The GIIN Climate Solutions Investing Framework:

A Resource for Asset Owners to Move from Ambition to Allocation

GIIN

ACKNOWLEDGMENTS

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About the GIIN

The Global Impact Investing Network (GIIN) is the global champion of impact investing, dedicated to increasing the scale and effectiveness of impact investing around the world. The GIIN builds critical infrastructure and supports activities, education and research that help accelerate the development of a coherent impact investing industry. For more information, please visit www.thegiin.org

About the GIIN's Climate Solutions Initiative

The GIIN's climate solutions initiative aims to provide resources for effective climate solutions investing that:
1. mobilize capital for climate solutions investing at a scale and in a time frame that will limit global warming;
2. provide investors with the tools to direct that capital into climate solutions that are compatible with achieving global climate objectives; and
3. help remove barriers to investing into important solutions that are currently under-capitalized.

Sponsor

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1 As of 31 December 2025. Total overall impact strategy AUM of $37.5B of which $22.3B designated as impact and aligned with the Operating Principles for Impact Management. Strategies may include a varying mix of impact, and ESG leaders.

Executive Summary

Investments in climate solutions have emerged as a critical lever to accelerate the global transition to limit global warming to 2 C in addition to being an attractive investment opportunity. However, achieving global climate goals requires more than just allocating capital — it requires deliberate strategies that prioritize the most meaningful climate investment options at a pace and sequencing that is rapid enough to change the trajectory of global emissions before crossing tipping points. **Not all climate solutions are equally significant, and not all investment strategies are likely to assemble portfolios that contain the technologies, assets and business models sufficient to meet these goals.** The methodologies and frameworks that are currently available cannot assess the sufficiency of available strategies on their own.

Climate solutions investing goes beyond understanding individual opportunities — it demands two things at a market level. First, a systematic approach to portfolio construction that prioritizes climate solutions investments based on their potential contribution to limiting warming to 2 C. Those contributions can be evaluated on their ability to deliver and scale meaningful emissions reductions and contribute to a broader economic transition. Second, it requires making a breadth of investments that build the commercial ecosystems, including climate-resilient supply chains, needed to support transitions across a range of sectors. Portfolios and investments that incorporate climate solutions investing can target a range of financial returns from above market to below market rate.

Individual investors may invest in climate solutions for a variety of reasons, ranging from working toward a climate goal or commitment to simply gaining exposure to a technology that is likely to scale. Regardless of the degree of the initial intent to address climate issues, there is opportunity to build on the foundations to expand the allocation to solutions and intentionally incorporate climate goals into a portfolio.

Assessing the likely effectiveness of climate solutions investing strategies can create challenges for asset owners, since investing in solutions is fundamentally forward-looking and involves many uncertainties. **This framework is designed to provide practical guidance for navigating these challenges, offering a clear set of criteria to identify and prioritize climate solutions investing strategies that contribute meaningfully to global climate goals.** It is especially intended for asset owners who are seeking to evaluate investment strategies and for those looking to guide asset managers or assess the design of internal portfolio strategies.

While climate solutions can encompass a range of mitigation, adaptation and resilience technologies, **this framework focuses specifically on mitigation — that is, solutions that remove, sequester or significantly reduce greenhouse gas emissions or replace high-carbon activities with low- or zero-carbon alternatives.** The evaluation of adaptation strategies is not included in this framework as the criteria for evaluating them differ significantly from those used for mitigation.

The framework also incorporates foundational concepts essential to understanding and applying its criteria:

Foundational Concept	Summary
Climate solutions investing is a unique strategy	Climate solutions investing differs from strategies that reduce a portfolio's own operational emissions; it focuses on enabling and scaling solutions that reduce emissions across the broader economy or through end use.
Asset class contributions vary	Different asset classes contribute to the deployment of climate solutions in different ways.
Investment structures for climate solutions technologies vary	Evaluating a climate solutions investing strategy requires assessing both technologies it supports and the investment vehicles used. While "green" asset definitions are a useful starting point, selecting strategies also requires understanding how they accelerate deployment — which depends on the types of companies funded and the forms of capital provided.
Transitioning to a low-carbon economy requires investing in solutions of varying maturity and building supporting ecosystems	Climate solutions technologies are diverse, vary in their maturity and have distinct investment needs required for fulfilling their potential contribution to economy-wide decarbonization.
The sufficiency of a solutions investing strategy must be carefully assessed	Strategies should be evaluated not only for the potential of individual investments, but also for their role in a broader system.
Managing uncertainty is important	Uncertainty is inevitable; credible methods are essential for assessing models of future climate benefits.
Multiple tools are needed to evaluate climate solutions	Evaluating strategies across asset classes requires a mix of greenhouse gas (GHG) accounting and complementary tools and approaches.
Financial Risk and Return Profiles Will Vary Among Opportunities	Climate solutions span a range of financial profiles, offering opportunities for all asset owners to invest in climate mitigation.

The criteria outlined in this framework address key considerations for new entrants to climate solutions investing when assessing strategies:

- **Part 1:** Integrating climate solutions investing into a strategic asset allocation.
- **Part 2:** Applying criteria to evaluate and select climate solutions strategies. These criteria help asset owners understand how managers make investment decisions and how to differentiate between strategies based on:
    - Identifying a strategy's climate thesis: Understand how managers define the investment universe and guide portfolio construction using emissions reduction and/or transition goals.
    - Assessing the approach to quantifying contribution to economy-wide decarbonization: Understand how managers evaluate the direct and systemic contribution of investments in strategies on real-economy emissions reductions.
    - Understanding the approach to prioritization: Understand how managers evaluate the relative importance of an investment's potential contribution by placing it in context, including geography, sectoral pathways, maturity, timing and enabling conditions.
    - Understanding the methodologies used to manage uncertainties: Understand how managers identify and communicate key assumptions, variables and risks in their climate analyses and how they monitor or revise those over time.

