

# Defining Transition Finance and Considerations for Decarbonization Contribution Methodologies

CONSULTATIVE DOCUMENT

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**GFANZ**  
Glasgow Financial Alliance for Net Zero

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## Acknowledgements

This Consultative Document seeks to further develop the transition finance strategies that Glasgow Financial Alliance for Net Zero (GFANZ) work articulated in 2022 and to set out preliminary work on potential decarbonization contribution methodologies intended for consultation purposes. The outcomes of the consultation will inform the next phase of GFANZ work on these important topics.

This Consultative Document was developed by the GFANZ Secretariat, building out from the Net-zero Transition Planning Guidance developed last year, and informed by a review of other relevant frameworks, approaches, and expert interviews with practitioners. This does not imply that every finding included herein is endorsed by every party or GFANZ sector-specific alliance member firm, including the firms represented on the Principals Group.

The Consultative Document will be of particular interest to financial institutions seeking to develop transition finance strategies and measure progress against those, including in terms of real-world decarbonization, but will also be of interest to a much broader set of stakeholders.

## About GFANZ

The Glasgow Financial Alliance for Net Zero (GFANZ) is a global coalition of financial sector alliances working together to support the world's transition to net-zero emissions by 2050. Through the net-zero alliances, GFANZ works with over 650 institutions across the financial sector, including banks, insurers, asset owners, asset managers, financial service providers, and investment consultants, spanning 50 countries and representing 40% of global private financial assets. To help unlock transition investment in emerging markets and developing economies, GFANZ regional networks work to support capacity building and adoption of transition planning, capital mobilization, and reflect and address the diverse needs of financial systems around the world.

## Important Notice

*This Consultative Document (“consultation”) was developed by the GFANZ Secretariat. This consultation outlines preliminary considerations regarding transition finance and potential decarbonization contribution methodologies for the purposes of consultation. For the avoidance of doubt, nothing express or implied in the consultation is intended to prescribe a specific course of action. This consultation does not create legal relations or legally enforceable obligations of any kind. All persons, including members of a sector-specific net-zero alliance unilaterally determines whether, and the extent to which, it adopts any of the potential courses of action described in this consultation.*

*The information in this consultation does not purport to be comprehensive and does not render any form of legal, tax, investment, accounting, financial, or other advice. This consultation is made available by the GFANZ Secretariat and has not been independently verified by any person. Nothing in this consultation constitutes an offer or a solicitation of an offer to buy or sell any securities or financial instruments and does not constitute investment advice or a recommendation by any person of an investment or divestment strategy or whether or not to “buy”, “sell”, or “hold” any security or other financial instrument.*

*The consultation is for informational purposes only and the information contained herein was prepared as of the date of publication.*

*No representation, warranty, assurance, or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by GFANZ, its Secretariat or by any of their respective affiliates or any of their respective officers, employees, agents, or advisors including without limitation in relation to the adequacy, accuracy, completeness, or reasonableness of this consultation, or of any other information (whether written or oral), notice, or document supplied or otherwise made available to any interested party or its advisors in connection with this consultation.*

*Members of the eight financial sector-specific net-zero alliances comprising GFANZ have individually made commitments consistent with the high standards of their respective alliances and are not automatically expected to adopt the principles and frameworks communicated within this consultation, although we expect all alliance members to increase their ambition over time, so long as it is consistent with alliance members’ fiduciary and contractual duties and applicable laws and regulations, including securities, banking, and antitrust laws.*



## Overview

Net zero committed financial institutions are looking to finance transition opportunities and mitigate transition risks and, as such, need greater clarity on what constitutes transition finance. They need this clarity directly, in relation to their own activities, and in relation to the activities of the entities they finance. A broad and diverse set of stakeholders also have an interest in monitoring progress on real-economy decarbonization.

Clearly, an important aspect is to capture the quantity of greenhouse gas (GHG) emissions produced, avoided, and reduced through their financing. Prioritization of the reduction of financed emissions alone will not drive the financing necessary to unlock the required real-economy emissions reduction. In the Net-zero Transition Plans framework published in 2022, GFANZ defined Transition Finance and introduced the four key financing strategies that financial institutions, real-economy companies, and governments need to support to enable an orderly<sup>1</sup> and inclusive whole-economy transition:

- Finance and enable climate solutions and companies already aligned with science-based net-zero pathways and widely adopt strategies to address high-emitting sectors and activities;
- Support companies with credible net-zero transition plans to progress toward net-zero alignment; and
- Support the managed phaseout of high-emitting activities and assets that cannot be made to be consistent with net-zero.

