
- Scope 3 emissions (optional).
- Scope 3 category 15 – financed emissions – GPs and LPs only.

For reporting to stakeholders, the reporting should cover:

- Emissions associated with the underlying funds and/or portfolio companies. This guidance recommends that GPs:
  - Disaggregate emissions between scope 1 and 2 vs scope 3 emissions.
  - Disclose absolute GHG emissions for portfolio companies.
  - Disclose attributed financed emissions.
  - Where relevant and requested, disclose intensity metrics (see Table 4).

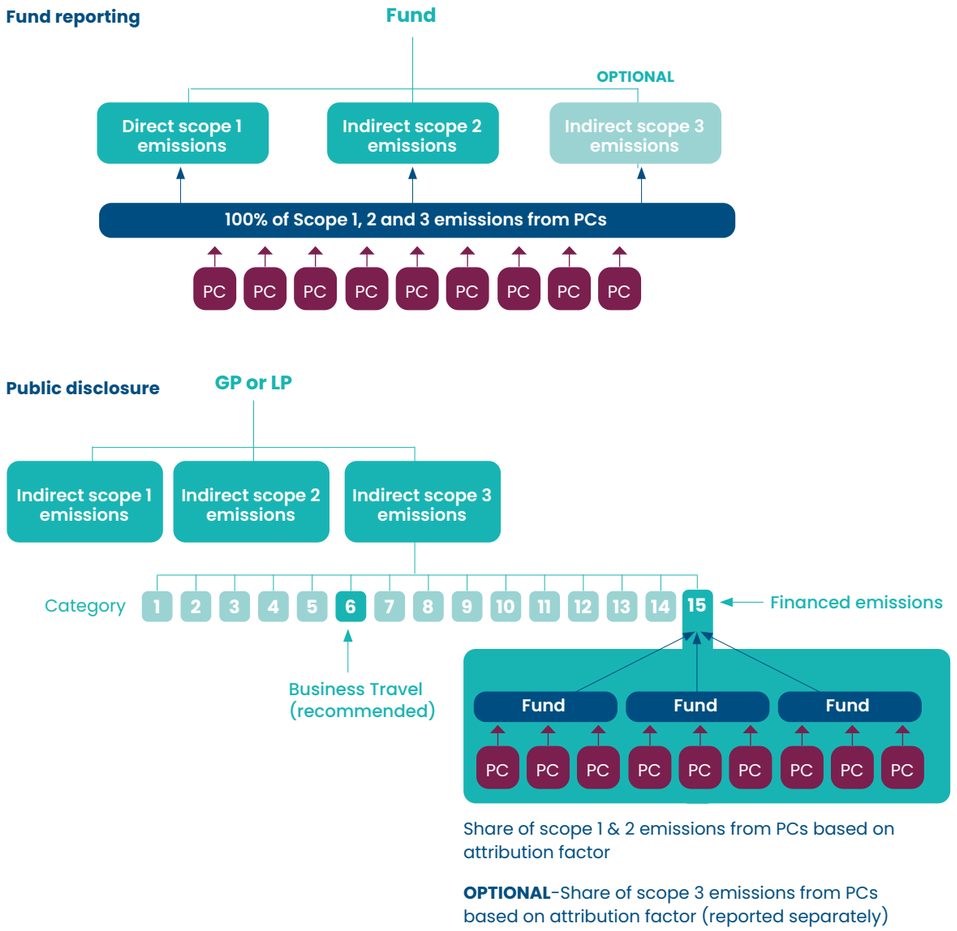
This guidance recommends that GPs record scope 1 and 2 emissions data from portfolio companies separately from scope 3. By recording portfolio company scope 1 and 2 emissions separately from portfolio company scope 3 emissions allows for aggregation or disaggregation when responding to a range of requests for reporting and metrics. **It is recommended that GPs prepare to report both absolute aggregated portfolio company emissions and financed emissions** (using attribution factors, see Section 2).

As scope 3 emissions reporting varies considerably between portfolio companies, based on data availability and quality, the chosen methodology, as well as the coverage across the 15 categories, it can be challenging to compare scope 3 emissions between portfolio companies. There are also concerns regarding double counting. However reporting for scope 3 emissions from portfolio companies separately allows for increased TRANSPARENCY and COMPLETENESS.

In addition, some stakeholders may request reporting on emissions associated with investments in selected sectors.

FIGURE 21

Fund reporting vs public disclosure



Please note scope 1 and 2 for GPs and LPs are the operational emissions, not those of portfolio companies.

Below in tables 1 and 2 are a summary of reporting components for:

- Public disclosures for a portfolio company, GP or LP.
- Fund reporting (stakeholder request).

This is based on a review of industry standards aligned with best practice.

It is important to keep a complete record of the GHG accounting process to ensure consistency in the future and for assurance purposes. The tables also indicates where particular reporting requirements should be included for "internal record keeping" purposes. For more on data management and record keeping please see Appendix C.