Introduction

Since the world crossed the first year of temperature rise over 1.5 C in 2024,[2] the urgency of accelerating global economy decarbonization has become even more apparent. Achieving economy-wide decarbonization will require investments in climate mitigation strategies, encompassing both the reduction of emissions in energy-intensive sectors and the development of solutions that enable the decarbonization or replacement of emissions-intensive activities. The latter is captured under the term "climate solutions" and covers a wide range of investments, such as low-carbon substitutes for delivering goods and services, renewable energy, energy efficiency improvements in buildings or carbon capture through nature-based solutions. **To achieve this global transformation, capital must flow towards these solutions at a scale sufficient to transition to a decarbonized economy.**

At the same time, widespread climate solutions deployment presents significant investment opportunities, often offering attractive financial returns for some investors while aligning with broader climate strategies simultaneously. Additionally, it may offer a way to manage future systemic risks in portfolios and be seen as executing fiduciary duty. Regardless of where an asset owner starts, not all climate solutions investment opportunities contribute equally to achieving global climate goals. Some investing strategies may deliver emissions reductions at an insufficient scale or pace, while others may rely on parallel investments in supporting infrastructure, ecosystems or market conditions that may not materialize within critical timelines. The inherent uncertainty in climate solutions investing underscores the importance of robust portfolio construction and asset selection processes. Prioritizing the most meaningful investing strategies will increase the likelihood of achieving the transitions necessary to reach a low-carbon economy.

Investors have different levers available to address climate change generally and contribute to the deployment of solutions specifically. The key choice for asset owners is deciding which to use and how to select investment strategies to match. For some asset owners, this will be decided within the constraints of an overall strategic asset allocation plan, while for others there will be flexibility to adjust their asset allocation to accommodate some climate goals. This framework does not build on any specific assumptions with regards to asset allocation strategies. In either case, asset owners need the tools to assess strategies to decide which are sufficient to support their ambitions.

This framework assumes that the primary goal of climate solutions investing within a climate strategy is to accelerate the development and deployment of climate solutions technologies and assets that contribute to the removal or reduction of real-economy greenhouse gas (GHG) emissions while also providing the financial return level sought by the investor. In this context, the framework focuses specifically on climate mitigation — that is, the avoidance or removal of greenhouse gas emissions. While adaptation and resilience are critical components of the global climate response, they require a different set of evaluation criteria from mitigation and warrant separate guidance.

While applicable across the investment ecosystem, we developed this framework specifically for asset owners to support them with:

1. Selecting managers or defining climate solutions investing approaches
2. Understanding the landscape for asset owners that have acquired exposure to climate solutions within their portfolio even without having an overarching climate strategy

2 WMO confirms 2024 as warmest year on record at about 1.55°C above pre-industrial level

3. Understanding those strategies and the potential for contributing to climate solutions, differentiated from other investment themes
4. Communicating climate solutions investments efforts and increasing transparency

About the GIIN Climate Solutions Investing Framework

This framework provides criteria for evaluating managers and their investment strategies, whether they are internal or external to an asset owner. Asset owners do not need to be climate experts, conduct detailed market analysis, identify investment gaps or model transition scenarios to be able to make use of this guidance. **The purpose of the framework is to provide a resource that equips asset owners with the specific insights, guiding questions and background information needed to better understand how investment managers are approaching these issues, and whether those approaches reflect credible pathways to climate benefits.**

This framework comprises two main components:

1. **Foundational concepts:** Explanation of how climate solutions differ from other climate strategies and what is important to consider when assessing climate solutions investing strategies.
2. **Criteria for evaluation:** Guidance for assessing internal or external managers' approaches to climate solutions investing.
    - Understanding strategy and goals as an asset owner: important questions that will help define, clarify or reconfirm asset owners' own climate objectives in ways to support assessment of the suitability of climate solutions strategies.
    - Assessing strategies: key aspects to assess when evaluating internal or external climate solutions investing strategies.

In addition, traditional due diligence topics also remain relevant, such as:

- Track record of investment performance
- Experience in climate investing
- Size and expertise of the investment team
- Capability to execute investment strategies effectively

The list above is illustrative and not exhaustive and reflects questions that would be relevant for investments into any theme or sector. The unique aspect of evaluating climate solutions strategies lies in understanding how managers define and construct their investment portfolios in relation to information on the available means to keep warming within 2 C or less. This framework seeks only to focus on those aspects unique to climate solutions strategies.

Laying the Groundwork: Foundational Concepts

This section outlines **key definitions, concepts and assumptions** critical to understanding climate solutions investing. There are eight foundational concepts, listed below.

1. Climate Solutions Investing Is a Unique Strategy

Climate solutions investing is complementary to but distinct from other climate investing approaches and requires different assessment methods. Several key frameworks are widely used by asset owners and other investors to define and describe climate strategies and their investing components — particularly the Net Zero Investment Framework (NZIF), Paris Aligned Investment Initiative, Glasgow Financial Alliance for Net Zero (GFANZ) and Net Zero Asset Owners Alliance (NZAOA), convened by the United Nations (UN).

While each uses its own terminology, they all share a common view that there is a subset of investing that prioritizes directing capital towards the goods and services that provide low-or zero-carbon substitutes for high-carbon activities. These goods and services include: primary technologies or assets, such as wind farms, electric vehicles or sustainable landscapes; and the components, or enablers, that support their functionality, such as lithium for batteries or more efficient transmission wires for electrical grids. This approach differs from investing strategies aimed at lowering emissions in companies whose primary goods or services serve broader economic needs, like consumer products, industrial products, hospitality services and others.

Climate investing strategies that focus on achieving carbon reductions in high-emitting sectors may measure mitigation performance by understanding the past and expected emissions profile of the investee. Typically, the goal is to ensure that emissions decrease at a rate consistent with science-based targets and pathways. Evaluating such strategies often involves tracking emissions trends and corporate climate targets, and potentially reviewing how portfolio managers engage with portfolio companies to drive decarbonization. These strategies may stimulate demand for the adoption of carbon solutions, but such funds typically do not evaluate their performance using the same approaches as strategies aimed at developing the supply of solutions. Typically, the basis of evaluating the success of strategies to transition or align companies to pathways for limiting warming to 2 C is to track their actions, their responses to investor engagement and changes to their GHG footprint.[3]

In contrast, **assessing climate solutions investments means measuring their potential contribution to significantly reduce, displace, sequester or eliminate emissions from other companies, consumers and the broader economy, to enable sufficient decarbonization of the real economy. Because these solutions often involve products and services that are not yet widely deployed or demanded, evaluations typically rely on modeling potential future decarbonization outcomes associated with the use of the investee's products, services or assets rather than examining the investee's own direct emissions trends.** Some climate solutions may also have substantial GHG footprints of their own or other negative impacts that must be managed, such as impacts associated with mining minerals required for battery production. However, the relevance of such investments to a strategy is still more typically evaluated in terms of their contribution to decarbonizing the wider economy. This wider contribution is often the result of a combination of the effectiveness of the technology, the scale of its deployment and the growth of the commercial ecosystem necessary to support its use. This framework focuses specifically on these types of investing strategies.