In early 2023, GFANZ's Principal Group approved a workplan to further refine the four transition finance strategies and develop a complimentary approach to calculate the potential real-economy decarbonization contribution of those financing activities to

support financial institutions efforts to increase their capital allocation to transition finance.

### Transition finance and the four key financing strategies

GFANZ defines transition finance as investment, financing, insurance, and related products and services that are necessary to support an orderly real-economy transition to net zero.

GFANZ has defined four key financing strategies that finance or enable the following:

- Climate solutions - Entities and activities that develop and scale climate solutions
- Aligned - Entities that are already aligned to a 1.5 degrees C pathway
- Aligning - Entities committed to transitioning in line with 1.5 degrees C-aligned pathways
- Managed phaseout - The accelerated managed phaseout of high emitting physical assets

Additional methodologies to evaluate the decarbonization contribution, or expected real-economy emissions reduction, are necessary to incentivize capital allocation across these strategies and with that, substantially increase investments in decarbonization around the world.

This consultation starts with the refined definitions and a proposed approach to enable segmentation of a portfolio under the four key financing strategies, which is necessary as a basis for a decarbonization contribution calculation. This consultation then outlines potential approaches to calculating forward-looking emissions impacts associated with capital allocated to these strategies.

<sup>1</sup> GFANZ uses the term "orderly transition" to refer to a net-zero transition in which both private sector action and public policy changes are early and ambitious, thereby limiting economic disruption related to the transition (e.g., mismatch between renewable energy supply and energy demand). For reference, the Network for Greening the Financial System (NGFS), which develops climate scenarios used by regulators and others, defines "orderly scenarios" as those with "early, ambitious action to a net-zero GHG emissions economy," as opposed to disorderly scenarios (with "action that is late, disruptive, sudden and/or unanticipated"). In an orderly transition, both physical climate risks and transition risks are minimized relative to disorderly transitions or scenarios where planned emissions reductions are not achieved. This explanation applies to all mentions of the term "orderly transition" in this consultation.

## Background and purpose

In 2022, GFANZ published a series of voluntary, pan-financial sector recommendations and guidance to support the transition of the global economy to net zero. At the heart of this work was a framework on net-zero transition plans (NZTP) that identified four key financing strategies<sup>2</sup> that GFANZ believes are essential to driving the real-economy transition and comprise “transition finance”. The strategies provide a lens through which investment, underwriting, and lending activities can be viewed to consider whether and how particular assets, activities, or clients may be aligned to the transition.

To avert the worst impacts of climate change, immediate action is needed, but despite increasing commitments at country level, the transition to net zero is hindered by insufficient policy and regulatory support, resulting in a significant funding gap.

While clean energy volume doubled from 2013-2020,<sup>3</sup> the IPCC estimates<sup>4</sup> that a three- to six-fold increase in transition finance is needed by 2030 to support the goals of the Paris Agreement. The energy sector, in particular, is an important target for increasing transition finance, with calculations by the IEA<sup>5</sup>

suggesting that to be on track for 1.5 degrees C warming, global investment in energy infrastructure alone must rise from 2.5% of world GDP pre-Covid to 4.5% by 2030. This finding is supported by a recent BloombergNEF analysis,<sup>6</sup> which found that an average 4:1 ratio of investment in low-carbon versus fossil energy supply will be required by the end of the decade to support limiting global warming to less than 1.5 degrees C (relative to the 1:1 ratio of investment today). Beyond the energy and energy supply sectors, a McKinsey & Company analysis<sup>7</sup> estimates that about \$0.8 trillion in annual expenditures will be required between 2026 and 2030 to reduce emissions in the agriculture, forestry, and other land use sectors.

These analyses highlight the need to scale transition finance in the near, medium, and long term, and that the greatest emissions reduction may be achieved by directing financing and related services to — rather than divesting from — sectors, entities, and assets that need to transition.

***Financial institutions should mobilize and scale capital across the four key financing strategies to finance emissions reduction in the real economy.***

<sup>2</sup> GFANZ. [Recommendations and Guidance on Financial Institution Net-zero Transition Plans](#), November 2022

<sup>3</sup> BloombergNEF. [CLIMATESCOPE Power Transition Factbook](#), November 2022.