TABLE 1

a) Public reporting – portfolio company, GP or LP

Reporting component	
Statement regarding methodology used e.g. PCAF Global Standard, GHG Protocol Corporate Accounting and Reporting Standard	Required
Disclosure of organisational boundary	Required
Emissions sources included e.g. diesel and petrol for leased vehicles in scope 1	Required for internal record keeping only
Greenhouse gases Confirm which of the GHGs are in the tCO_2e calculation	Required
Source of emission factors used e.g. UK Government Conversion Factors	Required for internal record keeping. For public disclosures, you may wish to include a declaration that emission factors are based on the latest version available, relevant to the location.
Key changes between current and previous reporting year e.g. acquisitions, site closures, any material exclusions or assumption	Recommended for public disclosures to help inform the reader why emissions have changed. This is also useful to record internally.
Verification or assurance statement From a third party	Required if undertaken
Approach taken e.g. any assumptions, estimations	Required for internal record keeping only
Scope 1 and 2 data – GP or LPs operational emissions	
Scope 1 emissions (tCO_2e)	For all scope 1 and 2 reporting requirements: This should be reported for the base year and the current year.
Scope 2 emissions (tCO_2e) – Location based	
Scope 2 emissions (tCO_2e) – Market based	
Scope 1 & 2 intensity metric e.g. tCO_2e/$ revenue	
Scope 3 emissions (categories 1 to 14)	
Scope 3 emissions (tCO_2e)	This is optional, however scope 3 is becoming best practice so it is likely to become a requirement in the future. This should be reported for the base year and the current year.
Scope 3 emissions by category (tCO_2e)	
Avoided emissions and offsets	
Avoided emissions (tCO_2e)	Optional
Emissions removal (tCO_2e)	Optional
Offsets purchased (tCO_2e)	Optional

TABLE 1

b) Public reporting –GP or LP

Reporting component	
Scope 3 category 15 - financed emissions	
Financed emissions (tCO_2e) Absolute scope 1 & 2 emissions at fund level	Optional – suggested on fund by fund or strategy by strategy aggregation basis
Financed emissions (tCO2e) Attributed scope 1 & 2 emissions at fund level	Recommended – suggested at fund level This should be reported for the base year and the current year
Scope 2 approach used Market or location scope 3 emissions reported by portfolio companies	Recommended
PCAF data quality score per portfolio, fund or sector as applicable (scope 1 & 2)	Recommended
Data coverage % of the portfolio, fund or sector included in the above values	Required
Metrics See Table 4	Required

TABLE 2

Stakeholder request – fund reporting

Reporting component	Comment
Introduction and methodology -recommended	
Statement regarding methodology used e.g. PCAF Global Standard, GHG Protocol Corporate Accounting and Reporting Standard	Required
Disclosure of organisational boundary	Required
Key changes between current and previous reporting year e.g. acquisitions, site closures, any material exclusions or assumption	Recommended
Underlying portfolio company emissions	
Total fund emissions (tCO_2e) Absolute scope 1 & 2 emissions at fund level	Required. **This must be at least at the fund level**. Stakeholders may also request a more detailed breakdown e.g. by portfolio company. This should be reported for the base year and the current year.
Total fund emissions (tCO_2e) Absolute scope 3 emissions at fund level	Optional but recommended. **This must be at least at the fund level.** Stakeholders may also request a more detailed breakdown e.g. by portfolio company. This should be reported for the base year and the current year.
Scope 2 approach used Market or location scope 3 emissions reported by portfolio companies	Required for stakeholder requests and public disclosures
PCAF data quality score per portfolio, fund or sector as applicable (scope 1 & 2)	Recommended for stakeholder requests and public disclosures
Data coverage % of the portfolio, fund or sector included in the above values	Required for stakeholder requests and public disclosures
Metrics See section below	Required for stakeholder requests and public disclosures
Avoided Emissions	
Avoided emissions (tCO_2e)	Optional
Emissions removal (tCO_2e)	Optional
Offsets purchased (tCO_2e)	Optional

When reporting your emissions in line with this guidance, please reference this guide as follows: "Prepared in line with the iCI and ERM Greenhouse Gas Accounting and Reporting Guide for the Private Equity Sector (2022)"

Metrics

It can be difficult to compare absolute emissions between portfolio companies, funds and GPs, due to differing sizes, sectors, scope of emissions, which is why it is recommended to also calculate intensity metrics. This allows for an easier comparison as there is a common shared denominator between the assessed entities. This also allows for comparison over time.

However, there are currently a wide number of metrics relating to GHG emissions accounting and reporting in use across the industry. This section looks to align with existing approaches, whilst consolidating and grouping the metrics, and finally lists required and optional metrics to include in reporting.

Metrics can be grouped into 2 categories:

1. **Absolute emissions** – absolute value of either financed emissions, or selected scopes. This is useful to compare how emissions change over time for an individual portfolio company, fund or GP. This is important for target setting.
2. **Intensity-based emissions** – this normalises emissions, allowing for comparisons between portfolio companies, funds and GPs, even those of different vintage. This can also help track change over time, by comparing if the emissions intensity increases or decreases. There are three key types:

   a. Economic intensity – emissions per monetary unit. This is typically revenue for portfolio companies and revenue or investment for funds and GPs.

   b. Physical emissions intensity – emission per activity. This will depend on the sector, and cannot be applied across a portfolio, but could be requested from portfolio companies. Denominator could be MWh electricity product, tonne of product, m^2 of real estate.

   c. Weighted carbon intensity – assessment of the exposure to carbon-intensive companies, reported as tCO_2e per unit of revenue, weighting companies based on market capital.

In Table 3 and 4 are examples of such metrics. Formulas from the TCFD and the EU Sustainable Finance Disclosure Regulation (SFDR) have been included to show the comparison between different reporting requirements. Typically, TCFD looks to cover scope 1 and 2 financed emissions, whilst SFDR includes scope 1, 2 and 3 financed emissions. By following this guidance and reporting scope 1 and 2 separately to scope 3, metrics are ready for reporting purposes aligned with TCFD, whilst only requiring these metrics to be combined for SFDR. Please note, at the time of publication, the SFDR metrics were still to be finalised following the consultation period. Finally, please also note that there may be other metrics that GPs and LPs choose to report, beyond those relating to GHG emissions, such as percentage of companies with a net zero target, or reporting in alignment with the TCFD. These are not included in the scope of this guidance.

