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PMDR | Private Markets Decarbonisation Roadmap **2.0**

initiative climat international
Private markets action on climate change

TERRA CARTA

Sustainable Markets Initiative

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LEGEND

LBO Buyout
Gr Growth
VC Venture Capital
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ABOUT THE INITIATIVE CLIMAT INTERNATIONAL (ICI)

The Initiative Climat International (iCI) is a global, practitioner-led community of private markets investors that seek to better understand and manage the risks associated with climate change. The iCI counts globally over 280 members; representing more than USD 4 trillion as asset under management as of October 2024. iCI members share a commitment to reduce carbon emissions of private 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 emissions in their 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.

ABOUT THE SUSTAINABLE MARKETS INITIATIVE PRIVATE EQUITY TASKFORCE

Founded by His Majesty King Charles III in 2020, then the Prince of Wales, the Sustainable Markets Initiative has become the world's 'go-to' private sector organisation on transition. Launched in 2021, the Terra Carta serves as the Sustainable Markets Initiative's mandate with a focus on accelerating positive results for Nature, People and Planet through real economy action. Complementing the Terra Carta, the Astra Carta was launched in 2023 to support a default sustainable approach to space while leveraging space resources for sustainability on Earth. Read more at **www.sustainable-markets.org**.

The Sustainable Markets Initiative's Private Equity Task Force launched in 2021 and is the first ever CEO-level Private Equity working group established to discuss ways that the industry can effect change. It leverages expertise within each member firm across three priority areas: climate change, nature and sustainability related metrics.

Learn more at **www.sustainable-markets.org/taskforces/private-equity**

ABOUT BAIN & COMPANY

Bain & Company is a global top management consulting firm, and the world's leading advisor to the Private Equity (PE) industry and its stakeholders. The firm's PE practice is more than triple the size of the next-largest consulting firm serving the industry. Bain & Company's work with PE firms spans fund types—Buyout, Infrastructure, Real Estate and Debt, as well as Hedge Funds—and many of the most prominent institutional investors, such as Sovereign Wealth Funds, Pension Funds, Endowments and Family Investment Offices. Bain & Company supports its clients across a broad range of objectives that include deal generation, due diligence, immediate post-acquisition, ongoing value addition, exit, firm strategy and operations and institutional investor strategy.

Through our extensive work across the PE industry, we recognise the unique role the industry can have in accelerating decarbonisation. Climate change is a complex, multi-stakeholder problem that spans portfolio strategy, operations, product design, marketing, investor relations, and more. Adapting to global warming demands that business leaders take steps to mitigate risks and spur innovation. Addressing climate change can be challenging, but also presents opportunities for growth; as the energy transition accelerates, both the complexities and the opportunities are certain to increase. At Bain, we help investors, PE firms, and their portfolio companies create a differentiated strategy to capture value from a reduced carbon footprint. Our climate change consultants help to systematically reduce the carbon intensity of our clients' operations, supply chain, and product mix—asset by asset and product by product.

Bain has been honored to collaborate with the Initiative Climat International and the Sustainable Markets Initiative's Private Equity Task Force on this publication and looks forward to seeing this work drive real action on decarbonisation in Private Markets.

CONTEXT

The implications of climate change and the resulting need to transition to a low-carbon economy is a major force shaping Private Markets. Investors, including Private Equity firms and other alternative asset managers, are seeing climate-related factors increasingly affecting the financial performance of portfolio companies' and funds' returns. At the same time, shareholders, regulators and the public are calling for increased incorporation of, and transparency on, emissions considerations in investment decisions.

Private Markets' response to this trend reflect the **wide range of investment models** in the industry. Some firms are taking bold and highly visible steps, such as committing to align to net zero across their portfolio(s) by 2050 or sooner. Others are focused on building asset-specific competencies that will enable decarbonisation at their portfolio companies. Regardless of approach, there are challenges that all Private Markets investors face: data scarcity, unclear pathways to net zero and increasing polarisation on taking into account decarbonisation when making investment decisions. Regardless of model, these challenges inhibit action.

To help Private Markets firms drive a transition to a low-carbon economy, Initiative Climat International (iCI) and the Sustainable Markets Initiative's Private Equity Task Force have developed the Private Markets Decarbonisation Roadmap.

PURPOSE OF THE ROADMAP

The Roadmap, at its core, is a common language for firms to use to communicate to stakeholders where their portfolios are on their decarbonisation journey. The approach is comprehensive and covers seven asset classes with varying levels of detail: Buyout (primary focus), Growth, Venture Capital, Infrastructure, Real Estate, Private Credit, and Secondaries. The guidance is designed on a principle of flexibility, enabling firms to choose what, who and how to disclose their performance across the Roadmap. The intent is to support more effective analysis and objective-setting by creating greater transparency on the current state of decarbonisation across the assets in a given portfolio.

The Roadmap is designed to be applicable for any firm or fund, regardless of where they are in their decarbonisation journey. For firms seeking to differentiate themselves or specific funds through their decarbonisation achievements, the framework provides an opportunity to highlight and showcase their efforts. The Roadmap does not mandate firms to publicly report or share decarbonisation data with clients or limited partners (LPs). Nevertheless, for firms that wish to engage in such reporting, the Roadmap lays out an approach that is easily comprehensible to a wide range of stakeholders and builds off established norms and frameworks. As adoption of the Roadmap broadens, this consistent approach to fund reporting will support streamlining industry disclosure efforts.

FIGURE 1. PURPOSE OF THE ROADMAP

The Private Markets Decarbonisation Roadmap is...

A common language for asset managers to:

- Describe where their portfolios are on their decarbonisation journey
- Speak to stakeholders about their decarbonisation activities in a way that is mutually understood

A comprehensive guidance so firms:

- Can apply the approach across different asset classes in their portfolio
- Have clear activities for each stage in the fund lIfecycle

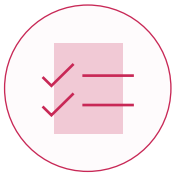
A flexible approach, where firms can choose for their funds:

- Where and how to disclose performance (to LPs, publicly, etc.) using metrics that are most relevant to their context

The Private Markets Decarbonisation Roadmap is not...

A public commitment to deliver a common goal (e.g., GFANZ Net Zero Initiatives)

A framework with fixed emissions reduction targets or portfolio coverage requirements (e.g., IIGCC's Net Zero Investment Framework (NZIF) 2.0)



A regulator, third-party verifier or standard setting reporting body (e.g., EU taxonomies and SBTi)

Definitions[1]

- **Fund:** The pool of capital raised from third-party investors and established for the purposes of private markets 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 Markets fund structures usually take the form of limited partnerships where the fund manager is known as the General Partner (GP) with responsibility by law for the operations 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 Markets, a Limited Partner (LP) is a third-party institutional investor in a 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 (PortCo):** A business entity that has secured at least one round of financing from one or more funds. Also known as an investee firm, i.e. a company in which a given fund has invested.

SECTION

1 Introduction to Decarbonisation in Private Markets

1.1. WHY SHOULD PRIVATE COMPANIES FOCUS ON DECARBONISATION?

Privately-owned companies are responsible for about 60% of global climate-warming emissions.[2] However, they are often less advanced on their decarbonisation journey than their public counterparts. Of companies reporting to CDP, an environmental disclosure non-profit, only 37% of those that are privately held have set emissions reduction targets, in comparison to 73% of those that are listed.[3]

For investors in these companies, this creates a challenge, as the emissions generated by these businesses are also considered part of their emissions profile. According to the **Partnership for Carbon Accounting Financials (PCAF)**, emissions generated by a company are attributed to the investor based on the stake that they have in the underlying business.[4] These so-called **financed emissions** make up most of an investor's overall emissions profile and therefore are the main focus for GPs and LPs looking to decarbonise.

A Private Equity firm's emissions comprise of the firm's operative emissions, which include Scope 1 & 2 emissions along with Scope 3 (categories 1 to 14). These operative emissions typically represent 5-10% of the firm's emissions profile. The remainder of the emissions lie in Scope 3 category 15, financed emissions. These emissions relate to the firm's investments—that is, its PortCos' emissions.

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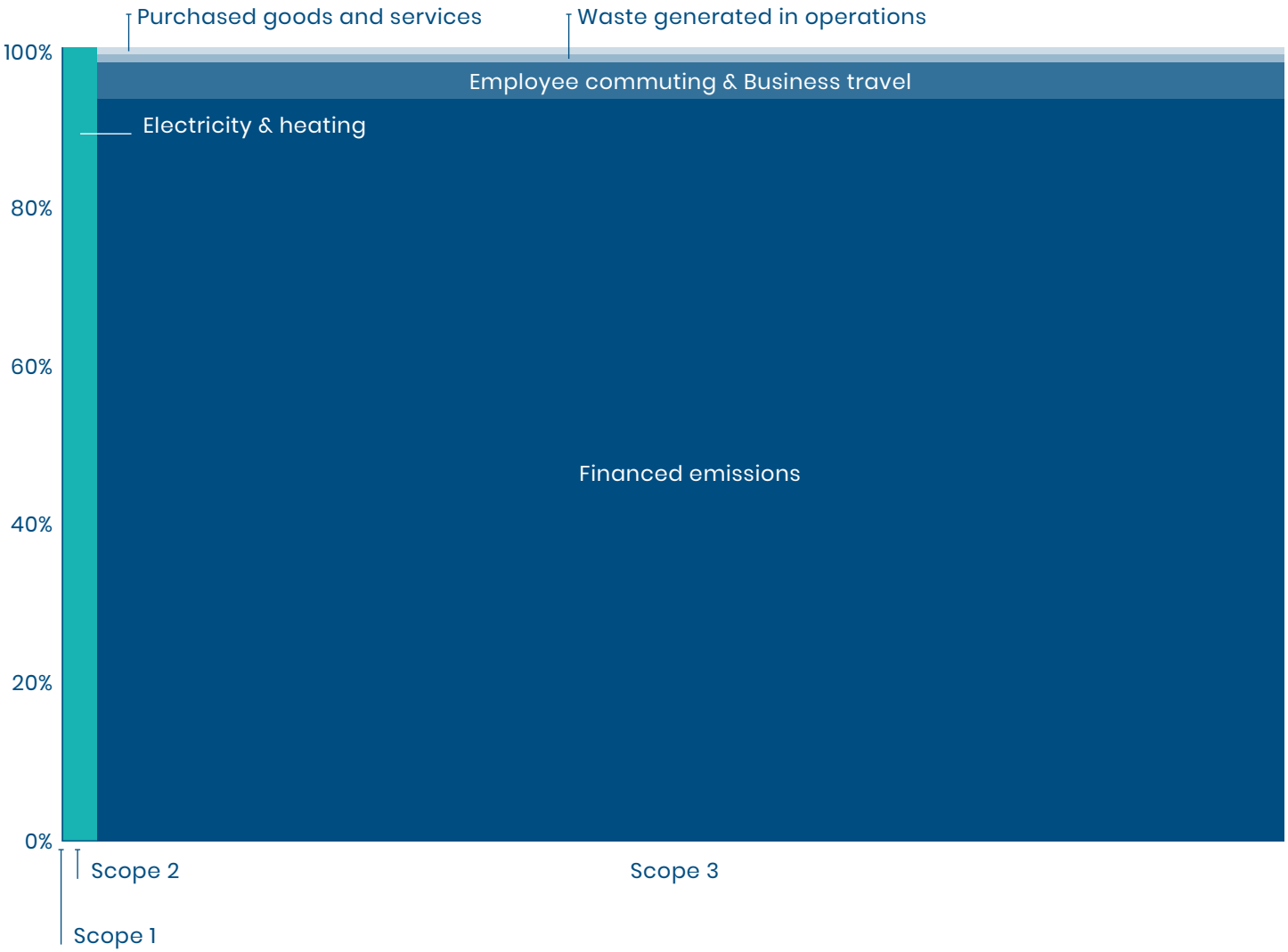
FIGURE 2. TYPICAL EMISSIONS PROFILE OF A PRIVATE EQUITY FIRM[5]

Illustrative carbon emissions by category and scope (tCO2e)



GPs engage companies in their portfolio to monitor and reduce emissions for multiple fiduciary-related reasons:

- **To mitigate the threat of climate-related risks** facing their PortCos and maximise decarbonisation opportunities for underlying investments
- **To attract further capital** for PortCos from either private or public sources
- **To ensure compliance** of PortCos with current and emerging **emissions regulations**

Mitigate climate risks and maximise decarbonisation returns

Climate-related externalities pose a **growing risk to all businesses**—including those owned by Private Equity. Funds should be aware of and manage these risks in order to prevent adverse impacts on their PortCos' operations and financial performance. For Private Credit Funds, risks to the business of PortCos or investees are particularly relevant as this can **increase the risk of distress or default** by investees, meanwhile for Growth or Venture Capital it can determine the trajectory of the company and the potential for scaling.

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- As climate change worsens, extreme weather events become more frequent and severe, and the threat of losses grows.
  - The Economist Intelligence Unit estimates that, on a global level by 2100, investor direct losses due to climate change stand to be approximately US$4.2t.[6]
- Even if a PortCo is not directly affected, climate risk will drive **an increase in financing costs** and/or can affect its supply/value chains.
  - A 2021 Bennett Institute for Public Policy paper found that by 2100, without action to reduce emissions, corporations would face up to US$62b in additional interest payments due to climate risk, equivalent to an increase in interest rates of 0.4 percentage points.[7]
- PortCo operations could also be impacted by climate disruptions in the supply chain. For example:
  - **Asset and infrastructure failures:** In 2024, one of the worst droughts in over 140 years affected the Panama Canal, leading to severely limited water levels, and causing major delays and increased costs for shipping companies.[8]
  - **Reduction of natural resources:** Changes in climate are impacting the availability of natural resources, especially rainwater—the World Metrological Society estimates that 87% of global electricity generated from thermal, nuclear and hydroelectric systems directly depends on water availability.[9]
  - **Increased cost of critical inputs:** Extreme weather events are also creating price instability for raw materials that many businesses use in their operations. For example, severe droughts in Brazil and Florida led to a drastic reduction in orange production, pushing Frozen Concentrated Orange Juice (FCOJ) prices to a historic high of US$4.92 per pound in May 2024, nearly doubling the price of the previous year.[10]

Private companies might also **realise incremental returns from decarbonisation efforts,** while building competitive advantage and broader business resilience.

- PortCos can also see revenue growth from winning over consumers from less 'green' competitors.
  - In 2023, a Bain survey revealed that **50% of global consumers** consider sustainability to be among their top four key purchasing criteria.[11]
  - A recent 2024 Bain survey found that **nearly 50% of global B2B customers are willing to pay a sustainability premium** of 5% or more for sustainable products.[12]
- GPs may see multiple expansion upon exit for a portfolio company that has a more mature climate strategy—Sustainable Markets Initiative's Private Equity Task Force's Valuing Carbon in Private Markets report indicates that about 70% of respondents expect a premium at exit for decarbonisation.[13]
- Companies ahead of the curve on decarbonisation may also find it easier to attract top talent. Studies suggest that 75% of 18-to-34-year-olds **expect their employers to take a stand on climate change** in the US; in addition, a better approach to environmental and social issues leads to a 16% higher employee productivity.[14]

Secure funding from private and public markets

Companies that operate in sectors with unclear transition to a low-carbon economy are facing **ever-greater scrutiny** from investors. Some financiers are questioning if they should **allocate capital** to these companies at all.

For instance, the Church Commissioners for England, responsible for overseeing a £10.3bn (US$12.9) endowment fund, decided to exclude 20 major Oil and Gas companies from new investments and divest from existing investments.[15] Moreover, the New York City Comptroller, which oversees retirement assets in the state told Reuters, "to protect the state pension fund, we are restricting investments in companies that we believe are unprepared to adapt to a low-carbon future."[16]

These calls for divestment can present a problem for investors looking to provide the capital that companies in high-emitting sectors need to decarbonise, hampering arguably one of the most important roles that finance will play in the transition to a low-carbon economy. Though there are some assets (investments in new coal facilities or oil sands exploration, for example) that will be unable to align to net zero, most high-emitting assets can significantly reduce emissions. Current calls for divestment present a problem for such companies—and the funds invested in them—as they may struggle to attract the capital that they need to decarbonise their operations. This trend can result in so-called 'stranded assets', where companies continue having high-emitting business models due to investor hesitancy to be seen allocating capital to assets that could be considered 'dirty'.

Such risk aversion may hamper the transition to a low-carbon economy, as the companies who most need to change will lack the capital to do so. For Private Credit investors, this presents a particular issue as if a company cannot attract follow-on funding, they could struggle to maintain operations and therefore their obligations to their existing creditors. Similarly, ventures are often assessed on metrics including decarbonisation when looking to raise additional funding. On the other hand, when companies and their investors successfully manage to decarbonise a previously high-emitting asset or prevent surges in emissions during scaling, the financial and environmental returns can be considerable.

Comply with emerging emissions regulation

The regulatory environment of decarbonisation is rapidly evolving and—in some sectors—PortCos must make significant changes to their operations to comply.

- **Energy efficiency requirements:** Regulations on energy consumption and efficiency are driving businesses to invest in measures that reduce their energy consumption. This includes actions like switching to energy-efficient lighting, making insulation improvements and upgrading. For example, under the UK Minimum Energy Efficiency Standards, commercial landlords must ensure that properties leased from April 2023 have a minimum energy performance certificate rating of E or above, unless exempt; many US states have established Energy Efficiency Resource Standards requiring reduction in electricity and gas consumption.[17,18]

- **Carbon pricing and emission trading systems:** Carbon pricing policies like the EU Emissions Trading System and the US Regional Greenhouse Gas Initiative encourage businesses to reduce their greenhouse gas emissions. Considering further regulatory restrictions, companies are increasingly considering the costs associated with these emissions and exploring ways to reduce their carbon footprint.

- **Renewable energy targets and incentives:** Many countries have set renewable energy targets and offer incentives for companies that adopt clean energy. Small and medium-sized enterprises are increasingly integrating renewable energy sources, such as solar panels or wind turbines, into their operations (for example, the EU Renewable Energy Directive requires at least 42.5% of energy generation to come from renewables by 2030; the Inflation Reduction Act in the US provides tax credits towards investment in renewable energy generation).[19,20]

- **Screening for climate risks in supply chains:** Some proposed regulations (such as the EU's Corporate Sustainability Due Diligence Directive, and the US Federal Supplier Climate Risks and Resilience Rule) require companies to identify and manage climate risks in their supply chains.[21,22] This includes understanding and addressing the potential impact of climate-related disasters on the supply chain.

1.2. DECARBONISATION FOR PRIVATE MARKETS MANAGERS

1.2.1. Why do Private Markets managers need to decarbonise their portfolios?

Private Markets managers engage with decarbonisation primarily through supporting the emissions reduction efforts of their PortCos. As this process can look different between companies and vary according to the investment lifecycle, it is often difficult for firms to communicate the state of decarbonisation of their portfolios and the progress achieved over the investment term of an investment or fund.

This is a challenge, as GPs are also under increasing pressure from their own investors, standard-setters and regulators to disclose this information. These stakeholders are **expecting firms** to act as the adverse impacts of climate change—both financial and social—materialise and the **window for limiting global warming closes.**

For most funds, **LP pressure** is the most direct. Many institutional investors expect **disclosures on current emissions and climate engagement** from the funds that they are invested in. This data often feeds into LPs broader risk-management calculations—as they look to calculate and then minimise their climate-related risk exposure or to fulfil their fiduciary duty to beneficiaries—and regulatory obligations.

Some LPs also need their GPs to act in order to support their own **public commitments** on decarbonisation.[23] The most widely adopted such commitment framework is the Net-Zero Asset Owner Alliance's Call to Action to Private Market Asset Managers, which requires "short-term targets for a 1.5°C-aligned, net-zero world by 2050 with real-world impacts".[24] LPs and clients who are following these approaches often request that GPs set their own targets to reduce emissions. This can lead the GP to make statements on reaching net zero that they are not sure how to operationalise.

On the other hand, GPs failing to keep up with their LPs' decarbonisation agendas may soon find LPs choosing **alternative managers** whose funds are **more aligned** to their own climate ambitions.

- More than two-thirds of respondents to a survey of LPs conducted by Bain and the Institutional Limited Partners Association said that ESG considerations play a part in their investment policies.[25]
- A 2022 survey by Coller Capital found that while only **5% of LPs currently** would stop investing in a fund where the GP failed to meet certain ESG standards, more than 20% said they expected to do so **within the next three years**.[26]

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Pressure on this issue is not one-way. **Firms also face backlash from investors and legislators** who feel that they are taking decarbonisation considerations too much into account when choosing where to allocate capital. In the US, various state legislatures have introduced bills that instruct managers of state pension funds to not take decarbonisation into consideration when investing capital. Firms may need to assuage these investors' concerns around decarbonisation and fiduciary duty.[27,28]

Regulators and other standard-setters are also taking a keen look at the Private Markets' efforts to decarbonise. Several pieces of legislation draw on previously **voluntary approaches**—such as the TCFD or the Principles for Responsible Investment (PRI)—as the **basis of their legislation**. More broadly, decarbonisation-related legislation has been on the rise in the past four years with key developments such as the EU's Green Deal, the UK's Net Zero Strategy and the US Inflation Reduction Act shaping the commercial landscape and incentives in markets where PortCos are operating.

In parallel to regulatory pressure from increased disclosure, there is increasing regulatory scrutiny on greenwashing and potentially misleading claims, particularly as more Private Markets firms go public with their commitment (five of the top ten largest Private Equity firms were public as of 2023).[29]

1.2.2. The realities facing Private Markets on decarbonisation

As transformational owners, Private Markets managers have a unique role to play in closing this gap. However, when Private Markets firms look to decarbonise, their potential actions are simultaneously constrained by the broader realities of Private Market dynamics and the level of influence they have over the actions of the PortCos or investees.

In some cases, these challenges are common across financial institutions and companies looking to decarbonise:

- **Forward looking perspective:** Firms plan to continue to increase AUM through launching new funds, thus implicitly taking on even larger financed emissions and making reducing overall emissions increasingly challenging to achieve.
- **Multi-asset strategy:** Many firms pursue a multi-asset class investment strategy across different funds. This results in varying levels of influence across assets to push decarbonisation, limiting the coherence of a single decarbonisation ambition at a firm level.
- **Value creation prioritisation:** PortCos have finite resources through which to action value creation plans; decarbonisation levers must be prioritised relative to other value-creation drivers.

- **Dynamic fund transactions:** During the lifecycle of a fund, PortCos might be acquired and divested, which can present challenges in attaining certain fund-level metrics.
- **Fiduciary commitments:** Existing funds and investment products have a fiduciary requirement to invest in line with goals agreed upon at fund raise with their investors, making capital allocations towards decarbonisation initiatives challenging in situations where these are not explicitly value-additive or otherwise restricted.

However, in Private Equity these challenges are further compounded by the unique operating environment in which funds invest:

- **Nature of typical Private Equity-owned business:** Funds tend to invest in smaller, less-mature companies that do not have a lot of organisational resources to dedicate to decarbonisation and are often themselves at the start of their decarbonisation journey.
- **M&A activity during holding periods:** The footprints of the assets or PortCos themselves might change dramatically through inorganic growth/divestitures over their holding period, which makes any process of footprint baselining (and therefore decarbonisation) difficult.
- **Dynamic fund lifecycle:** Fixed net zero target timing requirements are not aligned to fund lifecycles and cadence of asset or PortCo holding periods, hence challenging target-setting at the outset of a fund.
- **Realisation of returns:** Even where decarbonisation actions taken by PortCos or assets are value accretive, often the time period for ROI realisation is beyond the typical Private Equity holding period, disincentivising investment and/or action.

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1.3. WHAT IS NEEDED—THE CASE FOR THE ROADMAP ON DECARBONISATION

In recent years, several organisations have published guidance for financial institutions on net zero. However, few of these initiatives currently have **specific approaches for Private Markets** especially explaining the differences between the asset classes. Private Markets-specific guidance is needed to enable meaningful progress within the context of their operational environment.

Current target-setting frameworks available are aimed at firms that are considering making the low-carbon transition part of their investment strategy. However, some funds are not able to make public net zero commitments. The pathway to being Paris-aligned in some sectors is unclear and funds investing in these areas cannot credibly say where their emissions will be by a set date. Further, few of the current frameworks provide options for funds at the beginning of their decarbonisation journey—the point where much of the industry is today.

Much of the available guidance is also aimed at making firm-level commitments—for example, a Private Equity firm as an entity commits to be reducing emissions by a certain timeframe. This can be challenging, as firms manage and/or advise a collection of funds that are:

- Raised at varying times;
- Serve different clients with different priorities;
- Often span several asset classes.

This can make it hard for the firm as a whole to make a decarbonisation commitment that can be applied across these diverse vehicles, some of which are raised and closed in 7-10-year cycles while others are open-ended funds.

Adding to that complexity, the seven asset classes discussed in this guidance sit at different points of the decarbonisation journey. Venture Capital, Private Credit and Secondaries are at the earlier stages of the journey, due to the indirect nature of the mandate and/or non-comprehensive or in-development frameworks and voluntary standards. Growth, Real Estate and Infrastructure have seen some progress with the introduction of preliminary frameworks, but the environment is still developing. Meanwhile Buyout is furthest along in the decarbonisation journey among Private Markets asset classes, given the strong voluntary standards environment and multiple existing disclosure initiatives.

As a common disclosure approach, the Roadmap draws on and **complements existing net zero alignment and target-setting frameworks** (particularly in the case of Buyout, Infrastructure, Private Credit and Secondaries) and orients Venture Capital, Growth and Real Estate investors on how to kickstart decarbonisation. However, it also looks to tackle some of the issues that funds have had with adopting current approaches. The frameworks mentioned in Figure 3 address the processes recommended to be established **at the firm-level**, such as governance, strategy setting and investment committee training, whereas the Roadmap articulates what funds can do to drive decarbonisation in their portfolio.

In this way, for some asset classes (e.g., Buyout or Infrastructure) the guidance can act as a bridge for funds that later want to make commitments through existing frameworks or continue to define their own level of ambition and approach to decarbonisation. For other asset classes (e.g., Private Credit, Secondaries, Venture Capital) it will help communicate what they are doing on decarbonisation in a way that can be understood both internally and externally. However, regardless of asset class or type of investment, how the Roadmap is applied is ultimately up to the fund's discretion.

FIGURE 3. CURRENT TARGET-SETTING FRAMEWORKS IN PRIVATE MARKETS

Guidance	Organisation	Overview
Financial Institution Net-zero Transition Plan (NZTP)	GFANZ	A global coalition of leading financial institutions committed to accelerating the decarbonisation of the economy
Net Zero Investment Framework (NZIF) 2.0	IIGCC Ceres	Membership alliance of asset owners and managers committed to net zero; Aim is to set net zero targets
Science Based Targets initiative (SBTi)	SCIENCE BASED TARGETS DRIVING AMBITIOUS CORPORATE CLIMATE ACTION	Organisation that provides support on target-setting through its standards-based validation of corporate climate action; Targets can be net zero or transition-pathway aligned

SECTION

2

Overview of the Roadmap

2.1. KEY CONCEPTS IN THE ROADMAP

At the core of the Roadmap is the Alignment Scale. This is a way for GPs to classify where PortCos are on their decarbonisation journey and track their progress over time.

There are three questions GPs need to answer to classify their PortCos:

Q1. What measures has the PortCo taken to reduce its greenhouse gas (GHG) emissions?

- Review a PortCo's emissions reporting procedures and plans to decarbonise or transition to net zero. Establish baseline and source for Scope 1, 2 and 3 emissions, either estimated or measured.
- Match the responses versus the criteria at each stage of the Alignment Scale to assess the PortCo's current position on the Scale.
- Assess if the PortCo is **'Aligned' or 'Aligning'** to the low-carbon transition.[30]

Q2. Is there a recognised transition pathway (i.e., sectoral, regional, industry-specific, following guidelines of an established organization such as SBTi, or developed by environmental consultant)?

- Consider whether the PortCo's operations, value chain and sub-sector **could** align to net zero given the assets used to generate revenue and the limitations of current technology.
- If transition is not feasible, a PortCo is additionally categorised as having **'No Current Pathway to Align'**.

Q3. Do the PortCo's operations enable the net zero transition?

- Evaluate if the PortCo is working to support a **subset of Climate Solutions** related to the transition to a **low-carbon economy**.[31]
- Assess by considering if the products or services are helping the broader transition to a low-carbon economy, based on established taxonomies or manual classification.
- If yes, the PortCo is additionally categorised as a 'Decarbonisation Enabler' or a 'Emerging Decarbonisation Enabler'.

Once a PortCo has been classified on these three **Alignment Metrics**, the GP can use this information to comprehensively track and disclose the company's **decarbonisation journey** and role in the economic transition.

For further information on how to classify PortCos or assets see Section 3.2.

LBO Gr VC Infr RE Cr Sec

FIGURE 4. PRIVATE MARKETS ALIGNMENT SCALE

Q1: WHAT MEASURES HAS THE PORTCO TAKEN TO REDUCE ITS GHG EMISSIONS?

	Not Started	Capturing Data	Preparing to Decarbonise	Aligning	Aligned to Net Zero
Definition	Not started to **measure emissions or plan** how to **reduce** them	**Reporting emissions** data but currently no plan in place to reduce emissions	Planning to **reduce emissions** in-line with an approach agreed with the GP[2]	Committed to a decarbonisation plan **aligned to a transition pathway**	Delivering against a net zero plan and operations aligned to **science-based** target
Criteria	• **Minimal or no** emissions data • **No decarbonisation plan** in place	• **Measuring** Scope 1 and 2 emissions from operations, alongside **material** Scope 3 emissions, and making data available to fund[1]	• Decarbonisation **plan meeting minimum requirements in place** but level of ambition **not aligned to net zero pathway**[3]	• Committed to **near-term science-based target** aligned to a long-term net zero pathway	• Demonstrated YoY **emissions profile** in line with net zero pathway

Q2: IS THERE A RECOGNISED TRANSITION PATHWAY FOR THIS PORTCO?

No Current Pathway to Align

Definition: PortCos with **no pathway** to align to the transition using existing technology

Criteria: Greater than **50% of revenue** generated using high-emitting assets that is not feasible to decarbonise through **redevelopment, retrofitting or replacement**

Cannot progress past 'Preparing to Decarbonise'

Q3: DO THE PORTCO'S OPERATIONS ENABLE THE NET ZERO TRANSITION?

Decarbonisation Enablers

Definition: PortCos working to **support a subset of Climate Solutions**[4] related to the transition to a low-carbon economy

Criteria for Decarbonisation Enabler: Greater than **50% of revenue** is related to an economic activity that is **enabling net zero transition**

Criteria for Emerging Decarbonisation Enabler: Greater than **10% of revenue** is related to an economic activity that is **enabling net zero transition** and less than **50% of revenue** from high-emitting assets

Notes: (1) Emissions criteria apply across all subsequent stages (2) To progress to this stage companies must have reasonable scope to reduce emissions from their operations; companies operating in thermal coal and exploration of new oil/tar sands production sites cannot progress to this stage (3) See Section 3.2.3. for minimum requirements; pathway can be sector pathway or company-specific reduction trajectory aligned to net zero (4) Climate Solutions as defined by GFANZ as one of their four core financing strategies

As of 2024, most private companies are likely concentrated in the initial stages of the Alignment Scale.

- According to CDP, **only 18% of global corporate greenhouse gas emissions** are currently disclosed, suggesting that most companies are yet to reach the 'Capturing Data' stage of the Alignment Scale.[32]
- **Less than 0.3%** of companies globally have a **verified net zero target** issued by the **Science Based Targets initiative** (SBTi; about 6,000 companies have a target in place).[33]
- Of the 100 **largest** private companies—who tend to be more mature than smaller businesses on climate issues—only **8%** have **both** a net zero target and have published a plan to achieve it.[34]

However, as more PortCos and GPs work on decarbonisation—and use tools like the Alignment Scale to plot their progress—the expected average starting point of companies will improve. Roadmap pilots (i.e., firms that have already tested the Roadmap approach on one or more of their funds) have indicated that PortCos at the start of the Alignment Scale can move on average 1-2 stages over a holding period.

Many privately-owned companies are yet to start their decarbonisation journey. All such companies need to start by setting their **emissions baseline**, however after that point companies do not need to progress along the Alignment Scale in a **linear fashion.**

Many companies will be able to **progress straight from 'Capturing Data' to 'Aligning'**; without moving through **'Preparing to Decarbonise'**. Ideally initial decarbonisation plans should be aligned from the beginning with their sectors' transition pathway.

However, in reality, **some PortCos** will need to set intermediary targets with a level of ambition below their sector's pathway. This could be:

- In order to make short-term progress that will then allow **them to better discern their pathway to net zero**
- Their sector does not yet have a clear pathway to transition (see Section 2.1.2)

Any company that operates in a sector that has a pathway to transition but remains for a long period at 'Preparing to Decarbonise' risks being challenged on why their level of ambition is consistently below what is required by their sector.

2.1.1. Decarbonisation Enabler and Emerging Decarbonisation Enabler

A **'Decarbonisation Enabler'** is a PortCo that **supports the transition to a low-carbon economy**. This group is a sub-set of the category **'Climate Solutions'** introduced by GFANZ specifically relating to decarbonisation. An **'Emerging Decarbonisation Enabler'** is also a PortCo that supports the transition, with a lesser amount of its revenue/activity, but the intention to increase the share of revenue/activity in the future.