3 GFANZ outlines four financing strategies to support net zero goals: enabling the transition of high-emitting companies, increasing capital to already-aligned companies, accelerating the development of climate solutions, and retiring high-emitting assets responsibly. GFANZ, Financial Institution Net-zero Transition Plans, November 2022.

2. Asset Class Contributions Vary

Opportunities to invest in climate solutions exist within different asset classes, but each offers distinct types of contributions. For instance, capital invested in primary markets typically provides direct financial support to help companies grow, while capital invested in secondary markets has a different, often indirect, impact. When assessing or discussing climate solutions strategies, it is important to distinguish the differences in how asset classes can contribute to accelerating climate solutions.

When aiming to understand the differences among contributions available across different asset classes, it is also valuable to compare stimulating demand for solutions with investing in increasing the supply of solutions in the market. Investment strategies in listed equities can play a role in stimulating demand for solutions by engaging portfolio companies to encourage shifts in business operations that adopt the substitution technologies, business models and assets developed by companies creating climate solutions. For example, investing in a publicly traded logistics firm could offer opportunities to encourage increased use of transportation optimization software or electric vehicles. In contrast, investing in a climate tech venture capital fund could provide capital for the development of new building materials that would substantially change the GHG emissions of the built environment. Generally, strategies in primary markets tend to emphasize investing new capital in companies that supply solutions rather than building demand for the use of low-carbon substitutes.

The criteria, methodologies and reference points for comparing strategies that stimulate demand for climate solutions from companies transitioning will differ from those used for evaluating the strategies that stimulate supply. **This framework is focused specifically on evaluating strategies where success is judged by either increasing the success of companies that are supplying climate solutions or by the strategy's success in accelerating the deployment of climate solutions into the wider economy.**

While many investment strategies incorporate valuable active ownership practices like working with companies on climate risk assessments or transition planning, these approaches do not necessarily indicate a dedicated focus on climate solutions. As outlined in the next section, there are additional criteria that help differentiate between strategies that broadly address climate issues and those that are specifically designed to accelerate the deployment of climate solutions.

3. Investment Structures for Climate Solutions Technologies Vary

Both within and across asset classes, it is important to understand how particular investing strategies support the actual deployment of a technology across economies. To do this, it is necessary to clearly distinguish between a climate technology and a climate investment. Climate solutions investments refer to investments that address climate change by enabling the development, production or deployment of climate solutions technologies.[4] Solutions are typically delivered through a technology that is a substitute, enabler or efficiency enhancement, or through sequestration assets (such as forest landscapes). These solutions, however, are almost always embedded within a business entity, like an SPV, corporation or LLC. This raises two considerations for asset owners.

First, investment vehicles and structures vary in how much of the investors' capital is concentrated specifically on the deployment and advancement of solutions, even within asset classes. For example, bonds may be issued for general purposes or have restrictions on the use of proceeds. Strategies focused on either will offer different levels of certainty that investors' capital directly supports the deployment of solutions.
Second, asset owners need to consider the types of businesses that a strategy will target. Some business entities may be exclusively focused on a climate solution, while others might have diversified business interests, potentially including emissions-intensive activities. When managers define climate solutions as

4 For more detail, see: giin-climatesolutionsscoping-2024.pdf

including these types of companies, it is important for an asset owner to understand how the managers are ensuring that their capital is contributing to climate mitigation. Managers' approaches will differ depending on how they balance "pure play"[5] companies and companies with diverse business interests. **It cannot be assumed that every dollar invested in a company that deploys climate solutions will necessarily be allocated to those climate solutions if the company also holds a portfolio of unrelated products, services or businesses. As a result, investments differ in their climate-relevant benefit, or "transmission value," which refers to the degree of efficiency with which an investor's capital is used to solely and directly support the deployment of climate solutions.**

4. Transitioning to a Low-Carbon Economy Requires Investing in Solutions of Varying Maturity and Building Supporting Ecosystems

Climate solutions technologies are diverse, each with unique investment needs required to fully contribute to an economy-wide decarbonization. These solutions range from early-stage, innovative technologies being developed by startups to well-established solutions, like wind energy, where the focus is more on large-scale deployment than on innovation. Achieving an economy aligned with IPCC-recommended temperature targets demands significant innovation in technology and business models, as well as substantial capital to make these and existing technologies widely accessible. Deployment of these technologies requires not just innovations in the primary technology (e.g., clean fuels for marine transport), but also building comprehensive supply chains and commercial ecosystems to support their production and use. Although these enablers[6] may not directly reduce GHG emissions, they are necessary components for emissions removal and sequestration. Investment strategies will vary depending on the types of solutions prioritized and the role the solutions are expected to play in achieving specific global outcomes. The optimal combination of solutions needed to achieve progress will differ across geographies.

Asset owners need to determine the nature of the contribution they seek through their solutions investing, whether it is by financing innovation, scaling mature solutions or supporting development in specific markets. Certain types of contribution are more aligned with specific asset classes than others. For example, financing the early-stage development of next-generation sequestration technologies requires the flexibility to invest in venture capital or seed-stage opportunities, which may not be accessible to all investors. As such, investors must align their goals with their capacity to invest in asset classes, key markets and strategies that suit their objectives.

5. The Sufficiency of a Solutions Investing Strategy Must Be Carefully Assessed

Achieving global, regional or local climate goals requires reaching a critical mass of investment in the right combination of technologies and assets. Sufficiency refers to a strategy's potential to materially contribute to economy-wide decarbonization, in line with global climate goals and sectoral transition pathways. The sufficiency of a climate solutions investing strategy depends on its potential contribution relative to investment needs, along with an understanding of the remaining viable pathways to achieve economy-wide decarbonization. The most viable mix will change over time due to new technological breakthroughs or failures to meet key critical pathway milestones. For example, expanding renewable energy generation capacity will fail without parallel investments into distribution grids or other necessary infrastructure. Therefore, **the effectiveness of investment strategies in delivering a sufficient set of solutions is tied to the manager's ability to identify actual investment gaps, assess the potential of investments in specific sectors and regions, recognize synergies between investing strategies, and support the wider commercial ecosystems**

5 As defined in GIIN's 2024 Climate Solutions Landscape Review, "pure play" refers to companies whose primary business model is inherently aligned with the provision or scaling of a climate solution.

6 Enablers, defined by GFANZ, refer to companies or entities that facilitate the transition to a net zero economy by providing essential technologies, services, or infrastructure that reduce emissions across sectors. These include, but are not limited to, providers of renewable energy, energy storage, infrastructure, carbon capture and storage technologies, and efficiency-enhancing solutions (GFANZ, Scaling Transition Finance and Real-economy Decarbonization, 2023).

required for scaling these solutions. For asset owners, understanding sufficiency will require looking beyond investments in isolation and looking at how portfolios and portfolio construction processes align with viable pathways towards achieving climate goals. Sufficiency is not a static determination and should be revisited regularly. As policies and enabling conditions evolve, so must investors' understanding of what qualifies as a meaningful contribution.