TABLE 3

GHG accounting metrics – absolute emissions

#	Applicability	Source	Metric and formula	Units	Purpose
Absolute emissons					
1	Portfolio companies, funds, GPs and LPs	The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard, PCAF	**Absolute emissions:** • Total scope 1 and 2 emissions • Total scope 3 emissions	tCO_2e	Allows comparison between emissions year on year for a single company, fund or GP. Identify hotspots within a portfolio or fund.
2	Calculated by GPs or LPs for funds, portfolio companies or their whole portfolio	TCFD	**Total carbon emissions (financed emissions)** $\sum_{n}^{i} \left(\frac{current\ value\ of\ investment_i}{issuer's\ market\ capitalisation_i} \times issuer's\ scope\ 1\ \&\ scope\ 2\ GHG\ emissions_i \right)$ The TCFD guidance states " While this metric is generally used for public equities, it can be used for other asset classes by allocating GHG emissions across the total capital structure of the investee (debt and equity)" This aligns with PCAF.		
3	Calculated by GPs or LPs for funds, portfolio companies or their whole portfolio	SFDR	**Total carbon emissions (financed emissions)** $\sum_{n}^{i} \left(\frac{current\ value\ of\ investment_i}{investee\ company's\ enterprise\ value_i} \times investee\ company's\ scope\ 1, 2\ and\ 3\ carbon\ emissions) \right)$		
4	Calculated by GPs or LPs for funds, portfolio companies or their whole portfolio	PCAF	**Financed emissions:** $\sum_{c} \frac{Outstanding\ amount_c}{Total\ equity + debt_c} \times Company\ emissions_c$ Company emissions could be scope 1 and 2, or scope 3. Separate metrics should be calculated to cover portfolio companies' scope 1 and 2 emissions, and portfolio companies' scope 3 emissions.		

TABLE 4

GHG accounting metrics - emissions intensity

#	Applicability	Source	Metric and formula	Units	Purpose
Intensity metrics					
1	Calculated by GPs or LPs for funds, portfolio companies or their whole portfolio	TCFD	**Carbon footprint:** $\frac{\sum_{n}^{i} \left(\frac{current\ value\ of\ investment_i}{issuer's\ market\ capitalization_i} \times issuer's\ scope\ 1\ and\ scope\ 2\ GHG\ emissions_i \right)}{current\ portfolio\ value\ (\$M)}$ Please note, scope 1 and scope 2 GHG emissions are allocated to investors based on an equity ownership approach as described under methodology for Total Carbon Emissions. Therefore for private equity, total debt and equity should replace market capitalisation.	tCO_2e/ total value invested (in millions of unit of currency)	Total carbon emissions for a portfolio normalised by the market value of the portfolio, expressed in tCO_2e/$M invested. Allows comparison between funds and GPs, and change over time. Allows comparison between funds and GPs, and change over time
2	Calculated by GPs or LPs for funds, portfolio companies or their whole portfolio	SFDR	**Carbon footprint:** $\frac{\sum_{n}^{i} \left(\frac{current\ value\ of\ investment_i}{investee\ company's\ enterprise\ value_i} \times investee\ company's\ scope\ 1, 2\ and\ 3\ carbon\ emissions_i \right)}{current\ value\ of\ investments\ (€m)}$		
3	Calculated by GPs or LPs for funds, portfolio companies or their whole portfolio	PCAF	**Metric 2 and 3 in Table 3, can be summarised as "total carbon emissions" (or financed emissions) divided by the current portfolio value, or the current value of all investments, respectively. For the private equity sector, this could be translated to the below** $\frac{\sum financed\ emissions}{\sum portfolio\ value}$ Company emissions could be scope 1 and 2, or scope 3. Separate metrics should be calculated to cover portfolio companies' scope 1 and 2 emissions, and portfolio companies' scope 3 emissions		
4	Calculated by GPs or LPs for funds, portfolio companies or their whole portfolio	TCFD	**Portfolio carbon intensity** $\frac{\sum_{n}^{i} \left(\frac{current\ value\ of\ investment_i}{issuer's\ market\ capitalization_i} \times issuer's\ scope\ 1\ \&\ scope\ 2\ GHG\ emissions_i \right)}{\sum_{n}^{i} \left(\frac{current\ value\ of\ investment_i}{issuer's\ market\ capitalization_i} \times issuer's\ \$M\ revenue_i \right)}$ Please note: scope 1 and scope 2 GHG emissions are allocated to investors based on an equity ownership approach as described under methodology for Total Carbon Emissions. Therefore for private equity, total debt and equity should replace market capitalisation.	tCO_2e/ revenue (in millions of unit of currency)	Volume of carbon emissions per million dollars of revenue (carbon efficiency of a portfolio), expressed in tCO_2e/$M revenue.

TABLE 4

GHG accounting metrics - emissions intensity (continued)