GFANZ defines Climate Solutions as:

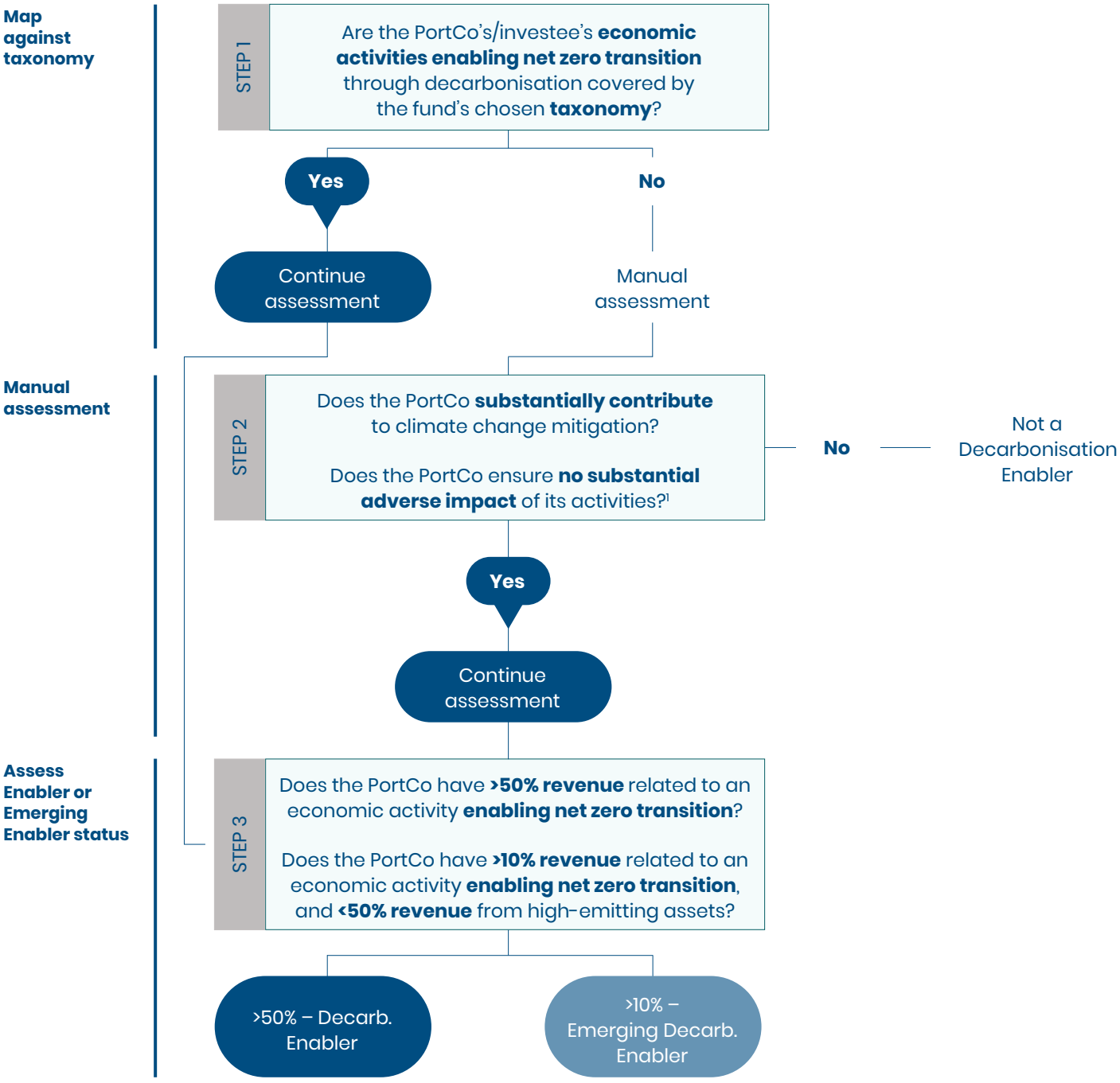
"Technologies, services, tools, or social and behavioural changes that directly contribute to the **elimination, removal or reduction of real economy [greenhouse gas] emissions**, or that directly support the **expansion of these solutions**."

In broader usage—in the EU taxonomy, for example—the term can also include solutions aimed at restoring **biodiversity and adaptation to climate change**. Therefore, the Roadmap takes the concept of **Climate Solutions** and narrows the focus only to emissions reduction and elimination.

The Roadmap defines Decarbonisation Enablers as: "PortCos working to support a subset of Climate Solutions related to the transition to a low-carbon economy".

GPs can classify assets as (Emerging) Decarbonisation Enablers using the steps detailed in Figure 5—first by identifying the economic activity and mapping it to the relevant taxonomy if available. If manual categorisation is needed, the rationale as to why the economic activity is enabling the net zero transition should be provided. Lastly, the share of revenue attributed to the economic activity should be identified to classify it as an (Emerging) Decarbonisation Enabler or not.

FIGURE 5. DECISION TREE FOR CLASSIFYING A PORTCO AS AN (EMERGING) DECARBONISATION ENABLER



Note: (1) A PortCo only needs to answer positively to the first question to move from Step 2 to Step 3. Please see detailed guidance for further information on Step 2 below

Step 1 – Identify economic activities enabling the Net Zero transition and map them to a relevant taxonomy if available

A GP should identify economic activities of a PortCo enabling the net zero transition, and whether there is an established sustainability taxonomy that is relevant to its geography and sector. Identifying activities that enable the net zero transition through decarbonisation requires an initial sense check of whether the operations and revenue of the PortCo are related to reducing or eliminating emissions. This can be assessed in the due-diligence phase as a GP learns about the sub-sectors that the PortCo operates in, but could also be evaluated outside-in at any point in the ownership cycle based on information that the PortCo has disclosed publicly.

The following economic activities have a high chance of enabling a PortCo to be classified as a Decarbonisation Enabler or an Emerging Decarbonisation Enabler:

- Renewable energy generation;
- Low-carbon transport;
- Electrification manufacturing and services;
- Energy efficiency and conservation;
- Carbon capture and storage;
- Green infrastructure;
- Sustainable agriculture and forestry;
- Green finance and investment.

A list of example taxonomies is available on the PMDR Microsite. If there is no relevant taxonomy available, a GP can move directly to Step 2 and assess PortCos manually through specific screening questions. Note that even when a relevant sustainability taxonomy is available, mapping assets to the taxonomy may require a manual asset-by-asset categorisation process. Traditional finance-oriented taxonomies that GPs may have most readily available often do not map clearly to sustainability taxonomies.

If a relevant sustainability taxonomy is available, this step involves two stages:

A Identify if the asset's economic activity is part of a sector or sub-sector covered by the chosen taxonomy.

B Identify if the specific activity is directly related to decarbonisation.

Taking the example of the EU taxonomy, most activities included as "essential for achieving the EU's environmental objectives" are related to decarbonisation. For edge-cases or activities where a GP is not certain (such as water collection, treatment and supply or building renovation, where the link to reducing emissions may not be immediately obvious), manual assessments should be conducted as shown in Figure 6. For further information and examples see Section 6.3.

Step 2 – Manually assess PortCo's economic activity and disclose rationale

If no relevant sustainability taxonomy exists, or if a sub-sector activity is not covered or considered an edge-case, GPs can perform a manual assessment using the **two screening questions** below to determine if the portfolio company meets the criteria to be classified as an (Emerging) Decarbonisation Enabler:

- Does the PortCo **substantially contribute** to climate change mitigation?
- Does the PortCo ensure **no substantial adverse impact** of its activities in terms of environmental and social considerations and safeguards—for example in relation to pollution, water use, etc.? (This could be in line with, for example, the EU taxonomy's 'do no significant harm' test or types used in other regional taxonomies)

See Section 6.3 for more detail on definitions and how to assess a PortCo on the two questions above.

A PortCo only needs to answer positively to the first question to be considered an (Emerging) Decarbonisation Enabler. However, any GP looking to make this claim about one of its PortCos should also be aware of any environmental and social risks. A GP would run the risk of greenwashing if it were to label a PortCo as 'supporting the transition' only for it to later emerge that the firm is adversely impacting the environment and society more broadly. The level of data visibility that the GP has into potential adverse impacts caused by the PortCo and level of environmental and social safeguards will vary by asset class. At a minimum, GPs should screen for publicly disclosed incidents and review the PortCo's external communications on sustainability measures. If this screening raises concerns, further diligence should be conducted to assess the level of risk and identify required mitigation actions.

The rationale for manually classifying an economic activity as enabling the net zero transition should be disclosed based on the above screening questions. Further information can be found in Section 6.3.

Step 3 – Identify share of revenue related to the economic activity enabling the net zero transition

Finally, PortCos are classified as (Emerging) Decarbonisation Enablers based on the share of revenue generated from decarbonising activities, either covered by a chosen taxonomy or meeting the criteria of manual classification.

A If more than 50% of the PortCo's revenue is derived from activities enabling the net zero transition (based on Step 1 or 2), it should be classified as a Decarbonisation Enabler.

B If more than 10% of the PortCo's revenue is from activities enabling the net zero transition (based on Step 1 or 2) with the intention to increase that share in the future and less than 50% comes from high-emitting assets or activities, it should be classified as an Emerging Decarbonisation Enabler.

During ownership, a PortCo can become an (Emerging) Decarbonisation Enabler by developing products and services that support the net zero transition. GPs can proactively support this process and recognise progress once the company surpasses the revenue threshold.

FIGURE 6. EXAMPLE OF PROCESS ASSESSING SUB-SECTORS NOT COVERED IN AN EXISTING TAXONOMY—FOR AN EXAMPLE DISCLOSURE SEE SECTION 6.3.

Screening questions	Passenger cars and commercial vehicles	Building renovation services	Educational support for mixed farming methods in carbon sequestration	Software for EV battery efficiency
Does the PortCo **substantially contribute** to climate change mitigation?	**No**—PortCo focused on manufacturing parts needed solely in combustion engines	**Yes**—25% of PortCo revenue (and growing) comes from running energy efficient upgrades and switching to renewable energy sources (e.g., installing solar panels); the rest of the revenue comes from other building improvements	**Yes**—revenue comes from education around temporary carbon sequestration from mixed-farming methods	**No**—a substantial share of revenue is from clients with climate conscious business initiatives, but the firm's offering does neither uniquely cater to such clients nor specifically markets its services to green business customers
Does the PortCo ensure **no substantial adverse** impact of its activities in terms of environmental and social considerations and safeguards—for example, in relation to pollution, water use, etc.?	**No**—PortCo involved in heavy manufacturing which results in pollution, despite having board-level governance for environmental risks	**No**—some concerns around responsible waste management practices, despite having third party audit of social safeguards and environmental risks	**Yes**—no substantial externalities due to limited use of resources as a services company, though no board-level position for environmental restoration	**Yes**—no substantial externalities due to limited use of resources as a services company, and board-level governance for environmental risks
Outcome	**Cannot** be classified as a **Decarbonisation Enabler** or as an **Emerging Decarbonisation Enabler**	**Can** be classified as an **Emerging Decarbonisation Enabler**, but fund should work with PortCo to 'ensure no substantial adverse impact of activities' to avoid negative backlash	**Can** be classified as a **Decarbonisation Enabler**, however, fund should set up environmental safeguards as a priority	**Cannot** be classified as an **(Emerging) Decarbonisation Enabler**

2.1.2. No Current Pathway to Align

Some PortCos—those whose business is in exploration for new fossil fuels, for example—will not be able to align to net zero. Others may one day be able to align, but currently the technology and resources needed are still being developed. GPs should identify which of their PortCos are in these two groups so they can:

- **Highlight** the fund's exposure to climate-related risks including 'stranded asset risk', whereby a company may not be able to attract further capital as investors do not want to expose themselves to a business that may not be able to transition to a low-carbon economy.
- **Set expectations** around what percentage of assets could ever meet 'Aligning' or 'Aligned'.
- **Prioritise** which assets/PortCos they will be able to progress along the Scale.

To address this, the Alignment Scale includes a classification for PortCos with 'No Current Pathway to Align'. For GPs to classify a PortCo as part of this group they need to:

Step 1 – Assess whether greater than 50% of revenue is from a high-emitting sector

The sectors are defined by GFANZ as:

- Industry (including power generation);
- Buildings;
- Air travel;
- Auto and transport.

These sectors are broad and simply operating in these areas is **not sufficient** for a company to be classed as 'No Current Pathway to Align'. However, it is a useful first step to exclude companies that already have a pathway to net zero.

Step 2 – Check if the economic activity (i.e., product or service provided) driving the majority of the PortCo's revenue is indeed high-emitting

There are edge-case scenarios in which the PortCo may at first glance fall into a high-emitting sector classification (e.g., buildings) but actually have a pathway to align. Therefore, an additional check is recommended to verify that the majority revenue activity or service is indeed high-emitting.

For example, a travel agency is within the high-emitting sector of Air Travel but the activity/service is not high-emitting. Therefore, the company would not be classified as No Current Pathway to Align.

In the case where a PortCo is a Decarbonisation Enabler or an Emerging Decarbonisation Enabler the PortCo should not be classified as No Current Pathway to Align.

For example, a building renovation services company which offers energy efficient appliance installation, is within the high-emitting sector of Buildings but has 25% of its revenue related to an activity/service that is enabling the net zero transition. As only 20% of its remaining revenue is high-emitting, it would therefore be classified as an Emerging Decarbonisation Enabler and not classified as No Current Pathway to Align.

Step 3 – Review if the PortCo has a feasible ambition to redevelop, retrofit or replace assets that are high-emitting[35]

The GP and PortCo management should assess if the company has an ambition to **feasibly transform its assets, products or services** to a low-emitting alternative. This can take place through investing in:

- **Re-development:** Renovating/changing the asset (normally buildings) to make either their operations or output lower carbon—for example, the transformation of the Empire State Building in New York when it underwent major energy efficiency upgrades to reduce its emissions.
- **Retrofitting:** Changing the mechanisms within an asset, commonly through electrification, to reduce emissions—for example, Google has re-engineered its data centres to improve energy efficiency using AI and switch to renewable energy sources.
- **Replacing:** Phasing out high-emitting assets in favour of low-emitting alternatives (see Managed phase-out on the next page).

If a company can reduce its reliance on high-emitting assets, products or services, and incorporates such a transformation into its transition plan, the PortCo should **NOT** be considered as having No Current Pathway to Align. **This PortCo can move through all stages of the Alignment Scale.**

However, often, the above strategies will require **significant investment**, which may not be feasible as part of a fund's value creation/business plan for an asset. In other instances, the technology **may not yet exist** for such transformations to be feasible.

To summarise, if greater than **50% of revenue is** generated using high-emitting assets that are not feasible to decarbonise through redevelopment, retrofitting or replacement, the asset should then be considered as having **No Current Pathway to Align**.

Next steps for PortCos with No Current Pathway to Align

Recommended activities under the Roadmap include:

- **Disclose** where a fund considers a PortCo as No Current Pathway to Align.
- **Continue to try and progress** PortCos to the 'Preparing to Decarbonise' stage (excluding thermal coal and oil/tar sands exploration companies that cannot progress past 'Capturing Data').

GPs that are setting a target using the Roadmap may need to consider reducing exposure to companies with No Current Pathway to Align. This can form part of their commitment to reach a percentage of fund at 'Aligning'/'Aligned'; however, **it is not a requirement** for any fund following the Roadmap.

Managed phase-out as a potential route to 'Aligning'/'Aligned' for PortCos with No Current Pathway to Align

A PortCo considered as having No Current Pathway to Align cannot progress past the **'Preparing to Decarbonise'** phase. However, this is not necessarily a **fixed state** for the PortCo.

GFANZ first introduced the concept of **managed phase-out**—that is, early retirement of high-emitting assets within a company. This offers a possible pathway to transform a company previously with no route to net zero, specifically, companies whose high-emitting **assets could not** be redeveloped or retrofitted as above. A PortCo may be able to retire its high-emitting assets in favour of low-emitting alternatives as part of a broader company transformation. In the Roadmap, any company that takes this approach and reduces its reliance on high-emitting assets to below 50% of revenue could feasibly move out of No Current Pathway to Align.

Such company transformations are likely to be costly and may not be feasible as part of a fund's broader value-creation agenda. However, PortCos that do undertake this route should be considered as making the one of the **greatest possible contributions to transitioning the economy to net zero.**

SECTION

Applying the Roadmap

KEY PRIORITISATION CRITERIA

The Roadmap's applicability and the expectations of GPs differ by asset class, funds and PortCos. We use three criteria to help prioritise decarbonisation efforts:

1 **Materiality:** identifying climate risks and opportunities that could substantially affect a fund/PortCo's **impact on climate change** (i.e., high-emitting vs. low-emitting sector prioritisation)

2 **Maturity:** availability of **guidance** and **commonly accepted approaches** for decarbonisation (i.e., voluntary standards, disclosure initiatives, etc.)

3 **Feasibility:** GPs' ability to **influence** and **support** PortCo's decarbonisation journey and the number of decarbonisation levers at a GP's disposal

FIGURE 7. COVERAGE OF THE THREE CRITERIA (MATERIALITY, MATURITY, AND FEASIBILITY) AT ASSET CLASS, FUND AND PORTCO LEVEL

	Materiality	Maturity	Feasibility
Asset Class	N/A	✓	✓
Fund	✓	✗	✓
PortCo	✓	✗	✓

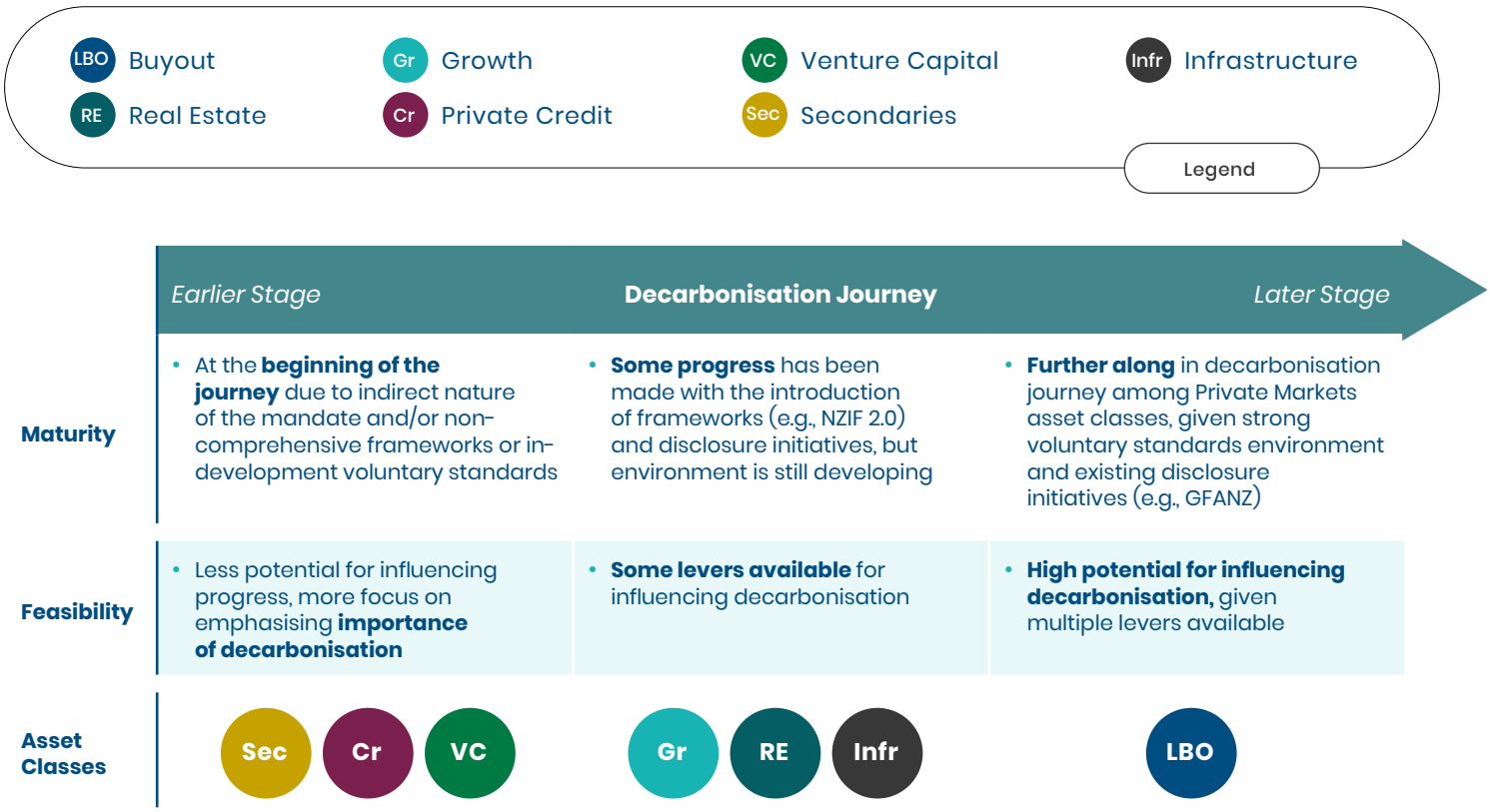
While the Roadmap and its principles can be applied across the board, this framing is **meant to help GPs prioritise among asset classes, funds and PortCos** when looking where to focus their decarbonisation efforts.[36]

3.1. APPLYING THE ROADMAP AT THE ASSET CLASS-LEVEL

This second edition of the Roadmap covers asset classes with varying degrees of detail to show the array of different decarbonisation starting positions across classes, while acknowledging that Public Markets are further advanced than any Private Markets asset class.

The primary focus of the guidance is Buyout, due to this asset class's high percentage of total Private Markets AUM, as well as its outsized ability to influence decarbonisation. The following section covers guidance for **Buyout, Growth, Venture Capital, Infrastructure, Real Estate, Private Credit and Secondaries** on how to adjust the ambition and use the Roadmap. This report also includes detailed sections for Growth & Venture Capital, Infrastructure, Real Estate, Private Credit and Secondaries covering the particularities of these asset classes in different stages on the decarbonisation journey (please refer to Section 5 for further detail).

FIGURE 8. SUMMARY OF WHERE EACH ASSET CLASS IS ON THE DECARBONISATION JOURNEY



Note: Infrastructure asset class includes Natural Resources equities; Asset classes plotted on the scale relative to each other

3.1.1. Private Equity: Buyout, Growth and Venture Capital

Private Equity managers have a unique role to play in closing the gap between public and private companies when it comes to decarbonisation. But within Private Equity, Buyout, Growth and Venture Capital have varying degrees of maturity and feasibility, and different challenges to overcome.

Buyout funds have a high level of influence on their assets (PortCos)—often including board-level representation—making them well placed to engage on the merits of a decarbonisation strategy. This is supported by a comprehensive range of voluntary decarbonisation initiatives including GFANZ, SBTi, NZIF and taxonomies.

Growth funds typically take minority ownership of PortCos. This gives them less influence, and leads to challenges in introducing a decarbonisation focus to companies primarily concentrated on scaling, which may lead to a short-term increase in emissions. Most of the standards and guidance that exist do not account for the operational characteristics of Growth (such as the focus on scaling), but Buyout industry standards and guidance are generally applicable to this asset class.

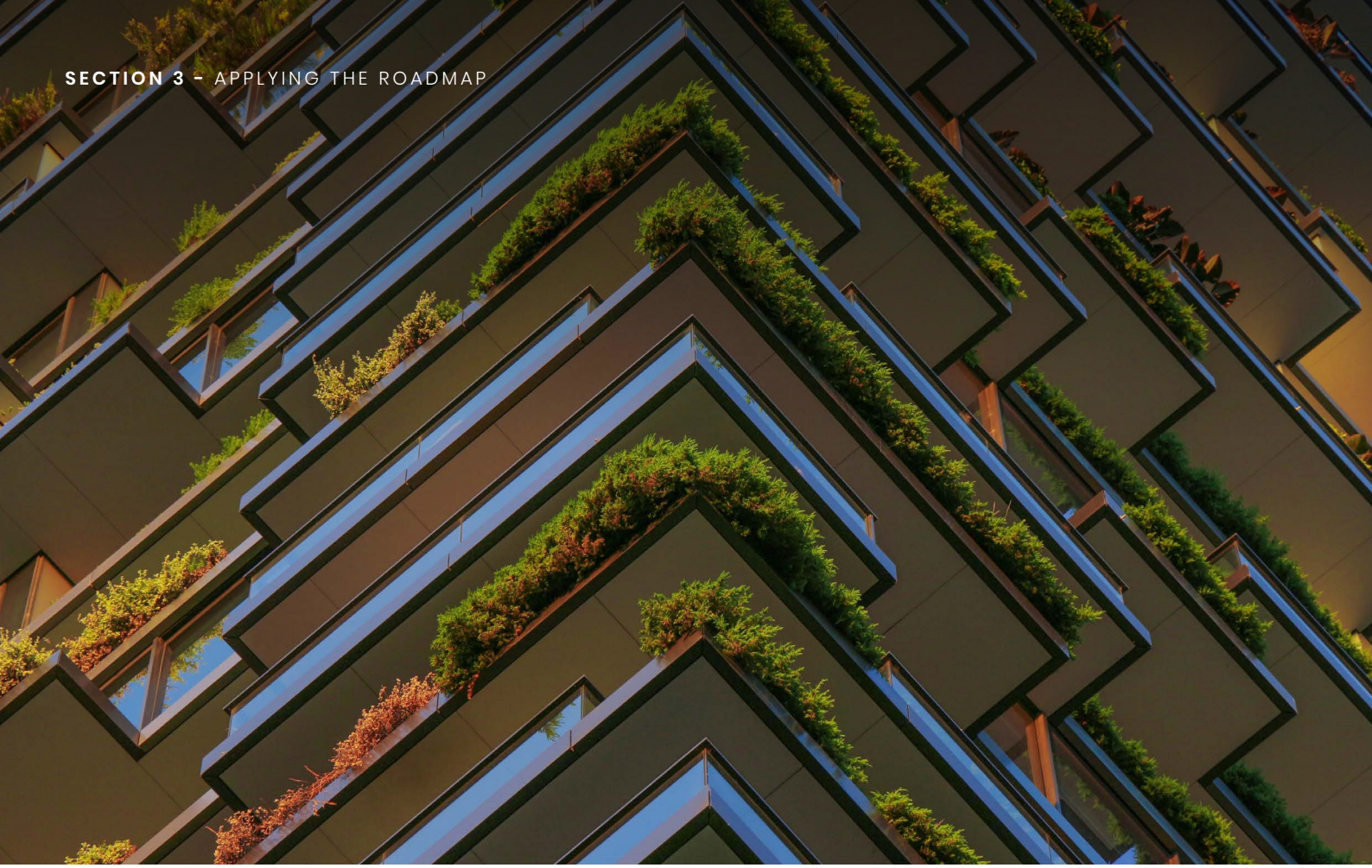
Venture Capital (VC) funds have varied levels of operational decision-making and their efforts are more focused on making sure that business models are inherently low carbon in preparation for growth. VC decarbonisation initiatives are in their early stages, and often the existing frameworks' criteria do not include small and medium enterprises (SMEs) or ventures with a small number of employees or low revenue.

FIGURE 9. PRIVATE EQUITY MATURITY AND FEASIBILITY

LBO Buyout · Gr Growth · VC Venture Capital · High · Low

Asset Class	Description	Maturity	Feasibility
LBO	• GP takes a stake in a single asset, normally structured around **>50% ownership and board seat(s)** • GP has discretion over fund investments and management decisions and typically takes an active role in management of the asset	**Advanced stage** given comprehensive range of guidance and existence of multiple decarbonisation Initiatives (e.g., GFANZ, NZIF, SBTi)	**High ability to influence** PortCo's decarbonisation journey, **with numerous levers** for supporting progress (e.g., embedding decarbonisation in value creation plan)
Gr	• Growth manager (GP) takes a **minority, non-controlling stake** in a **fast-growing target company** with low or no debt » Structured around <50% ownership and by taking a seat(s) on the company's board or by influencing management through unofficial channels (network, operational help, etc.) • Growth equity firms **generate returns primarily from increases in revenue or profit** through scaling of operations	**Mid stage** as there are few growth-specific taxonomies/ initiatives, but some Buyout guidance is applicable	**Some ability to influence** PortCo's decarbonisation progress, **with a few levers** dependent of board representation/ operational control
VC	• Venture capitalists (GPs) can provide backing through **capital financing, technological expertise, and/or managerial experience** • PortCos are early-stage companies (start-ups) in different stages of their evolution (seed/series round funding)	**Early stage** as VC initiatives just starting and often VC-specific criteria are not covered in frameworks, given low revenue of start-ups or few employees	**Some ability to influence** PortCo's decarbonisation journey, **with a few levers** for supporting progress in existing investments given advisor role of GP

LBO Gr VC



Given Buyout's high-maturity, high-feasibility position, the Roadmap can be easily used at full ambition across all PortCos. In this case, prioritisation should be driven primarily by materiality.

For Growth, given its medium-maturity, medium-feasibility positioning, the Roadmap can be used across all PortCos, but there might be ambition adjustments given lower levels of influence. For example, a GP will be able to classify all the PortCos but may only be able to influence a portion of them (where ownership stake is higher) on progressing decarbonisation. Therefore, GPs should prioritise target companies where they have board representation or change of control provisions, and companies with a material impact on climate change.

For Venture Capital, given low maturity and low feasibility, the Roadmap can still be used, but challenges may arise when looking to other standards or frameworks (e.g., for transition pathways) to follow given the nascent nature of decarbonisation in VC. For example, VCs could prioritise venture-backed start-ups with high levels of VC involvement in operational decision-making and with existing decarbonisation focus (e.g., Decarbonisation Enabler activities), ensuring that materiality also plays a role in prioritisation.

Additional considerations for Growth & VC are available in Section 5.1

Infr

3.1.2. Infrastructure

Infrastructure as an asset class is critical to the net zero transition, as it currently represents a significant proportion of global greenhouse gas emissions. In 2021 the UN Office for Project Services (UNOPS) and UN Environment Programme (UNEP) estimated that Infrastructure assets are involved in about 80% of all greenhouse gas emissions.[37]

When thinking about how to apply the Roadmap to Infrastructure funds, GPs need to consider both the strategy that the fund will follow (Buyout versus Credit) and the phase of development that the asset is in, namely:

- **Construction projects:** Where infrastructure is being built or extensively renovated (that is, it will not be generating revenue over at least the next year), including so-called 'greenfield assets'
- **Operational assets:** The fund takes a stake in an asset that is already functioning

FIGURE 10. INFRASTRUCTURE STRATEGIES MATURITY AND FEASIBILITY

High Low

Strategy Type	Description	Maturity	Feasibility
Operational Infrastructure – Buyout	• Acquiring ownership stakes in Infrastructure assets in their operational stage, e.g., built toll road » Investment period: 10+ years	**Advanced stage,** given Infrastructure-specific guidance exists (e.g., NZIF 2.0 Infrastructure as well as Buyout frameworks)	**High ability to influence** PortCo's decarbonisation journey, **with numerous levers** for supporting progress (e.g., embed decarb. into operational efficiency initiatives)
Operational Infrastructure – Credit	• Loans to Infrastructure assets to support their operations » Investment period: 5-7 years	**Mid stage,** given guidance exists (e.g., NZIF 2.0 Infrastructure), but Credit guidance is still under development for particular strategies	**Some ability to influence** PortCo's decarbonisation progress, **with a few levers** (e.g., requesting alignment and emissions data)
Construction Infrastructure – Buyout	• Investing in Infrastructure construction/development projects, e.g., building a power plant » Investment period: 6+ years	**Advanced stage**, given Infrastructure-specific guidance exists (e.g., NZIF 2.0 Infrastructure as well as Buyout frameworks)	**High ability to influence** PortCo's decarbonisation journey, **with numerous levers** for supporting progress (e.g., push for low-carbon materials in design phase)
Construction Infrastructure – Credit	• Financing Infrastructure asset construction/development projects through credit provision » Investment period: 5-7 years	**Mid stage,** given guidance exists (e.g., NZIF 2.0 Infrastructure), but Credit guidance is still under development for particular strategies	**Some ability to influence** PortCo's decarbonisation progress, **with a few levers** (e.g., advocating for decarb. incorporated in construction)

For Infrastructure Buyout, there is more readily available guidance and more levers, facilitating easier implementation of the Roadmap across assets. Meanwhile for Infrastructure Credit, some ambition adjustment might be necessary when applying the Roadmap, given less Credit-specific guidance is available to reference. Therefore, funds could prioritise assets where the GP has a higher degree of influence over an asset's operations or during the construction phase.

Additional considerations for Infrastructure are available in Section 5.2.

3.1.3. Real Estate

Real Estate has been consistently ahead of most asset classes, with tools such as green building certification (e.g., LEED, BREEAM, etc.), benchmarking standards (e.g., GRESB, etc.), sectoral decarbonisation pathways (e.g., CRREM) and a general understanding of the importance of decarbonisation projects.

The clear connection between decarbonisation and cost savings incentivised landlords to implement energy efficiency measures, and in some cases, on-site renewable energy solutions long before climate pressure demanded it. So, even though the sector can sometimes be hard to decarbonise technically, there is an established track record for systematically rolling out decarbonisation initiatives.

The type of building, whether commercial or residential, can affect the pressure to decarbonise and the opportunities for GPs. In commercial Real Estate, tenants may require investors to meet certain sustainability targets or implement improvements. Recently, 'green leases', which can help to balance the pressure between tenants and investors, have become more common. These leases include clauses that outline the responsibilities of both parties for sustainable building operations, such as energy efficiency measures, waste reduction and water conservation.

FIGURE 11. REAL ESTATE STRATEGIES MATURITY AND FEASIBILITY

High Low

Strategy Type	Description	Maturity	Feasibility
Real Estate - Core	• The most **stable** and **low-risk** form of Real Estate investment, involves high-quality, fully leased, multi-tenant properties in metropolitan areas (Class A); no/little leverage required	**Advanced stage,** given Real Estate-specific guidance exists (e.g., Energy Performance of Buildings Directive, CRREM pathways, GRESB) 	**High ability to influence** PortCo's decarbonisation progress, **with a few levers** given the long-term strategy and holding period (hence ability to influence management) 
Real Estate - Core+	• The 'plus' allows a fund to invest in improvements, such as **renovations, repositioning** and **re-leasing** (Class B); some leverage may be required (30-55% leverage)	**Advanced stage,** given Real Estate-specific guidance exists (e.g., Energy Performance of Buildings Directive, GRESB) 	**High ability to influence** PortCo's decarbonisation progress, **with a few levers** given improvements can be in support of decarbonisation (e.g., energy efficiency) 
Real Estate - Value-add	• Lower-quality buildings that exhibit management or operational problems, or **require physical improvements to become Class A quality;** common for closed-end funds with typical hold periods of **3-10 years** & high amount of leverage required (50-70% leverage)	**Mid stage,** given large number of disclosure initiatives available through retrofits (e.g., GRESB Public Disclosure) 	**Some ability to influence** PortCo's decarb progress, **with fewer levers** given priority of returns and short-term strategy 
Real Estate - Opportunistic	• Substantial **re-development** of existing properties, construction of **new developments**, or investment in raw land and niche property sectors; high amount of leverage embedded in the investment (60%+ leverage)	**Advanced stage,** given specific decarbonisation guidance exists for new builds (e.g., EU Construction Products Regulation) or other existing guidance can be applied (e.g., SBTi) 	**High ability to influence** PortCo's decarbonisation progress, **with a few levers** given development can be in support of decarbonisation (e.g., energy efficiency) 
Real Estate - Credit	• Typically long-term project-type debt investments used to **finance development**, **upgrades** or **ongoing maintenance** of property assets	**Mid stage,** given guidance exists, but strategy-specific Credit guidance is still developing 	**Some ability to influence** PortCo's decarbonisation journey, as borrowers can only have loan terms focused on decarbonisation 

Some Real Estate properties have clear pathways to decarbonisation, whilst others—particularly old buildings, with substantial on-site fossil fuel combustion, mission-critical functions like healthcare or data centres or landlords with little control over tenant space—are hard to decarbonise. However, when considering the degree of influence that the GP has on an asset's decarbonisation, Real Estate is further along than most of the other asset classes.