6. Managing Uncertainty Is Important

Decarbonization and footprint assessments measure the past or current performance of a company against a reference value, target or threshold. In contrast, climate solutions investing aims to assess a substitute, enabler or removal technology's effects in the wider economy, with more dependencies implicit and more modeling needed to understand immediate and future impacts. A subset of climate solutions investments, such as seed-stage investments, are posited on delivering impacts in the future and their relevance is based on the expected scale of improvement, in comparison to more mature solutions. For climate solutions investments, managers often use frameworks, guidelines or other tools to estimate potential performance, which help to make informed decisions despite uncertainties. However, these tools are based on models that include dependencies on key assumptions such as temperature targets, the pace of technology diffusion, demand trends, and other critical factors that define the speed and direction of change in an economy. Additionally, these models may assume various counterfactual and specific conditions for the technology's potential to mitigate, remove or reduce emissions. It is worth noting that modeling future emissions is often tied to assumptions about commercial success or market penetration; as a result, climate solutions technology analysis can leverage existing modeling processes to manage uncertainty with greater rigor.

Climate solutions investments cannot, then, be easily compared on a single metric, as the underlying quantification methods and assumptions may differ. It is important to understand how those influence projections and how the assumptions are monitored and updated to ensure they remain relevant. As investments shift from direct substitutes to more indirect enablers and the supply chain of enablers, the reliance on assumptions increases. Funds and strategies differ in the tools and approaches they use to manage uncertainty, further distinguishing them from one another.

7. Multiple Tools Are Needed to Evaluate Climate Solutions

There are many kinds of tools available to help stakeholders find the investment approach with the greatest likelihood of achieving climate goals. These tools include: qualitative or scorecard approaches to scenario planning, transition pathway mapping, taxonomies, cost curves, and lifecycle assessments and other resources that provide insights into an investment, technology or strategy's relevance to achieving global climate goals. Estimating the future avoided or reduced emissions of individual climate solutions is currently one of the more advanced approaches. Given the nature of decarbonization contributions from climate solutions, traditional, backward-looking KPIs are often inadequate at capturing the full climate mitigation potential of a climate solutions investment. To address this gap, the estimation of avoided emissions has emerged as a valuable, complementary metric[7] of climate solutions investing and is increasingly common in the industry.[8] However, these estimates alone cannot assess whether one investment is more sufficient than another in progressing towards a 2 C-aligned global economy. Due to uncertainties inherent in avoided emissions methodologies, investors should consider these metrics alongside other robust tools to form a holistic assessment.[9][10] A strategy

7 For detailed guidance on calculating avoided emission, see the World Business Council for Sustainable Development's (WBCSD) Guidance on Avoided Emissions.

8 The benefits of avoided emissions are explored in greater detail in the GIIN's Climate Solutions Scoping Report (2024).

9 For methodologies and principles on integrating avoided emissions within net zero financing strategies, refer to GFANZ's Scaling Transition Finance and Real-economy Decarbonization.

10 The Partnership for Carbon Accounting Financials offers detailed frameworks for assessing financed emissions.

focused solely on comparing avoided GHG emissions[11] between investments may not yield the optimal portfolio for economy-wide decarbonization for the following reasons.

First, frameworks for estimating the impact on future GHG emissions have inherent limitations in precision and their ability to predict future outcomes. Standardizing models and attributing contributions to economy-wide decarbonization are challenging. For example, electric vehicles require integration of cars, chargers and batteries, making it difficult to fairly allocate the emissions avoided from the use of one electric vehicle across these critical components.

Second, building a portfolio solely based on investing strategies that meet a certain threshold of avoided emissions may lead to individually effective choices that lack complementarity at the level of the economy. For example, hydrogen and electrification could both be highly effective as fuel solutions but require substantially different enabling conditions and may compete in certain applications. Two investing strategies with similar potential emissions reductions may not have equal likelihood of achieving that potential and may not both be viable in the same future economy.

While modeling expected avoided emissions has substantial value, it must be supplemented with other methods, such as life cycle assessments, scenario tools and taxonomies, to contextualize estimates and support decision-making.

8. Financial Risk and Return Profiles Will Vary Among Opportunities

Allocations to climate solutions are made within the wider context of an asset owner's entire portfolio strategy and are one among a broader set of strategies. Investing strategies that can accelerate the development or deployment of climate solutions do not share a uniform risk and return profile, nor must they be confined to specialized investment categories. For example, certain mature solutions can easily fit as individual investments within general-purpose funds. Or an infrastructure fund might invest in rail or renewable energy projects purely based on their business merits as infrastructure opportunities.

Solutions investing strategies can be found in most asset classes and with varying financial attributes and exposure. So, for most asset owners, there are likely options for building or expanding exposure to solutions. An owner's strategic asset allocation (SAA) may preclude some options, but opportunities will likely exist.

11 Also referred to as Scope 4 emissions, avoided emissions represent the reductions in greenhouse gas emissions that occur outside a company's direct operations because of its products, services or investments, compared to a baseline scenario. While not formally recognized under the GHG Protocol, they are increasingly used to evaluate investments (WRI, Estimating and Reporting the Comparative Emissions Impacts of Products, 2019).

Criteria for Evaluating Climate Solutions Strategies

The following section outlines questions that are important for assessing specific climate solutions investing strategies. Making assessments requires an asset owner to have both clarity on their overall goals and insight into the specific practices being deployed in an investment strategy. This section addresses both requirements.

Understanding Your Climate Goals as an Asset Owner

Like all investments, climate solutions investments sit among an asset owner's existing investment objectives, which typically include risk (including systemic long-term risk), return and sometimes intentional positive impact. Some asset owners may have the flexibility to revisit their asset allocation to accommodate their climate ambitions and some may not. A critical choice in climate solutions investing is determining the nature of the achievements that an asset owner aspires to deliver through their investing. This decision shapes the range of investment options and is a foundational step for comparing the quality of investment strategies and their relevance to an asset owner.