#	Applicability	Source	Metric and formula	Units	Purpose
Intensity metrics					
5	Portfolio Companies	The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard	$\frac{total\ emissions}{total\ revenue}$		Allows comparison between portfolio companies and change over time.
9	Calculated by GPs or LPs for funds, portfolio companies or their whole portfolio	TCFD	**Portfolio weighted average carbon intensity (WACI)** $\sum_{n}^{i} \left(\frac{current\ value\ of\ investment_i}{current\ portfolio\ value} x \frac{issuer's\ scope\ 1\ and\ scope\ 2\ GHG\ emissions_i}{issuer's\ \$M\ revenue_i} \right)$ Scope 1 and scope 2 GHG emissions are allocated based on portfolio weights (the current value of the investment relative to the current portfolio value), rather than the equity ownership approach (as described under methodology for Total Carbon Emissions).	tCO_2e/ revenue (in millions of unit of currency)	Portfolio's exposure to carbon-intensive companies. Allows comparison between funds and GPs and over time.
10	Calculated by GPs or LPs for funds, portfolio companies or their whole portfolio	SFDR	$\sum_{n}^{i} \left(\frac{current\ value\ of\ investment_i}{current\ value\ of\ all\ investments\ (€M)} x \frac{investee\ company's\ scope\ 1,2\ and\ 3\ carbon\ emissions_i}{investee\ company's\ €M\ revenue_i} \right)$		
11	Calculated by GPs or LPs for funds, portfolio companies or their whole portfolio	PCAF	Depending on the sector, select appropriate denominator to divide financed emissions by, e.g. kWh, tonne of product $\frac{\sum financed\ emissions\ associated\ with\ chosen\ sector}{activity\ unit\ for\ appropriate\ for\ sector}$	tCO_2e/ activity unit	Compare sector across funds, GPs or LPs. Track change over time.
12	Portfolio companies	GHG Protocol	Select suitable denominator for the company e.g. tonne product, kWh electricity production. $\frac{scope\ 1\ and\ 2\ emissions}{activity\ unit\ for\ appropriate\ for\ sector}$		Compare intensity of the production over time.

Next Steps

- **Emission reductions, target setting and net zero**
- **Assurance and verification**
- **Other next steps**

NEXT STEPS

GHG emissions accounting and reporting can be considered the first step for a company looking to understand its impact on the climate. This is the foundation from which concrete actions can be developed. It is important for a company to first understand its emissions, before it can begin to address them. This section introduces next steps for private equity firms, whilst Appendix B provides a list of sources and further guidance to support companies.

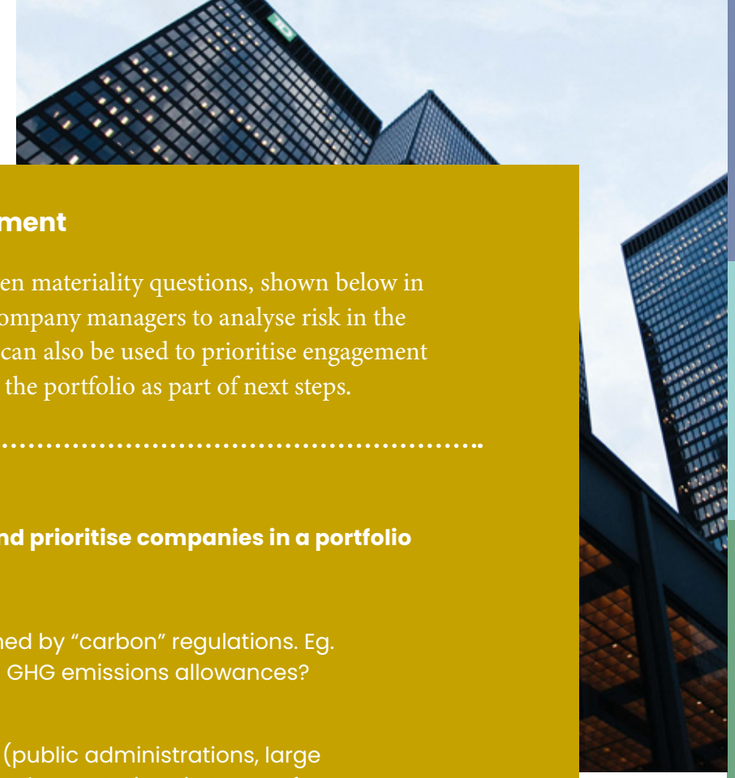
Emission reductions, target setting and net zero

Without calculating GHG emissions, a company (portfolio company, GP or LP) or a fund cannot identify where the primary contributors are within its emissions profile. Once a GHG emissions inventory is developed, it is then possible to identify the key activities or emissions sources responsible for the majority of emissions and identify approaches to reduce these emissions. This could range from switching to renewable energy, introducing energy efficient measures, engaging with suppliers, or altering operations.

Developing a GHG emissions inventory also allows emission reductions targets to be set. Targets can come in a range of different formats, such as those covering certain sites or geographies, focusing on a single emissions source or scope of emissions, or alternatively a target relating to energy consumption or renewable energy consumption. For targets to have a meaningful impact, and contribute towards tackling climate change, in line with best practice, they should be aligned with science. This means on a trajectory to keep global temperature rise to well below 2°C as committed by the Paris Agreement. However, as a result of the IPCC Special Report on 1.5°C, many companies are now aiming to be more ambitious and align to a 1.5°C trajectory, to achieve net zero emissions by 2050 or sooner.

The Science Based Targets initiative (SBTi), is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF), and has quickly become synonymous with setting science-based targets. Aiming to make targets comparable and consistent across industries, the SBTi has introduced a range of target setting protocols and guidance, including for corporate and financial institutions. A guidance for the private equity sector was launched in November 2021. In October 2021, the SBTi also issued the first standard for setting net zero targets for corporates, and launched a consultation for a net zero foundation for financial institutions in November 2021.

The iCI has formed a Net Zero working group and is developing guidance for private equity practitioners. Please also refer to Appendix B for more information on target setting and net zero and other guidance documents.



Prioritising engagement

iCI has produced the seven materiality questions, shown below in Figure 22, for portfolio company managers to analyse risk in the portfolio. This approach can also be used to prioritise engagement on efforts to decarbonise the portfolio as part of next steps.

FIGURE 22

Questions to help analyse risk and prioritise companies in a portfolio

- Is the company concerned by "carbon" regulations. Eg. Directive 2003/87/EC on GHG emissions allowances?
- Have some of its clients (public administrations, large groups) already expressed expectations in terms of 'carbon' strategy?
- Is part of the value chain located in a high climate risk geographical area?
- Has the company, or its business sector, recently been the subject of a controversy relating to 'carbon' issues?
- Are the company's market conditions sensitive to climate and energy issues (dependence, competitions, technological challenges, etc.)?
- Has the company produced a voluntary carbon footprint (scopes 1,2,3) demanded by an important/strategic stakeholder?
- Is the company planning an IPO? Check national reporting requirements for listed or large unlisted companies e.g. revenue and emplyeed thresholds?