For Real Estate Core, Core+ and Opportunistic (particularly new built Real Estate) investors have more decarbonisation levers available (e.g., longer holding period, ability to influence improvements related to energy efficiency, etc.), backed by Real Estate specific guidance and initiatives such as the CREEM pathways, GRESB public disclosure, Energy Performance of Buildings Directive, etc.

The Roadmap can be applied for measuring emissions, thinking about reporting and starting to set targets. Particularly, most impact can be achieved at the beginning of the Opportunistic investment when a decarbonisation strategy and targets are set as well as in the case of Core and Core+ when larger scale maintenance or refurbishments are undertaken.

Given the focus of Real Estate Value-add on short-term investments and high returns, generally investors have less influence over the decarbonisation levers that can be implemented. There are exceptions where the GP for both Value-add and Opportunistic has a bigger scope for decarbonisation driven by external factors such as the planning process and building codes that require refurbishments to achieve a minimum energy-efficiency standard and tenant requests for higher efficiency buildings to reduce overheads (utility bills).

Given the nature of Real Estate Credit, where multiple creditors are involved, the influence gets diluted. Like Infrastructure, Real Estate funds could prioritise assets where the fund has a higher degree of influence over the asset's operations.

Additional considerations for Real Estate are available in Section 5.3.

3.1.4. Private Credit

Private Credit has a much broader range of strategies than Buyout, with corresponding variation in length of investment, operational control and relationship with the investee and other capital providers. Further, a Private Credit fund may be simultaneously investing in different types of credit, which makes it challenging to set a level of ambition that can be applied across investments.

FIGURE 12. PRIVATE CREDIT STRATEGIES MATURITY AND FEASIBILITY

Strategy Type	Description	Maturity	Feasibility
Corporate – Direct lending	• Credit provision to companies through **bilateral/club deals** where one or a few lenders negotiate directly with borrower	**Mid stage** as strategy-specific standards are still in development, but some existing guidance applies	**Some ability to influence** PortCo's decarbonisation progress, **with a few levers** as GP has no ownership, but can require decarbonisation in loan terms
Corporate – Mezzanine debt	• **Junior credit provision** to companies through high-yield loans, often linked to preferred equity or other instruments	**Mid stage** as strategy-specific standards are still in development, but some existing guidance applies	**Some ability to influence** PortCo's decarbonisation progress, **with a few levers** available, especially where debt is linked to preferred equity
Corporate – Private placement	• **Issuance of debt securities** (e.g., bonds) directly to Private Credit funds	**Mid stage** as some specific taxonomies are available (e.g., EU Green bonds, Climate bonds)	**Limited ability to influence** PortCo's decarbonisation journey, **with very few levers** supporting progress as debt issuance is driven by underlying companies
Distressed debt	• Investing in the debt of **financially troubled companies** at a discount/providing credit to companies, with goal of **restructuring the debt** and potentially **acquiring ownership stake** through debt-to-equity swaps	**Early stage** as strategy-specific standards and guidance are still in development	**Some ability to influence** PortCo's decarbonisation progress, **with a few levers** available where GP intends to acquire larger ownership stake
Project financing	• Provision of credit to **specific, typically large-scale, projects** being undertaken; may be to standalone projects, or to companies where the loan is earmarked to a specific project	**Mid stage** as some specific taxonomies are available (e.g., EU Green bonds, Climate bonds)	**Some ability to influence** PortCo's decarbonisation progress, **with a few levers** as GP can set project requirements but unlikely to have influence with management
Structured debt*	• Investing in debt securities backed by a large **underlying pool of loans** (e.g. mortgages for mortgage-backed securities, MBS)	**Early stage** as strategy-specific standards and guidance are still in development	**Very limited ability to influence** PortCo's decarbonisation progress, as GP has no interaction with large number of underlying loans

Note: *for example CLOs, MBS

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There is also a large variation among Private Credit strategies when looking at maturity and feasibility. Corporate direct lending and Corporate mezzanine debt have more levers to influence decarbonisation (e.g., linking decarbonisation in loan terms) and hence should have more ease in applying the Roadmap at full ambition, from classifying investees across the Alignment Scale to communicating decarbonisation progress to LPs.

Project financing, Corporate private placement and Distressed debt have less ability to influence than other strategies and some guidance is available (particularly specific taxonomies) but should still be able to apply the Roadmap with some ambition adjustment. For example, funds following these investment strategies should focus on classifying and engaging investees.

Finally, for Structured debt (including CLOs, MBS, etc.) there is very limited ability to influence and limited guidance available, therefore focus should be on engaging PortCos on the importance of decarbonisation.

Overall, managers should prioritise investees where the scale/type of loan offered means that the fund is a significant creditor and therefore is more likely to have a higher degree of influence.

Additional considerations for Private Credit are available in Section 5.4.

3.1.5. Secondaries

For Secondaries funds, the limited feasibility comes from a lack of direct relationship with the assets that they are looking to decarbonise. In this investment strategy, the asset acquired is not a PortCo, but rather a stake in a Private Equity fund. This means that there is no direct relationship between the Secondaries investor and the underlying company that the GP has a stake in. Often, the Secondaries' late entrance in the fund lifecycle limits the ability to drive initiatives and establish new terms or strategies. Therefore, the Secondaries fund will always be one step removed from operational decisions and must engage via the portfolio GP. This makes it more challenging to push a decarbonisation agenda if it is not a priority for the intermediary GP.

FIGURE 13. SECONDARIES STRATEGIES MATURITY AND FEASIBILITY

Strategy Type	Description	Maturity	Feasibility
GP-led Secondaries (direct)	• **Restructuring** of a Private Equity fund **initiated by the GP**/fund manager » Investment period: 4-6 years (after Secondaries fund joins investment) • Transfer of a single asset or multiple asset to **different vehicle of same or new GP** • Referred to as **direct** as GP itself oversees the sale of the stake in the fund or engages in the intra-firm asset transfer	**Early stage** as Secondaries strategy-specific regulation is still in development, but some guidance is available (e.g., SBTi PE sector)	**Limited** asset/PortCo influence in decarbonisation progress, given focus on **GP relationship and engagement levers**
LP-led Secondaries (indirect)	• LP sells its position in an otherwise illiquid primary **PE investment** to another investor » Investment period: 6-10 years (after Secondaries fund joins investment) • Typically Secondaries through **simple transfer of stake** in a fund (or funds) • Referred to as **indirect** as investor acquires interest in fund(s) through another LP, without involvement from the fund's GPs	**Early stage** as Secondaries strategy-specific regulation is still in development	**Very limited** asset/PortCo influence in decarbonisation progress, given indirect nature of the mandate; some levers could include collaboration with other LPs to push for GP fund action

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For LP-led secondaries, the level of operational control is lower again, to the point of being essentially negligible. This is because an LP-led transaction often has little to do with the GP of the fund where the stake is being acquired—it is a process run by the LP, and post-investment engagement with the GP is consequently more restricted.

In most cases, this new investor will not be able to join any of the already-established oversight committees that often give LPs influence over the funds that they invest in. Further, there may be too many GPs within the fund for the Secondaries team to have a meaningful relationship with any of them.

Therefore, when thinking about decarbonisation, Secondaries investors need to tailor their expectations and strategies to reflect the fact that they have limited control over the underlying assets. Funds can still act on decarbonisation, but, generally, levels of ambition will have to be considerably lower than for other asset classes.

Secondaries funds can touch across asset classes–Buyout, Growth, VC, Infrastructure and Private Credit–which means that in some cases further restrictions/limitations exist (e.g., Private Credit Secondaries) or perhaps some further opportunity (e.g., Infrastructure Secondaries and Buyout Secondaries notably GP-led).

Additional considerations for Secondaries available in Section 5.5.

Other indirect strategies

This guidance is focused on Secondaries, however, investors managing other direct investment strategies could consider:

- **Fund of funds:** Here, a fund takes a LP position in multiple funds and does not directly engage with the PortCos. Therefore, the fund of funds has to engage the GPs to disclose decarbonisation activity through the Roadmap for the underlying funds. Funds of funds managers may also allocate across asset classes within Private Markets and should apply context when using the Roadmap to capture decarbonisation activity.
- **Co-investment:** Here, a fund takes a direct position in a PortCo or asset alongside the GP. In these instances, the fund is likely to have a higher degree of operational control and should consider the approach for Buyout or Growth for potential next steps. However, since they are operating from a minority position, there is less feasibility to influence change within a PortCo.

3.2. APPLYING THE ROADMAP AT THE PORTCO LEVEL

3.2.1. Why use the Roadmap to track PortCo-level progress?

The Roadmap tracks PortCo-level progress on decarbonisation in the short-term, providing a way for GPs to assess and communicate progress on decarbonisation that may not be reflected in emissions data.

Alignment Scale metrics allow funds and PortCos to show progress:

- **As emissions rise:** Even if the nature or scale of the PortCo's operations mean that emissions are still rising, it can still make progress along the Alignment Scale by putting the building blocks in place for a science-based reduction target.
- **Regardless of broader business transformation:** GPs often use 'buy and build' or other M&A strategies to transform the businesses that they own. This can radically change their emissions profile from year to year; however, as long as the company updates the coverage of their decarbonisation/transition plans, their progress on the Alignment Scale can continue.
- **During the hold period:** The Alignment Scale metrics are designed to capture the short-term progress that PortCos can make on decarbonisation during a typical hold period, allowing GPs to describe the impact of their ownership on the underlying asset's decarbonisation agenda.
- **By committing to potential benefits post-fund exit (where applicable):** The focus on board-level review of decarbonisation/transition plans means that the PortCo's commitments to decarbonise will be entrenched within the company after the GP's exit from the investment.

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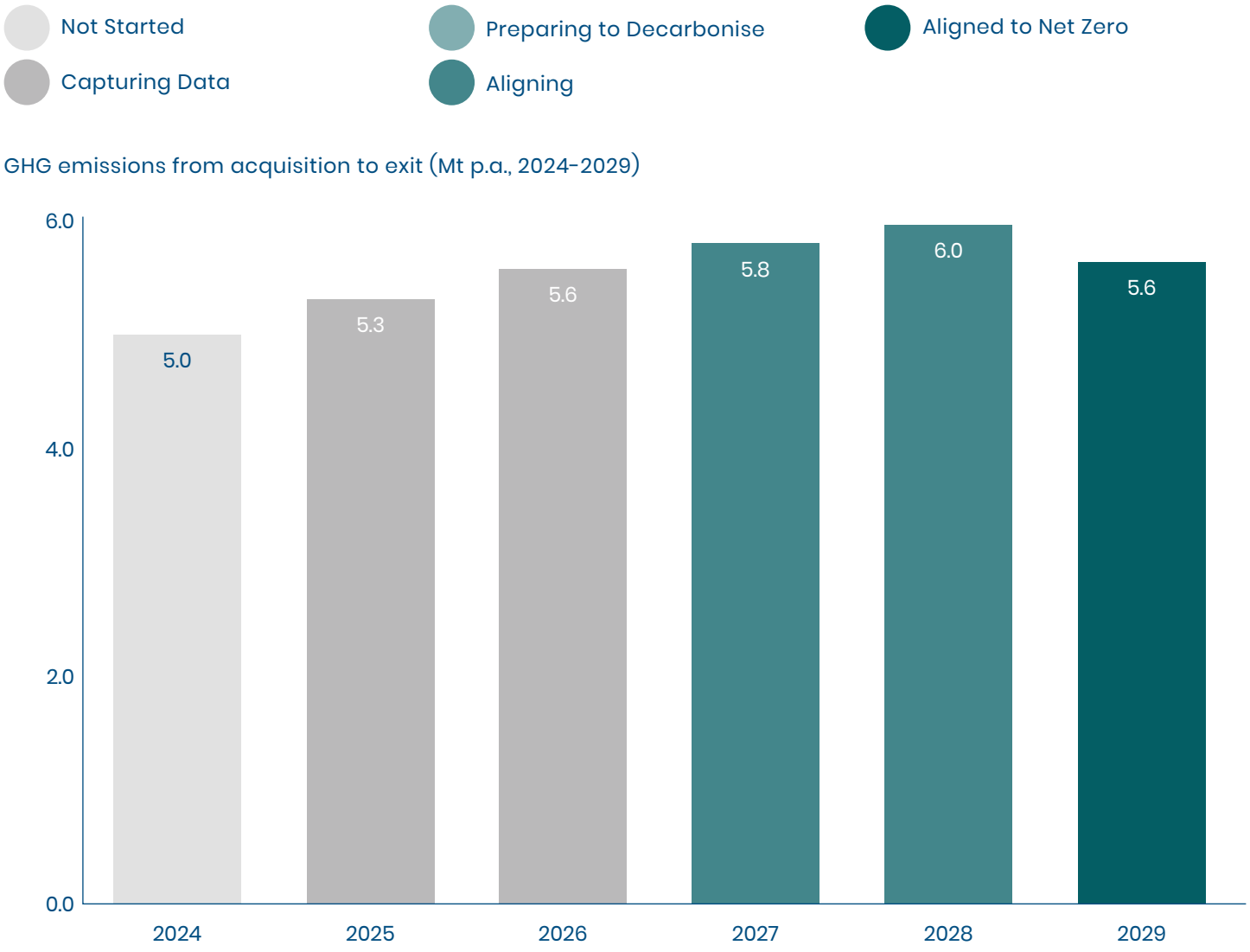
Many PortCos will also have to report emissions metrics to lenders and other investors so that they can calculate their financed emissions and report upwards to LPs and, increasingly, to regulators. As low-emissions technology advances, the link between **scaling operations and scaling emissions** will become less strong, and Alignment Scale progress and emissions intensity will be more strongly correlated. This should not dilute the ambition of a PortCo. However, in the short-term, PortCos will need to explain that progress on Alignment Scale metrics may often result in reducing emissions after the holding period.

For Private Credit funds, the Alignment Scale can also be used to classify potential investees before loan underwriting, helping to guide investment by the fund, and potentially influencing any decarbonisation-related loan terms the fund wishes to include.

Figure 14 shows an illustrative example of a lower-emitting technology company where the PortCo progresses from 'Not Started', through 'Capturing Data' to 'Aligning' even as emissions rise. Actual real emissions reductions are only achieved towards the end of the holding period. As this example is operating in the technology sector, it moves straight from Capturing Data to Aligning, as there are sector pathways to net zero the company can follow.

FIGURE 14. ILLUSTRATIVE TECHNOLOGY PORTCO EMISSIONS AND ALIGNMENT STAGE



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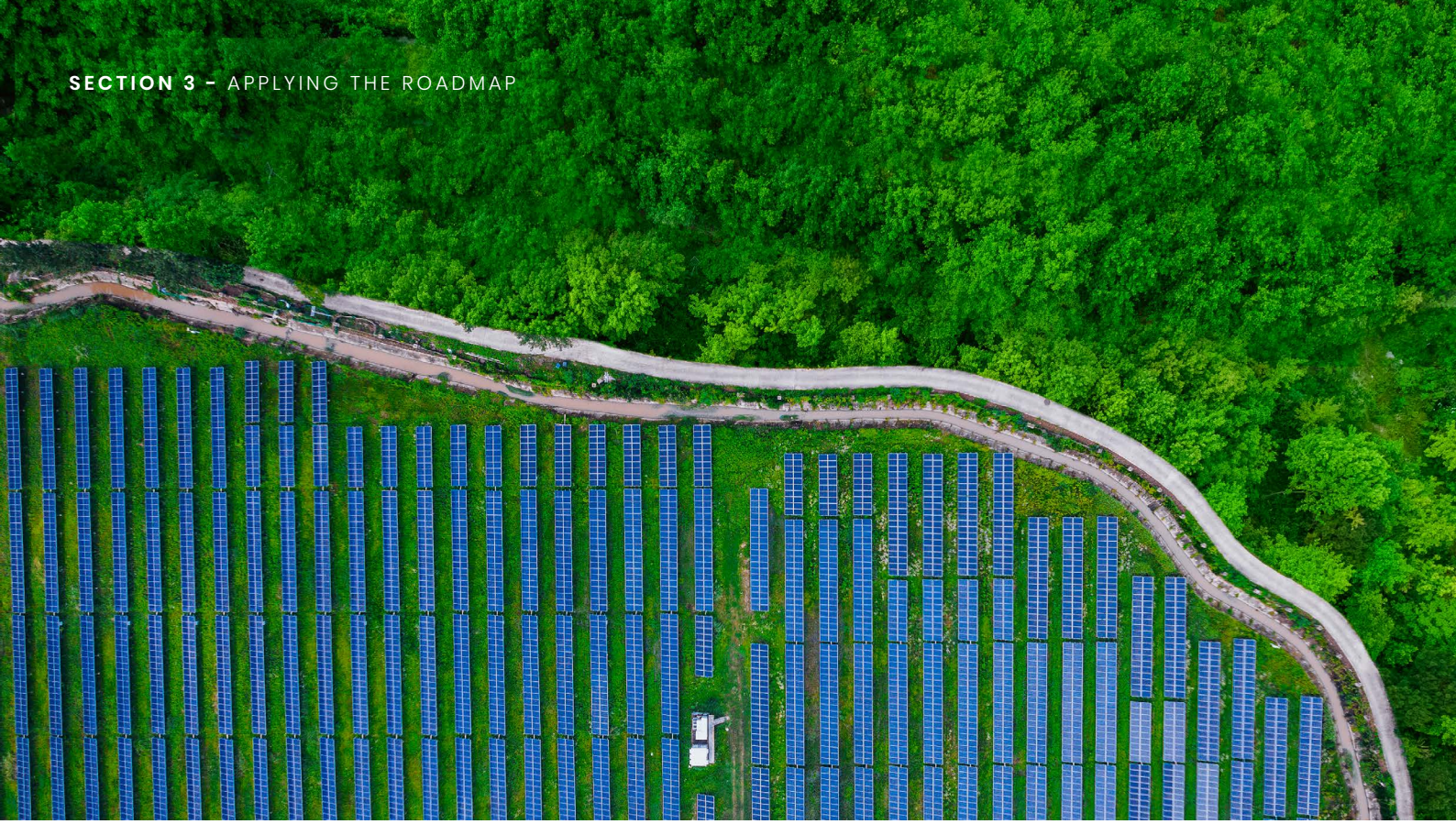

3.2.2. Which PortCos to include when using the Roadmap?

A GP should consider how it can work with all of its PortCos under management on decarbonisation. By at least **requesting data from their PortCos**, GPs will understand the extent to which the capital that they deploy is aligned to the transition. GPs should look to classify PortCos **as soon as possible**. This will mean that all progress that they make can be reflected in the data collected since the point of investment. It is recommended that initial classification begins in the due-diligence phase with an outside-in assessment of data and publicly stated emissions-reduction targets.

After classification, GPs may choose to **prioritise** which PortCos they will support on decarbonisation if resources are limited. Here, teams can use the concepts of **feasibility** of changing asset operations and **materiality** (that is, prioritise PortCos with higher emissions) to frame their decision. As explained in Figure 15, the non-exhaustive list of feasibility criteria also varies based on the type of asset class given the characteristics of the investment.

GPs may choose to adjust their level of ambition on the Alignment Scale based on the **feasibility** of influencing change with a PortCo. For example, in instances where the GP may reasonably expect to influence the PortCo, they should look to move that company through more stages along the Alignment Scale, whereas this may not be possible where debt is actively traded or very short-term.

It is recommended that a GP classifies all of their PortCos. However, target-setting approaches (SBTi, for example) do allow funds to set **inclusion** criteria based on **feasibility** for PortCos. A fund's inclusion criteria based on either materiality or feasibility will need to be **communicated** clearly to LPs/shareholders when targets are set and reported. For example, GPs should be transparent on what percentage of financed emissions are covered in reporting, and how and why any inclusion thresholds were set.

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FIGURE 15. CRITERIA TO CONSIDER WHEN ASSESSING FEASIBILITY OF DECARBONISATION SUPPORT

Feasibility Criteria	Asset class applicability	Less Feasible	More Feasible
Ownership stake	LBO Gr VC Infr RE Cr Sec	Minority ⟷	Majority
Loan amount (for direct corporate lending or project financing)	Cr	Low proportion of investee/ project financing ⟷	High proportion of investee/ project financing (>US$100m, 2x EBITDA or >25% of total project financing)
Private Credit strategy	Cr	Corporate/private placement (less influence over investee strategy) ⟷	Distressed debt (higher influence over investee strategy)
Board-level representation	LBO Gr Sec	No positions ⟷	Majority of board positions
Duration of ownership of PortCo	LBO Gr VC Infr RE Cr Sec	Short-term (2 years) ⟷	Long-term (10+ years)
Management receptiveness to decarbonisation	LBO Gr VC Infr RE Cr Sec	Actively blocking decarbonisation efforts ⟷	Proactive support, with ongoing action on decarbonisation
Relative payback time from decarbonisation efforts	LBO Gr VC Infr RE Cr Sec	Longer than holding period ⟷	Within the holding period
Operational change from decarbonisation efforts	LBO Gr VC Infr RE Cr Sec	Major transformation ⟷	Limited changes
Known pathway to net zero	LBO Gr VC Infr RE Cr Sec	No clear pathway e.g., fossil fuels ⟷	Existing pathway

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Further, if a PortCo is relatively low emitting, a GP may choose to de-prioritise working with that company and instead divert resources to companies where decarbonisation may result in larger overall emissions reduction. For example, if a fund is heavily exposed to high-emitting sectors, the GP may choose to focus on moving these PortCos along the Alignment Scale to 'Aligning' and deprioritise lower-emitting PortCos.[38] This analysis is often framed using the concept of **materiality**. In financial accounting, this term helps to distinguish significant information from insignificant information for investors and auditors. In climate-related discussions, materiality is used to identify climate risks and opportunities that could substantially affect a company's performance and impact on climate change.

The Sustainability Accounting Standards Board (SASB) calls out greenhouse gas emissions as a material consideration ("reasonably likely to have financially material impacts on the typical company in an industry") across multiple sectors, which includes many of the top target sectors for Private Equity funds.[39] See Section 3.3.4 for further details about how to adapt the Roadmap to low-emitting assets.

3.2.3. How can PortCos move up the Alignment Scale?

To move up stages on the Alignment Scale, PortCos need to **capture data** and make board-reviewed plans for **decarbonising or transitioning their operations** and value chain. GPs can support PortCos with both tasks by offering support and guidance on approaches and pushing for incorporating these activities into broader company strategy and action plans.

Capturing emissions

Tracking Scope 1, 2 and 3 emissions is an important first step for PortCos looking to decarbonise. The process helps companies to understand which part of their operations are most high-emitting and allows them to benchmark versus companies operating in similar sub-sectors.

The guidance is to include Scope 3 emissions if they are material for a PortCo. However, the PMDR acknowledges that it can be difficult to estimate and obtain Scope 3 emissions, and that investors may make strategic decisions to start with focusing on Scope 1 and 2 and making progress fast before including Scope 3. Therefore, investors can communicate progression of assets on the Alignment Scale without material Scope 3 data up until 'Preparing to Decarbonise' as long as they clearly state that what they show only refers to Scope 1 and 2 (visualisations in Section 6 provide associated templates to support this). In addition, it is encouraged to transparently communicate reasons for non-inclusion, planned future actions, etc. when applicable.

The iCI has also published guidance on greenhouse gas accounting and reporting for Private Equity to help PortCos and funds measure their emissions.[40] The iCI guidance complements the data quality hierarchy of the Partnership for Carbon Accounting Financials (PCAF) and gives guidance on how funds can collect, account and report Scope 1, 2 and 3 emissions. To ensure that LPs are clear on the data that they are receiving, the Roadmap includes recommended levels of PCAF data quality. These expectations will change as data availability continues to improve and as a PortCo moves along the Alignment Scale.

FIGURE 16. RECOMMENDED LOWEST PCAF SCORE AT EACH STAGE OF THE ALIGNMENT SCALE

Recommended **lowest** PCAF score PortCos use at each stage of the Alignment Scale

	Capturing Data	Aligning	Aligned to Net Zero
Scope 1&2 i.e., emissions directly from the PortCo's operations	**Score 3** Averaged emissions data that is peer/(sub)-sector specific and based on PortCo operations	**Score 2** Actual GHG emissions data or actual primary energy data **Score 1** Audited emissions data—**recommended from 2030 onwards**	
Scope 3 i.e., emissions in the PortCo's supply chain/generated by their customers' use of their products	**Score 5** Estimated data with very limited support (Score 3 where information is available)	**Score 4** Estimated based on sector proxies of emissions produced per revenue generated or assets owned (Score 3 where information is available)	

Reducing emissions

What an emissions reduction plan should or should not include will look different based on a PortCo's decarbonisation journey and its level of ambition.

FIGURE 17. CRITERIA FOR PORTCO DECARBONISATION PLANS[41]

	Preparing to Decarbonise	Aligning	Aligned to Net Zero
Plan required	**Decarbonisation plan**	**Transition plan**	**Transition plan with net zero target**
Definition	Plan to reduce emissions (intensity) with a non net zero aligned target	Short-term plan to reduce emissions (intensity) aligned to a net zero pathway	Plan that will reduce emissions (intensity) to a net zero aligned level by 2050
Plan criteria	**Minimum requirements:**[1] • Includes a quantitative target for emissions (intensity) reduction that represents a significant reduction in emissions • Includes a short-term/ interim target (minimum period of 5 years) • Includes annual activities/ levers with clear KPIs and an annual reporting structure • Reviewed by PortCo board • Includes an analysis of material risks to the environment and relevant stakeholders	**Requirements as in previous stage plus:** • Includes a near-term, science-based target in line with a transition pathway[2] » Targets should always be set on Scope 1&2 emissions, and on Scope 3 emissions if they are material (≥40% of total emissions) • Science-based targets may be drawn from sources incl. the following: » SBTi » TPI Sectoral Decarbonisation Pathways » CDP Transition Plan - Technical Note » Industry-specific documents e.g. UNFCCC's Race to Zero Decarbonising Fashion report » Bespoke plans developed by PortCo environmental consultant	**Requirements as in previous stage plus:** • Year-on-year emissions profile in line with net zero pathway (incl. Scope 1&2 emissions, as well as Scope 3 emissions if they are material i.e., ≥40% of total emissions) • Recommended (but not mandatory) to include a science-based target to achieve net zero emissions by 2050 or sooner • Recommended (but not mandatory) that plan is externally verified[3]

Specifically on decarbonisation activities/levers, PortCos should identify specific actions that they can take to reduce their emissions and plan to communicate on progress against pre-defined KPIs (e.g., % share of renewable energy, volume of fossil fuels used per unit of revenue, % of recycled packaging vs. virgin packaging). Key decarbonisation levers will vary by company and industry, but examples include switching from fossil fuel-powered manufacturing equipment to electric equipment (Scope 1), increasing share of renewable energy (Scope 2), reducing packaging volume per SKU (Scope 3), switching to suppliers with lower emission footprints (Scope 3), etc.

Useful resources to assist in creating a transition plan can be found in Section 6.4

Note: (1) Minimum requirements based on resources including the Transition Pathway Taskforce Implementation Guidance and GFANZ Real-economy Transition Plans (2) Science-based targets represent targets explicitly aiming at scaling back emissions in accordance with the aim to reach net zero by 2050 (3) Third-party verification may be done by bodies including: SBTi, environmental consultancies, non-specialist auditors (incl. KPMG, PwC, Deloitte and EY)

3.3. APPLYING THE ROADMAP AT THE FUND-LEVEL

3.3.1. Why use the Roadmap to track fund-level decarbonisation progress?

Funds have a central role to play in decarbonising Private Markets:

- Though **firms** can set decarbonisation goals, it is the investment teams that influence the operations and strategy of the portfolio companies they acquire. Therefore, investment teams can raise the **decarbonisation agenda** with PortCo management through their direct relationships.
- A fund-level approach allows for **variations in ambitions, approach and expectations** based on vintages, asset classes and investor preferences.
- Where a fund has sufficient influence over a PortCo to encourage decarbonisation, it is the fund-level investment and ESG teams that have the **connections and knowledge** to facilitate real change in companies.
- LPs invest in individual funds and will be interested in **decarbonisation reporting and targets specific to their investments**. Therefore, a fund-level approach means level of ambition and data disclosures can be tailored to the expectations of specific LPs.

The Roadmap can be used to track fund-level progress on decarbonisation across the fund lifecycle, giving an overall view of how far the investment vehicle is aligned to the transition to a low-carbon economy. LPs will often also ask for fund-level emissions data to calculate their own financed emissions. Funds should consider sharing their alignment reporting as a useful way to communicate progress that might not be captured in emissions data alone.

As with all fund aggregations—especially on an annual basis—Alignment Scale metrics may also not be able to fully reflect the nuances of progress within a transitioning portfolio (see Figure 18).

- The percentage overall stage distribution may shift as the fund acquires new companies that are often at the start of their decarbonisation journey.
  - » Fund Alignment Scale stage distribution calculation is cumulative for the entire fund lifecycle.
  - » If possible, including the most recent reported data for exited companies in the year of exit will allow for a comprehensive overview of the alignment and progress throughout the lifecycle.
  - » The exception comes in the case of evergreen funds (i.e., funds without a fixed lifespan), where the nature of the continuous raising and investing might make a cumulative calculation challenging. In this case, the cumulative fund overview calculation will only be able to indicate alignment at a point in time, timebound at the discretion of the fund.
- Movement along the Alignment Scale may take time to realise. For example. it can take 12-18 months to establish a comprehensive emissions baseline. Therefore, alignment level may not improve on an annual basis in the initial years of a fund.

Therefore, in general, **the primary metric funds should look to track and report is individual PortCo Alignment Scale stage.**

In general, fund Alignment Scale stage distribution is most useful when covering the **whole fund lifecycle** (either post-fund-close or as a projection). It can also be used for communicating an ambition for the fund to LPs.

Please refer to Section 3.4. to understand how to calculate PortCo and fund-level metrics.

FIGURE 18. ILLUSTRATIVE FUND-LEVEL ALIGNMENT YEAR-ON-YEAR AND OVER FUND LIFECYCLE

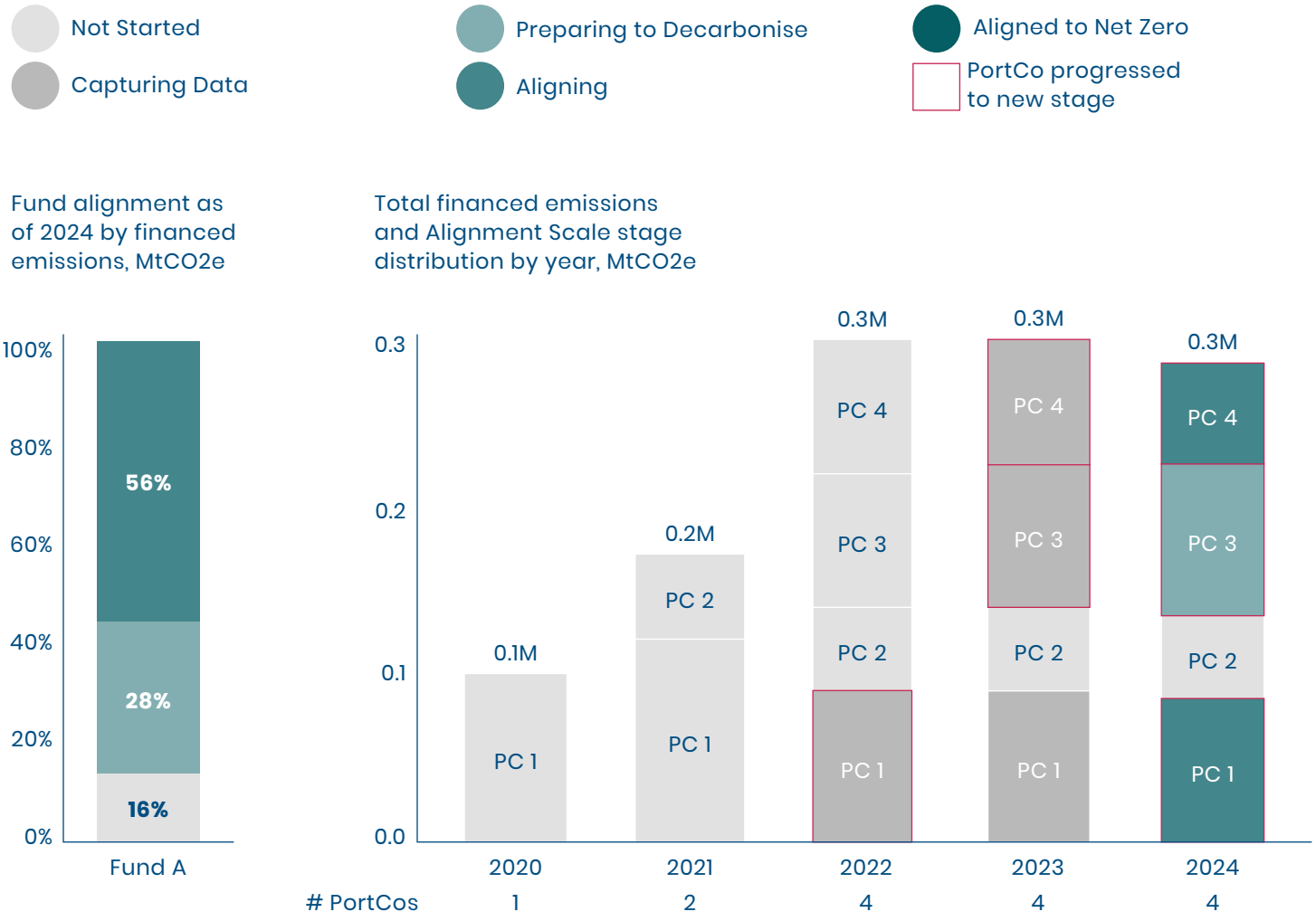

Figure 18 shows an illustrative Fund A with an overall alignment level of 56%[1]. Comprising of four PortCos, Fund A is an example of how financed emissions may increase year-on-year but PortCo alignment levels improve as they progress through the Alignment Scale stages.