- **Innovation:** early-stage investments that enable the success of new climate mitigation technologies and business models, including seed capital, venture capital and some earlier stage private equity. The investor's contribution to climate mitigation is primarily in the provision of new capital, creating the opportunity for innovative new climate solutions to emerge.
- **Scaling:** primary market investments that enable climate mitigation technologies and business models to scale, including private debt, project finance, bank loans, public equity IPOs and new issuances of public debt. The investor's contribution to climate mitigation is primarily in the provision of larger amounts of capital for more proven technologies and business models, which have the potential to scale and be replicated to create more climate mitigation impact.
- **Signaling:** liquid, public market investments that signal mainstream adoption and market support, while providing more cost-efficient financing for climate mitigation technologies and business models (including public equities, public debt structures, mutual funds and ETFs, and others). The investor's contribution is primarily in the provision of low-cost, highly liquid capital that allows efficient operation and recycling of capital by the climate solutions enterprise. Signaling capital invested by institutional asset owners can also demonstrate demand for climate solutions securities and funds, which helps stimulate supply for consumption by retail investors over time.

Asset owners may benefit from differentiating among these three categories to better understand the investor contribution they are making toward climate mitigation and to better communicate their contribution to their own stakeholders. In addition, asset owners may choose to prioritize certain geographies or sectors, which will also impact the possible climate mitigation benefits exposure and how the investors consider risk, return and climate solutions sufficiency.

As noted above, the different types of contribution have a general correlation with different asset classes. Most asset owners will approach the management of their assets by designating an asset allocation structure or putting parameters in place to guide the overall balance of exposure. Depending on the nature of the climate contribution that an owner seeks, there may or may not be an easy alignment or deep opportunity set within the parameters of the existing asset allocation structure.

Additionally, it can be useful for asset owners to assess where they may already have exposure to climate solutions — whether the initial investment thesis was explicitly related to solutions investing and with an intention to support global climate goals or not. These existing exposures indicate areas where it may be possible to increase exposure in a manner compatible with their overall portfolio strategy or adopt a more focused approach to investing in solutions. This may also lead to cross-asset class awareness which can

enable complementary investing across various strategies tied to a single climate thesis (e.g., identification of exposure to wind farms in a listed equity strategy may lead to additional investment in grid connectivity in a private debt strategy).

Questions that can support internal discussions:

1. What are our investment objectives today, and how does a contribution toward climate mitigation fit with those objectives? Will we pursue climate mitigation intentionally?
2. What are the main goals we want guiding our contribution to climate mitigation? Do we want to focus on reducing the carbon emissions of businesses, contribute to the growth of climate solutions, protect and restore nature, or do we have another approach in mind?
3. Where do we hold investments in climate solutions today, and what is the breakdown of innovation, scaling and signaling capital among those existing investments?
4. Where could we grow investments in climate solutions in the future, within the boundaries of our strategic asset allocation? Do we want to review our strategic asset allocation?

Assessing Strategies

We have identified four criteria that can serve as a basis for differentiating the managers' strategies and their relative sufficiency for contributing to climate goals. The following criteria are applicable across all asset classes.

Each criterion:

- Describes an aspect of differentiation in investment strategies.
- Provides a short explanation of some of the different approaches that an owner might see among managers.
- Lists a series of sample questions that owners could use in dialogue with managers to better elicit and understand the differences in approaches.

The criteria are intended to help asset owners differentiate strategies to identify those most likely to generate the investment portfolios with sufficient climate impact on global climate goals.

1. Identifying a Strategy's Climate Thesis

Many investing strategies can contribute to climate change mitigation, but not all align with a likely pathway for transitioning of a specific sector or geographic region.[12] A critical question for investors is understanding the logic behind portfolio construction in terms of the themes, technologies and individual investments chosen. This can generally be framed along a spectrum, from investment approaches with minimal parameters (like a set of requirements or criteria) to approaches that build heavily on a thesis for how to achieve a low-carbon transition (further in the text referred to as a climate thesis).
At one end of the spectrum, a strategy may be open to any investment that crosses some minimum criteria of climate benefit. For example, some funds use a volume threshold for avoided emissions of a technology as the basis for investment eligibility. Among such strategies, its construction criteria can vary, but the investment selection will be more influenced by the range of opportunities that the manager sees than by a particular view on a climate mitigation objective or systemic climate risk. While such a strategy can contribute to mitigating

12 For more on the alignment of financial strategies with credible scientific pathways, see IPCC (2022), Climate Change 2022: Sixth Assessment Report, Chapter 15: Investment and Finance.

climate change, the collective results are less predictable because the investments are not sourced from a shared hypothesis. Moreover, the investments may not align with a science-based assessment or fit into a pathway to climate mitigation.

On the other hand, strategies can focus on building an investment portfolio rooted in an analysis or climate thesis of the most likely pathways for a low-carbon transition.[13] These are the assumptions that a manager uses about the specific changes that are needed in different economic sectors to achieve a low carbon or 2 C world (e.g., the GHG profile that sectors need to land on and assumptions about the demand that it will be serving; or assumptions about the technologies/assets most likely to enable achievement of these goals, including assumptions about how the transition pathways would vary geographically).

Assessing a strategy's quality often involves understanding if scientific sources and well-established models have been referenced. Sources such as the IPCC, IEA and other peer-reviewed models offer widely recognized scenarios that outline the sectoral changes needed to limit warming. These scenarios can inform managers' assumptions around baselines, avoided emissions models and the timing or scale of climate solutions technologies deployment — providing reference points for assessing whether a strategy is building upon available evidence and analysis about transition pathways. A climate thesis can range in detail and rigor from a set of general assumptions about the relative importance of a variety of technologies to detailed, research-based conclusions about specific technologies with the greatest potential for each sector and/or geographic region.

Fund-level strategies that use a climate thesis to guide investments will have a climate objective in place that will guide the building of an overall investment strategy and seek appropriate technologies and investees. Potential investments can be assessed according to the following:

- **Sector and geography selection:** Identifying which geographies and sectors with related systems require the most urgent transformation (e.g., decarbonizing the power grid versus electrifying transport)
- **Technology selection:** Determining which technologies are best suited to support the climate thesis in a specific context (e.g., whether electric cars or two-wheeled vehicles offer the greatest climate benefit in a particular market)
- **Investment/company selection:** Choosing which companies are most likely to deliver the most meaningful and sufficient climate benefits based on their fit with the thesis and market conditions

For example, a climate thesis about the role that electrification of transport could play in achieving mitigation milestones could include defining a set of assumptions about infrastructure needs, charging capabilities and the baseline energy mix, or other variables that are necessary to achieve a given set of climate outcomes. The manager could then use that thesis for evaluating the relative sufficiency of potential investments to support the envisioned sector transition.

It is possible to effect change without a climate thesis. However, strategies and portfolios that are built on a climate thesis have a greater chance at achieving durable and mutually reinforcing results.