Please note the design of this graphic has been updated for this guidance.

NEXT STEPS

Assurance and verification

All GHG data management and reporting should be subject to an internal assurance programme designed to provide oversight and cross checking of both data inputs and data consolidation for reporting. Undertaking a second party review by qualified personnel within the business who are independent to the data collection, calculation and reporting procedures provides valuable reassurance on data quality. It is important this follows a process and checks against certain criteria.

However, third party external assurance will increase credibility with stakeholders, such as LPs, and is increasingly expected of GHG data. In addition to an independent assurance statement, the verification process can help identify any errors in calculations or data, help to improve data quality and ensure alignment with best practice.

Verification may be expected from individual portfolio companies, and/or applied to the consolidated 'roll up' of data across the portfolio. The GPs, LP or portfolio company would discuss the verification needs with the 3rd party entity in order to agree the scope and level of assurance required. It is recommended that the verification applies an established GHG verification or assurance standard, notably ISO14064-3 or ISAE3410.

Below is a summary of the view on verification and assurance across key initiatives and regulations.

TABLE 5

View on verification and assurance across key initiatives and regulations

Initiative	View on verification and assurance
PCAF	Not required, however verified emissions data results in a data quality score of 1.
SBTi	Beneficial but not required. Targets go through a validation process but this is not verification or assurance of the data.
TCFD	Not required
EU Taxonomy	Not required
PRI	Not required – independent audit of data under consideration for the next reporting cycle.
CDP	Assurance of at least 70% of both scope 1 and 2 emissions is required to get an A grade.
GRESB	Having the sustainability report and environmental data checked, verified or assured could contribute to scoring improvement.

Other next steps

The next steps outlined above are those which most directly relate to GHG emissions accounting and reporting, but companies may also want to consider:

- Disclosing in alignment with the TCFD,
- Assessing their climate related risks and opportunities,
- Evaluating options for carbon removals to achieve net zero targets,
- Offsetting to achieve carbon neutrality.

Other guidance documents relating to these topics are listed in Appendix B.

Appendices

- **Appendix A: Emission factors**
- **Appendix B: Useful resources and further guidance**
- **Appendix C: Data management**
- **Appendix D: Information request for portfolio companies**
- **Appendix E: Emissions sources for scope 1, 2 and 3**
- **Appendix F: Initiative climat international signatories**

APPENDIX A: EMISSION FACTORS

Emission factors:

Please note this is not an exhaustive list

- **UK government conversion factors**
  Includes guidance on calculations and emission factors for scope 1, 2 and 3 sources and conversion factors for different units, and provides fuel properties. Updated annually.
- **IEA CO_2 emissions from fuel combustion**
  Provides electricity grid factors for 150 countries and regions. Note that there is a cost to buy these emission factors. Updated annually.
- **eGRID**
  Provides electricity grid emission factors for the different regions in the US. Updates every two years on average.
- **European Investment Bank**
  A wide range of emission factors, such as for fuels, vehicles, GWP values.
- **EPA emissions factors for GHG inventories**
  Produced by the US government containing a wide range of fuels, and transport emission factors.
- **IPCC 2006 Guidelines for National Greenhouse Gas Inventories**
  Useful resource if you cannot find an emission factor elsewhere. There are numerous emission factors available for different sectors.
- **Ecoinvent**
  Life cycle inventory database, including a wide range of processes and products. Useful for scope 3 inventories.
- **GEMIS**
  Life cycle analysis programme and database for energy, material and transport systems.
- **Exiobase**
  EEIO database covering 200 products and over 44 countries and 5 rest of world regions.
- **The ICE Database**
  Embodied carbon database covering lifecycle emissions for materials and products.
- **PCAF online emission factor database**
  This includes emission factors relevant to the six PCAF asset classes. These are derived from Exiobase, national agencies and other publicly available sources. Only available for PCAF participants.

APPENDIX B: USEFUL RESOURCES AND FURTHER GUIDANCE

Useful resources and further guidance

1) GHG accounting and reporting guidance and tools

- Standards | Greenhouse Gas Protocol -Access to all the GHG Protocol Standards
- Industry specific guidance available from the GHG Protocol - GHG Protocol Guidance Tools
- ISO standard for quantification and reporting of greenhouse gas emissions and removals at the organisation level: ISO 14064-1:2018 - Greenhouse Gas Standard
- GWP values: see the Greenhouse Gas Protocol, Global Warming Potential Values or the IPCC Sixth Assessment Report (AR6) August 2021 IPCC Working Group I- Climate Change 2021, The Physical Science Basis- 7.SM Chapter 7: The Earth's 2nd energy budget, climate feedbacks and climate sensitivity - Supplementary Material
- Tools produced by the GHG Protocol to assist with emission calculations, including emission factors:
  - GHG Protocol cross sector calculation tools
  - GHG Protocol sector specific tools
- PCAF Global GHG Standard – Guidance for GHG accounting and reporting for the financial sector

2) Target setting, net zero, and decarbonisation

- Resources - Science Based Targets initiative – including tools for target setting, validation requirements, target setting criteria and guidance
- SBTi Private Equity Guidance – specific guidance and target setting criteria
- SBTi Corporate Net Zero Standard – standard for setting near-term and long-term science based targets and net zero standard criteria, include sector guidance and information on carbon removals

3) Private equity guidance

- PRI and INDEFI's TCFD for private equity general partners technical guide 2020 - Provides a framework to assess climate-related risk and to help guide GPs through the transition.
- IIGCC's net zero guide for private equity - Covers metrics, targets and implementation actions relevant to GPs and LPs and offers a coherent industry-wide approach to net zero"

4) Offsetting, carbon removals and avoided emissions

- IFI TWG - List of methodologies | UNFCCC - IFI methodology for avoided emissions and emission factors
- The Oxford Principles for Net Zero Aligned Carbon Offsetting 2020

APPENDIX C: DATA MANAGEMENT

To align with the GHG Protocol Principles, record keeping and data management is paramount. It is important to take a consistent approach between sites, geographies, and over time.