Notes: PortCos in the 'Not Started' stage will often have limited or no emissions data, which can skew the distribution of portfolio alignment by financed emissions; Alignment level calculated as share of total categorised as 'Aligning' or 'Aligned'

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3.3.2. How can funds use the Roadmap to track and report on progress?

The Roadmap **does not require** funds to **publicly report** their progress or disclose it to LPs/shareholders (for listed funds).

However, some LPs may request information at a fund level or GPs may wish to report on this proactively. The **primary metric** that funds should use to track and report progress are the individual **PortCo alignment stages** discussed in Section 2. Some GPs may also want to go further, for example using the Roadmap's framework to set a climate strategy or decarbonisation target. This may only be possible when raising a new fund as established funds have existing contractual arrangements with LPs.

The four main ways that funds can use the Roadmap are:

- **Internal data collection:** Collect data and review for internal baselining and prioritisation only.
- **Internal disclosure only:** Collect data and share with LPs, shareholders or any stakeholders the fund choses or keep for internal purposes only. This means that funds that do not have a clear decarbonisation path can avoid making public statements about steps that they are unsure how to achieve.
- **Disclose with ambition to decarbonise:** A GP sets an ambition to decarbonise using the language of the Alignment Scale but does not set a specific alignment goal for the fund's end. This approach lets GPs show their intent to act without significantly limiting their investment options.
- **Target-setting approach:** A GP has a specific **short-term target** for its portfolio's overall alignment level. Although target-setting leads to stricter expectations, it also effectively communicates the GP's intentions to other stakeholders.

Due to lower levels of influence for some asset classes (e.g., Venture Capital, Private Credit, Secondaries), funds looking to set a target should be aware that they would likely need to meet the proposed alignment level in the **initial allocation of capital** to PortCos already at advanced stages of their decarbonisation journey. Alternatively, GPs may need to include decarbonisation progress requirements in the investment terms. This restriction on the investment landscape would need to be included in the fund's terms of reference.

Disclosures and optional targets can be set and reported at the fund level. This requires Investment or ESG teams to roll up their individual PortCo alignment classifications to create **an aggregate view** across investments (see Section 3.4. for calculations steps).

There are different approaches that GPs could take to **track progress against targets**, each of which captures different levels of progress. Examples include:

- **Percentage of financed emissions at each stage of the Alignment Scale:**
  - » Shows total fund alignment to the low-carbon transition;
  - » Tracks progress in moving assets and financed emissions along the Alignment Scale;
  - » Focuses on aligning emissions over PortCos—this incentivises a GP to make progress with the highest emitters.
  - » For example, percentage of financed emissions 'Aligning' or 'Aligned' (defined as 'alignment level', see Section 3.4. for further details).
- **Overall number of stages progressed by assets in the fund:**
  - » Reflects progress of assets at every stage of the Alignment Scale, not just 'Aligning' or 'Aligned';
  - » Demonstrates the impact specifically during the fund ownership period;
  - » Promotes engagement with all assets, not just the highest emitters.
  - » For example, average number of stages moved per year.
- **Percentage of invested capital in Decarbonisation Enablers:**
  - » Highlights decisions to invest capital into assets supporting transition;
  - » Captures decarbonisation efforts even when influence on asset strategy is limited;
  - » Mirrors concepts in SFDR Article 8 & 9 funds.[42]
  - » For example, % of current assets classified as Decarbonisation Enablers.

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3.3.3. How could a fund apply the Roadmap?

The Roadmap is organised to align with the **different stages of a fund's lifecycle**, such as raising and deploying capital then owning, and finally, exciting PortCos. This makes it easier to incorporate decarbonisation activities into the fund's decision-making process.

For feasibility, firms may decide to apply the Roadmap only to **new funds**. This allows them to incorporate their decarbonisation strategy into the fund's terms of reference, which are agreed with the fund's investors upfront.

Moreover, existing funds might not have enough time left in the holding period to support PortCos in improving their decarbonisation alignment. As a result, the Roadmap's implementation guidance is primarily **forward-looking**, explaining how to apply the framework across the lifecycle and holding period of new funds and PortCos.

If a firm prefers to test the Roadmap with specific funds first, it should evaluate the **materiality and feasibility** of each fund to decide which ones should participate in the pilot programme.

FIGURE 19. DETERMINING FEASIBILITY OF PILOT PROGRAMME PARTICIPATION AT PORTFOLIO LEVEL

Feasibility Criteria	Less Feasible		More Feasible
Fund lifecycle	Approaching exit	⟷	New fund/fundraising
Target ownership stake	Minority	⟷	Majority
LPs openness to decarbonisation	Operating in political climate sensitive to ESG considerations	⟷	Has own net zero target/ member of NZAOA
Terms of reference (ToR) including decarbonisation	Set terms of reference with no inclusion of decarbonisation	⟷	Mandate to improve emissions of PortCos alongside financial performance
Firm's own ambition and resources dedicated to supporting decarbonisation	Limiting factor	⟷	Enabling factor

3.3.4. How can funds with lower-emitting assets apply the Roadmap?

Some funds will be focused on/or include assets that do not produce a significant amount of greenhouse gases (referred to as 'lower-emitting'). In these instances, other **value-creation opportunities and ESG concerns** may be more of priority than decarbonisation. The Roadmap recommends that each asset is **at least classified on the Alignment Scale** and aims to move to **'Capturing Data'**. This will create a **comprehensive emissions benchmark** that will help funds to confirm and communicate which assets do not have material emissions.

Defining a lower-emitting asset

There are several external references that funds can use when defining what to count as a lower-emitting asset:

- For the EEO1 reporting system in the United States inclusion criteria include:
  - PortCo must have over 100 employees to be included.[43]
- The SBTi has a streamlined target-setting route for small and medium-sized enterprises (SMEs), defined as a non-subsidiary, independent company which employs fewer than 250 employees and is not a Financial Institution (FI) or Oil & Gas (O&G) company.
- The UK Energy Savings Opportunity Scheme (ESOS) is the implementation of Article 8 of the EU energy efficiency directive. Its criteria are based on type of PortCo.
  - Large companies must have more than 250 employees, a net turnover of more than £44m (US$57m) and an annual balance sheet total in excess of £38m (US$49m).[44]

Although these references can be used as guidance, we recommend including all assets/PortCos or following these criteria with caution, as some can lead to oversights—for example, excluding an SME with less than 100 employees but high emissions.

Another approach to defining low-emitting assets could be using the Neuberger Berman Net Zero Matrix™ approach.[45] The Neuberger Berman Net Zero Matrix illustrates the current 'best estimate' for how companies by sector and region are aligned or not aligned with net zero goals, including non-high-emitting sectors such as Healthcare, Communication Services, Consumer Staples and so on.

Choosing a level of ambition for lower-emitting assets

The Roadmap is designed to enable GPs to deprioritise lower-emitting assets, thereby maximising overall impact. However, in the medium-term, such assets will also need to decarbonise their operations. There are two main ways that this can be done:

1 **Set inclusion/exclusion criteria for disclosure based on emissions thresholds**

   A Set own inclusion criteria (this is a possibility under the Roadmap).

   B Include only assets that meet a threshold based on metrics (for example, greenhouse gas Mt per annum).

   C Give LPs transparency on the percentage of financed emissions covered in any disclosure.

2 **Choose an appropriate level of ambition for lower-emitting assets**

   A Develop emissions baseline to identify lower-emitting assets; this automatically moves all PortCos to the 'Capturing Data' stage.

   B Keep lower-emitting assets at 'Capturing Data'; this does not significantly impact the overall alignment level measured by financed emissions.

FIGURE 20. IMPACT OF DEPRIORITISING LOWER-EMITTING PORTCOS

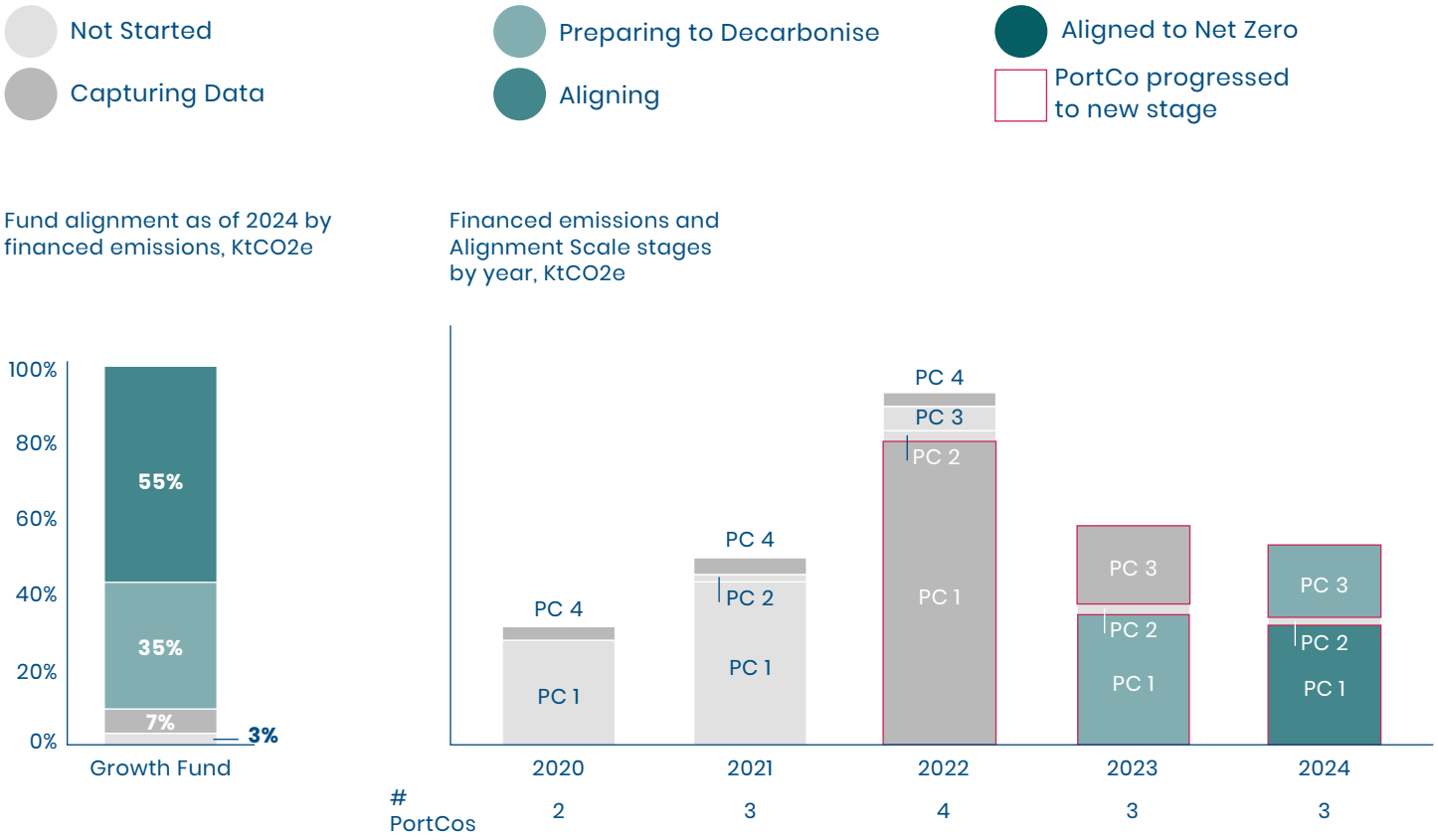

Figure 20 shows an illustrative Growth Fund with an overall alignment level of 90%. Comprising of four PortCos, out of which PortCo 2 remains 'Not Started' for the lifetime of the fund. This is an example of how deprioritising lower-emitting PortCos (such as PortCo 2) does not significantly impact fund alignment levels, given weighting is based on financed emissions.

Notes: PortCos in the 'Not Started' stage will often have limited or no emissions data, which can skew the distribution of portfolio alignment by financed emissions; Alignment level calculated as share of total categorised as 'Aligning' or 'Aligned'

3.4. CORE METRICS CALCULATIONS

The Roadmap does not set out **mandatory metrics for reporting**. However, the more GPs that choose to report or disclose core metrics to their investors, the more the Roadmap will fulfill its aim of becoming a common approach to decarbonisation. This in turn should help to reduce the number of individual requests from LPs to GPs for different forms of decarbonisation data.

3.4.1. PortCo-level metrics

GPs following the Roadmap typically gather select data from their PortCos:

- **Alignment Scale stage** (core metric) most accurate for tracking short-term progress
- Emissions (absolute and intensity)needed in portfolio-level calculations

For guidance on PortCo-level metrics see Sustainable Markets Initiative's Private Equity Task Force's existing work on ESG metrics.[46]

FIGURE 21. EMISSIONS INTENSITY METRICS

	Metric type	Value to Roadmap use	Other benefits
Core metric	**Alignment Scale stage**—where each PortCo is classified on the Alignment Scale	• Track individual PortCo progress • Feed into broader fund-level alignment calculations	• Identify PortCos that may be ready to make SBTi/net zero commitments
	Alignment level—share of fund/portfolio at 'Aligning'/'Aligned'	• Track how advanced a fund/portfolio is on the decarbonisation journey	• Identify underlying PortCos to leverage as case studies/best practices for other PortCos less advanced on their journey
	Emissions (absolute) (based on Sustainable Markets Initiative's Private Equity Task Force materials)	• Feed into broader fund-level alignment calculations for financed emissions	• Often required by regulators and other frameworks (e.g., TCFD, ESG IDP) • Track emissions reduction (more likely in future where link between scaling operations and emissions is broken)
	Emissions (intensity) (based on Sustainable Markets Initiative's Private Equity Task Force materials)	• Non-core • Track the impact of emissions reductions efforts once a PortCo has reached 'Aligned' stage i.e., check if PortCo is keeping up with requirements	• Track how decarbonisation efforts have impacted emissions—even if absolute emissions continue to grow. Increasingly used in initiatives and frameworks e.g., ESG IDP

3.4.2. Fund-level metrics

PortCo-level data can then be rolled up to give a fund-level view of alignment, covering the percentage of PortCos within a fund that belong to each alignment category (and, separately, the percentage of PortCos that are (Emerging) Decarbonisation Enablers), measured in relation to:

- Financed emissions (best practice)
- Capital invested (or outstanding loan in Private Credit)

Fund methodology for calculating percentage of financed emissions at a specific stage

Note: As 'Aligning'/'Aligned' is considered the appropriate level of ambition for PortCos operating in sectors with pathways to transition, the Roadmap recommendation is that funds track or disclose at least the percentage of their assets at **'Aligning'/'Aligned'**.

1 Note the **Alignment Scale stage of PortCos in the year of interest**.

2 For those PortCos that are at a specific stage in the year of interest, calculate their **combined financed emissions**.

It is suggested that investors refer to the PCAF Global GHG Standard for asset-class specific guidance. Although currently no PCAF guidance specific to Private Equity exists, the PCAF formula for business loans and unlisted equity can be used as a proxy. Accordingly, financed emissions are **calculated by multiplying PortCo emissions with the outstanding amount over total equity plus debt. The outstanding amount is calculated by multiplying total equity with the number of shares held by the financial institution divided by the total number of shares**.

Financed emissions:

$$\sum_{c} \frac{Outstanding\ amount_c}{EVIC_c} \times Company\ emissions_c$$

Outstanding amount:

$$\frac{\#\ shares\ of\ financial\ institution_c}{\#\ total\ shares_c} \times Total\ equity_c$$

Note: c = borrower or investee

We recommend using the PCAF formula for the specific asset class. Financial institutions should either use book value or face value for the value of the debt that the borrower owes to the lender and the calendar or financial year-end outstanding amount, provided the approach is communicated clearly and used consistently. More guidance can be found in PCAF (2022), 'The Global GHG Accounting and Reporting Standard Part A: Financed Emissions'.

3 Divide this figure by the **sum of financed emissions for all PortCos** in a fund's portfolio.

This gives the percentage of financed emissions that are at a certain alignment stage[47]

Fund methodology for calculating percentage of invested capital per alignment stage[48]

1 Note the **Alignment Scale stage of PortCos in the year of interest.**

2 For those PortCos which are at a certain stage in the year of interest, calculate their **combined invested capital**.

3 Divide this figure through by the **total cumulative invested capital** across the fund's portfolio (including for realised investments).

This gives the percentage of invested capital that is at a certain stage.

This can be done for multiple alignment stages together—for example, percentage of financed emissions/invested capital classified as 'Aligning'/'Aligned'— or at sub-levels, as 'Preparing to Decarbonise'

For the percentage of portfolio made up of **Decarbonisation Enablers**, the process is very similar:

1 Note if each PortCo is an **(Emerging) Decarbonisation Enabler**.

2 Calculate the **combined levels of invested capital in these PortCos.**

3 Divide this figure through by the **total invested capital** across the fund's portfolio.

We use the same approach for calculating % of Emerging Decarbonisation Enablers.

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Another possible approach would be to use invested capital normalised to % revenues that are enabling the transition to a low-carbon environment. For example, a PortCo with 53% revenue in activities supporting a low-carbon economy could be classified as a 53% Decarbonisation Enabler.

Either approach taken should be applied consistently across the portfolio and clearly communicated to investors.

It may be useful for a GP to calculate the % of (Emerging) Decarbonisation Enablers at a fund-level. To do this, the GP should create a weighted average at a fund-level based on the invested capital in each PortCo.

% of Decarbonisation Enablers in a Fund = Sum of Decarbonisation Enablers invested capital/Total fund invested capital.

For example, if a fund's total invested capital is US$100m and the fund consists of two PortCos classified as Decarbonisation Enablers with US$20m and US$10m invested capital respectively, the fund would have (20+10)/100 = 30% of Decarbonisation Enablers within the fund.

The same calculation and logic can be applied to determine the % of Emerging Decarbonisation Enablers within a fund.

FIGURE 22. FUND-LEVEL ALIGNMENT CALCULATIONS—INDICATIVE EXAMPLE FOR BUYOUT FUND

PortCo	Capital invested (US$m)	Alignment Scale stage in year of interest	% of emissions attributable to the fund	Greenhouse gas emissions in year of interest (Mt p.a.)
PC 1	40	Aligned	**50%**	10
PC 2	50	Aligning	**80%**	20
PC 3	60	Capturing Data	**100%**	30

Aggregation approach	% of financed emissions Aligning/Aligned to transition	% of invested capital Aligning/ Aligned to transition
Calculation	• Classify individual PortCos along the Alignment Scale • Create a weighted average at fund-level based on **share of financed emissions** that each PortCo emits [PC1: 50% of 10mt] + [PC2: 80% of 20mt] / [PC1: 50% of 10mt] + [PC2: 80% of 20mt] [PC3: 100% of 30mt] = **~40% aligned**	• Classify individual PortCos along the Alignment Scale • Create a weighted average at fund-level based on percentage of invested capital in each PortCo [PC1: $40m] + [PC2: $50m] / [PC1: $40m] + [PC2: $50m] + [PC3 $60m] = **~60% aligned**

The previous example is indicative of a Buyout fund, given the high ownership percentage that determined the percentage of total emissions attributable to the fund. For Private Credit, this ownership percentage would be much lower, given GPs normally have a minority stake when using Credit investment strategies. However, the calculation logic should be applied the same as that of Buyout funds.

For Secondaries funds, GPs/LPs would expect the GPs they invest in to undergo these calculations, rather than determining the calculations themselves. Focus would instead be to engage their GPs and collect and aggregate these calculations.

3.5. FUND-LEVEL TARGET SETTING (OPTIONAL)

In addition to these core metrics, funds can choose to set targets for their decarbonisation progress.

Targets could include:

- Overall PortCo alignment level to the transition (that is, share of funds' financed emissions at **'Aligned' or 'Aligning'**), adapted from calculations outlined in the previous section
- **Capital allocation at set stages** along the Alignment Scale
- **PortCo progression through Alignment Scale stages**—shows number/percentage of funds' PortCos that have moved along the Alignment Scale
  - Funds can express this metric in two ways:
    - The **average number of stages moved by PortCos** across a fund per year/PortCo
    - The **percentage of PortCos** within the fund that have **moved one (or more) stages along the Alignment Scale** during the fund lifecycle
- Data on investment in **decarbonisation enabling PortCos**—shows funds' investment in transition to a low-carbon economy through acquisition of (Emerging) Decarbonisation Enablers (PortCos that support the transition)
  - This is expressed in terms of the **percentage of invested capital that is invested in PortCos classified as (Emerging) Decarbonisation Enablers**
- **Progress on Roadmap implementation** could also be quantified and tracked—for example, funds could aim to have:
  - A set percentage of **PortCos/invested capital classified** within a given timeframe post acquisition
  - A target number of engagements—for example, PortCo management meetings on the Roadmap/decarbonisation within a holding period

Though potentially less compelling than some of the output data mentioned above, such **plan execution metrics** are particularly useful for funds with lower levels of operational controls, or that are just starting to use the Roadmap.[49]

Tracking and disclosing on these metrics provides insight into decarbonisation activities across a fund's portfolio. Doing so can help funds to understand and demonstrate to LPs/shareholders their activity on investing in Decarbonisation Enablers or supporting PortCos to decarbonise. Moreover, in some cases (i.e., investments with more ownership stake):

- **Asset progression** reporting shows a funds' success in supporting PortCos' decarbonisation journeys through moving along the Alignment Scale.
- Reporting on **investment in (Emerging) Decarbonisation Enablers** allows funds to demonstrate their action on decarbonisation in ways outside of emissions reduction, and support for the transition more generally.

FIGURE 23. ASSET PROGRESSION CALCULATIONS—INDICATIVE EXAMPLE FOR BUYOUT FUND

PortCo	Acquisition date	Alignment Scale stage at acquisition	Exit date	Alignment Scale stage at exit
PC 1	2016	Aligning	2022	Aligned
PC 2	2017	Capturing Data	2021	Aligning
PC 3	2018	Not Started	2022	Preparing to Decarbonise

Aggregation approach	Average no. of Alignment Scale stages moved per PortCo	% of PortCos that have moved one or more Alignment Scale stages
Calculation	• Classify individual PortCos along the Alignment Scale at both acquisition and exit • Compare the Alignment Scale stage at acquisition vs. at exit for each PortCo • Count the number of Alignment Scale stages each PortCo has progressed • Calculate the number of Alignment Scale stages to produce a total number of Alignment Scale stages progressed across the fund, and then divide this by the number of PortCos that the fund has acquired over its lifecycle $\frac{\text{[PC1: 1 stage] + [PC2: 2 stages]+ [PC3: 2 stages]}}{\text{3 PortCos}}$ **= ~1.7 Alignment Scale stages moved per PortCo aligned**	• Classify individual PortCos along the Alignment Scale at both acquisition and exit • Compare the Alignment Scale stage at acquisition vs. at exit for each PortCo • Note the number of PortCos that have moved an Alignment Scale stage • Divide this number by the total number of PortCos that the fund has acquired over its lifecycle $\frac{\text{PC1 + PC2 + PC3}}{\text{PC1 + PC2 + PC3}}$ **= ~100% of assets moved at least one Alignment Scale stage**

FIGURE 24. DECARBONISATION ENABLER CALCULATIONS—INDICATIVE EXAMPLE FOR BUYOUT FUND

PortCo	Invested capital (US$m)	Sector focus	Sector classified as a Decarbonisation Enabler?
PC 1	40	Retail—clothing	No
PC 2	50	EV leasing	Yes
PC 3	60	Governance, Risk Management and Compliance Software	No

Aggregation approach	% of invested capital in Decarbonisation Enablers
Calculation	• Classify individual PortCos according to whether they are Decarbonisation Enablers (where >50% of revenue is related to an economic activity that is enabling net zero transition) • Create a weighted average at fund-level based on **percentage of invested capital** in each PortCo $\frac{\text{[PC2: \$50m]}}{\text{[PC1: \$40m] + [PC2: \$50m + [PC3: \$60m]}}$ **= ~33% of assets are Decarbonisation Enablers**

SECTION

4

Illustrative Fund Examples

4. ILLUSTRATIVE FUND EXAMPLES

The Roadmap has been tested with multiple funds, each with differing starting points and objectives on decarbonisation. This section showcases, with five illustrative case examples, how the Roadmap can play a role for funds at any stage of their decarbonisation journey.

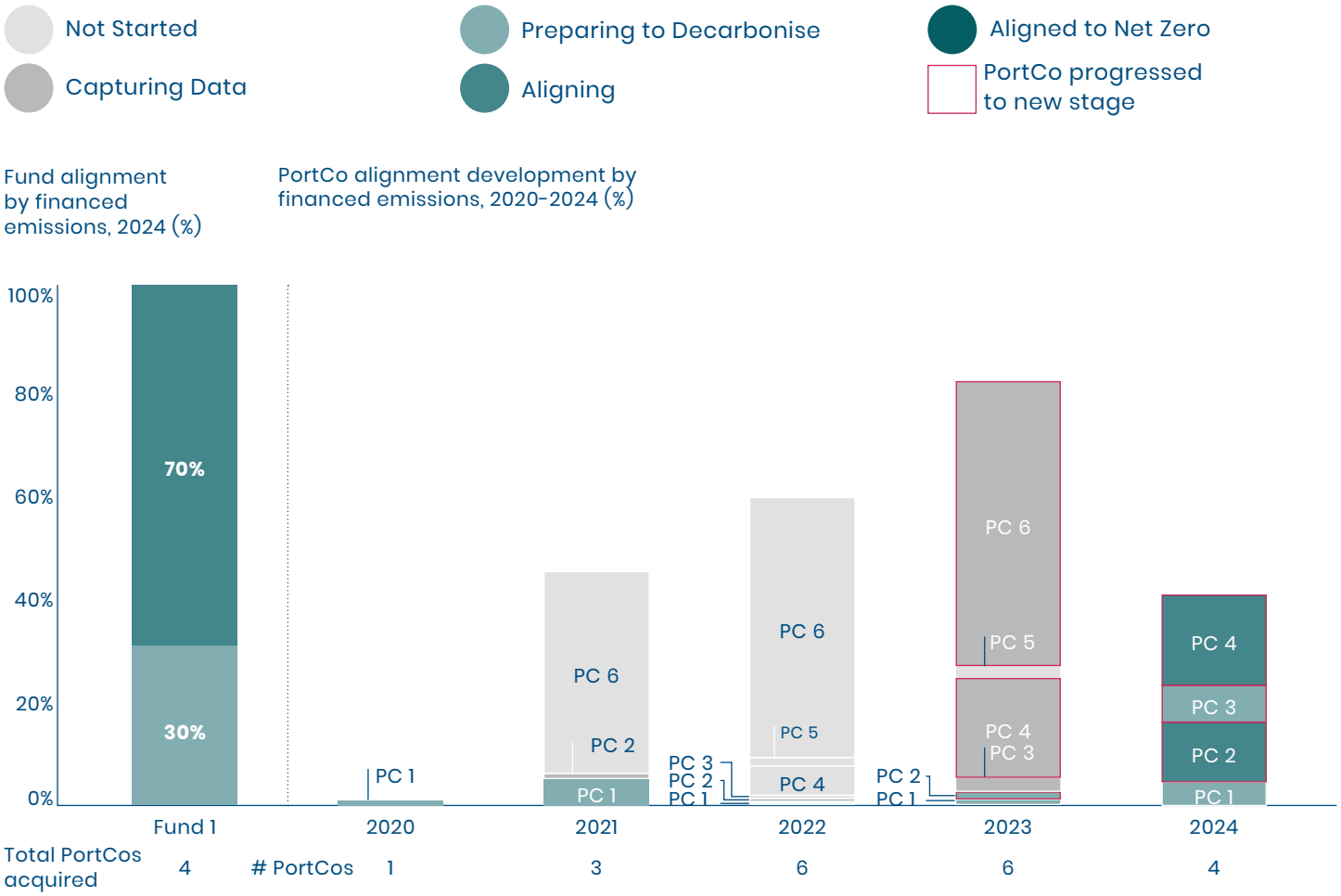
Fund 1 represents a mid-cap Buyout fund that sees decarbonisation as a fundamental part of driving value creation across its portfolio.

By gathering financed emissions of each PortCo since 2020 and categorising each along the Alignment Scale, there was demonstratable evidence of efforts to accelerate decarbonisation under Fund 1's ownership, with a total of 6 Alignment Scale stages moved since start of 2022 across 6 PortCos (average of one per PortCo progressed).

The Roadmap showcases Fund 1's decarbonisation strategy and positive progress made over the past few years.

- The fund prioritised kickstarting the decarbonisation journey for PortCos where there had been little or no progress on decarbonisation and progressing them to measuring their baseline emissions, despite total financed emissions increasing.
- Focus shifted in 2024 to setting strategies to reduce emissions/emissions intensity, prioritising those with the greatest financed emissions (PC2 & PC4 moved to 'Aligning').

FIGURE 25. BUYOUT FUND 1—FUND WITH MID-CAP BUYOUT STRATEGY LOOKING TO DIFFERENTIATE ON DECARBONISATION



Note: PortCos in the 'Not Started' stage will often have limited or no emissions data, which can skew the distribution of portfolio alignment by financed emissions

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Fund 2 represents a large global fund exposed to a wide variety of sectors across its portfolio, with a recently established decarbonisation strategy.

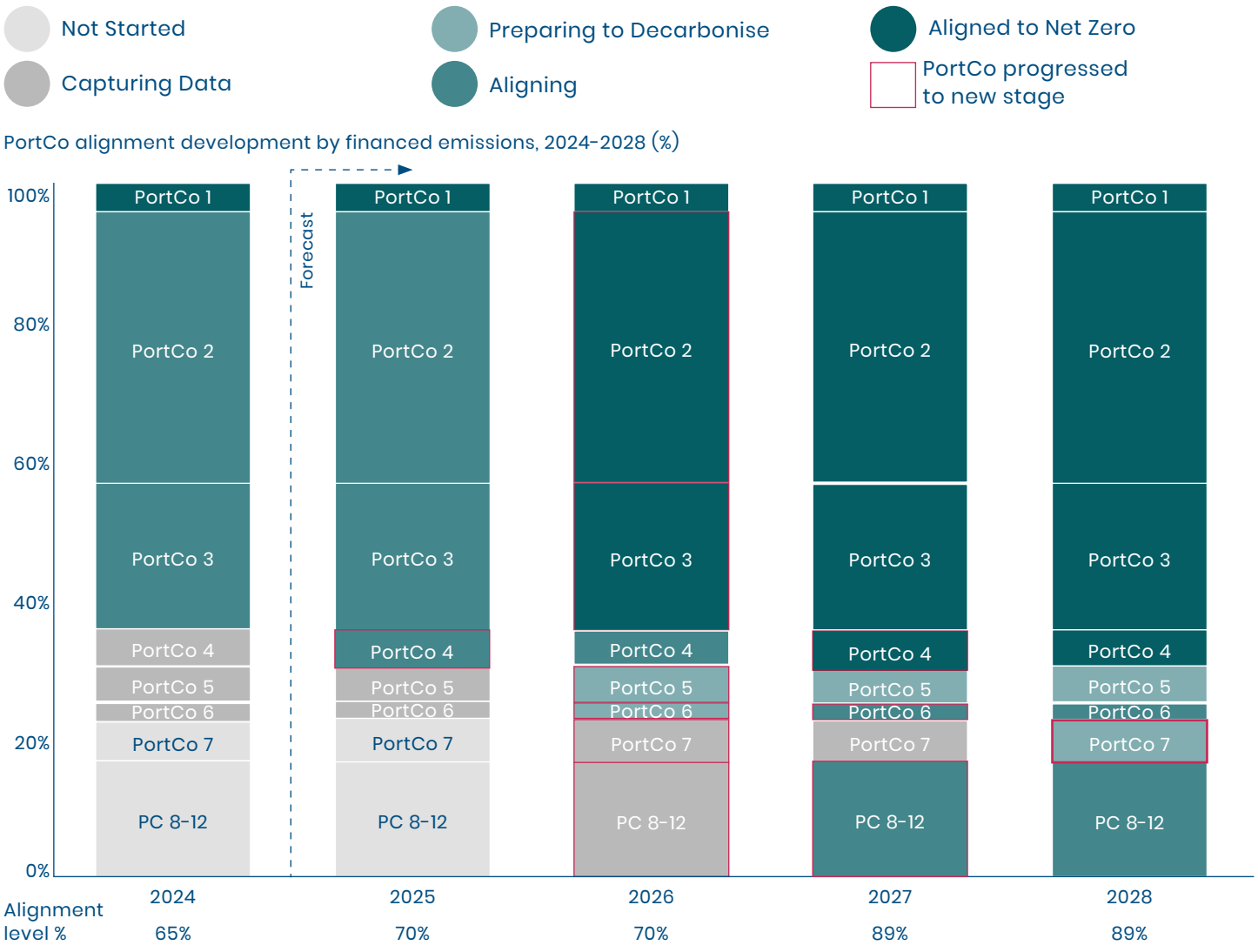
In 2024, by categorising PortCos against the Alignment Scale, 65% of Fund 2's financed emissions were either 'Aligning' or 'Aligned', with the top two largest emitters (PC2 & PC3) already 'Aligning'. The exercise also highlighted where additional effort was needed to kickstart the five recent acquisitions (PCs 8-12) that were still 'Not Started'.