13 This could be called a climate thesis, impact thesis or, depending on the specific content, a theory of change.

Questions

- Which "climate solutions investing" definition does the manager use to identify potential climate solutions technologies or assets?
- Does the manager have a climate objective?
- Which types of climate solutions technologies (and in what proportion) are included in the manager's strategy: substitutes, removals and/or enablers?
- What is the fund's climate thesis (or theses)? How does it influence the scope of investments that the fund considers?
- Does the manager have a focus area on a particular economic system, geography or sector?
- What is the research basis of the climate thesis and primary assumptions? How often does the manager update it?
- Does the climate thesis shape the manager's financial expectations for the strategy (e.g., in terms of risk, return or capital deployment timelines)?
- What are examples of investments that the manager did not include in the fund due to the climate thesis?
- What portion of the portfolio is not aligned with the stated climate thesis, and how is that misalignment explained or justified?
- To what extent does the climate thesis depend on future policy, regulatory or subsidy changes in order to deliver climate benefits?
- Are there specific risks — financial, policy, operational or reputational — that arise from the chosen climate thesis?
- Does the asset manager have specific goals they are working towards with their climate solutions portfolio?
- Who is accountable for executing the fund's climate thesis, and is that person or team positioned to influence investment decisions?
- What is the escalation approach if a solution or investment fails to meet expectations? For example, are there timelines, milestones or conditions that trigger changes in funding, increased requirements or a potential exit?
- Is any portion of the manager's carry or performance fee tied to the achievement of climate-related objectives? If so, how is that linkage structured (e.g., what portion of the fee, what metrics are used and over what time frame)?

2. Assessing the Approach to Quantifying Contribution to Economy-Wide Decarbonization

Climate change is ultimately about the cumulative GHG concentrations in the atmosphere, and it is important for any solutions strategy to include some form of quantitative measurement to help assess the relative importance of individual investments.

There are multiple quantification methodologies used to assess investments based on their GHG reduction potential, and each has its advantages and disadvantages.[14]

Quantitative methodologies commonly used by investors include technology assessment and lifecycle assessment (LCA), avoided emissions quantification, efficiency measures and sequestration methodologies. All of the methodologies, however, share a common analytical framework and the choice of the methodology can be guided by the availability of data and methodologies' suitability for the specific strategy and technologies within. The choice of methodology can also be guided by the climate thesis. Not all theses will prioritize GHG emissions reductions; some may instead emphasize factors such as accessibility or cost of a climate solutions technology. A well-defined climate thesis will identify the key shifts required for climate progress and, in turn, help determine the most relevant indicators and metrics to model and assess.

Lifecycle Assessment (LCA)

LCA techniques are widely used to quantify the environmental costs and benefits of products across their full lifecycle, including extraction, production, use and disposal. When designed rigorously (e.g., ISO- or ISAE-compliant, peer-reviewed and with clearly defined system boundaries and functional units), LCAs can offer credible, per-unit emissions data. This data is particularly valuable when comparing low-carbon products to incumbents, helping estimate avoided emissions or inform carbon yield calculations.

Because LCAs typically rely on existing datasets rather than forward-looking models, they avoid some uncertainties common to other estimation methods. LCAs can also capture non-emissions attributes like water use or land disturbance. Their quality, however, depends heavily on data availability and methodological consistency.

Importantly, the results of an LCA can vary based on the type of LCA applied. Attributional LCAs provide average emissions per unit of output, while consequential LCAs estimate the change in emissions from scaling or substituting a given solution.[15] For climate solutions investing, especially in forward-looking assessments, understanding whether a manager relies on attributional or consequential LCA is important, since these approaches evaluate different aspects. For example, batteries may appear emissions-intensive in attributional analysis but show net benefits in consequential models due to their enabling role in electrification.

Avoided Emissions Quantification

Avoided emissions refer to the reduction in greenhouse gas emissions achieved by a project, product or service compared to what would have occurred in an alternative scenario.[16] This methodology is gaining traction as an advanced way to evaluate an investing strategy's potential future climate benefit and is

14 For more on framing and evaluating contribution and attribution in climate investing, see Tideline (2023), Truth in Climate Impact, which outlines practices for distinguishing between types of climate strategies and measuring climate-related outcomes.

15 Schaubroeck, Thomas. "Relevance of Attributional and Consequential Life Cycle Assessment for Society and Decision Support." Frontiers in Sustainability, vol. 4, July 2023. Frontiers, https://doi.org/10.3389/frsus.2023.1063583.

16 For more details on the concept and methodologies for calculating avoided emissions, refer to the Partnership for Carbon Accounting Financials, The Global GHG Accounting and Reporting Standard, Financed Emissions, Part A.

particularly useful when a clear theory of change connects the solution to a specific decarbonization outcome, such as methane capture. Several tools and methodologies are emerging to support forward-looking assessments of climate benefit potential.[17]

Avoided emissions assessments allow comparisons across investments using a common metric, but the approach is sensitive to assumptions like adoption rates, policy environments and baseline selection. These uncertainties are especially prevalent in early-stage or emerging technologies.

Managers with transparent, well-documented models — including their logic, inputs and assumptions — are better positioned to produce estimates that support decision-making. Avoided emissions alone, however, cannot determine whether a strategy contributes meaningfully to climate goals: two investments with similar avoided emissions profiles may differ greatly in feasibility, scalability and systemic benefits. These estimates should be seen as one input among several.

Efficiency Measures

Efficiency measurement methodologies combine avoided emissions quantification with the climate solution's market value to arrive at a value for how effective the investment is in driving climate impact. Efficiency measures articulate the avoided emissions per dollar deployed, and this can support making choices about investment prioritization within and across asset classes.

Where this approach uses either LCAs and carbon avoided estimates as a basis for quantifying GHG outcomes, the same rigor and quality guidelines discussed above apply to efficiency measures.

An important aspect of efficiency measures, such as carbon yield[18], is that they are influenced by market pricing. For instance, if the price of equity increases, then yield, or GHG emissions per dollar invested, decreases. This dynamic can lead to differing investment conclusions among managers according to whether or not they make assessments based on yield (e.g., a company with a high volume of projected avoided emissions and a high company valuation would be judged quite differently by an investor focused on absolute emissions versus an investor focused on carbon yield).