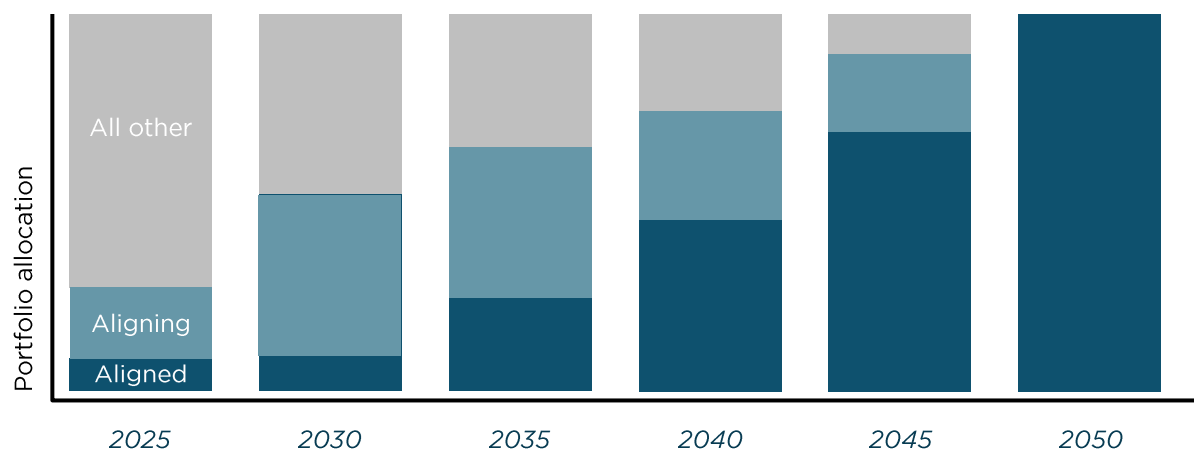
<sup>4</sup> IPCC. [Climate Change 2023: Synthesis Report](#), 2023.

<sup>5</sup> IEA. [Net Zero by 2050](#), October 2021.

<sup>6</sup> BloombergNEF. [Investment Requirements of a Low-Carbon World: Energy Supply Investment Ratios](#), October 2022.

<sup>7</sup> McKinsey & Company. [The net-zero transition](#), January 2022.

**Figure 1: Illustrative progress of increasing the share of transition finance activities within portfolios to support net-zero objectives**



For the global financial sector to sustain long-term mobilization of funding into transition finance, financial institutions need mechanisms to measure and track progress, including:

1. Methodologies and definitions to identify, segment, and track exposure and movement of capital across the four key financing strategies; and
2. Methodologies to quantify or approximate the expected real-economy emissions reduction impact of their capital allocations.

Both types of methodologies provide decision-useful inputs about expected emission reductions from the financing activities and can foster transparency and accountability of net-zero commitments. These attributes can, in turn, help support and scale capital mobilization across the four key financing strategies to enable real economy decarbonization.

While the four key financing strategies are increasingly well understood, further work is needed to refine their definitions for the purposes of segmentation of exposures and opportunities. Moreover, the development of decarbonization contribution calculation methodologies is still nascent. To develop a more cohesive framework, this Consultative Document proposes approaches to connect decarbonization contribution methodologies with the financing strategies — a linkage that has yet to be established.

**This Consultative Document (“this consultation”) is seeking input to:**

- **Further refine definitions and applicability of the four key financing strategies; and**
- **Highlight currently available decarbonization contribution methodologies and potential applications across each of the four key financing strategies.**

## Scope and approach of this consultation

The overarching approach of this consultation is to build on GFANZ's four transition financing strategies; show connectivity to complimentary existing transition finance practices and frameworks; and further develop potential decarbonization contribution methodologies. The considerations detailed in this consultation are presented on a principles-based basis, designed to be voluntary, pan-sector, and globally applicable. As such, this consultation does not detail sector-specific applications or regional pathways, but rather seeks to establish a baseline for further work. The considerations presented in this consultation were informed through engagement between the GFANZ Secretariat and financial practitioners, alliance secretariats, methodological providers, multi-lateral intergovernmental organizations (e.g., IEA), and other leading initiatives to gain deeper insights into their respective frameworks and approaches.

[Part I: Transition Finance](#) outlines a proposed approach for grouping across the four key financing strategies that includes two primary elements:

1. Identification through refined definitions and attributes; and
2. Segmentation using the refined definitions and attributes.