To exhibit the future impact of the strategy on fund alignment, Fund 2 visualised its future portfolio by applying the framework to each PortCo under a series of forward-looking assumptions:

- For PortCos operating in lower-emitting sectors with clear transition pathways (for example, Technology, Business and Finance), it was assumed that they could leapfrog from 'Capturing Data' to 'Aligning' in one year.
- For PortCos operating in higher-emitting sectors with more challenging pathways to net zero (Industrials, for example) the assumed future progression was slower, with some companies remaining in 'Preparing to Decarbonise' if there was no existing pathway to net zero.

Overall fund alignment level was projected to increase from 65% in 2024 to 89% in 2028, with all PortCos in the fund at least at 'Preparing to Decarbonise', having started their decarbonisation journey.

FIGURE 26. BUYOUT FUND 2—FUND WITHIN LARGE GLOBAL PRIVATE EQUITY FIRM LOOKING TO UNDERSTAND HOW THE ALIGNMENT OF THEIR PORTFOLIO WILL BE IMPACTED BY A NEW DECARBONISATION STRATEGY



Notes: PortCos in the 'Not Started' stage will often have limited or no emissions data, which can skew the distribution of portfolio alignment by financed emissions; Alignment level calculated as share of financed emissions categorised as 'Aligning' or 'Aligned'

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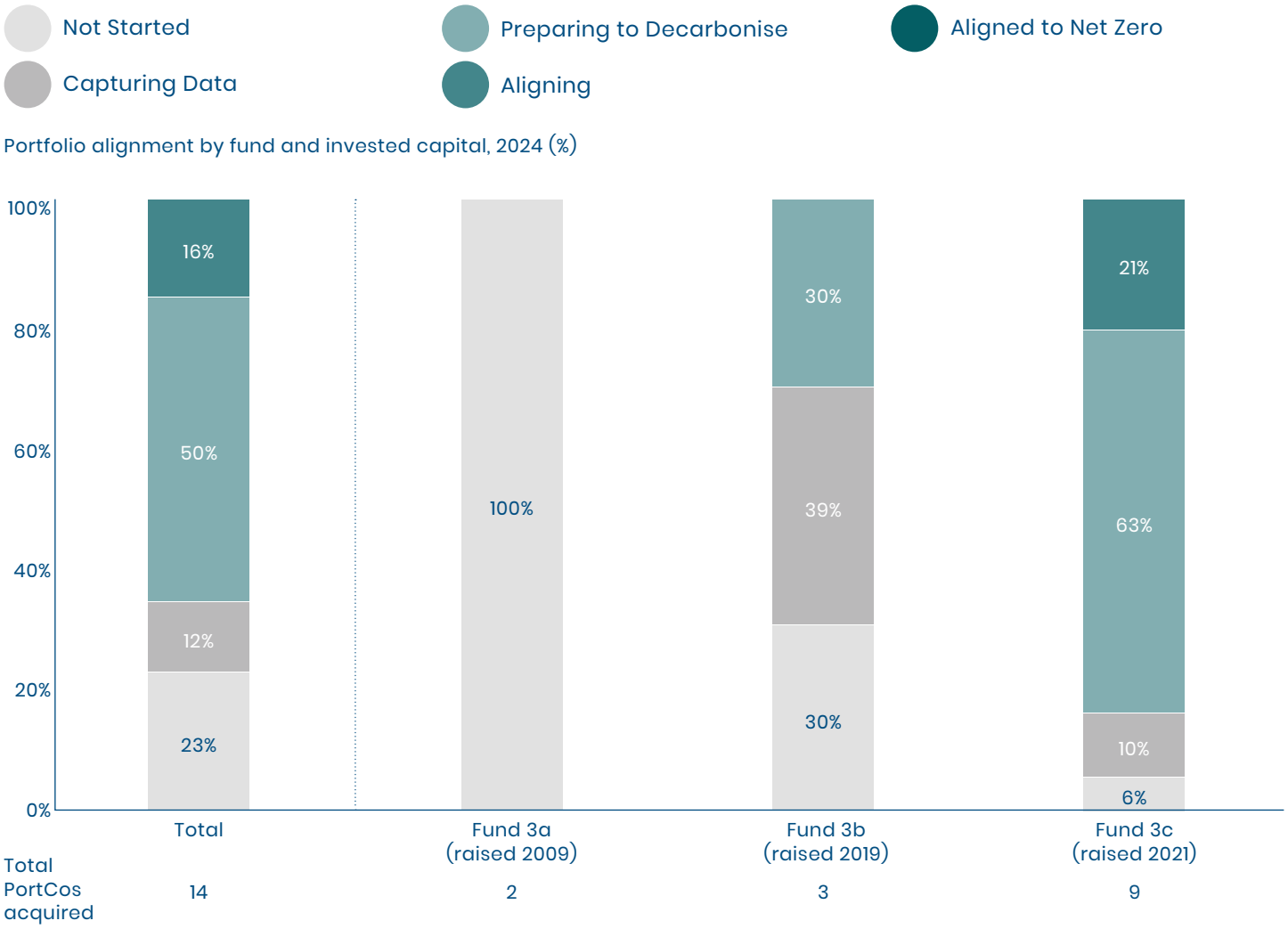
Fund 3 represents a fund with a wide range of decarbonisation starting points across its portfolio companies, covering industries with varying levels of emissions intensity (for example, Technology, and Oil and Gas). The Roadmap demonstrated progress on decarbonisation across its three funds and helped to focus future efforts on decarbonisation.

The exercise demonstrated that progress differed quite significantly by fund (94% of PortCos had started their decarbonisation journey in Fund 3c versus 0% in Fund 3a), which in turn identified some common themes across date of acquisition, geography and sector:

- Funds raised more recently were more 'Aligned', with PortCos acquired in earlier-raised Fund 3a all 'Not Started' versus 2021-raised Fund 3c with a fund alignment level of 21% and only 1 PortCo having 'Not Started'.
- European PortCos were typically further along on their decarbonisation journey (majority at least 'Preparing to Decarbonise' in Europe versus none in the US), driven by Europe's favourable policy environment and greater public support for decarbonisation.
- PortCos that had not started their decarbonisation journeys were typically in higher-emitting sectors (such as Energy and Transport), reflecting the challenges associated with reaching net zero for companies in these sectors.

FIGURE 27. BUYOUT FUND 3—FUND LOOKING TO BETTER UNDERSTAND ALIGNMENT ACROSS THEIR FUNDS AND COMPARE PROGRESS ACROSS SECTORS, GEOGRAPHIES AND VINTAGE



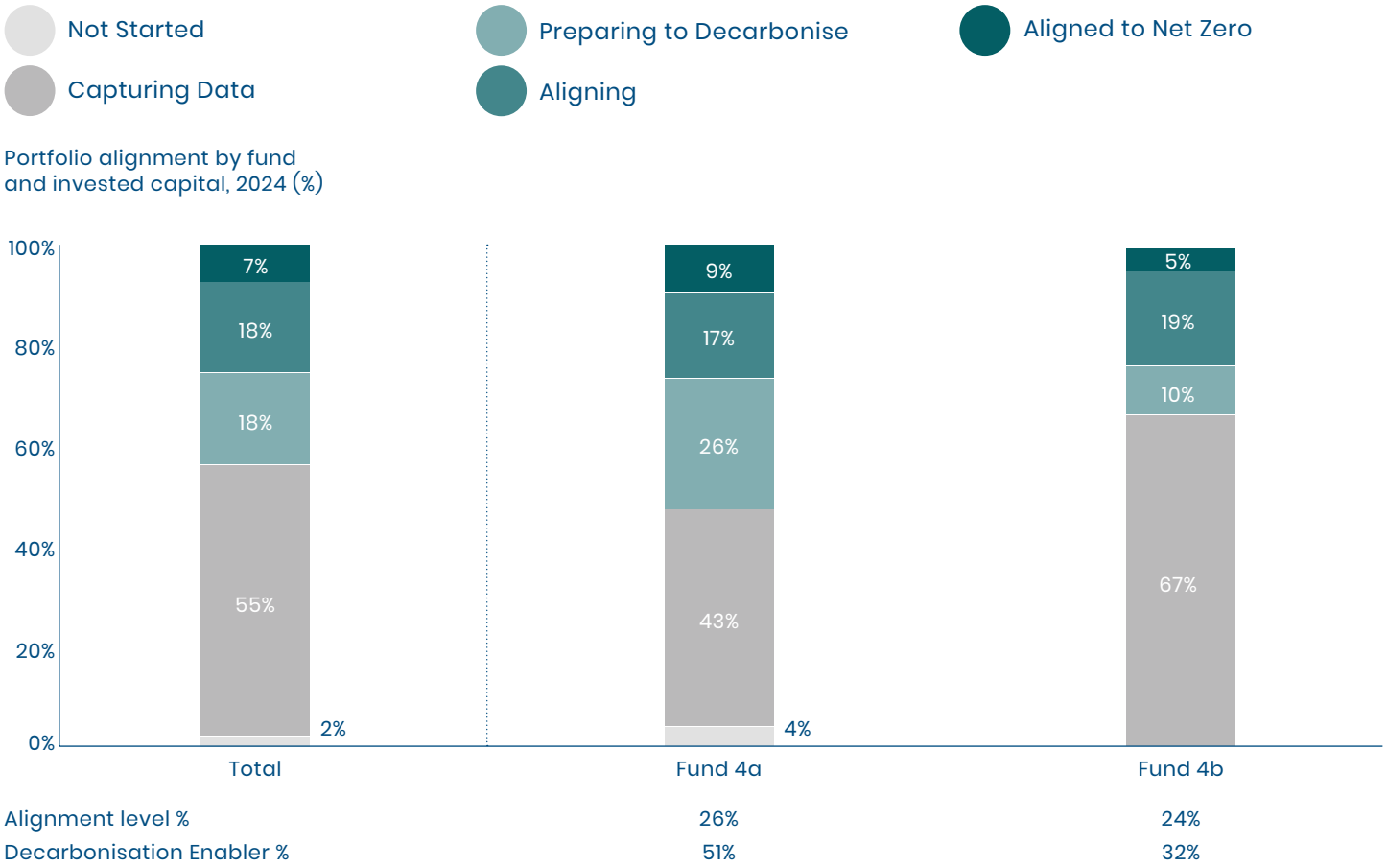
Notes: PortCos in the 'Not Started' stage will often have limited or no emissions data, which can skew the distribution of portfolio alignment by financed emissions; Alignment level calculated as share of invested capital categorised as 'Aligning' or 'Aligned'

Fund 4 represents a fund already well versed in sustainability that has made good progress on its strategy to invest in PortCos that play an active part in the transition.

The Roadmap demonstrated Fund 4's contribution to decarbonisation beyond that of emissions reduction by identifying its investment in Decarbonisation Enablers.

- While alignment levels across Fund 4a and Fund 4b were 26% and 24% respectively, the percentage of invested capital allocated to PortCos classified as Decarbonisation Enablers was higher (51% for Fund 4a and 32% for Fund 4b).

FIGURE 28. BUYOUT FUND 4—FUND WITHIN BUYOUT FIRM USING THE ROADMAP TO COMMUNICATE EFFORTS TO INVEST IN COMPANIES SUPPORTING THE LOW CARBON ECONOMY



	Total	Fund 4a	Fund 4b
Alignment level %		26%	24%
Decarbonisation Enabler %		51%	32%

Notes: PortCos in the 'Not Started' stage will often have limited or no emissions data, which can skew the distribution of portfolio alignment by financed emissions; Alignment level calculated as share of invested capital categorised as 'Aligning' or 'Aligned'

Fund 5 represents a Private Credit fund that has not taken any actions on decarbonisation to date and that is looking to understand the current position of their investees on the Alignment Scale.

The Roadmap showcased Fund 5's decarbonisation status across investees:

- In 2024, financed emissions are split between 'Not Started' (72%) and 'Capturing Data' (28%)
- Over the past five years, there has been limited movement of investees through the Alignment Scale during loan duration, with only 30% of investees having progressed an Alignment Scale stage
- Utilising the Roadmap will allow Fund 5 to better identify where it can focus efforts to influence existing investees i.e., where it is a significant creditor

FIGURE 29. PRIVATE CREDIT FUND 5—PRIVATE CREDIT FUND LOOKING TO UNDERSTAND THE CURRENT POSITION OF THEIR INVESTEES ON DECARBONISATION

Notes: PortCos in the 'Not Started' stage will often have limited or no emissions data, which can skew the distribution of portfolio alignment by financed emissions; Alignment level calculated as share of financed emissions categorised as 'Aligning' or 'Aligned'

SECTION

5

Additional Asset Class-specific Considerations

5.1. ADDITIONAL CONSIDERATIONS FOR GROWTH & VENTURE CAPITAL

This section offers recommendations on tailoring the use of the Roadmap for Growth and Venture Capital assets. As a reminder and for reference, we define Growth and Venture Capital as follows for the purpose of this document:

- **Growth:** For Growth funds, the PMDR refers to investment vehicles where the GP takes a minority, non-controlling stake in a fast-growing target company with low or no debt. Investments are usually structured with <50% ownership and control is exerted by taking a seat(s) on the company's board or by influencing management through unofficial channels (network, operational help, etc.).
- **Venture Capital (VC):** For Venture Capital funds, the PMDR refers to vehicles investing into early-stage companies (start-ups) in different stages of their evolution (seed/series round funding), backing them through capital financing, technological expertise, and/or managerial experience.

Growth and VC investors are increasingly viewing ESG as a core part of their strategy even though maturity is still behind Buyout, especially for VC. Compared to Buyout, Growth and VC face multiple limitations that make the consistent development of decarbonisation practices particularly challenging, both at fund and PortCo level:

- **Minority ownership:** At fund level, as Growth and VC both imply minority investments, investors might find it hard to influence and impose a decarbonisation strategy to a non-cooperating investee. That is exacerbated in VC given the pressure to limit requirements in deal making.
- **Lack of dedicated ESG resources:** Growth and VC funds, focused on keeping organisations slim, are much less able to dedicate ESG teams to support PortCos in setting up decarbonisation practices. The same goes for the asset level – early-stage companies often have fewer resources to dedicate to collecting data, estimating emissions, or crafting decarbonisation strategies.
- **Focus on scaling:** Assets are expected to grow at a fast pace, posing challenges to decarbonisation efforts as emissions tend to be correlated with size. While a mitigation strategy could be to set intensity targets (e.g., emissions per dollar of revenues) instead of absolute reduction targets, it often does not solve the challenge fully as many early-stage assets follow a skewed emission intensity curve – accelerating as they build up operations, then decelerating until they plateau.
- **High failure rates:** Early stage, pre-EBITDA (often pre-revenue) companies face high pressure on optimising every investment dollar to maximise probability of success. In this context, they are likely to perceive decarbonisation efforts as distracting from more impellent risks like liquidity and cash issues that can threaten a company's existence before generating greater environmental impact.
- **Different fundraising dynamics:** Unlike in Buyout, where winning a deal is heavily based on price, non-financial criteria typically play a larger role in the decision of a founder to accept investments in VC. Investors are selected based on criteria such as similar vision for the path to growth. This often implies carrying out a relatively lighter investment process for the investor, making fewer requests to the asset to increase the chances of being selected.

These dynamics exacerbate some of the broader challenges financial institutions operating in Private Markets face on decarbonisation as described in Section 1.2.2.

5.1.1. Level of ambition within Growth & VC

In a similar fashion to Buyout, Growth investors will often be able to get responses to their data requests and can otherwise consider outside-in assessments for non-cooperating assets. Nonetheless, compared to Buyout, Growth funds tend to have less power to drive investees toward the necessary actions, decreasing the ability to actively progress all their assets along the Alignment Scale. However, there is still value in classifying their assets along the Alignment Scale to understand their position on decarbonisation.

In Venture Capital, with early-stage companies often focusing primarily on business fundamentals, investors can prioritise assessing the company's nascent practices and their impact on future emissions,

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ensuring that preliminary CAPEX investments are chosen carefully. Failing to incorporate climate considerations in early-stage investments may represent a survival risk for the investee – e.g., a company failing due to unforeseen climate risk.

The expected PMDR ambition varies by asset maturity stage, although outliers with higher ambition levels than suggested exist. As a reference tool, we refer to the Venture Climate Alliance's maturity stages as a continuum between VC and Growth, where investees in stages 1&2 can be considered Venture Capital and those in stages 3&4 can be considered Growth. Each asset class would be expected to have the following ambition level:

Venture Capital (VCA maturity stages 1&2)

- Given early-stage status, stage 1 Venture Capital assets are not expected to progress along the Alignment Scale whilst stage 2 assets should aim to move until 'Capturing Data'. This is in alignment with the VCA framework and prepares stage 2 assets for regulatory developments requiring disclosure of emissions data, e.g., the EU's 'Corporate Sustainability Reporting Directive (CSRD)'.
- Across assets in both stages, it is recommended that they actively engage on climate strategy (including climate-related risks, opportunities, and emissions) at the board level. Boards can have significant influence over a Venture Capital asset's emissions trajectory, especially in early stages when the asset is designing products, engaging suppliers, selecting locations, etc. It is recommended that discussions on climate strategy are noted in board meeting minutes and agendas at least once per year.
- Investors should focus on making sure that they invest in PortCos with business models that are inherently low carbon in preparation for growth and make decisions to ensure a sustainable future.
- VC investors and investees might prioritise assessing whether there is a Pathway to Align and/or whether investments qualify as Decarbonisation Enablers, as well as helping the PortCo set up and scale their business in a low-carbon way as opposed to focusing on reducing current emissions.

Growth (VCA maturity stages 3&4)

- Given later-stage status, Growth assets should set ambition levels to 'Aligned to Net Zero,' in line with Buyout assets.
- Investors should strive to apply the same frameworks that are available for Buyout funds given decarbonisation priorities will be similar for the PortCos, and maturity can be assessed on the same dimensions, even if the different ownership stakes limit ability to exert influence over investees to shape the decarbonisation agenda.

FIGURE 30. VCA MATURITY STAGES

VCA maturity stages PortCo progresses to the next stage when it meets two or more of the annual revenue (US$), capital raised (US$), or full-time employee thresholds		
Stage 1 All PortCos		
Stage 2		
>$10m raised	>$25m raised	>100 FTEs
Stage 3		
>$50m raised	>$250m raised	>500 FTEs
Stage 4		
>$100m raised	>$500m raised	>1000 FTEs

FIGURE 31. AMBITION LEVEL BY MATURITY STAGE

Asset class	VCA maturity stage	Not started	Capturing data	Preparing to Decarbonise	Aligning	Aligned to Net Zero
Venture Capital	Stage 1	Stage 1 assets are not expected to progress along the Alignment Scale				
	Stage 2	✓	✓	Stage 2 assets not expected to set ambition levels beyond 'Capturing Data'		
Growth	Stage 3	✓	✓	✓	✓	✓
	Stage 4	✓	✓	✓	✓	✓

5.1.2. Modifications to the Roadmap

What to include in the decarbonisation agenda?

Growth

Growth funds should strive to apply the standard PMDR Alignment Scale and target-setting frameworks suggested in this document. Nonetheless, while Buyout funds can both request emissions data from their PortCos and guide them toward target setting and progression along the Alignment Scale, Growth investors will likely not receive data from all investees, and hence classify a portion of their portfolios as 'Not Started'. The standard Alignment Scale is nevertheless applicable and should be the key point of reference.

With fewer resources dedicated to ESG topics compared to Buyout funds, the need to prioritise PortCos based on the feasibility of creating change is even more important for Growth investors. In cases where the fund does not get sufficient access to information, it is recommended that funds undertake a light-touch, outside-in assessment of the investee's placement on the Scale to ensure completeness in the fund view. Funds can provisionally classify a company outside-in up to 'Aligning' by looking for the following minimum evidence (non-exhaustive):

- **'Capturing Data':** Disclosure of carbon emissions (Scope 1, 2 and material Scope 3) on the company website or in annual reports; membership of CDP.
- **'Preparing to Decarbonise':** Disclosure of a short-term, significant, and quantitative target for emissions (intensity) reduction – typically outlined in Sustainability Reports, Annual Reports or on the company website.
- **'Aligning':** Disclosure of a near-term, science-based target aligned with a transition pathway (e.g., 1.5°C or 2°C pathway) – typically outlined in Sustainability Reports, Annual Reports or on the company website.

After undertaking an outside-in assessment, the data and individual Alignment Scale stage should be shared with the investee to check their agreement with the classification. Where a fund has very limited influence, the fund should be transparent about the level of involvement they have had with the investee's progress on decarbonisation.

Venture Capital

In contrast to Growth funds, VC funds may find it more difficult to apply part of the Alignment Scale. Both direct company data and outside-in assessments are often unavailable for pre-revenue, minimal revenue, or pre-EBITDA companies. Nevertheless, for assets at stage 2, progress until 'Capturing Data' is expected. This allows for alignment with regulatory developments, such as the EU's 'Corporate Sustainability Reporting Directive (CSRD)'.

In general, VC investors should attempt to include all PortCos in their overall decarbonisation agenda but can choose to focus efforts on more relevant parts of the Alignment Scale. For example, VC investors and investees may prioritise assessing whether there is a Pathway to Align and/or whether investments qualify as Decarbonisation Enablers (i.e., questions 2 and 3 of the Alignment Scale), instead of conducting extensive assessments of measures taken to reduce GHG emissions (i.e., question 1 of the Alignment Scale), which are less relevant to early-stage companies.

How do Alignment Scale criteria change?

Growth

The Alignment Scale used for VC funds depends on the VCA maturity stage the assets are in. Stage 3&4 assets are to be considered Growth, while stage 1&2 assets are to be considered Venture Capital. For Growth assets, the standard Roadmap applies with one minor modification:

- In 'Preparing to Decarbonise' the plan to reduce emissions does not have to be in line with an approach agreed with the fund, given the limited degree of control exerted by the fund.

Hence, the Alignment Scale looks very similar to the standard Alignment Scale:

FIGURE 32. GROWTH ALIGNMENT SCALE

Q1: WHAT MEASURES HAS THE PORTCO TAKEN TO REDUCE ITS GHG EMISSIONS?

	Not Started	Capturing Data	Preparing to Decarbonise	Aligning	Aligned to Net Zero
Definition	Not started to **measure emissions or plan** how to **reduce** them	**Reporting emissions** data but currently no plan in place to reduce emissions	Planning to **reduce emissions**[2]	Committed to a decarbonisation plan **aligned to a transition pathway**	Delivering against a net zero plan and operations aligned to **science-based** target
Criteria	• **Minimal or no** emissions data • **No decarbonisation plan** in place	• **Measuring** Scope 1 and 2 emissions from operations, alongside **material** Scope 3 emissions, and making data available to fund[1]	• Decarbonisation **plan in place** but level of ambition **not aligned to net zero pathway**[3]	• Committed to **near-term science-based target** aligned to a long-term net zero pathway	• Demonstrated YoY **emissions profile** in line with net zero pathway

Q2: IS THERE A RECOGNISED TRANSITION PATHWAY FOR THIS PORTCO?

No Current Pathway to Align

Definition: PortCos with **no pathway** to align to the transition using existing technology

Criteria: Greater than **50% of revenue** generated using high-emitting assets that is not feasible to decarbonise through **redevelopment, retrofitting or replacement**

Cannot progress past 'Preparing to Decarbonise'

Q3: DO THE PORTCO'S OPERATIONS ENABLE THE NET ZERO TRANSITION?

Decarbonisation Enablers

Definition: PortCos working to **support a subset of Climate Solutions**[4] related to the transition to a low-carbon economy

Criteria for Decarbonisation Enabler: Greater than **50% of revenue** is related to an economic activity that is **enabling net zero transition**

Criteria for Emerging Decarbonisation Enabler: Greater than **10% of revenue** is related to an economic activity that is **enabling net zero transition** and less than **50% of revenue** from high-emitting assets

Notes: (1) Emissions criteria apply across all subsequent stages (2) To progress to this stage companies must have reasonable scope to reduce emissions from their operations; companies operating in thermal coal and exploration of new oil/tar sands production sites cannot progress to this stage (3) See Section 3.2.3. for minimum requirements; pathway can be sector pathway or company-specific reduction trajectory aligned to net zero (4) Climate Solutions as defined by GFANZ as one of their four core financing strategies

Venture Capital

For Venture Capital assets, the Roadmap applies with the following modifications to reflect the lower levels of control and pre-revenue status of many VC investments:

- Assessing question 1 ("What measures has the PortCo taken to reduce its GHG emissions?") is optional for stage 1 PortCos and can be skipped (i.e., categorise PortCo as 'Not Started'), given lower level of relevance. Stage 1 PortCos are not expected to progress along the Alignment Scale given low maturity of operations and processes, though it is recommended that they actively engage on climate strategy (including climate-related risks, opportunities, and emissions) at the board level. In contrast, stage 2 PortCos are expected to progress until 'Capturing Data' to reflect the increased disclosure obligations as part of regulation.
- For assessing whether there is a Current Pathway to Align for PortCos, the specific revenue share requirement is removed. The assessment is instead based on whether the PortCo has chosen to operate in high-emitting sectors with a majority of the PortCo's expected economic activity being high-emitting (e.g., air travel). Furthermore, the VC investor does not need to review if the PortCo has a feasible ambition to redevelop, retrofit or replace assets that are high-emitting (i.e., step three does not apply to VC – refer to Section 2.1.2 for details on step three).
- Similarly, the revenue threshold is removed when identifying Decarbonisation Enablers, and the assessment is based on whether a majority (Decarbonisation Enabler) or minority (Emerging Decarbonisation Enabler) of expected economic activity can be classified as enabling the net zero transition. The criteria for economic activities that fall under classification as enabling the net zero transition remain the same as described in Section 2, where further guidance on classification can be found.

FIGURE 33. VENTURE CAPITAL ALIGNMENT SCALE

Q1: WHAT MEASURES HAS THE PORTCO TAKEN TO REDUCE ITS GHG EMISSIONS?

	Not Started	Capturing Data	Preparing to Decarbonise	Aligning	Aligned to Net Zero
Definition	Not started to **measure emissions or plan** how to **reduce** them	**Reporting emissions** data but currently no plan in place to reduce emissions	Stage 1 Venture Capital assets are not expected to progress along the Alignment Scale Stage 2 Venture Capital assets are expected to progress until 'Capturing Data'		
Criteria	• **Minimal or no** emissions data • **No decarbonisation plan** in place	• **Measuring** Scope 1 and 2 emissions from operations, alongside **material** Scope 3 emissions, and making data available to fund			

Q2: IS THERE A RECOGNISED TRANSITION PATHWAY FOR THIS PORTCO?

No Current Pathway to Align

Definition: PortCos with **no pathway** to align to the transition using existing technology

Criteria: **Majority of future revenue** is expected to be generated from high-emitting economic activities

Cannot progress past 'Preparing to Decarbonise'

Q3: DO THE PORTCO'S OPERATIONS ENABLE THE NET ZERO TRANSITION?

Decarbonisation Enablers

Definition: PortCos working to **support a subset of Climate Solutions**[1] related to the transition to a low carbon economy

Criteria for Decarbonisation Enabler: **Majority of future revenue** is expected to be related to an economic activity that is **enabling net zero transition**

Criteria for Emerging Decarbonisation Enabler: **Minority share** of future revenue is expected to be is related to an economic activity that is **enabling net zero transition** and **Majority** does not stem from high-emitting economic activities

Note: (1) Climate Solutions as defined by GFANZ as one of their four core financing strategies

How can Growth & VC investors support investees on decarbonisation?

FIGURE 34. GROWTH & VC-SPECIFIC DECARBONISATION LEVERS

✓ Lever likely available

✓ Lever can be added to fund ToR/loan terms

	Decarbonisation Levers	Growth	Venture Capital
Engagement	Board membership mechanisms, e.g., voting/raising motions	✓	N/A
	Advocate for decarbonisation with asset leadership	✓	✓
	Request alignment and emission data from asset	✓	✓
	Link executive remuneration to decarbonisation progress	N/A	N/A
	Inclusion of decarbonisation within VCPs	✓	✓
	Collaborate with other investors (if applicable)	✓	✓
Investment	Set percent of AUM or Opex/CapEx that has to be invested in decarbonisation	✓	✓
	Tie capital provision to achievement of decarbonisation-related objectives, e.g., data sharing, progression along Alignment Scale	✓	✓
Education	Grant access to firm library of decarbonisation levers/strategies or similar central resource	✓	✓
	Share GHG benchmark data with asset to understand performance	✓	✓
	Bespoke support on asset decarbonisation plan formation	✓	✓
	Host teach-ins with asset leadership on decarbonisation	✓	✓

Growth & VC-specific resources

- **Venture Climate Alliance:** Venture-specific Portfolio Alignment Framework
- **BVCA:** TCFD Implementation Considerations for Private Equity
- **True Ventures:** Climate Action Guide
- **SBTi:** Private Equity Sector Science-Based Target Guidance

Gr VC

5.2. ADDITIONAL CONSIDERATIONS FOR INFRASTRUCTURE FUNDS

The below Infrastructure guidance offers recommendations on tailoring use of the Roadmap for infrastructure assets.

5.2.1. Level of ambition within Infrastructure

For this section we focus our guidance on Infrastructure funds following a Buyout or a Private Credit strategy. Either strategy could be Operational or Construction, depending on the assets' stage of development.

Infrastructure funds typically face some additional constraints regarding how far they can transform the assets they invest in:

- **Regulation:** Infrastructure assets are often critical to an economy and may be highly regulated—this sometimes extends to pricing controls
- **Lower margins:** Infrastructure assets typically operate at lower margins than traditional corporates; this can mean that there is less capital available for transformation
- **Fragmented consortiums:** Due to the amount of capital needed for a large infrastructure project, there are often multiple investors with minority stakes in a consortium or even partners (particularly in Construction Infrastructure) that might impact the prioritisation of decarbonisation
- **Public-private relationship** (where applicable): Infrastructure assets can also be public-private partnerships (PPPs), private participation in infrastructure (PPIs) or private finance initiatives (PFIs), which adds the layer of challenge of working under government constraints (e.g., a fixed-terms contract not accounting for decarbonisation) and opportunities to advance the decarbonisation agenda

Such challenges are normally more pronounced in Core and Core+ Infrastructure than Value Added Infrastructure:

- **Core and Core+:** Essential Infrastructure assets are often highly regulated and non-diversified (a toll road, for example). This can make it challenging to identify significant decarbonisation levers. Further, assets are often selected by investors because they offer a reliable revenue stream, yet they also operate at low margins. This makes investors less willing to invest CAPEX to improve operations. Additionally, the life of the asset may determine how cost intensive the improvements could be, with higher costs for older Infrastructure.
- **Value Added:** Funds often acquire Infrastructure assets and/or finance their construction with the expressed aim of transforming their operations—for example, an Infrastructure fund investing in a company that develops and operates facilities that burn waste supports the PortCo in retrofitting assets to generate energy from waste. In these instances, the longer holding period in Infrastructure funds can mean that there is potentially more scope to decarbonise compared to traditional Buyout funds.

Therefore, Infrastructure funds must consider the investment type, phase and strategy before determining their decarbonisation goals. In certain instances, there is significant potential for decarbonisation, allowing funds to back infrastructure essential for transitioning to a low-carbon economy. However, in other situations, operational and commercial restrictions within some investments may make it challenging for funds to progress assets along the Alignment Scale.

FIGURE 35. INFRASTRUCTURE-SPECIFIC DECARBONISATION LEVERS

✓ Lever likely available

✓ Lever can be added to fund ToR/loan terms

	Decarbonisation Levers	Operational Infrastructure - Buyout	Operational Infrastructure - Credit	Construction Infrastructure - Buyout	Construction Infrastructure - Credit
Engagement	Board membership mechanisms, e.g., voting or raising motions	✓	✓	✓	✓
	Advocate for decarbonisation with asset leadership	✓	✓	✓	✓
	Request alignment and emissions data from asset	✓	✓	✓	✓
	Link executive remuneration to decarbonisation progress	✓	✓	N/A	N/A
	Include of decarbonisation within VCPs	✓	✓	✓	✓
	Collaborate with other investors/ lenders/sponsors (if applicable)	✓	✓	✓	✓
Investment	Set percent of AUM or OPEX/CAPEX that has to be invested in decarbonisation (e.g., 'Aligned' or 'Decarbonisation Enabler' assets)	✓	✓	✓	✓
	Tie capital provision to achievement of decarbonisation-related objectives e.g., data sharing, progression along Alignment Scale	✓	✓	✓	✓
Education	Grant access to firm library of decarbonisation levers/strategies or similar central resource	✓	✓	✓	✓
	Share GHG benchmark data with asset to understand performance	✓	✓	✓	✓
	Bespoke support on asset decarbonisation plan formation	✓	✓	✓	✓
	Host teach-ins with asset leadership on decarbonisation	✓	✓	✓	✓

5.2.2. Modifications to the Roadmap

What to include in the decarbonisation agenda?

The Roadmap recommends the inclusion of all Infrastructure assets, but the level of ambition should reflect different levels of operational control, duration of ownership, management receptiveness, etc. For Infrastructure in particular, the operational constraints may mean funds choose to prioritise assets where decarbonisation is most feasible (as covered in Section 3).

How do Alignment Scale criteria change?

Operational assets

For operational assets, the Alignment Scale criteria are broadly the same as for Buyout, although funds may want to use different taxonomies for classifying assets as No Current Pathway to Align or Decarbonisation Enabler/Emerging Decarbonisation Enabler. For example, some of the most detailed information on Infrastructure assets is available in the Climate Bonds Taxonomy.[50] The taxonomy classifies companies by sector, which can be applied to Buyout and Credit assets.

For Infrastructure Credit only, there is a minor modification, where Decarbonisation Enablers can be **classified on the project level**—to encourage funds to support decarbonisation capital investments within Infrastructure. Project financing for reducing emissions can be considered a Decarbonisation Enabler if 50% of the capital provided will enable the transition to net zero, independent of the classification of the rest of the asset. Similarly, it can be considered an Emerging Decarbonisation Enabler if greater than 10% of the capital provided is enabling.