Sequestration Methodologies

Sequestration encompasses a range of methodologies aimed at capturing and storing carbon to mitigate climate change. Common sequestration approaches include:

- Forestry-based sequestration, such as afforestation or reforestation, which enhances carbon storage through new or restored forests.[19]
- Agricultural sequestration, in which regenerative practices improve soil carbon stocks.[20]
- Ocean-based sequestration, involving the conservation and restoration of coastal ecosystems to facilitate significant carbon storage, among other benefits.[21]
- Carbon capture, utilization and storage, which captures CO2 emissions from point sources and either stores them underground or repurposes the captured carbon for industrial application, such as the production of synthetic fuels and buildings materials.[22]

17 For example, Project Frame offers a methodology to estimate avoided emissions by comparing a solution's emissions profile to a relevant counterfactual. Y Analytics's 'carbon yield' estimates the emissions avoided or removed per dollar invested, providing a standardized lens to assess climate benefit across investment opportunities. The World Business Council for Sustainable Development (WBCSD) has released draft guidance on measuring avoided greenhouse gas emissions at the corporate level.

18 Evidence Based Impact in Climate (2022). Y Analytics. https://link.edgepilot.com/s/b418bf61/NFXGaZlhyESU7RzzvaYaYg?u=https://yanalytics.org/research-insights/evidence-based-impact-climate

19 WRI, How Effective Is Land At Removing Carbon Pollution? The IPCC Weighs In, 2019.

20 BCG, Unearthing Soil's Carbon-Removal Potential in Agriculture, 2024.

21 WRI, Carbon Removal from the Ocean, Explained, 2022.

22 WRI, What is Carbon Capture, Utilization, and Storage (CCUS)?, 2023.

Standards and methodologies for these sequestration approaches are evolving, with organizations contributing to the development of protocols that ensure the credibility and effectiveness of sequestration projects. Like the above methodologies, these approaches must be evaluated within broader portfolio and pathway contexts.

Questions

- How does a manager quantify the contribution of its portfolio to global climate goals?
- What type of emissions reductions is the strategy aiming to deliver, and how are these evaluated?
    - Portfolio footprint: Does the strategy aim to reduce Scope 1, 2 or 3 emissions of portfolio companies?
    - Avoided emissions: Is the strategy enabling emissions reductions elsewhere in the economy, and if so, how is this quantified?
    - Carbon removals: Does the strategy support practices that remove carbon from the atmosphere, and how is this contribution assessed?
    - Systemic impact: Does the strategy aim to influence broader systems (e.g., supply chains, policy adoption, technology diffusion), and how is this contribution assessed?
- What, if any, standards, published tools or guidance does the manager use to implement their approach?
- How does the manager determine the baseline against which avoided emissions are calculated?
- How does the manager overlay return projections with the climate benefits projections?
- How does the manager's chosen quantification approach align with the fund's climate thesis?
- For new investments, or those that have not yet delivered measurable climate benefits, what is the expected outcome? How will progress be measured, monitored and reported over time?
    - Who is responsible for conducting emissions reductions analysis, and how are findings integrated into decision-making regarding investing strategies? Is the analysis performed during initial diligence and decision-making (ex-ante) or after investment (ex-post) for reporting and communications?
- What are the primary sources of data used by the manager in the emissions reduction quantification? Is the data sourced directly from investment targets, supported by external research or technical diligence, or is it benchmarked against third-party or independent sources to validate company-reported performance?
- If the manager's strategy aims to deliver economy-wide climate benefits, how is that contribution being measured or assessed?

3. Understanding the Approach to Prioritization

Any quantification of climate mitigation potential must be placed in context to meaningfully interpret an investment's relative value or significance from a climate perspective. There are a range of factors that might be used in establishing priorities for a strategy that managers can use to distinguish an investment's relative importance.

Time

Investors will implicitly or explicitly establish a preference for investments that deliver results within a general time frame. Investors targeting near-term climate goals may prioritize solutions with faster emissions reductions due to high market readiness or existing supporting infrastructure. By contrast, investors with longer time horizons might favor strategies whose climate benefits are realized over time, such as forest restoration or landscape-scale interventions.[23]

For example, distributed solar solutions in rural areas of emerging markets may have high emissions reduction potential but face slower uptake due to limited financing, infrastructure or policy support — making the timing and scale of investment critical for achieving climate benefits.

Geographic Context

The applicability of climate solutions varies substantially across markets and regions. Geographic considerations are key criteria to incorporate into prioritization of pipeline pursuits regardless of the quantitative methodologies applied. It is important to understand if the manager's climate thesis and resulting prioritization take into account pathway differences across various geographies when evaluating an investment and its underlying assets or technology.

Geographic analysis may include examining:

- **Target market needs:** the specific climate mitigation challenges or investment opportunities present in a given geography.
- **Baseline conditions:** the current state of the market, including the carbon intensity of prevailing technologies, such as existing grid composition or transportation infrastructure and what alternatives to the proposed solution already exist.
- **Technology ecosystem readiness:** the maturity and availability of enabling infrastructure (e.g., grid efficiency, supply chains, permitting systems), as well as any gaps that may hinder the large-scale deployment and scaling of the solution.
- **Forward-looking trends:** anticipated shifts in any of the above, metrics used and the potential climate mitigation benefit of a technology.

Minimum Thresholds

A manager can set themselves a minimum threshold for performance to determine if a certain investment has a sufficient level of impact. For example, some venture capital funds set a minimum threshold of one gigaton of avoided emissions potential as the basis for qualifying a prospective investment for consideration. In other cases, a percentage-based threshold — such as targeting a 25-50% emissions reduction within a specific sector or value chain — may be more appropriate. Either way, this approach allows a manager to ensure that all the fund's investments meet a minimum expectation. The specific threshold value likely will have certain

23 For considerations on global warming potential and the time value of carbon, see Project Frame resources: December 2023 Community Meeting — Frame and Foundational Best Practices for GHG Impact Assessment — Frame

levels of assumptions about the specific market drivers that need to be in place to ensure that investing strategies are sufficient to achieve economy-wide decarbonization by 2050. Also, as explained previously, building a portfolio solely based on investing strategies that meet a certain avoided emissions threshold may lead to individually effective choices that lack complementarity at the level of the economy.

Taxonomy

Taxonomies provide a list of vetted solutions that a third party has identified as meeting a minimum set of criteria or alignment with a future decarbonized economy. As a tool, taxonomies offer simplicity and can help to categorize different types of solutions as enabling, replacement or removal, and sometimes even serve as an identification tool and a substitute for quantitative assessment. Their relative value, however, depends heavily on the quality and execution of the criteria underlying their design. Taxonomies tend to be effective when considering mature solutions but may cause missing other viable but less established technologies. They are most useful when managers are using market- and geography-specific taxonomies and are capturing technological and market changes, including unforeseen technologies' deployment. Taxonomies also often exclude enabling technologies, so it is important to understand whether and how managers are addressing this gap.