A complete internal report or record should be kept of:

- Data collected, including emissions sources, and units e.g. petrol in litres. Record all units for both activity data and emission factors.
- Emission factors and GWPs used in calculations.
- Source of data including file names, type of data e.g. invoice, and relevant contact.
- Missing data and any estimations taken to fill data gaps, such as using previous year data, or estimated based on floor space.
- Any exclusions from reporting.
- Any assumptions made, particularly where data is extrapolated or a proxy is used.

This will be useful for future years reporting, and may be required for auditing, verification, or regulatory purposes or to respond to stakeholder queries. Where estimations or assumptions are deemed significant, these should be included in any external reporting.

In addition, an internal record should be kept outlining the approach taken during the calculation process (listed as five steps in Section 1), such as the approach taken regarding organisational control, emissions sources identified and emission factors used. This can then be used by third party assurance providers. The internal record should allow another person to repeat the process independently.

The quality of the final calculation will depend on the quality of the data collected, and this is often the key limitation. Therefore, it is encouraged that robust data collection procedures are established to collect and ensure the quality of activity data. For example, companies should file and store all primary data (such as energy bills), and may want to consider introducing a data management system or software. In addition, companies can integrate their GHG accounting into existing management systems such as ISO 14001 (Environmental Management System Standard) or ISO 50001 (Energy Management System Standard).

APPENDIX D: INFORMATION REQUEST FOR PORTFOLIO COMPANIES

Whilst this guidance focuses on GHG accounting and reporting, it recognises that additional data points may be useful to collect. Based on the metrics listed in this report (see Section 3), it is recommended that GPs request the following information from their portfolio companies;

- Total scope 1 emissions (tCO_2e).
- Total scope 2 emissions (tCO_2e), location-based and also (if possible) market-based.
- Total scope 3 emissions (tCO_2e).
- Reporting period.
- Total equity and debt as listed on balance sheet.
- Total revenue.

In addition, the below data points are listed in the ESG Data Convergence Project (EDCP), developed by a coalition of LPs and GPs as common variables. The EDCP also lists other ESG metrics not listed here.

Metric	Definition	Unit
Company ID	Unique identifier for portfolio company that should be anonymised by the GP	String
General Partner	Name of GP	Name
Fund name	Name of fund as provided by GP	Name
Country of domicile/ headquarters	Country where company affairs are discharged. Please provide only one country (if more, provide explanation).	Country
Primary country of operations - optional	Country where majority of business activities are conducted. Please provide only one country.	Country
Company structure - optional	Private or Public	Name
Growth stage of Company	Description of company growth stage: venture/growth/PE. This is based on self-determination.	String
Percent ownership	Equity ownership stake for GP, between 0-100%	%
Primary sector of operations	Sector according to SASB Sustainable Industry Classification System (SICS)	Sector
Primary industry of operations	Industry according to SASB Sustainable Industry Classification System (SICS)	Industry
Currency	Description of monetary unit using three letter code (ISO 4217 code)	ISO code
Revenue	Annual revenue reported at the end of the calendar year, in US dollars	#
Total number of Full Time Equivalents (FTE) in current year	Number of Full-Time Equivalent (FTE) employees at the end of the calendar year	#
Total number of FTEs in previous year	Number of FTEs at the end of the previous calendar year	#

APPENDIX E: EMISSIONS SOURCES FOR SCOPE 1, 2 AND 3

Below is a list of typical activities for scope 1 and 2 emissions to support the data collection exercise. In addition, Appendix D of the GHG Protocol Corporate Standard includes a list of typical scope 1, 2 and 3 emissions sources by sector e.g. oil and gas, chemicals and service sectors.

Scope	Activity	Common fuels/sources	Units	Where to find the data	Likely relevance for office-type businesses?
1	Fuel combustion for heating, hot water, steam or electricity generation	Natural gas (supplied directly from gas mains)	m^3; kWh or tonnes	Gas utility supplier invoices	High
		Diesel	Litres; kWh or tonnes	Purchase invoice / delivery note	Possible
		Propane	Litres; kWh or tonnes	Purchase invoice / delivery note	Possible
		Liquidifed petroleum gas (LPG)	Litres; kWh or tonnes	Purchase invoice / delivery note	Possible
		Fuel oil	Litres; kWh or tonnes	Purchase invoice / delivery note	Possible
		Biomass (wood pallets, chips, or logs)	kWh or tonnes	Purchase invoice / delivery note	Possible
		Biogas	kWh or tonnes	Purchase invoice / delivery note	Possible, in newer buildings
1	Fuel consumed for owned or leased fleet of vehicles used for business purposes (transport of goods, company cars, etc.); when the company has direct control over fuel use	Petrol/ Gasoline	litre or US Gallon consumed OR km or miles travelled	Fuel card invoices, fuel/ mileage reimbursement requests	Possible
		Diesel/ Gasoil	km or miles travelled OR km or miles travelled	Fuel card invoices, fuel/ mileage reimbursement requests	Possible
		Compressed natural gas (CNG)	Litre; kWh or tonnes km OR miles travelled	Purchase invoice / delivery note	
		Liquified natural gas (LNG)	Litre; kWh or tonnes km OR miles travelled	Purchase invoice / delivery note	
1	Refrigerant gas leaks from refrigeration and/or airconditioning units	R134a, R290, R404A, R410A, Ammonia (R717), etc.	Litre; kWh or tonnes OR" with "kg"	Refill invoices / service note	Limited
2	Electricity purchase and consumption	Electricity	km or miles travelled" with "kWh"	Power utility supplier invoices	High
		Renewable electricity	km or miles travelled" with "kWh"	Power utility supplier invoices; REGOs, RECs, etc.	Possible
2	Purchase of district heating or cooling	District heating or cooling	km or miles travelled" with "kWh"	District heating supplier	Possible, dependent on location
2	Purchase of heating from landlord; when no direct gas supply contract	Natural gas combustion	kWh	Landlord pro-rata invoice/service charge	Possible