FIGURE 31. DECARBONISATION ENABLER CRITERIA FOR OPERATIONAL ASSETS (PRIVATE CREDIT—PROJECT FINANCING)

Decarbonisation Enablers

Definition: PortCos working to support **a subset of Climate Solutions** related to the transition to a **low-carbon economy**

Criteria for Decarbonisation Enabler: Greater than **50% of revenue** is related to an economic activity that is **enabling net zero transition**

For Project Financing: Greater than **50% of capital provided** on activities which will enable net zero transition, or help to **materially reduce emissions of asset owner**

Criteria for Emerging Decarbonisation Enabler: Greater than **10% of revenue** is related to an economic activity that is **enabling net zero transition** and less than **50% of revenue** from high-emitting assets

For Project Financing: At least **10% of the capital provided** will enable net zero transition and less than **50% of the capital provided** will be used towards high-emitting activities

Construction assets

A more comprehensive modification of the Alignment Scale is needed for **assets under construction**. New Infrastructure will not be able to align to net zero during the construction phase, as there is not yet to a way to build a new asset without also generating overall net emissions.[51] Therefore, the highest level of ambition for construction is a project that has:

- **Limited emissions** as much as possible during construction
- Creates an asset that can eventually achieve **net zero emission** operations

The Alignment Scale for these assets therefore ends at '**Aligning**'.

FIGURE 36. CONSTRUCTION ALIGNMENT SCALE

Q1: WHAT MEASURES HAS THE ASSET TAKEN TO REDUCE ITS GHG EMISSIONS?

Not Started	Capturing Data	Preparing to Decarbonise	Aligning
Not started to **measure their emissions or plan** how to **limit** them for operations or construction	**Reporting emissions** data but currently no plan in place to reduce emissions	Planning to **reduce emissions** in line with an approach agreed with the GP[2]	Committed to a decarbonisation plan **aligned to a transition pathway**
• **No current plan to limit emissions** during construction or operation • **Minimal or no** emissions data • **No decarbonisation plan** in place	• **Measuring** Scope 1 and 2 emissions from operations, alongside **material** Scope 3 emissions, and making data available to fund[1]	• **Plan in place** to limit emissions during construction • **Low-emission design** incorporated into plan for final operational infrastructure, but level of ambition not in line with reaching zero emissions	• Plan in place to construct asset in a way in which makes possible reaching **zero emissions when operational** » Plan contains short- and medium-term targets for emissions (intensity) reductions once asset is operational, in line with **science-based pathway**

Q2: IS THERE A RECOGNISED TRANSITION PATHWAY FOR THIS ASSET?

No Current Pathway to Align

Cannot progress past 'Preparing to Decarbonise'

Definition: Assets with **no pathway** to align to the transition using existing technology

Criteria: Greater than **50% of revenue** generated using high-emitting assets that is not feasible to decarbonise through **redevelopment, retrofitting or replacement**

Q3: DO THE ASSET'S OPERATIONS ENABLE THE NET ZERO TRANSITION?

Decarbonisation Enablers

Definition: Assets working to support **a subset of Climate Solutions**[3] related to the transition to a **low-carbon economy**

Criteria for Decarbonisation Enabler: Greater than **50% of assets/assets' projected revenue** are (from) Infrastructure that will **enable net zero transition in the economy**

Criteria for Emerging Decarbonisation Enabler: Greater than **10% of assets/assets' projected revenue** are (from) Infrastructure that will **enable net zero transition economy** and less than **50% of revenue** is from high-emitting assets

Notes: (1) Emissions criteria apply across all subsequent stages (2) To progress to this stage companies must have reasonable scope to reduce emissions from their operations; companies operating in thermal coal and exploration of new oil/tar sands production sites cannot progress to this stage (3) Climate Solutions as defined by Glasgow Financial Alliance for Net Zero (GFANZ) as one of their four core financing strategies

Infrastructure-specific resources

Infrastructure funds can use existing frameworks and standards across Private Credit and Buyout. However, decarbonisation plans in Infrastructure will need to reflect the operational realities of this sector. A few resources available include:

- **IIGCC:** Guidance for infrastructure assets (NZIF)
- **UKGBC:** Net Zero Carbon Buildings Framework
- **National Infrastructure Commission:** Recommendations and the net zero target

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5.3. ADDITIONAL CONSIDERATIONS FOR REAL ESTATE

5.3.1. Level of ambition within Real Estate

Overview of Real Estate-specific considerations

Unlike Buyout investors, whose portfolios consist of PortCos, Private Equity Real Estate investors typically invest directly into physical built assets, which broadly fall under one of two categories:

- **Construction:** Assets that are being built or extensively renovated and will not be generating revenue over at least the next year
- **Operational:** Assets that are operational and generating revenue

In this section, "assets" take the place of "PortCos" as referenced in other sections.

As explained in Section 3.1.3. Real Estate has consistently been ahead of other asset classes on decarbonisation, driven by the direct financial benefits of energy efficiency (i.e., lower energy costs) and wide availability of decarbonisation tools such as green building certification (e.g., LEED), benchmarking standards (e.g., GRESB) and sectoral decarbonisation pathways (e.g., CRREM). Nevertheless, Real Estate investors are also subject to some asset class-specific limitations in driving decarbonisation, including:

- **Building regulations:** Real estate assets can be subject to local or national building regulations that limit or impact their decarbonisation journeys. For example, "listed buildings" that are protected as structures of architectural and/or historical interest, are often subject to stricter regulations in terms of renovations and upgrades, which can pose barriers to aligning with a net zero pathway.

Tenant-landlord dynamic:

- The tenant-landlord dynamic, where operational emissions largely stem from tenants' energy consumption, limits investors' direct control over an asset's energy use and emissions. Investors are often reliant on tenants to reduce energy consumption, though they can only influence certain decarbonisation measures such as building renovations or incorporating green lease agreements. The type of lease agreement plays a key role in shaping this dynamic and the overall decarbonisation potential of a property.
  - » For example, in "Gross Leases," investors retain control over most operational aspects, such as capital expenditure (CAPEX) decisions, giving them greater influence over energy efficiency and emissions reductions.
  - » In contrast, "Triple Net Leases" shift many responsibilities, including energy usage and maintenance, to tenants. This structure requires greater collaboration between landlords and tenants to achieve decarbonisation goals, as investors have less direct influence over day-to-day energy consumption decisions.
- Large number of assets: Large Real Estate investors' portfolios can include thousands of distinct assets, which complicates decarbonisation efforts at the fund-level, requiring the adoption of a more distributed decision-making model and/or the allocation of substantial resources to manage decarbonisation efforts across assets.

These Real Estate-specific limitations are in addition to the broader challenges financial institutions operating in Private Markets face when it comes to decarbonisation, presented in Section 1.2.2.

Real Estate investment strategies

As defined in Section 3.1.3., Real Estate investors typically operate within five overarching investment strategies; Core, Core+, Value-add, Opportunity and Credit. Investors' level of influence on driving decarbonisation among assets is notably lower in Real Estate Credit investments, as investors do not gain ownership of assets and are generally limited to setting decarbonisation-focused loan terms to drive decarbonisation outcomes. On the other hand, investors generally have sufficient influence to drive decarbonisation in Core, Core+, Value-add and Opportunity, primarily because investors gain ownership through investment.

The guidance included in this section applies to Core, Core+, Value-add and Opportunity investments, where investors typically have a minimum level of influence over assets' decarbonisation outcomes. For guidance on Real Estate Credit investments, please refer to the Additional Considerations for Private Credit Funds included in Section 5.4.

Level of ambition

Real estate investors generally have more direct control over their assets compared to Buyout investors, but the level of control can vary depending on the type of investment (e.g., joint ventures versus direct ownership) and the terms of the lease agreements. This control creates opportunities to influence and progress assets along the Alignment Scale. As direct owners and operators, real estate investors are well positioned to collect emissions data (e.g., from service providers), develop decarbonisation plans, and implement initiatives to reduce emissions. Operational and construction assets are expected to include Scope 3 emissions if material (≥40% of total emissions) to progress along the Alignment Scale. Asset class-specific challenges, such as the difficulty of accessing granular tenant energy usage data (e.g., due to privacy concerns) and regulatory restrictions, e.g., on renovating "listed buildings," certainly exist. Nevertheless, Real Estate investors are generally able to influence decarbonisation among assets and should thus adopt an ambition level that aims to progress all assets along the full Alignment Scale.

5.3.2. Modifications to the Roadmap

How do Alignment Scale criteria change?

Across asset categories (construction & operational)

While Real Estate investors should aim to progress all assets along the Alignment Scale, there are two modifications to consider across asset categories:

- Given the large number of assets that Real Estate investors can have in their portfolio at any given time, and the substantial challenge of developing and maintaining asset-specific decarbonisation/net zero plans for each asset, investors can use portfolio-level decarbonisation/net zero plans that encompass a given asset to meet the decarbonisation/net zero plan requirements in the 'Preparing to Decarbonise', 'Aligning', and 'Aligned' stages (i.e., an asset-specific decarbonisation/net zero plan does not need to be created for a given asset to progress along the Alignment Scale).
- In most cases, investors can skip Q3 of the Alignment Scale (i.e., do not classify assets as (Emerging) Decarbonisation Enablers since Real Estate assets' revenues (i.e., leasing revenue) generally do not relate to economic activities that enable net zero transitions.

In addition, Real Estate investors should consider the following modification to the Roadmap for construction assets:

- Assets are unable to move beyond the 'Aligning' stage to the 'Aligned to Net Zero' stage of the Alignment Scale as assets under construction are unable to demonstrate year-over-year emissions reductions in line with a net zero plan.

FIGURE 37. REAL ESTATE ALIGNMENT SCALE

Q1: WHAT MEASURES HAS THE ASSET TAKEN TO REDUCE ITS GHG EMISSIONS?

	Not Started	Capturing Data	Preparing to Decarbonise	Aligning	Aligned to Net Zero
Definition	Not started to **measure emissions or plan** how to **reduce** them	**Reporting emissions** data but currently no plan in place to reduce emissions	Planning to **reduce emissions**[2]	Committed to a decarbonisation plan **aligned to a transition pathway**	Delivering against a net zero plan and operations aligned to **science-based** target
Criteria	• **Minimal or no** emissions data • **No decarbonisation plan** in place	• **Measuring** Scope 1 and 2 emissions alongside **material** Scope 3 emissions, and making data available to fund[1]	• Decarbonisation **plan in place** but level of ambition **not aligned to net zero pathway**[3]	• Committed to **near-term science-based target** aligned to a long-term net zero pathway	• Demonstrated YoY **emissions profile** in line with net zero pathway

Construction assets

Cannot progress past 'Aligning'

Q2: IS THERE A RECOGNISED TRANSITION PATHWAY FOR THIS ASSET?

No Current Pathway to Align

Cannot progress past 'Preparing to Decarbonise'

Definition: Assets with **no pathway** to align to the transition using existing technology

Criteria: Greater than **50% of revenue** generated using high-emitting assets that is not feasible to decarbonise through **redevelopment, retrofitting or replacement**

Q3: DO THE ASSET'S OPERATIONS ENABLE THE NET ZERO TRANSITION?

Decarbonisation Enablers

Real Estate assets are not expected to be classified as (Emerging) Decarobonisation Enablers

Notes: (1) Emissions criteria apply across all subsequent stages (2) To progress to this stage companies must have reasonable scope to reduce emissions from their operations; companies operating in thermal coal and exploration of new oil/tar sands production sites cannot progress to this stage (3) See Section 3.2.3. for minimum requirements; pathway can be sector pathway or company-specific reduction trajectory aligned to net zero

FIGURE 38. REAL ESTATE-SPECIFIC DECARBONISATION LEVERS

✓ Lever likely available

	Decarbonisation Levers	Core	Core+	Value-add	Opportunistic
Engagement	Board membership mechanisms, e.g., voting/raising motions	N/A	N/A	N/A	N/A
	Advocate for decarbonisation with asset leadership, e.g., actions in accordance with decarbonisation principles established by net zero building guidelines, or higher adoption of green lease agreements committing tenants to meeting (pathway-informed) targets on energy-intensive activities	✓	✓	✓	✓
	Request alignment and emission data for asset	✓	✓	✓	✓
	Link asset manager compensation to decarbonisation progress	✓	✓	✓	✓
	Include decarbonisation within Business Plan (incl. estimated CAPEX needs)	✓	✓	✓	✓
	Collaborate with other investors and tenants (if applicable)	✓	✓	✓	✓
Investment	Set percent of AUM or Opex/CapEx that has to be invested in decarbonisation	✓	✓	✓	✓
	Increase investment in (re-)construction assets developed in accordance with net zero building guidelines	✓	✓	✓	✓
	Increase investment in sustainable building systems, i.e., installing energy efficient technologies such as insulated windows, automated ventilation, and LED lights to improve building efficiency	✓	✓	✓	✓
	Invest in procurement of renewable energy, e.g., by installing on-site renewable energy generation capacity (e.g., solar panels) and/or entering renewable power purchase agreements (PPAs), purchasing renewable energy certificates (RECs), to reduce a buildings Scope 2 emissions	✓	✓	✓	✓
	Tie capital provision to achievement of decarbonisation-related objectives, e.g., data sharing, progression along Alignment Scale	N/A	N/A	N/A	N/A
Education	Grant access to firm library of decarbonisation levers/strategies or similar central resource	✓	✓	✓	✓
	Share GHG benchmark data with asset to understand performance	✓	✓	✓	✓
	Bespoke support on asset decarbonisation plan formation	✓	✓	✓	✓
	Host teach-ins with asset leadership on decarbonisation, including net zero building guidelines, e.g., the net zero Carbon Buildings Framework in the UK	✓	✓	✓	✓

Real Estate-specific resources

- **PCAF:** The Global GHG Accounting and Reporting Standard for the Financial Industry
- **PCAF:** Accounting and Reporting of GHG Emissions from Real Estate Operations (GRESB, PCAF, CRREM)
- **CRREM:** Carbon Risk Real Estate Monitor
- **GRESB:** Real Estate Standard and Reference Guide
- **UKGBC:** Net Zero Carbon Buildings Framework
- **IIGCC:** Supplementary Guidance on Target Setting (NZIF)

5.4. ADDITIONAL CONSIDERATIONS FOR PRIVATE CREDIT FUNDS

In the face of pressures from LPs, regulators and the public, many Private Credit firms are looking to do more on **decarbonisation**. As an asset class, Private Credit typically has much **lower levels of influence** relative to Buyout funds:

- **Limited focus on asset transformation:** Credit funds traditionally do not involve themselves in setting the strategic direction for companies they lend to and instead usually support management's existing vision
- **Short holding periods:** Private Credit loan periods are typically 2-3 years, so funds have limited time to impact investee behaviour and decarbonisation strategy; there may be added complexity given by the nature of the credit investments (i.e., closed-end versus open-end funds)
- **Limited interaction with investee's management:** Debt providers tend to provide the capital but then are not expected to closely monitor investees unless there is a credit risk
- **Loan repayments:** As investees pay back their loans, a fund's financed emissions will likely fall as the capital is paid back (unless capital is recycled to new loans)—this can make it hard to distinguish actual progress on decarbonisation
- **Relationship with other capital providers:** Private Credit investors are rarely the sole providers of credit to an investee; other creditors with debt of varying seniority and equity sponsors are also involved in setting a decarbonisation agenda

These challenges compound some of the broader issues financial institutions operating in Private Markets have when it comes to decarbonisation as presented in Section 1.2.2.

As mentioned in Section 3.1.4., Private Credit has a much broader range of strategies than Buyout, with corresponding variation in length of investment, operational control and relationship with the investee and other capital providers. Further, a Private Credit fund may be simultaneously investing in different types of credit, which makes it challenging to set a level of ambition that can be applied across investments.

Firms with funds across multiple asset classes looking to move on decarbonisation have historically been focused on their Buyout funds, where operational control can give the investors the chance to be transformational owners. However, firms are increasingly looking at Private Credit funds to understand their roles and responsibility in supporting the broader decarbonisation agenda within Private Markets. Especially as the asset class grows in significance within the Private Markets landscape:

- The number of Private Credit funds has grown from **~150** in 2009 to **~840** by Q3 2022[52]
- A 2022 Preqin survey found that as of 2022, **63%** of North American PE firms were considering increasing their allocation towards Private Credit[53], **up from 56%** in 2020[54], with year-on-year growth of 29% in AUM between 2012 and 2022[55].

For PE firms looking to increase their decarbonisation efforts, greater allocation of capital to Private Credit could present challenges due to the constraints highlighted above.

Typically, a Private Credit fund will engage in analysis of a potential investee's carbon emissions before underwriting a loan. This process provides an opportunity to incorporate decarbonisation into the fund's investment strategy.

5.4.1. Level of ambition within Private Credit

Funds focused on private placement may find it challenging to get investees to respond to their data requests or get a seat at the table when the company decides their decarbonisation agenda. In instances where investees do not appear willing to engage with the fund, investors could consider an outside-in assessment to ensure they have a view of how their capital invested is supporting the transition.

Advice specific for Private Credit investors

Over recent years, several organisations have published guidance for financial institutions on reaching net zero. However, few of these initiatives currently have **specific approaches for Private Credit**. Private Credit-specific guidance is therefore needed for funds to be able to make meaningful progress within the context of their operational environment and levels of influence. The end of this section provides select resources.

The right level of ambition

Current target-setting frameworks available to Private Credit investors/funds are aimed at firms that are considering making the low-carbon transition part of their investment strategy at a firm level. However, few of the current approaches consider in-depth how that **portfolio-level commitment can be flown through to Private Credit funds**. The Roadmap is designed so investors in this asset class describe what they're doing on decarbonisation using the same broad principles that can be applied to Buyout.

In this way, Private Credit funds can communicate what they are doing on decarbonisation in a way that can be understood both internally and externally.

Private Credit investors may not be able to progress investees along the Alignment Scale during the investment period; however, classification of investees is still valuable in understanding their current position on decarbonisation.

5.4.2. Modifications to the Roadmap

What to include in the decarbonisation agenda?

A fund should consider how they can engage with **all** their investees on decarbonisation. By at least **requesting data from their investees**, funds will understand the extent to which the capital they deploy is aligned to the transition. Funds should look to classify investees **as soon as possible**. This will mean all progress they make can be reflected in the data collected since the point of investment. Initial classification can begin prior to loan underwriting with an outside-in assessment of data and publicly stated emissions reduction targets.

Although funds should seek to classify all their investees, where debt is actively traded or very short-term this may not be possible. Here, teams can use the concepts of **feasibility** and **materiality** (e.g., prioritise investees with higher financed emissions) to frame their decision.

After classification, funds may also need to **prioritise** which investees they will support on decarbonisation if resources are limited. For Private Credit funds, **feasibility** is likely to be the most relevant consideration due to **typically lower levels of influence** on assets relative to a Buyout fund.

Funds can set their own inclusion criteria based on either materiality or feasibility, which will need to be **communicated** clearly to LPs/shareholders when targets are set and reported.

Funds may choose to adjust their projections or forecasts on overall Alignment Scale stages based on the **feasibility of creating change with the investee**. For example, in instances where the fund may reasonably expect to be able to influence the investee, they should look to support that company to move along the Alignment Scale.

However, in instances where the fund has a limited relationship with the investee, access to information may be challenging. In these cases, it is recommended funds undertake a light-touch **outside-in assessment** of where the investee is to ensure completeness in the fund overall view. Funds could classify a company provisionally outside-in up to 'Aligning'[56] by looking for the following minimum evidence (non-exhaustive):

- **'Capturing Data'**: Disclosure of carbon emissions (Scope 1, 2 and material Scope 3) on the company website or in annual reports; membership of CDP[57]
- **'Preparing to Decarbonise'**: Disclosure of a short-term, significant and quantitative target for emissions (intensity) reduction—typically outlined in sustainability reports, annual reports or on the company website
- **'Aligning'**: Disclosure of a near-term science-based target aligned with a transition pathway—typically outlined in sustainability reports, annual reports or on the company website

A fund should prioritise classifying investees with longer term loans, or where the fund is likely to have greater influence over the decarbonisation strategy of the investee. Where a fund has very limited influence, or is providing a small proportion of capital, **the fund should be transparent** about the involvement they had with any progress on decarbonisation by the investee.

After undertaking an outside-in assessment, the data and Alignment Scale stage should be **shared with the investee** to check their agreement with the classification.

How do Alignment Scale criteria change?

The primary Alignment Scale change is around **ambition of progression** rather than criteria changes. The Roadmap applies with two minor modifications:

- In 'Preparing to Decarbonise' the plan to reduce emissions **does not have to be in-line with an approach agreed with the fund**, given the degree of separation
- **Project financing** for reducing emissions can be considered a **Decarbonisation Enabler** if **at least 50% of the capital provided** will enable net zero transition, independent of the classification of the rest of the asset
- Similarly, **Project financing** for reducing emissions can be considered an **Emerging Decarbonisation Enabler** if **at least 10% of the capital provided** will enable net zero transition and **less than 50% of the capital provided** will be used towards high-emitting activities, independent of the classification of the rest of the asset.

FIGURE 39. PRIVATE CREDIT ALIGNMENT SCALE

Q1: WHAT MEASURES HAS THE INVESTEE TAKEN TO REDUCE ITS GHG EMISSIONS?

Not Started	Capturing Data	Preparing to Decarbonise	Aligning	Aligned to Net Zero
Not started to **measure their emissions or plan** how to **reduce** them	**Reporting emissions** data but currently no plan in place to reduce emissions	Planning to **reduce emissions**[2]	Committed to a decarbonisation plan **aligned to a transition pathway**	Delivering against a net zero plan and operations aligned to **science-based net zero** target
• **Minimal or no** emissions data • **No decarbonisation plan** in place	• **Measuring** Scope 1 and 2 emissions from operations, alongside **material** Scope 3 emissions, and making data available to fund[1]	• Decarbonisation **plan in place** but level of ambition **not aligned to net zero pathway**[3]	• Committed to **near-term science-based target** aligned to a long-term net zero pathway	• Demonstrated YoY **emissions profile** in line with net zero pathway

Q2: IS THERE A RECOGNISED TRANSITION PATHWAY FOR THIS INVESTEE?

No Current Pathway to Align

Definition: Investees with **no pathway** to align to the transition using existing technology

Criteria: Greater than **50% of revenue** generated using high-emitting assets that is not feasible to decarbonise through **redevelopment, retrofitting or replacement**

Cannot progress past 'Preparing to Decarbonise'

Q3: DO THE INVESTEE'S OPERATIONS ENABLE THE NET ZERO TRANSITION?

Decarbonisation Enablers

Definition: Investees working to **support a subset of Climate Solutions**[4] related to the transition to a **low carbon economy**

Criteria for Decarbonisation Enabler: Greater than **50% of revenue** is related to an economic activity that is **enabling net zero transition**

For Project Financing: Greater than **50% of capital provided** on activities which enable net zero transitions, or help to **materially reduce emissions of asset owner**

Criteria for Emerging Decarbonisation Enabler: Greater than **10% of revenue** is related to an economic activity that is **enabling net zero transition** and **less than 50% of revenue** from high-emitting assets

For Project Financing: At least **10% of capital provided** will enable net zero transition and less than **50% of the capital provided** will be used towards high-emitting activities

Notes: (1) Emissions criteria apply across all subsequent stages (2) To progress to this stage companies must have reasonable scope to reduce emissions from their operations; companies operating in thermal coal and exploration of new oil/tar sands production sites cannot progress to this stage (3) See Section 3.2.3. for minimum requirements; pathway can be sector pathway or company-specific reduction trajectory aligned to net zero (4) Climate Solutions as defined by GFANZ as one of their four core financing strategies

How can Private Credit investors support investees on decarbonisation?

Although Credit fund typically have less direct influence on assets than Buyout funds, depending on the Private credit strategy, there are still several levers available to support efforts by investees to decarbonise:

- **Decarbonisation in loan terms:** linking decarbonisation efforts with loan covenants, e.g., through carbon-linked bonds, reduced interest rates on achievement of decarbonisation KPIs (see below for details)
- **Engaging with other lenders on decarbonisation:** where an investee receives credit from multiple lenders, funds may collaborate with them to create a common front through which to encourage investees to include acting on the topic of decarbonisation into their operations. This may also include engagement with other investors, including any Private Markets sponsors/shareholders
- **Education of investees on decarbonisation:** making investees aware of potential decarbonisation levers they may draw upon, how to calculate their emissions, what the key elements of a decarbonisation plan are, etc.
  - » Funds are well-positioned to do so through sharing their experience of what other assets to whom they have provided credit have done in the space

Additionally, where a fund has a greater degree of influence on an investee, for example through financing of distressed debt, the fund can try to push harder for the investee to decarbonise and engage with management on the issues if there is a direct relationship.

FIGURE 40. PRIVATE CREDIT-SPECIFIC DECARBONISATION LEVERS

✓ Lever likely available

✓ Lever can be added to Fund ToR/loan terms

	Decarbonisation Levers	**Private Credit –** Corporate direct lending	**Private Credit –** Private placement or Mezzanine debt	**Private Credit –** Distressed debt as part of a 'loan to own' strategy	**Private Credit –** Project financing
Engagement	Board membership mechanisms, e.g., voting/raising motions	N/A	N/A	✓	N/A
	Advocate for decarbonisation with asset leadership	✓	✓	✓	✓
	Request alignment and emissions data from asset	✓	✓	✓	✓
	Link executive remuneration to decarbonisation progress	N/A	N/A	✓	✓ (For project)
	Collaborate with other lenders also focused on decarbonisation	✓	✓	✓	✓
Investment	Set percent of AUM that has to be deployed to finance 'Aligned' or 'Decarbonisation Enabler' assets/projects	✓	✓	✓	✓
	Tie capital provision to achievement of decarbonisation-related objectives e.g., data sharing, progression along Alignment Scale	✓	✓	✓	✓
Education	Grant access to firm library of decarbonisation levers/strategies	✓	✓	✓	✓
	Share GHG benchmarks with asset to understand performance	✓	✓	✓	✓
	Bespoke support on asset decarbonisation plan formation	✓	✓	✓	✓
	Host teach-ins with asset leadership on decarbonisation	✓	✓	✓	✓

Decarbonisation in loan terms

For Private Credit investors, a significant lever is the inclusion of loan terms linked to decarbonisation. There is a wide spectrum of possible terms, ranging from requiring disclosure of emissions data to the investor, requiring progression along the Alignment Scale, or reduction in emissions over the course of the loan period. There are also several more formal frameworks to guide investors[58]. The major distinction in this area is between sustainability-linked and green loans or bonds:

- **Sustainability-linked loans/bonds:** Loans incentivising achievement of specified sustainability performance objectives, but where the financing is not required to be used for a sustainability-linked purpose, and can generally be used for any corporate purpose. Sustainability-linked loans require setting "sustainability performance targets", which could be decarbonisation related (e.g., achieving a specific reduction in emissions). If these targets are met, the borrower is rewarded with a reduction in interest rate
- **Green loans/bonds:** Loans to fund specific "green" projects, and cannot be used for more general financing

Private Credit funds seeking to influence investees could consider incorporating decarbonisation terms into loan agreements.

Private Credit-specific net zero frameworks

- **IIGCC:** Net Zero Investment Framework for the Private Debt Industry
- **SBTi:** Inclusion of Private Credit is optional and to be developed further; SBTi encourages funds to require public commitments on emissions reduction targets from investees as a condition of direct corporate lending.
- **UNEPFI:** Target-Setting Protocol (fourth edition)
- **Climate Bonds Standard:** For certification under the Climate Bonds Standard, a debt-issuing company must have a public, approved net zero commitment covering material Scope 1, 2 and 3 emissions, based on independently audited data. Targets should be science-based and Paris-aligned, consistent with limiting warming to 1.5°C.
- **ESG Integrated Disclosure Project (IDP):** Industry initiative bringing together lenders in the Private Credit and Syndicated Loan markets to improve transparency and accountability. Provides various decarbonisation resources on its website, including a standalone reporting tool (ESG IDP Template).
- **iCI:** Carbon Footprint Measurement. A concise guide for companies and their lenders.

5.5. ADDITIONAL CONSIDERATIONS FOR SECONDARIES FUNDS

As mentioned in Section 3.1.5., for Secondaries funds in particular, the value of the Roadmap will be how it can provide a framework for standardising disclosures that funds make. This will make it easier to understand what different GPs are doing on decarbonisation, even for those who are yet to commit to reaching net zero by a particular date.

For GPs, the principle aim of following the Roadmap is to support the PortCos that they invest in to move up the **Alignment Scale**. For Secondaries investors, with no direct relationship with the underlying PortCo, this is harder to achieve. Instead, the guidance below is aimed at helping Secondaries investors to **interpret the data** that GPs following the Roadmap can share. Further, if they see value in the approach outlined below, they can **encourage** their GPs to implement the Roadmap and define a level of ambition.

5.5.1. Engaging with GPs on the Roadmap

Secondaries funds should look to raise decarbonisation with **every new GP** that they invest in. The Roadmap can be a useful tool for framing this discussion. Secondaries funds could **ask new GPs to classify their assets along the Alignment Scale** and estimate where they think their assets will be by **exit**.

Engagement is most likely to result in data sharing in GP-led investments, where there is a prior relationship between the firms rather than in LP-led investments. Therefore, firms could prioritise reaching out to these investors on decarbonisation if resources are limited. Some engagement initiatives (including on advocacy) could be extended to **LP-led transactions** where pre-existing relationships with the GPs provide the ability to request extra information and engage in discussion.

In instances where data requests are unanswered, a Secondaries fund could consider an outside-in assessment of a GP fund's Alignment Scale stages. This would be most feasible where there are few assets bundled in the deal and the Secondaries fund knows what PortCos the GP has invested in. Here, the Secondaries fund itself could classify a company provisionally based on its public statements by looking for the following minimum evidence (non-exhaustive):[59]

- **'Capturing Data':** Disclosure of carbon emissions (Scope 1, 2 and material Scope 3) on the company website or in annual reports; membership of CDP.
- **'Preparing to Decarbonise':** Disclosure of a short-term, significant and quantitative target for emissions (intensity) reduction—typically outlined in sustainability reports, annual reports or on the company website.
- **'Aligning':** Disclosure of a short-term science-based target aligned with a transition pathway—typically outlined in sustainability reports, annual reports or on the company website.

After undertaking an outside-in assessment, the data and Alignment Scale stages should be shared with the GP to check its agreement with the classification and to highlight some potential next steps.

Apart from requesting data, there are several other decarbonisation levers that Secondaries funds could consider. Due to the lower levels of operational control, these are mostly focused on information sharing and engagement. For example, taking initiative in choosing green investments or Decarbonisation Enablers in GP-led transactions is somewhat limited, as capital invested in green solutions or decarbonation is usually already agreed in the fund documentation/strategy, and changes could impact other LPs. For LP-led transactions, the margin to influence fund practice is low, apart from screening Article 8 or 9 funds.

FIGURE 41. SECONDARY FUND-SPECIFIC DECARBONISATION LEVERS

- ✓ Lever likely available
- ✓ Lever available but GP may not approve request
- ✓ Lever can be added to fund ToR/loan terms

	Decarbonisation Levers	**Secondaries** fund focussed on **GP-led** transitions	**Secondaries** fund focussed on **LP-led** transitions
Engagement	Advocate for greater levels of fund action on decarbonisation from GPs in fora like LP Advisory Councils (LPACs)	✓	N/A
	Collaborate with other LPs to push for GP fund action	✓	✓
	Request alignment and emissions data reporting from asset	✓	N/A
	Leverage pre-existing relationship (e.g., between LP and GP fund)	✓	✓
Investment	Set percent of AUM that has to be invested in either 'green' funds (e.g., SFDR Article 8/9) or funds with decarbonisation goals above a certain threshold)	✓	✓
	Tie investment into underlying fund to an asset engagement target, or the undertaking of certain decarbonisation-related actions	✓	N/A
Education	Grant access to firm library of decarbonisation levers/ strategies or similar central resource	✓	✓
	Share GHG benchmark data with fund to assist in their materiality assessments of their assets	✓	✓
	Support funds on asset plan formation	✓	✓
	Host teach-ins with underlying funds on topic of decarbonisation and related areas	✓	✓

SECTION

6

Appendix

6.1. DEFINITIONS AND KEY CONCEPTS

Decarbonisation is the process of getting carbon out of our environment. This will require new processes in manufacturing, using different sources of power, and so on. Decarbonisation as defined in this paper is focused on transitioning PortCos to be lower emitters and therefore does not automatically encompass consideration of activities such as avoiding carbon and supporting alternative fossil fuels.

Greenhouse gases such as carbon dioxide (which comprises 80% of all greenhouse gases), methane, nitrous oxide and fluorinated gases trap heat in the atmosphere and contribute to climate change.[60] Companies, including Private Markets firms and their funds, categorise their emissions in three scopes:[61]

- **Scope 1 emissions:** Direct emissions originating from sources owned or controlled by the organisation, such as fossil fuel combustion in company-owned vehicles and industrial processes.
- **Scope 2 emissions:** Indirect emissions resulting from the generation of purchased electricity, heat or steam used by the organisation.
- **Scope 3 emissions:** All other indirect emissions occurring in the organisation's value chain, both upstream and downstream. For a Private Markets fund, the Scope 1, 2, and 3 emissions of its PortCos are considered to be part of the fund's own Scope 3 emissions, as they are financed by the fund.

Financed emissions are the greenhouse gas emissions **attributable** to a Private Markets fund's investment in a PortCo, based on the fund's ownership or financing stake. These emissions are considered 'financed' because the **fund's capital has enabled or supported the emissions-producing operations** of the underlying PortCo.[62,63]

A company is considered **'Aligned to Net Zero'** if its Scope 1, 2 and 3 emissions are decreasing at a rate that places it on a credible pathway to be net zero by 2050. However, it is important to note that in many sectors what is a credible pathway as well as the definition of net zero, is an ongoing discussion. Funds should encourage their PortCos to actively engage in such discussions to ensure final definitions are credible and practical to implement.

A PortCo is considered net zero when its operations (including its supply chain) are aligned to how its credible pathway defines net zero. This definition will vary from sector to sector but is likely to include at least a 90% reduction in overall emissions.

Funds whose PortCos are all 'Aligned to Net Zero' can validly claim to be aligned to a pathway to net zero.

6.1.1. Avoided Emissions

Definition, benefits, limitations, and best practices

Some organisations are starting to refer to the concept of 'avoided emissions' also known as comparative impacts, in addition to their actual emission reporting on Scopes 1-3. Avoided emissions are part of the broader concept of Expected Emissions Reductions (EER), introduced by GFANZ to measure the future decarbonisation potential of investees. The fundamental idea behind avoided or mitigated emissions is that low-carbon solutions facilitate the achievement of a given function while producing markedly fewer greenhouse gas emissions. While inventory accounting (covering Scope 1-3) assesses annual absolute emissions of a company, avoided emissions assess the impact of a solution provided by a company compared to a scenario in which this solution is not used. Typical use cases include supporting brand image through disclosure of avoided emissions for a range of products, informing product development or supplier selection decisions as well as understanding policy-making impacts on the business.