Scenarios

Scenarios can offer an overview of a future low-carbon economy that can include descriptions of future industry sectors and technologies, as well as various quantitative estimates or threshold values. Scenarios range enormously in their detail, approach to assumptions, quality of design and link to the climate thesis.

Scenarios allow a manager to evaluate an investment in relation to a certain economic or policy scenario and compare the intended emissions mitigation potential with the relevant geography's needs. Managers could also model the expectations with certain future economic, technological and policy developments in mind.[24] Overall, there are a range of different tools available for contextualizing data about an investment. These tools offer varying degrees of precision, so it is important to understand which tools are being used in a strategy and how they are being applied to guide decisions.

Additionally, while the focus of the framework is on mitigation, many climate solutions also generate important co-benefits, such as improved biodiversity, community resilience or public health outcomes. Understanding whether a strategy recognizes, tracks or seeks to enhance these co-benefits can provide additional insight into its broader real-economy contributions. Although these outcomes are not required for a strategy to be considered a climate solutions strategy, acknowledging them can help contextualize the full range of effects a solution may have.

24 For a detailed framework on selecting and evaluating pathways, see GFANZ, Guidance on the Use of Sectoral Pathways for Financial Institutions (2022), which outlines key considerations for ensuring scenario alignment with science-based carbon budgets, credibility, feasibility and sector-specific needs.

Questions

- What are the ways in which the manager contextualizes the climate mitigation potential for a given geography?
- Does the manager use geographical, sectoral or economic reference points to model climate outcomes as part of the investment decision-making process?
- Why are the particular solutions considered the most appropriate ones for the selected target geography?
- What is the market's baseline or status quo?
- What is the specific climate-mitigating priorities that the manager's climate solutions fund addresses through its selection of companies?
- Have the solution technologies' climate resilience, value chains and other feasibility/ implementation risks been part of the strategy construction?
- How does the manager assess an investment's relevance within a specific time horizon (e.g., when the climate benefit may take years to materialize, as with forestry or landscape-scale interventions)?
- Beyond mitigation, what co-benefits — such as biodiversity, community resilience or health — does the strategy aim to deliver? Are these tracked or measured?
- What types of investments or solutions has the manager chosen to de-prioritize or avoid, and why?

4. Understanding the Methodologies Used to Manage Uncertainties

Climate solutions investing is inherently forward-looking, and so all analysis will include a level of uncertainty in projections and dependencies. The choices that investors can make to understand projections' reliability include assessing:

- The number of assumptions underlying any analysis or quantitative estimate (including looking at cases where there are no assumptions, which could suggest missed steps in calculation)
- Whether assumptions depend on or project major changes to consumer patterns, policy frameworks, regulations or other major shifts
- The frequency with which the manager updates the research and climate thesis, if they have one

- The monitoring and third-party assurance processes that they apply to existing investments, and whether those insights lead to updates to their estimates or projections

Incorporating assumptions and estimations into models and assessing projection reliability is common across finance. Existing financial risk-return assessment processes are similar and can be leveraged and synchronized for assessing and modeling climate outcomes, as well. Specifically, for climate solutions, these models often involve assumptions about significant future changes, projecting factors such as policy shifts, evolving consumer preferences or other forces that shape markets broadly. For example, assessing the likely climate benefit of alternative cement solutions involves understanding evolving production methods, assumed/modeled adoption rates of new production methods, and expected (supporting or hindering) regulatory developments to inform the ultimate investment decision — all of which will affect the modeled climate benefit's quantification.

Managing uncertainty requires several choices by managers in the design of their models for avoided emissions or their selection of tools for prioritization. Providing transparency to asset owners regarding material changes to assumptions and models is also critical, ensuring alignment and trust throughout the investment lifecycle.

Questions

- What are the key assumptions underlying the strategy's projected climate contributions — including market conditions, policy environments or behavioral shifts — and how is attribution determined?
- How does a manager identify the exact products, services or supply chain parts that the relevant climate solutions technology is displacing or substituting in a particular geographic location?
- What is the frequency with which a manager updates their research and climate thesis?
- What monitoring is applied to existing investments, and how does the manager use insights from monitoring to update estimates or projections and take appropriate action? Are the data, tools or metrics being used for regulatory compliance, internal strategy tracking or both? How are those different purposes distinguished?
- What framework, transparency practices and quality control measures — such as attestation, third-party verification, or others — are in place to govern the use of assumptions and ensure quantitative estimates' reliability?
- How are an investment or solution's potential adverse effects identified? Is this based on internal judgment, consultation with external experts or engagement with affected stakeholders?

Appendix

- Climate solutions as defined by the Glasgow Financial Alliance for Net Zero (GFANZ):
  - Technologies, services, tools or social and behavioral changes that directly contribute to the elimination, removal, or reduction of real-economy GHG emissions or that directly support the expansion of these solutions, including:
    - **Solutions:** assets and entities that directly remove or reduce real-economy GHG emissions
    - **Enablers:** assets and entities that indirectly contribute to, but are necessary for, emissions reductions by facilitating the deployment and scaling of solutions or supporting the decarbonization of other actors' operations
    - **Nature-based solutions:** solutions that use natural systems to reduce GHG emissions and store carbon
- Transition finance as defined by GFANZ:[25]
  - Assets or companies already aligned to a 2 C pathway
  - Assets or companies committed to transitioning in line with 2 C-aligned pathways
  - The accelerated managed phaseout of high-emitting physical assets
- The Institutional Investors Group on Climate Change's (IIGCC's) Net Zero Investment Framework (NZIF)
  - The IIGCC defines climate solutions as "activities, goods or services that contribute substantially to, and/or enable, emissions reductions to support decarbonization in line with credible 2 C pathways towards net zero, or that contribute substantially to climate adaptation.".
- The UN-convened Net-Zero Asset Owner Alliance (NZAOA)
  - NZAOA's fourth iteration of its Target-Setting Protocol defines climate solutions as "investments in economic activities considered to contribute to climate change mitigation (including transition enabling) and adaptation, in alignment with existing climate-related sustainability taxonomies and other generally acknowledged climate-related frameworks."
- Paris Aligned Asset Owners (PAAO) uses the NZIF framework.
- Impact investments are investments made with the intention to generate positive, measurable social or environmental impact alongside a financial return. (https://thegiin.org/publication/post/about-impact-investing/). Climate solutions investments can be impact investments but can equally exist without having impact intentionality or the impact investment labelling.

25 GFANZ, Transition Finance and Real Economy Decarbonization, 2023.

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