APPENDIX E: EMISSIONS SOURCES FOR SCOPE 1, 2 AND 3

Further information on the 15 scope 3 categories, as defined by the GHG Protocol Corporate Value Chain (Scope 3) Standard:

Scope 3 Category	Description	Example Emissions Sources
Category 1: Purchased Goods and Services	This category includes emissions from all purchased goods and services not otherwise included in the other categories of upstream scope 3 emissions (i.e., category 2 through category 8).	Products can be divided into production related (e.g. materials, components and parts) and non-production related (e.g. office furniture and supplies and IT support). Example services include consultancy, legal and financial support.
Category 2: Capital Goods	This category includes all upstream (i.e., cradle-to-gate) emissions from the production of capital goods purchased or acquired by the reporting company in the reporting year. Emissions from the use of capital goods by the reporting company are accounted for in either scope 1 (e.g., for fuel use) or scope 2 (e.g., for electricity use), rather than in scope 3	Capital goods are typically fixed assets, plants, property and equipment. Examples include equipment, machinery, buildings and vehicles.
Category 3: Fuel and Energy Related Activities	This category includes emissions related to the production of fuels and energy purchased and consumed by the reporting company in the reporting year that are not included in scope 1 or scope 2.	Emissions result from the following activities: • Upstream emissions of purchased fuels and electricity • Transmission and distribution losses- applicable to end users of electricity, steam, heating and cooling • Generation of purchased electricity that is sold to end users
Category 4: Upstream Transportation & Distribution	This category includes emissions associated with the transportation and distribution of products purchased, between a company's tier 1 suppliers and its own operations in vehicles not owned or operated by the reporting company. It also includes third-party transportation and distribution services purchased by the reporting company, including inbound logistics, outbound logistics (e.g., of sold products), and third-party transportation and distribution between a company's own facilities.	Emissions arise from the following transportation and distribution activities throughout the value chain: • Air transport • Rail transport • Road transport • Marine transport • Storage of purchased products in warehouses, distribution centres and retail facilities
Category 5: Waste Generated in Operations	This category includes emissions from third-party disposal and treatment of waste generated in the reporting company's owned or controlled operations in the reporting year.	Emissions arise from: • Waste sent to landfill, composting, closed or open loop recycling or waste sent to incinerators • This category also includes waste to energy, and wastewater treatment
Category 6: Business Travel	This category includes emissions from the transportation of employees for business-related activities in vehicles owned or operated by third parties, such as aircraft, trains, buses, and passenger cars.	Emissions may arise from the following: • Air travel • Rail travel • Bus travel • Rental cars or employee owned cars • Other modes of travel
Category 7: Employee Commuting	This category includes emissions from the transportation of employees between their homes and their worksites.	Emissions may arise from the following: • Rail travel • Bus travel • Rental cars or employee owned cars • Other modes of travel
Category 8: Upstream Leased Assets	This category includes emissions from the operation of assets that are leased by the reporting company in the reporting year and not already included in the reporting company's scope 1 or scope 2 inventories. This category is applicable only to companies that operate leased assets (i.e., lessees). Lessors should report under category 13.	Companies should collect scope 1 and 2 emissions data for all leased assets (where the company acts as a lessee). This may include vehicles, buildings, plants, equipment, machinery etc.
Category 9: Downstream Transportation & Distribution	This category includes emissions that occur in the reporting year from transportation and distribution of sold products in vehicles and facilities not owned or controlled by the reporting company.	Emissions arise from the following transportation and distribution activities from the point of sale of products: • Air transport • Rail transport • Road transport • Marine transport • Storage of purchased products in warehouses, distribution centres and retail facilities
Category 10: Processing of Sold Products	This category includes emissions from processing of sold intermediate products by third parties (e.g., manufacturers) subsequent to sale by the reporting company. Intermediate products are products that require further processing, transformation, or inclusion in another product before use and therefore result in emissions from processing subsequent to sale by the reporting company and before use by the end consumer.	Emissions will arise from the fuel use, electricity use, refrigerant use etc. occurring throughout processing of the sold product.
Category 11: Use of Sold Products	This category includes emissions from the waste disposal and treatment of products sold by the reporting company (in the reporting year) at the end of their life. This category includes the total expected end-of-life emissions from all products sold in the reporting year.	End-of-Life treatment methods may include landfilling, incineration and recycling (identical to category 5), however category 12 requires assumptions about the end-of-life treatment undergone by consumers.