However, the concept of avoided emissions comes with several limitations. No consistent and reliable way of calculating avoided emissions exists to date, making estimations costly and hypothetical, and limiting comparability between companies or even products. Given that the uncertainty on the extent to which comparative assessments can effectively drive actual reductions in emissions, and the corresponding association that avoided emissions may diverge attention from actual emission reductions, reporting on avoided emissions also comes with the risk of inadvertently engaging in 'green washing' with positive intentions backfiring against the companies that decide to report on this type of emissions.

Building on these limitations, existing literature so far suggests that avoided emissions need to remain separate from the Scope 1-3 estimates. Under no circumstances should positive avoided emissions be used to 'offset' negative Scope 1-3 emissions in reaching net zero alignment (i.e., they cannot contribute to a company's carbon neutrality, no claims can be made to imply a company has no impact on the climate). To make sure avoided emissions are used in a beneficial and non-detrimental way to Scope 1-3 reporting, a series of best practices are recommended:

- Avoided emissions should neither be prioritised over nor distract from endeavours towards computing and disclosing Scope 1, 2 and 3 emissions, especially while establishing science-based targets for these emissions.
- In accordance with the GHG Protocol corporate accounting and reporting standards, it is recommended not to utilise avoided emissions for the adjustment of Scope 1, 2 and 3 emissions.
- Uniform accounting methodologies, data collection techniques and calculation methods for both the evaluated product and the base case should be used.
- Transparency towards stakeholders is paramount to enable assessments of credibility (e.g., always specify the % of revenues that reported avoided emissions make up).

Application for investors in Private Markets

Unlike for actual carbon footprint accounting, there are currently no agreed standards on the reporting of avoided emissions, though two main approaches to quantify avoided emissions have emerged. The 'attributional approach' measures the net reduction in emissions across the lifecycle (incl. production, use and disposal) due to switching from one product to another, while assuming a constant system (i.e., potential impacts on suppliers, consumer behaviour, technological development, regulations, etc. are not considered). In contrast, the 'consequential approach' measures the net reduction in emissions between a scenario including an emissions-impacting action and a baseline 'status quo' scenario, while accounting for system-wide impacts (i.e., potential impacts on suppliers, consumer behaviour, technological development, regulations, etc.). One of the key differences between the two approaches is that the attributional approach uses products (e.g., a solar farm) as the unit of analysis while the consequential approach uses actions (e.g., building a new solar farm or retrofitting equipment) as the unit of analysis.

For example, if calculating the avoided emissions from a solar farm, the attributional approach would focus on comparing the lifecycle emissions of a solar farm as a product vs. a defined substitute (e.g., a gas-fired power plant) on a per unit basis (e.g., per megawatt). In contrast, the consequential approach would compare a scenario including the solar farm as an action (e.g., building a new solar farm) to a baseline 'status quo' scenario without the action, considering system-wide emissions impacts including shifts in the energy mix, changes to the electrical grid, technological advancement of solar power generation equipment, regulatory developments, etc.

The attributional approach using the product as the unit of analysis has been the most widespread due to its simplicity and relatively low data requirements, though the consequential approach can be advantageous in some cases (e.g., if broader system-wide impacts are critical to consider or if a clear substitute is difficult to define).

To create a proxy of a company's entire avoided emissions, all avoided emissions from all products in the portfolio could in theory be totalled. However, this process is challenging as only very few companies will be able to cover all products, and, even in that case, the calculations done on one product are often not comparable to another. Similarly, in theory, investors could sum up avoided emissions from each of their investees–though these complications would be further exacerbated. This might become simpler in the future, when methodologies and standards have evolved for avoided emissions, possibly even enabling reporting alongside Scope 1-3.

6.2. EXAMPLE INCLUSION CRITERIA FOR PORTFOLIO COMPANIES

Inclusion criteria are useful for funds wanting to set a target. They allow funds to focus and report on PortCos over which they have enough operational control to push decarbonisation. Target-setting frameworks such as SBTi and NZIF 2.0 (see below) put forward two differing approaches for setting inclusion criteria.

Science Based Targets initiative (SBTi)— target setting for Private Equity funds

Criteria: Greater than 25% of the fully diluted shares of the PortCo and board seat(s)[64]

Advantages:

- Clear cut and easy to communicate to LPs
- Board seat requirement ensures fund can add decarbonisation to leadership agenda—when it aligns with fiduciary commitments
- Greater than 25% of shares indicates significant say in key business decision-making

IIGCC—Net Zero Investment Framework (NZIF) 2.0

Criteria: All PortCos should be considered, but targets for Alignment Scale stage vary based on level of influence

Advantages:

- Include all assets/PortCos in decarbonisation efforts
- Highest level of ambition for assets/PortCos where there is a strong chance fund could really influence change (Band 1a)

FIGURE 42. NET ZERO INVESTMENT FRAMEWORK LEVELS OF INFLUENCE

Asset classes	Band	Criteria	Influence level
Direct GP Buyout fund GP Growth fund GP Continuation fund	1a	>50% of board voting seat appointments (usually the majority shareholder)	Strong (with PCs)
	1b	≤50% of board voting seat appointments (usually a significant minority shareholder)	Moderate (with PCs)
	1c	No board votes	Limited (with PCs)
Indirect LP investments in Buyout, Growth or Continuation funds	2a	Big ticket investors and/or first close investors	Strong (with GPs)
	2b	Investment made during fundraise not included in 2a; Co-investment	Moderate (with GPs)
LP Co-investment GP Fund of funds LP-led Secondaries	2c	Investment made through Secondaries market	Limited (with GPs)

6.3. ADDITIONAL GUIDANCE ON CLASSIFYING DECARBONISATION ENABLERS AND EMERGING DECARBONISATION ENABLERS

3-step process to classify assets

As mentioned in Section 2.1.1., to classify an asset or portfolio company as an (Emerging) Decarbonisation Enabler, funds need to follow three steps.

1 If a relevant sustainability taxonomy is available, identify if the asset's economic activity is part of a sector or sub-sector covered by the chosen taxonomy. Then, identify if the specific activity is directly related to decarbonisation.

2 If no relevant sustainability taxonomy exists, or if a sub-sector activity is not covered or considered an edge-case, GPs can perform a manual assessment and disclose rationale for why the asset should be considered an (Emerging) Decarbonisation Enabler. In a manual assessment, assets should specifically be tested on two screening questions:

- Does the PortCo substantially contribute to climate change mitigation?
- Does the PortCo ensure no substantial adverse impact of its activities in terms of environmental and social considerations and safeguards—for example, in relation to pollution, water use, etc.?

3 Assess whether either a) more than 50% of the PortCo's revenue is derived from activities enabling the net zero transition (based on Step 1 or 2), leading to classification as a Decarbonisation Enabler, or b) more than 10% of the PortCo's revenue is from activities enabling the net zero transition (based on Step 1 or 2) with the intention to increase that share in the future and less than 50% comes from high-emitting assets or activities for classification as an Emerging Decarbonisation Enabler.

Additional guidance on Step 1: Example taxonomies and activities

Taking the example of the EU Taxonomy in Figure 43, most activities included in the taxonomy as 'essential for achieving the EU's environmental objectives' are related to decarbonisation. For edge-cases such as water collection, treatment and supply, building renovation, and others highlighted in red, manual assessments should be conducted.

Over 30 countries are currently developing or implementing a sustainable finance taxonomy. These include most of the G7 and G20 countries as well as many developing economies. A non-exhaustive, constantly evolving list of international and country-specific taxonomies can be found on the PMDR Microsite, to be used for classifying (Emerging) Decarbonisation Enablers.

FIGURE 43. SAMPLE OF EU TAXONOMY ACTIVITIES THAT CAN BE CLASSIFIED AS DECARBONISATION ENABLER OR EMERGING DECARBONISATION ENABLER; EDGE-CASES HIGHLIGHTED IN **RED**

Category	Activity
Agriculture and forestry	Afforestation
	Rehabilitation and restoration of forests, including reforestation and natural forest regeneration after an extreme event
	Forest management
	Conservation forestry
Electricity, gas, steam and air conditioning supply	Electricity generation using solar photovoltaic technology
	Electricity generation using concentrated solar power (CSP) technology
	Electricity generation from wind power
	Electricity generation from ocean energy technologies
	Production of electricity from hydropower
	Electricity generation from geothermal energy
	Electricity generation from bioenergy
	Transmission and distribution of electricity
	Storage of electricity
	Storage of thermal energy
	Storage of hydrogen
	Manufacture of biogas and biofuels for use in transport and of bioliquids
	District heating/cooling distribution
	Installation and operation of electric heat pumps
	Cogeneration of heat/cool and power from solar energy
	Cogeneration of heat/cool and power from geothermal energy
	Cogeneration of heat/cool and power from renewable non-fossil gaseous and liquid fuels
	Cogeneration of heat/cool and power from bioenergy
	Production of heat/cool from solar thermal heating
	Production of heat/cool from geothermal energy
	Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system
	Production of heat/cool from bioenergy
	Production of heat/cool using waste heat

FIGURE 43. SAMPLE OF EU TAXONOMY ACTIVITIES THAT CAN BE CLASSIFIED AS DECARBONISATION ENABLER OR EMERGING DECARBONISATION ENABLER; EDGE-CASES HIGHLIGHTED IN **RED** (CONTINUED)

Category	Activity
Water, sewerage, waste and remediation	Construction, extension and operation of water collection, treatment and supply systems
	Anaerobic digestion of sewage sludge
	Collection and transport of non-hazardous waste in source segregated fractions
	Anaerobic digestion of bio-waste
	Composting of bio-waste
	Material recovery from non-hazardous waste
	Landfill gas capture and utilisation
	Transport of CO2
	Underground permanent geological storage of CO2
Transportation and storage	Passenger interurban rail transport
	Freight rail transport
	Infrastructure enabling low-carbon road transport and public transport
	Transport by motorbikes, passenger cars and light commercial vehicles
	Freight transport services by road
	Passenger interurban rail transport
	Inland passenger water transport
	Inland freight water transport
	Infrastructure enabling low carbon water transport
Buildings	Renovation of existing buildings
	Construction of new buildings

Additional guidance on Step 2: Definitions and methodology for manual assessments

In general, the approach along the screening questions should be consistent across assets. This allows for transparency and comparability within a portfolio.

Screening question 1: Does the PortCo substantially contribute to climate change mitigation?

To assess whether an asset substantially contributes to climate change mitigation, **investors should first collect information on the asset's economic activities**, including the share of total revenue generated by each economic activity. Investors can define economic activities by following how assets define their business segments, using a standardised approach, adopting an existing taxonomy, etc. The aim is to be detailed enough to separate activities that significantly contribute to decarbonisation from those that do not. For example, distinguish 'renewable energy production' from 'fossil fuel energy production' rather than grouping them both as 'energy production'. Investors can collect the necessary information on an asset's economic activities from a combination of public (e.g., websites, public ESG reports) and non-public (e.g., collection of revenue data through a data request) sources.

Once an asset's economic activities (including each activity's share of total revenue) have been identified, **investors should classify each activity based on whether the activity substantially contributes to mitigating climate change**. The definition of a 'substantial' contribution will depend on several factors such as an asset's sector or region, making it critical for investors to develop their own methodology for classifying economic activities that is tailored to their needs (by asset, sector, etc.), while communicating transparently on underlying assumptions and rationale.

As an example, investors could apply the framework below, comprised of one main assessment question and three supporting questions to classify economic activities. In this framework, the main assessment question is critical to answer for each economic activity, while the supporting questions are additional considerations that can be answered to add further rationale.

- **Main assessment question: How substantial is the economic activity's contribution to decarbonisation?**
  - This question assesses the extent to which the economic activity contributes to decarbonisation, in the context of the industry and/or geography. To classify an economic activity as substantially contributing to decarbonisation, investors should develop a clear rationale that explains how the activity has a substantial net positive impact on decarbonisation. Approaches to providing such a rationale may include specifying the high-emitting activities that are being replaced, estimating emissions reductions on a per unit of revenue basis (e.g., estimate emissions per dollar spent on an electric vehicle vs. a combustion engine vehicle), or linking the activity to net zero-aligned decarbonisation priorities in the geography of operation (e.g., generating renewable energy in a geography heavily reliant on coal-powered energy could be considered particularly substantial).
- **Supporting question 1: How direct is the economic activity's contribution to decarbonisation?**
  - All things equal, activities with more direct contributions (e.g., emissions abatement through renewable energy generation) are generally considered to have more substantial impacts than activities with more indirect contributions (e.g., extracting minerals to manufacture equipment for renewable energy generation).
- **Supporting question 2: How unique/critical is the economic activity's contribution to decarbonisation?**
  - All things equal, economic activities with more unique/critical contributions (e.g., manufacturing a critical component that is only used for renewable energy generation) are generally considered to have more substantial impacts than activities with more generic contributions (e.g., manufacturing a widely available component that is used for several applications, one of which is renewable energy generation).
- **Supporting question 3: How demonstratable is the economic activity's contribution to decarbonisation?**
  - All things equal, economic activities with more demonstratable contributions (e.g., quantified and science-based evidence on emissions reductions from renewable energy production) are generally considered to have more substantial impacts than activities with less demonstratable and more theoretical contributions (e.g., potential emissions reductions from innovating a new renewable energy production technology).

For **examples of assets reviewed** on whether their economic activities contribute substantially to climate change mitigation, see Figure 44.

To ensure **transparency and credibility on assessments of activities with substantial contributions**, investors can consider the following actions:

- For each asset, provide a clear description of major economic activities.
- For each economic activity, indicate whether the activity was assessed as contributing substantially to climate change mitigation and provide a clear rationale (e.g., commenting on

net positive decarbonisation impacts, how direct the contributions are, uniqueness/criticality, demonstrability, etc.).

- Describe any key assumptions, empirical evidence and/or methodologies that underlie the assessments.
- Reference specific company reports, frameworks, guidance, taxonomies, etc. that were leveraged to inform key assumptions and methodologies.
- Leverage third-party services (e.g., environmental consulting services or emission verification services) to strengthen assessments and rationales.

For **additional sources to help assess whether economic activities contribute substantially** to climate change mitigation, investors can refer to the following (not exhaustive):

- Sustainability taxonomies (e.g., EU taxonomy, ASEAN taxonomy)
- Scientific literature on emissions contributions and climate scenarios (e.g., IPCC)
- Carbon accounting platforms and emissions benchmarks (e.g., Persefoni, Proxima Scope 3 Maturity Benchmark, CDP Accredited Solutions Providers List)
- Sector-specific guidance on setting targets and pathways to net zero (e.g., SBTi Sectoral Decarbonisation Approaches)

Screening question 2: Does the PortCo ensure no substantial adverse impact of its activities in terms of environmental and social considerations and safeguards—for example, in relation to pollution, water use, etc.?

As explained in Section 2, assets do not have to ensure substantial adverse impact of their activities to be classified as an (Emerging) Decarbonisation Enabler. Nevertheless, it is recommended that investors assess each asset regarding adverse impacts of its activities to ensure that assets labelled as contributing substantially to climate change mitigation are not simultaneously driving substantial environmental and social harms.

In line with the process to assess substantial contributions to answer screening question 1, the **first step to ensure no substantial adverse impact of activities is also to identify an asset's economic activities. Investors should then assess each activity on whether it significantly affects the environment or society negatively**.

- Among other, example adverse impacts to the environment include greenhouse gas emissions, water pollution, disturbances of marine and land ecosystems or waste generation.
- Among other, example adverse impacts to society include displacement of communities, exploitative labour practices or injuries.

In addition to assessing each economic activity's potential negative impact on the environment or society, investors should also **conduct a broader screening for any incidents, scandals, litigation, controversies, etc**. to identify any issues that may prevent an asset from passing the 'no substantial adverse impact of activities' screening.

In terms of mechanisms to mitigate adverse impacts to the environment or society, investors should also **assess assets on the existence and maturity of environmental and social safeguards**. Such an assessment should primarily focus on assessing the strength of governance mechanisms such as board-level oversight on environmental and social impacts, labour safety protocols and third-party audits.

In line with the guidance for screening question 1, investors are encouraged to develop their own methodology and criteria for ensuring no substantial adverse impact of activities. The most critical principle to follow is to **ensure transparent and credible communication on the methodology and assumptions** that underlie the 'no substantial adverse impact of activities' assessments.

For **examples of assets assessed on 'no substantial adverse impact** of activities' assessments, see Figure 44.

FIGURE 44. EXAMPLES OF ACTIVITIES THAT REQUIRE FURTHER JUSTIFICATION

Screening questions	Passenger Cars Co	Building Renovation Co	Mixed Farming Education Co	EV Software Co
PortCo/project description	Passenger cars and commercial vehicles	Building renovation services	Educational support for mixed farming methods in carbon sequestration	Accounting support
Does the company **substantially contribute** to climate change mitigation related to decarbonisation?	**No**—PortCo focused on manufacturing parts needed solely in combustion engines • Given the focus, PortCo cannot be classified as an Emerging Decarbonisation Enabler until 10% of economic activity becomes related to decarbonisation, for example PortCo moving into EV manufacturing • Evidenced in annual report, on website and in financial disclosures [insert document]	**Yes**—PortCo focused on running energy efficient upgrades and switching to renewable sources (e.g., installing solar panels) in renovations • 25% of revenue (and growing) from energy efficiency upgrades such as appliances, lightning, heat pump water heaters, thermostats and the installation of solar panels • The rest of the revenue is from other building improvements, not related to decarbonisation but not high-emitting activities • Evidenced in financial disclosure documents [insert document]	**Yes**—revenue is made from education around temporary carbon sequestration from mixed-farming methods • Over 75% of educational workshops are focused on decarbonisation topics • Evidenced in board interviews as part of due diligence process	**No**—a substantial share of revenue is from clients with climate conscious business initiatives, but the firm's offering does neither uniquely cater to such clients nor specifically market its services to green business customers • Accounting services provided do not differ depending on clients • Evidenced in annual report and on website
Does the PortCo ensure **no substantial adverse impact** of its activities in terms of environmental and social considerations and safeguards—for example, in relation to pollution, water use, etc.?	**No**—PortCo activity involves heavy manufacturing which results in pollution, despite having board-level governance for environmental risks • PortCo pollution levels above industry standard • Evidenced in disclosures [insert detail] and for board to address in the next 12 months	**No**—some concerns around responsible waste management practices, despite having third party audit of social safeguards and environmental risks • No evidence of company-wide recycling policy in latest sustainability report [insert document] • Moderate concern as no recorded incidents emerged in the due-diligence phase	**Yes**—no substantial externalities due to limited use of resources as a services company • PortCo employs recycling policy at headquarters and manages efficient energy and water use • Evidenced in annual report [insert document]	**Yes**—no substantial externalities due to limited use of resources as a services company, and board-level governance for environmental risks • PortCo employs recycling policy at headquarters and manages efficient energy and water use • Evidenced in annual report [insert document]
Outcome	**Cannot** be classified as an **(Emerging) Decarbonisation Enabler**	**Can** be classified as an **Emerging Decarbonisation Enabler**, but fund should work with PortCo to address 'ensure no substantial adverse impact of activities' issues	**Can** be classified as a **Decarbonisation Enabler**; however, fund should set up environmental safeguards as a priority	**Cannot** be classified as an **(Emerging) Decarbonisation Enabler**

6.4. OVERVIEW OF EXISTING RESOURCES FOR DECARBONISATION

6.4.1. Publications by the initiative Climat International (iCI) and Sustainable Markets Initiative's Private Equity Task Force

This work builds on the previous work undertaken by both the initiative Climat International and Sustainable Markets Initiative's Private Equity Task Force on decarbonisation and broader ESG issues. Notable publications mentioned in the Roadmap include:

- Sustainable Markets Initiative's Private Equity Task Force's ESG Metrics Paper
- Sustainable Markets Initiative's Private Equity Task Force's Valuing Carbon in Private Markets
- iCI's A Case for Net Zero in Private Equity
- iCI's TCFD Implementation: Considerations for Private Equity
- iCI's Greenhouse Gas Accounting and Reporting for the Private Equity Sector

6.4.2. The decarbonisation journey – How to get started?

Investors can follow a four-step approach to get started on decarbonisation. There are several resources available under each step that investors can reference for further guidance. Please note that these resources are listed under their most relevant step, but many have applicability across multiple steps.

Step 1: Map the starting point and define a strategy

The PMDR provides a helpful structure to map the starting point. Where in the portfolio will efforts have the largest relative or absolute decarbonisation impact? Are there laggards that need to be brought up to a minimum level? Are there leaders that can be accelerated and used as examples for others? Below are some resources that can be referenced to progress on this step.

- **Carbon accounting platforms and consultancies** to help measure and baseline emissions data (e.g., **Persefoni, Watershed**).
- **Emissions benchmarks** to evaluate and compare PortCo emissions and capabilities against peers (e.g., **Scope 3 Maturity Benchmark** by **Proxima**).

Step 2: Set targets and make commitments

Whether internal-only or also externally communicated, defining a clear ambition helps focus efforts and define the required timeline. There are multiple third-party target-setting frameworks that can be used to structure commitments, but strategy and targets can also be tailored to fund-specific needs, reflecting a range of pathways companies can take to make real progress. Below are some resources that can be referenced to progress on this step.

- The **Glasgow Financial Alliance for Net Zero (GFANZ)'s** pan-sector guidance on financial institution net zero transition plans, use of sectoral pathways and managed phaseout of high-emitting assets.
- The **Science Based Targets initiative (SBTi)** and its Sectoral Decarbonisation Approaches.
- The **Transition Pathway Initiative's** Sectoral Decarbonisation Pathways.
- The **Institutional Investors Group on Climate Change (IIGCC)** and its Net Zero Investment Framework (NZIF) 2.0.
- The **Net Zero Asset Managers (NZAM)** initiative– an international initiative for asset managers committed to supporting the goal of net zero greenhouse gas emissions by 2050 or sooner.
- The **Paris Aligned Asset Owners (PAAO)**–a group of global asset owners committed to transitioning their investments to achieve net zero by 2050 or sooner, drawing on NZIF.
- The **Neuberger Berman Net Zero Matrix**–a tool that helps companies set science-based targets to reduce their carbon intensity. The matrix provides sector-region pathways that show what a net zero-aligned company could look like over time. It also lays out short-, medium- and long-term carbon-intensity targets for companies across GICS sectors and regions. It is freely available upon request from Neuberger Berman.

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- The UN-convened **Net Zero Asset Owner Alliance (NZAOA)**, which supports investors' ambition and target-setting, implementation and collaboration on decarbonisation.

- **Energy sector transition resources**, including the **Sixth Assessment Report** for energy pathways produced by the **Intergovernmental Panel on Climate Change (IPCC)** and the **Net Zero by 2050 roadmap** produced by the **International Energy Agency (IEA)**.

Step 3: Embed across the organisation

Data visibility and tracking is only one step in the decarbonisation journey. Having a clear view of the end goal clarifies the capabilities that deal teams and portfolio company management teams will need and can help integrate progress into existing processes—for example, by linking incentives to outcomes. Below are some resources that can be referenced to progress on this step.

Mobilisation and governance

- **Implementation guidelines**, such as **NZIF's Implementation Guide** or the **Institutional Limited Partners Association (ILPA)'s Decarbonisation Handbook for LPs**, provide guidance on implementing decarbonisation strategies.

Monitoring and reporting

- **Region-specific reporting requirements**, such as the EU's disclosure rules (e.g., the EU taxonomy, CSRD, SFDR), the US SEC's climate disclosure rules and other national climate-related disclosure policies (e.g., in Canada, Australia and the UK).

- **Data convergence and reporting initiatives** that help collect, standardize, analyse, and report data (e.g., EDCI, CDP, ESG Integrated Disclosure Project).

- The **United Nations Principles for Responsible Investment (UN PRI)'s** resources for Private Equity, including its responsible investment due diligence questionnaire for LPs and Private Equity-specific guidance on greenhouse gas accounting and reporting.

Step 4: Support portfolio company management

Decarbonisation is still a new skillset for most portfolio company management teams. Finding the right tools to help them get past roadblocks—whether through playbooks, the right network of industry advisors, or sharing success stories and best practices across the portfolio—can often be critical to maintaining progress. Below are some resources that can be referenced to progress on this step.

- The **Net Zero Navigator** tool, which helps investors define and assess key decarbonisation actions and investments, compare different decarbonisation pathways, generate decarbonisation plans and track progress. The tool is built on top of the Persefoni carbon accounting platform.

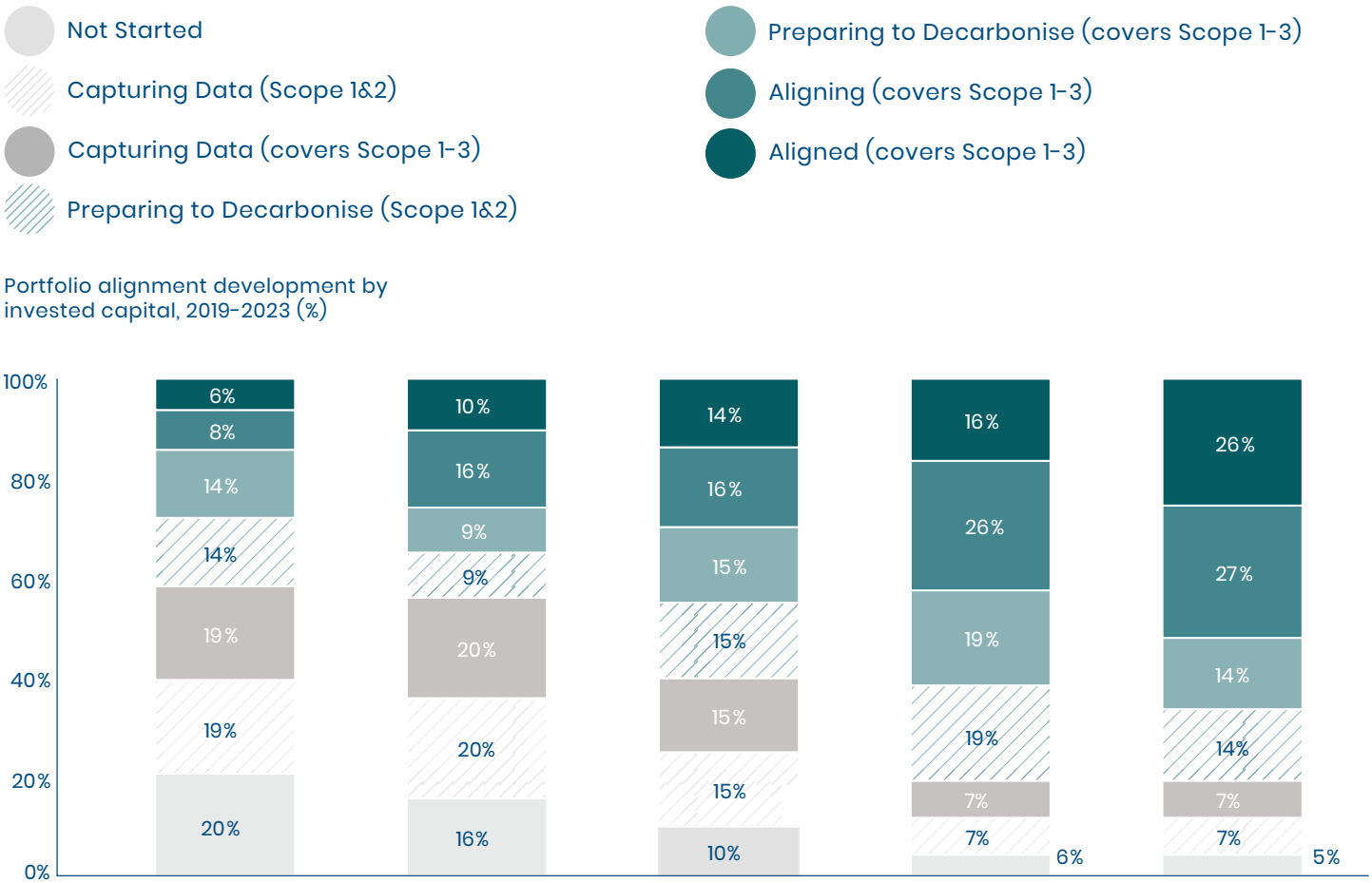
- **Industry-specific documents**, such as UNFCCC's 'Decarbonising Fashion' report.

6.5. VISUALISATIONS

The following templates are recommended to visualise and communicate progress on the PMDR. All templates can be accessed via the PMDR Microsite.

Illustrative visualisation of a portfolio's alignment development annually by share of invested capital. Views by financed emissions and portfolio companies, as well as on an absolute basis, are also available on the PMDR Microsite.

FIGURE 45. ILLUSTRATIVE PORTFOLIO ALIGNMENT DEVELOPMENT



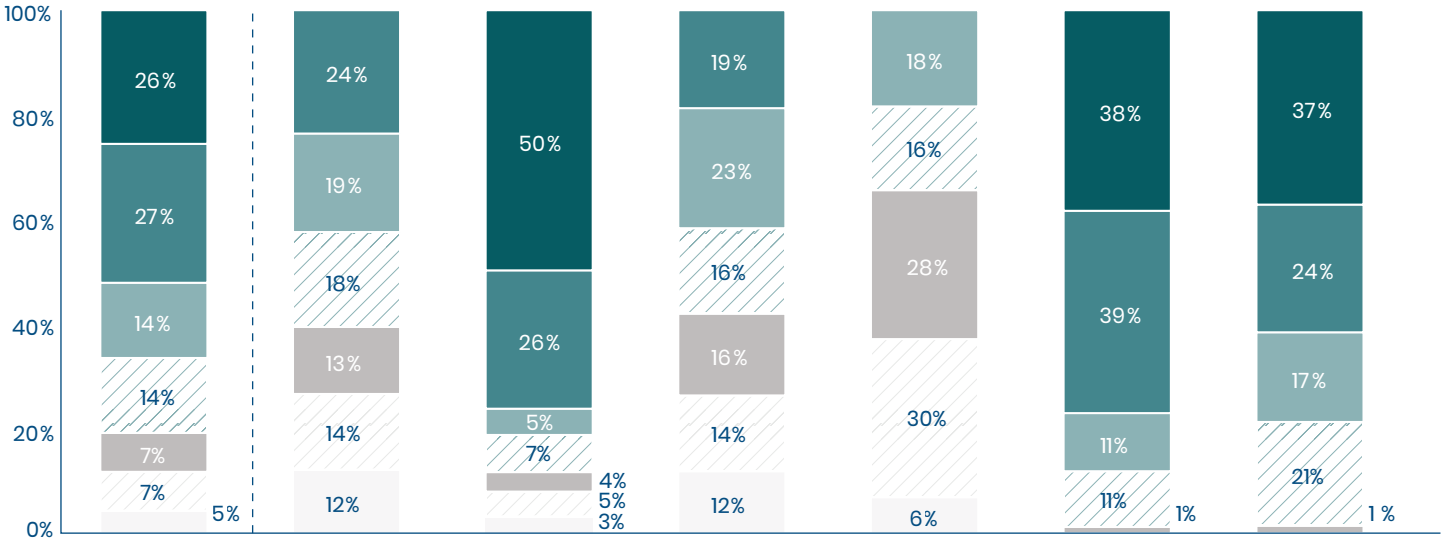
Notes: Alignment level calculated as share of invested capital categorised as 'Aligning' or 'Aligned'; [Names of PortCos] not included due to lack of invested capital data

Illustrative visualisation of a portfolio's alignment by fund and share of invested capital. These views can also be developed by sector and region, with templates available on the PMDR Microsite. In addition, views by financed emissions, portfolio companies, as well as on an absolute basis, are also provided.

FIGURE 46. ILLUSTRATIVE PORTFOLIO ALIGNMENT BY FUND

Not Started
Capturing Data (Scope 1&2)
Capturing Data (covers Scope 1-3)
Preparing to Decarbonise (Scope 1&2)
Preparing to Decarbonise (covers Scope 1-3)
Aligning (covers Scope 1-3)
Aligned (covers Scope 1-3)

Portfolio alignment by fund and invested capital, 2023 (%)



	Total	Fund I	Fund II	Fund III	Fund IV	Fund V	Fund VI
Alignment level	53%	24%	76%	19%	0%	77%	61%
# of PortCos	100	26	14	16	18	14	12
Financed emissions (%)	100%	17%	19%	10%	10%	26%	`8%

Notes: Alignment level calculated as share of invested capital categorised as 'Aligning' or 'Aligned'; [Names of PortCos] not included due to lack of invested capital data; [Names of PortCos] not included in financed emissions data row due to lack of data

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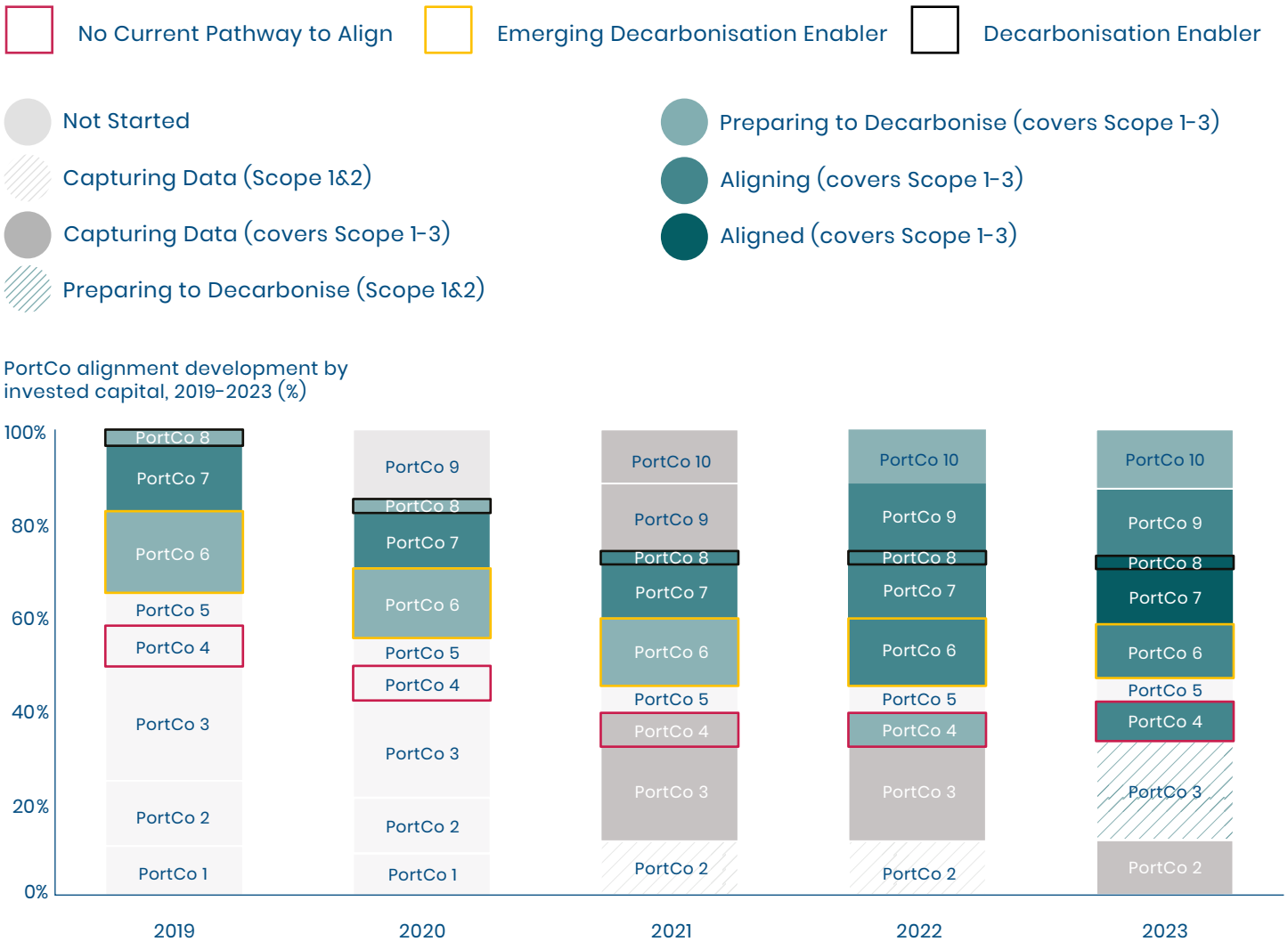
Illustrative visualisation of portfolio companies' alignment development by share of invested capital. Views by financed emissions, as well as on an absolute basis are also available on the PMDR Microsite.

FIGURE 47. ILLUSTRATIVE PORTFOLIO COMPANY ALIGNMENT DEVELOPMENT



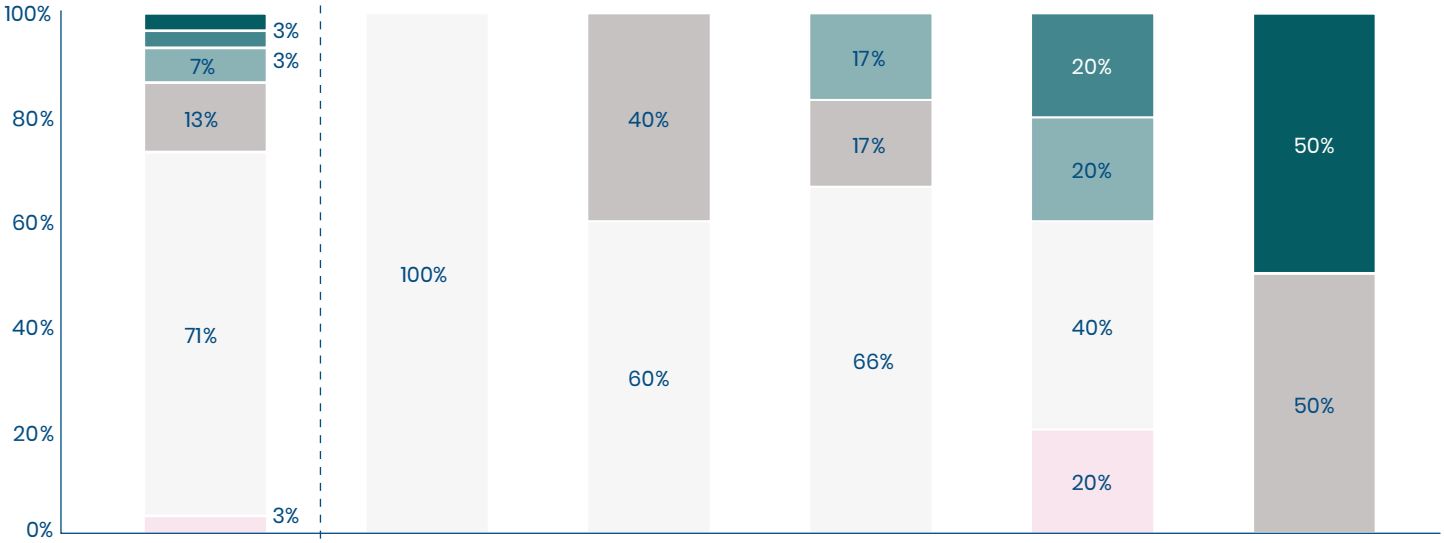
Note: [Names of PortCos] not included due to lack of invested capital data

Illustrative visualisation of a portfolio's progress since acquisition by share of portfolio companies. View on an absolute basis is also available on the PMDR Microsite.

FIGURE 48. ILLUSTRATIVE PORTFOLIO BY PROGRESS SINCE ACQUISITION

- Regressed >0 stages since acquisition
- Unchanged since acquisition
- Progressed ≤1 stage since acquisition
- Progressed ≤2 stages since acquisition
- Progressed ≤3 stages since acquisition
- Progressed ≤4 stages since acquisition

Portfolio by progress since acquisition, as of 2023 (% of PortCos)

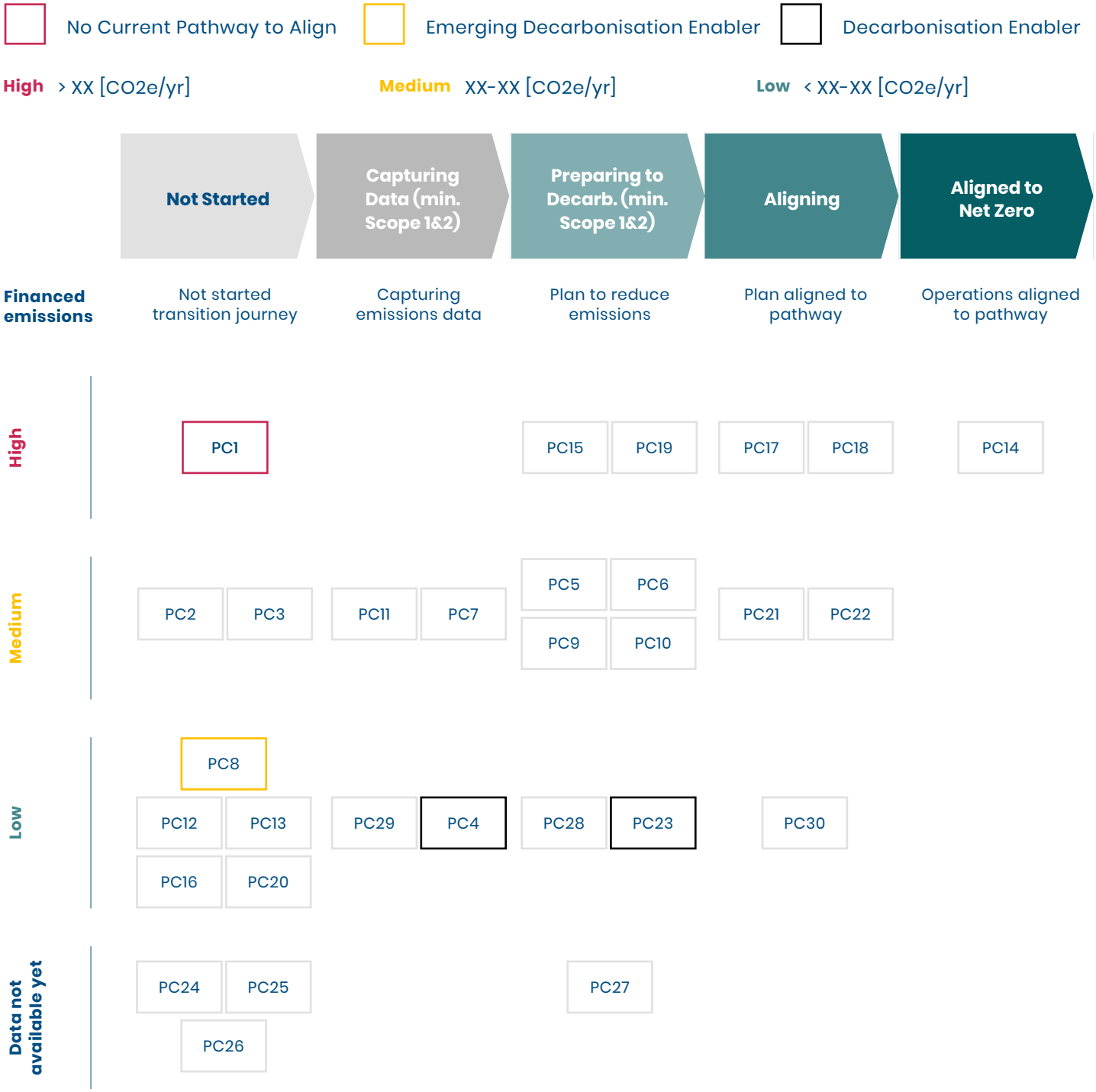


	Total	Not Started	Capturing Data (min. Scope 1&2)	Preparing to Decarbonise (min. Scope 1&2)	Aligning	Aligned
Financed emissions (%)	100%	47%	17%	18%	14%	4%
Invested capital (%)	100%	41%	15%	22%	10%	12%

Notes: PortCos reporting only Scope 1&2 emissions data cannot move past 'Preparing to Decarbonise'; [Names of PortCos] not included in [invested capital/financed emissions] data row(s) due to lack of data

Illustrative visualisation of portfolio companies' distribution across alignment stages split by financed emissions on a relative basis to the portfolio. In addition, status of No Current Pathway to Align and Emerging Decarbonisation Enabler shown.

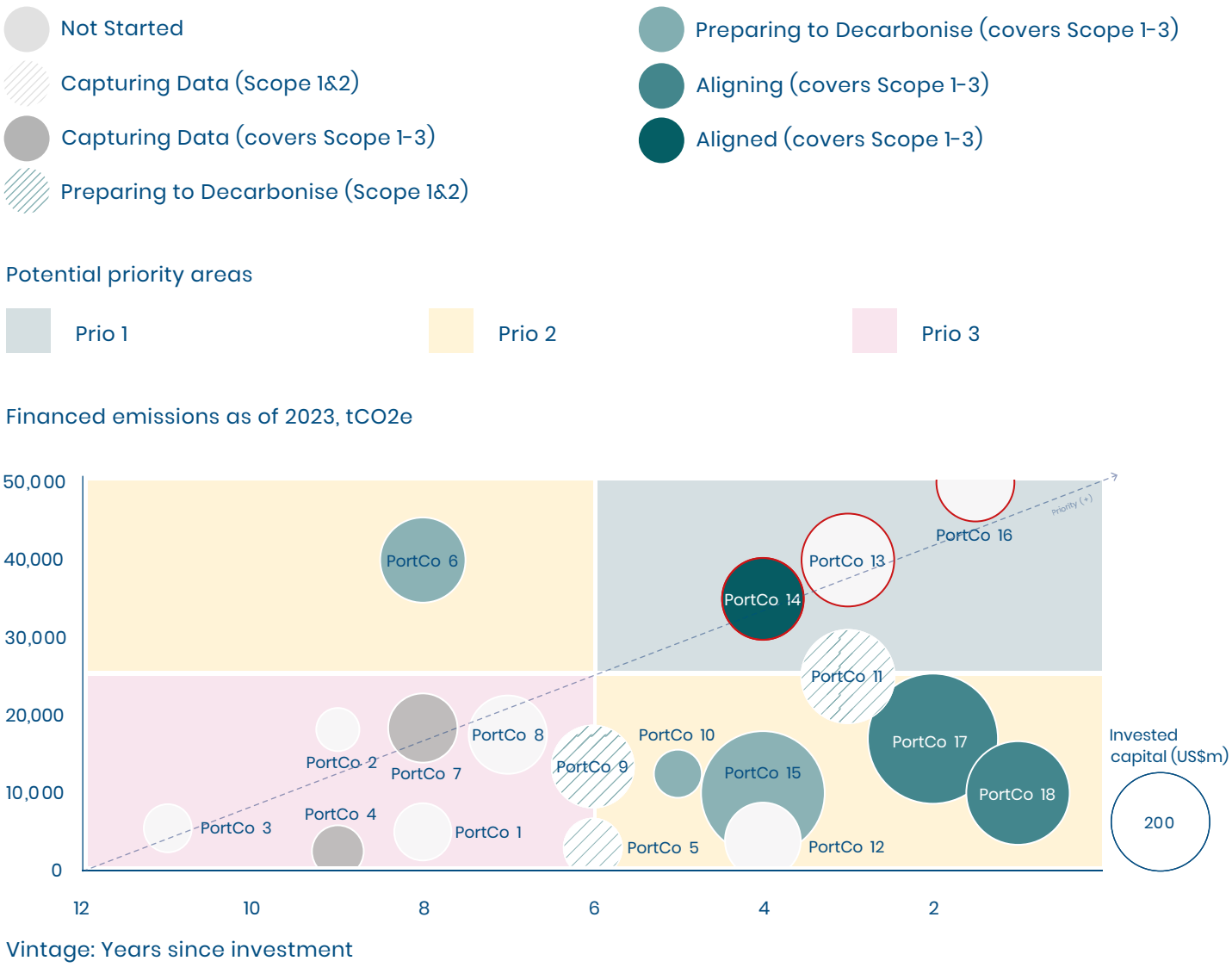
FIGURE 49. ILLUSTRATIVE PORTFOLIO COMPANIES BY FINANCED EMISSIONS AND ALIGNMENT SCALE



Illustrative visualisation of PortCos by financed emissions on the Y-axis, years since investment (vintage) on the X-axis from oldest to newest and invested capital as the bubble size. Alternatively, X-axis can also be shown by invested capital or financed emissions.

Priority PortCos shown in green quadrant are labeled as such due to combination of high financed emissions and newer vintage (more time left to support progress), or high invested capital (higher GP significance to place efforts).

FIGURE 50. ILLUSTRATIVE PORTFOLIO COMPANIES BY FINANCED EMISSIONS AND YEARS SINCE INVESTMENT



Note: [Names of PortCos] not included due to lack of financed emissions/invested capital/years since investment data

6.6. HOW DOES THE ROADMAP FIT WITH OTHER GUIDANCE?

6.6.1. Science-Based Targets initiative (SBTi)

SBTi provides **sector-specific guidance** on setting short- and long-term targets consistent with 1.5˚C pathways, and offers approval of targets. The Sectoral Decarbonisation Approaches are useful resources for target-setting for PortCos in non-financial industries.

SBTi has published various resources directly relevant to Private Equity funds. Guidances include (not exhaustive):

- The Private Equity Sector Guidance
- The draft Financial Institutions Net Zero (FINZ) Standard
- The Financial Sector Science-Based Targets guidance

As specified in the Private Equity Sector Guidance, GPs are required to set targets on asset class activities as determined by the SBTi within their Scope 3, category 15 emissions (i.e., investment /portfolio company GHG emissions).[65]

Firms primarily holding PE direct investments will likely need to cover most of their total investment activities by portfolio SBTs. For multi-strategy PE firms, multiple methods may need to be applied to simultaneously set SBTs across all required asset classes.

- Current required asset classes encompass Buyout, Growth & Venture Capital, Real Estate and Electricity Generation, whilst target setting for Credit- & Private Debt, Secondaries and Funds of funds assets remains optional

SBTi has also developed a maturity scale, **focused on the later stages of decarbonisation**, to allow financial institutions to recognise their support of net zero-aligned and transitioning PortCos and activities. This is compared with the Alignment Scale in Figure 51.

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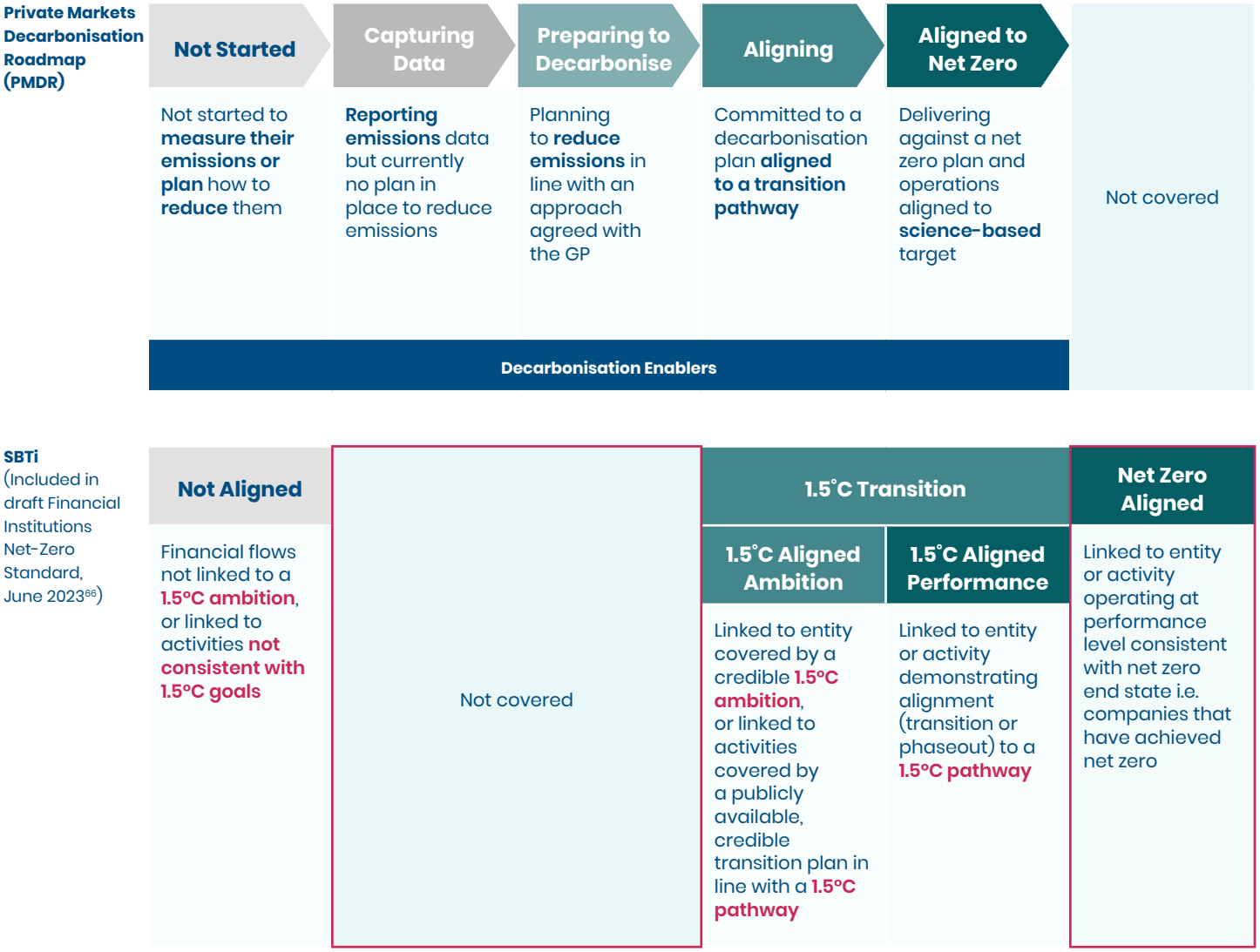
FIGURE 51. COMPARISON OF ALIGNMENT SCALE WITH PROPOSED SBTI MATURITY SCALE

☐ Points of difference



Note: (1) The SBTi maturity scale aims to provide a means for financial institutions to recognise progress towards their long term targets, but the stages 1.5˚C Aligned Ambition and 1.5˚C Aligned Performance only require a near-term science-based target. A net zero target and performance is required to reach the net zero-aligned stage

6.6.2. Glasgow Financial Alliance for Net Zero (GFANZ)

The Roadmap's Alignment Scale draws upon the net zero financing strategies approach laid out by the Glasgow Financial Alliance for Net Zero (GFANZ). This network of net zero alliances is one the key organisations for setting the broader net zero agenda in the financial sector. At the core of its guidance are four classification groups for the companies that financial institutions could invest in:

FIGURE 52. GFANZ NET ZERO FINANCING STRATEGIES

These categories were the starting point for some of the stages on the Alignment Scale:

- The Alignment Scale's **'Aligned' and 'Aligning'** categories draw from GFANZ's strategies 2, and 3 respectively.
- On Climate Solutions, the Roadmap equivalent (**Decarbonisation Enablers**) has a similar—but narrower—focus on companies that are expressly focused on reducing emissions.
- For No Current Pathway to Align, the only route to 'Aligning'/'Aligned' is via **managed phaseout** of the high-emitting assets that cannot be retrofitted or redeveloped.

As GFANZ is specifically supporting institutions committing to net zero, its guidance has clear calls to action for each company group following classification; these are not mirrored in the Roadmap. However, funds wanting to make a target using the Roadmap could consider the level of ambition noted in the Net Zero Assessment Manager approach as a useful reference.

6.6.3. Net Zero Investment Framework (NZIF) 2.0

One of the aims of the Roadmap is to support funds in progressing to where they can make a credible net zero commitment. One of the main target-setting approaches available for Private Equity is the Net Zero Investment Framework 2.0 for Private Equity.

To support funds that are looking to follow the Roadmap but are preparing to commit to NZIF 2.0, guidance aligns in several key areas:

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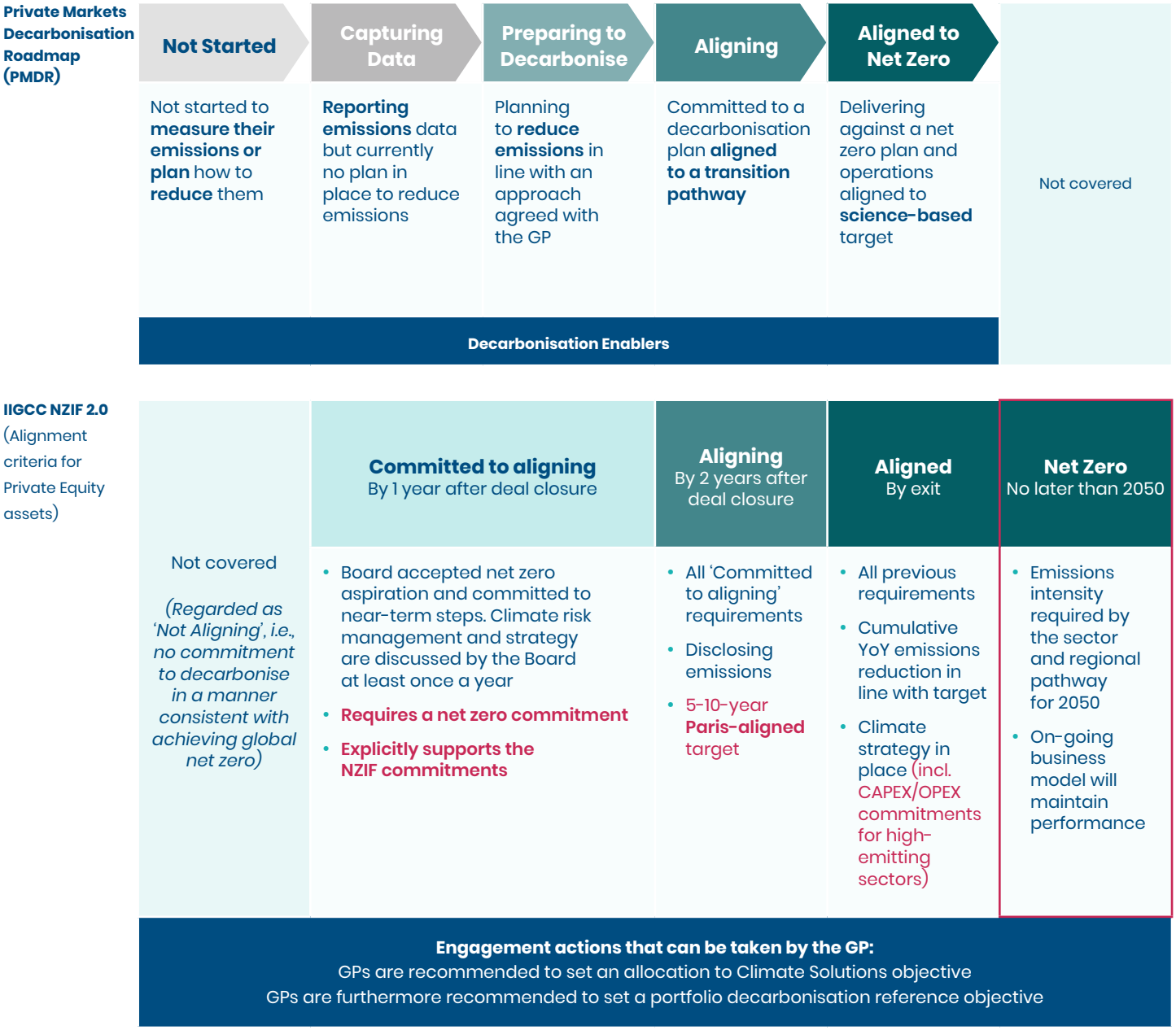
FIGURE 53. COMPARISON OF ALIGNMENT SCALE WITH NZIF 2.0

☐ Points of difference



Funds following the Roadmap should be aware that in several places NZIF 2.0 is more prescriptive than the Roadmap's guidance. This reflects its differing mandate to that of the Roadmap—the former includes encouraging funds to set **net zero objectives** with prescribed portfolio coverage ranges.

This therefore requires a more defined approach to target-setting and levels of ambition than set out in the Roadmap. Any asset that is 'Aligning' or 'Aligned' to NZIF 2.0 will be the same under the Roadmap, however, funds may find NZIF 2.0 has more detailed requirements than the Roadmap in some instances.

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ENDNOTES

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33 Science Based Targets initiative. 'Companies taking action.'. https://sciencebasedtargets.org/companies-taking-action
34 Net Zero Tracker. 'Privately-owned firms unprepared for incoming climate regulation.'. https://zerotracker.net/insights/privately-owned-firms-unprepared-for-incoming-climate-regulation
35 Includes PortCos with clients that have "No Current Pathway to Align", such as oil and gas services providers, diesel car manufacturers, and gas stations. For more information, please see the iCI GHG guidance ('Greenhouse Gas Accounting and Reporting'): https://www.unpri.org/download?ac=16265.

ENDNOTES (CONTINUED)

36 This framing is designed to apply to mainstream/general investment strategies across asset classes. We acknowledge that there are sector focused strategies, strategies that exclude of high-emitting sectors, or have positive focus on businesses with good sustainability fundamentals / downside protection mechanisms, etc. that may treat materiality and feasibility through a different lens

37 UNOPS & UNEP. Infrastructure for Climate Action. 2021. https://content.unops.org/publications/Infrastructure-for-climate-action_EN.pdf."

38 Details on such prioritisation pathways are detailed in GFANZ 'Sectoral Pathways for Financial Institutions': https://assets.bbhub.io/company/sites/63/2022/06/GFANZ_Guidance-on-Use-of-Sectoral-Pathways-for-Financial-Institutions_June2022.pdf

39 SASB. 'SASB Implementation Supplement: Greenhouse Gas Emissions and SASB Standards.' 2020. https://www.sasb.org/wp-content/uploads/2020/10/GHG-Emmissions-100520.pdf

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41 Plan criteria are for Buyout asset class (i.e., PortCos)—criteria may vary across alternative asset classes—minimum requirements based on resources including the Transition Pathway Taskforce Implementation Guidance and GFANZ Real-economy Transition Plans

42 SFDR Article 8 funds are those that promote environmental or social characteristics, and that integrate sustainability into the investment process in a binding manner. Article 9 funds have a sustainable investment objective and integrate sustainability into the investment process in a binding manner. For further details, see Morgan Stanley's guidance on the SFDR: https://www.morganstanley.com/im/en-gb/intermediary-investor/about-us/newsroom/press-release/sustainable-finance-disclosure-regulation.html

43 U.S. Equal Employment Opportunity Commission. 'EEO Data Collections'. https://www.eeoc.gov/data/eeo-data-collections

44 GOV.UK. 'Energy Savings Opportunity Scheme (ESOS).'. 2014. https://www.gov.uk/guidance/energy-savings-opportunity-scheme-esos

45 The Neuberger Berman Net Zero Matrix is a tool developed by Neuberger Berman and Ortec Finance that outlines 11 sector decarbonisation pathways, including for non-high carbon sectors. It lays out short-, medium- and long-term carbon-intensity targets as well as median carbon-intensity trajectories by sector-region for GPs to consider with their portfolio companies as they raise awareness of what it means to set net-zero targets

46 Sustainable Markets Initiative. 'ESG Metrics in Private Equity'. https://a.storyblok.com/f/109506/x/42de72c1ca/esg-metrics-in-private-equity.pdf

47 Outstanding amount definition from the PCAF guidance, subject to change

48 Differently from the % alignment metric (by financed emissions) in the Private Markets Decarbonisation Roadmap, the NZIF guidance has 'managed in alignment with net zero' as its top-level metric. The NZIF calculation is more detailed as PortCos can only count towards this metric if the meet 'committed to aligning' by year 1, if they achieve 'aligning' after year 2, and if they achieve "aligned" by exit

49 Concept coined by GFANZ in 'Financial Institution Net-Zero Transition Plans': https://www.gfanzero.com/our-work/financial-institution-net-zero-transition-plans/

50 Though designed for credit investments only, the classification can also be applied to buyout: See Climate Bonds Initiative's 'Climate Bonds Standard': https://www.climatebonds.net/files/files/CBI_Standard_V4-2_02D.pdf

51 Regarding offsets, the Roadmap takes the NZIF approach of not endorsing offsets unless there is no other viable alternative. NZIF infrastructure guidance also sees 'aligning' as the highest possible scale position for new assets under construction. For guidance on offsetting in a decarbonisation roadmap, see SBTi's BVCN guidance: https://sciencebasedtargets.org/blog/going-above-and-beyond-to-contribute-to-societal-net-zero

52 Preqin Global Report 2023 Private Debt

53 Preqin Global Report 2023 Private Debt

54 Preqin Q2 2021 Private Debt Quarterly Report

55 Bain & Company Global Private Equity Report 2023

56 As 'Aligned' stage would require in-depth knowledge of investees' operations it is unlikely an outside-in assessment would be feasible for this stage

57 CDP Private Markets Program and Questionnaire provides a customised set of metrics that enable standardised and uniform disclosures on environmental information from private companies

58 Frameworks and guidance include (not exhaustive):
The Sustainability-Linked Loan Principles https://www.lsta.org/content/sustainability-linked-loan-principles-sllp/;
Green Loan Principles https://www.lsta.org/content/green-loan-principles/;
The Green Bond Principles https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/;
Sustainability Bond Guidelines https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/sustainability-bond-guidelines-sbg/;
Sustainability-Linked Bond Guidelines https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/sustainability-linked-bond-principles-slbp/

59 As the 'Aligned' stage would require in-depth knowledge of the PortCo's operations, it is unlikely that an outside-in assessment would be feasible for this stage.

60 US EPA United States Environmental Protection Agency. 2024.'Overview of Greenhouse Gases.'. https://www.epa.gov/ghgemissions/overview-greenhouse-gases

61 As per the accepted guidance of accredited bodies such as the GHG Protocol

62 For more information, please see the iCI GHG guidance 'Greenhouse Gas Accounting and Reporting': https://www.unpri.org/download?ac=16265

63 There is further discussion happening in the industry about the definition of financed emissions as well as the introduction of facilitated emissions (defined as Scope 3 Category 15 LP funded emissions). For further information, see also PCAF's 'Facilitated Emissions Standard': https://carbonaccountingfinancials.com/files/PCAF-PartB-Facilitated-Emissions-Standard-Dec2023.pdf

64 Further guidance is available in sBTI's 'Private Equity Sector Science Based Target Setting Guidance': https://sciencebasedtargets.org/resources/files/SBTi-Private-Equity-Sector-Guidance.pdf

65 SBTi. 'SBTi Private Equity Sector Science-Based Target Guidance'. 2021. https://sciencebasedtargets.org/resources/files/SBTi-Private-Equity-Sector-Guidance.pdf

66 SBTi Financial Institutions Net-Zero Standard and SBTi Near-Term Financial Sector Science Based Targets Guidance consultation drafts available at: https://sciencebasedtargets.org/sectors/financial-institutions

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- In 2022, Neuberger Berman ("NB") engaged Ortec Finance ("Ortec") to assist in the production of the Neuberger Berman Net Zero MatrixTM powered by Ortec Finance ClimateALIGN ("the Matrix"). The resource is intended as an educational tool to engage with GPs to understand net zero alignment and decarbonization pathways with portfolio companies. The Matrix is comprised of information from Ortec and a variety of other sources. Specifically, Ortec ClimateMAPS and Ortec ClimateALIGN comprise key portions of the Matrix. Ortec ClimateMAPS seeks to capture exposure to systemic, economic and financial climate risks. Ortec ClimateALIGN purports to monitor alignment with net zero goals by 2050, based on sector and region. Ortec also contributes emissions data from public sources. Please see the Ortec Finance Disclaimer for additional information.

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Publications by iCI and PESMIT

This work builds on the previous work undertaken by both iCI and PESMIT on decarbonisation and broader ESG issues. Notable publications mentioned in the Roadmap include:

- PESMIT ESG Metrics Paper
- PESMIT Valuing Carbon in Private Markets
- iCI A Case for Net Zero in Private Equity
- iCI TCFD Implementation Guide
- iCI Greenhouse Gas Accounting and Reporting