APPENDIX E: EMISSIONS SOURCES FOR SCOPE 1, 2 AND 3

Category 12: End-of-Life Treatment of Sold Products	This category includes emissions from the waste disposal and treatment of products sold by the reporting company (in the reporting year) at the end of their life. This category includes the total expected end-of-life emissions from all products sold in the reporting year.	End-of-Life treatment methods may include landfilling, incineration and recycling (identical to category 5), however category 12 requires assumptions about the end-of-life treatment undergone by consumers.
Category 13: Downstream Leased Assets	This category includes emissions from the operation of assets that are owned by the reporting company (acting as lessor) and leased to other entities in the reporting year that are not already included in scope 1 or scope 2. This category is applicable to lessors (i.e., companies that receive payments from lessees).	Companies should collect scope 1 and 2 emissions data for all leased assets (where the company acts as a lessor). This may include vehicles, buildings, plants, equipment, machinery etc.
Category 14: Franchises	This category includes emissions from the operation of franchises not included in scope 1 or scope 2. This category is applicable to franchisors (i.e., companies that grant licenses to other entities to sell or distribute its goods or services in return for payments, such as royalties for the use of trademarks and other services). Franchisors should account here for emissions that occur from the operation of franchises (i.e., the scope 1 and scope 2 emissions of franchisees).	Franchisors should collect scope 1 and 2 emissions data from franchisees. This could include emissions associated with stationery and mobile combustion of fuels, electricity usage, heat/ steam/ cooling usage.
Category 15: Investments	This category includes scope 3 emissions associated with the reporting company's investments in the reporting year, not already included in scope 1 or scope 2. This category is applicable to investors (i.e., companies that make an investment with the objective of making a profit) and companies that provide financial services. This category also applies to investors that are not profit driven (e.g. multilateral development banks), and the same calculation methods should be used. Investments are categorised as a downstream scope 3 category because providing capital or financing is a service provided by the reporting company.	The reporting company may include investments' emissions within its own scope 1 and 2 totals if taking an equity share approach. If taking a financial or operational control approach to scope 1 and 2 reporting, then all investments will be included within the reporting companies scope 3 category 15 total. The GHG Protocol divides financial investments into four types: • Equity investments. • Debt investments. • Project finance. • Managed investments and client services. Reporting managed investments and client services is optional

Source: WRI and wbcsd, 2011, Corporate Value Chain (Scope 3) Accounting and Reporting Standard

APPENDIX F: INITIATIVE CLIMAT INTERNATIONAL SIGNATORIES

Current signatories to the Initiative Climat International (as of 31 March 2022)

21 Centrale Partners
Abénex Capital
Access Capital Partners
Acofi Gestion
Activa Capital
Adam Street Partners
Adamantem Capital
Advent International Corporation
Albarest Partners
Alchemy
Alliance Entreprendre
Allianz Capital Partners GmbH
Alter Equity 3P
Alven
Amethis
Amundi PE
Andera Partners
Antin Infrastructure Partners
AP6
Apax France
Apax Partners
Apicap
Arcano Partners
ARCH EM Partners
Ardian
Ares Management
Argos Wityu Partners S.A
Arkéa Capital
Astorg
Atlante Gestion
Axcel Management
Azulis Capital
Basalt Infrastructure Partners
BC Partners
Bee Up Capital
BlackFin Capital Partners
Blisce
BlueGem
Bregal Investments
Bridgepoint
Caisse des dépôts et consignations
Capital Croissance
Capital Dynamics
Capital Export
CAPZA
Carlyle
Cerea Partners
Certior Capital
Charterhouse Capital Partners LLP
Chequers Partenaires S.A
Church Commissioners for England
Cibus Investments Limited
CIC Private Debt
Ciclad
Cinven
Clayton, Dubilier & Rice
Coller Capital
Conquest Group
Credit Suisse
CVC Capital Partners
Demeter Partners
DigitalBridge
Duke Street
Educapital
Eiffell Investment Group
EIG
EMK Capital
Energy Impact Partners
EQT
Equistone Partners Europe
Eurazeo
Eutopia Gestion
Experienced Capital
Exponent
Flexstone Partners SAS
Foresight Group
Fremman Capital
Freshstream
FSN Capital
Galiena Capital
GENEO Partenaires
Global Infrastructure Partners
Greenpeak Partners
Hamilton Lane
HarbourVest Partners
Hg Capital
Horizon Capital
IDIA Capital Investissement
Idinvest Partners
IG4 Capital
IK Investment Partners
Inflexion
Infracapital
Infrared Capital Partners
InfraVia Capital Partners
Innovafonds
Intermediate Capital Group (ICG)
Investindustrial
Isatis Capital
IXO Private Equity
Kayne Anderson Capital Advisors
Keensight Capital
Kepler Chevreux Invest SAS
Kohlberg & Company
Kohlberg Kravis Roberts & Co.
Korelya Capital
Latour Capital
Lauxera Capital Partners
LBO France
LFPI Gestion
LGT Capital Partners
Livingbridge
LT Capital
Main Capital
Mayfair Equity Partners LLP
MBO & Co
MCapital
Momentum Invest
Montagu
Montana Capital Partners AG
Montefiore Investments
Motion Equity Partners
Naxicap Partners
NCI
Neuberger Berman
NextStage AM
NiXEN
Nordic Capital
NorthEdge Capital
Oakley Capital
ODDO BHF
Omnes Capital
One Rock Capital Partners LLC
Onex
PAI Partners
Palatine Private Equity
Pantheon Ventures
Parquest Capital
Partners Group
Pechel
Permira
Polaris
Qualium Investissement
RB Capital
Revaia
Ring Capital
Riverstone
Rothschild & Co
Sagard Private Equity Partners
Seventure Partners
Silverfleet Capital
Siparex Groupe
Sparring Capital
Stafford Capital
StepStone Group
Stirling Square
Swen Capital Partners
TowerBrook
TPG
Triton
Turenne Groupe
UI Investissement
Vantage Infrastructure
Verod Capital Management
Warburg Pincus
Weinberg Capital
Yotta Capital

initiative climat international

Private equity action on climate change