The original definitions of the four key financing strategies were developed based on the prevailing frameworks and concepts at the time of writing in 2022. The proposed approach and definitions outlined in this consultation anchor on the original GFANZ definition of the four key financing strategies and were refined by drawing on existing guidance and frameworks released since then that have similar categories, maturity scales, and/or credibility indicators.

### [Part II: Decarbonization Contribution](#)

[Methodologies](#) outlines existing frameworks and concepts that may be used to develop a proposed decarbonization contribution methodology for the four key financing strategies. This consultation introduces a proposed concept of Expected Emissions Reduction (EER) that is applicable across all four key financing strategies but with distinct impact measurement approaches for each. Similar to the “expected return” of a financing decision, the EER could be quantified to express the “emissions return” of a financing activity. Just as there can be multiple methods to quantify an expected return, this section outlines potential approaches to calculating EER and applying it across the four key financing strategies, including potential allocation considerations.

# How to Participate in this Consultation

**This Consultative Document will inform the next phase of GFANZ programmatic initiatives, including the production of an updated document ahead of COP28, and the potential areas for further work in 2024. The contents presented in this consultation are by no means exhaustive nor final, and we strongly encourage and welcome feedback.**

The release of this Consultative Document initiates a 6-week public consultation that runs

until November 2, 2023. To provide feedback, please respond to the survey available [here](#). Feedback from all stakeholders will be considered. The work is anticipated to continue through 2024 and may include additional consultation periods and further development of proposed approaches.

We thank you for your participation and look forward to receiving your feedback.

## Consultation questions

### Part I: Transition Finance

#### ***Climate Solutions***

1. Are the proposed attributes sufficient and flexible enough to help you identify assets to this segment?
2. What would be an appropriate revenue threshold for the purposes of identification?
3. Would the feasibility of alignment to a science-based pathway over time be a key consideration when identifying Solutions and Enablers?
4. Are separate and/or additional attributes required for Enablers?
5. Are there any other considerations for Climate Solution attributes, especially relating to hurdles to implementation (e.g., additional KPIs to consider, data limitations, suggestions for specific attributes for Enablers)?

#### ***Aligned and Aligning***

6. Are the proposed attributes sufficient to help you identify entities to this segment?
7. Is the proposed target timeframe for alignment, set at 2030 and articulated through net-zero interim targets, appropriate for the purposes of identification?
8. Is the proposed progress and two-year continuous performance threshold for

Aligned and Aligning appropriate for the purposes of identification?

9. Are there any other considerations for Aligned/Aligning attributes, especially relating to hurdles to implementation (e.g., data limitations, lack of disclosure regarding capex, other KPIs for degree of alignment)?

#### ***Managed Phaseout***

10. Are the proposed attributes sufficient to help you identify assets to this segment?
11. Are there any other considerations for Managed Phaseout attributes, especially relating to hurdles to implementation (e.g., data limitations, lack of disclosure regarding capex, other KPIs for tracking phaseout progress)?

#### ***Segmentation Method***

12. Considering the proposed approaches, do you foresee any potential unintended consequences that may disincentivize financing in the four key financing strategies or motivate behavior that may not be supportive of the net-zero transition?
13. If you were to implement the proposed approaches today, what could be some challenges you might encounter?

**Other for Part I**

14. What sub-segments would you consider under the 'All Other' segment? Please identify and provide rationale and examples.

15. Any additional feedback regarding Part I of this consultation?

**Part II: Decarbonization Contribution Methodologies****Overview and current state**

16. What is your organization's preferred approach for measuring the impact of transition finance activities, for example for capital allocation, monitoring, and disclosure purposes? What are the benefits and drawbacks of these approaches?
17. Would best practice approaches for calculating EER add value to your current investment/financing/underwriting practices?
18. What are key considerations for the development of a decarbonization contribution methodology? What challenges do you anticipate?
19. What important references and research papers should we take into account with regard to further work on decarbonization contribution?
20. Any additional feedback regarding the Overview and Current State section?

**Potential approaches for Aligned and Aligning transition finance strategies**

21. What are considerations for choosing a BAU pathway for Aligned/Aligning transition finance strategies and what is the minimum required level of granularity (i.e., sectoral, regional)?
22. Concerning the timing of EER claims (see to **Figure 9**), do you concur with the general principles and considerations proposed?
23. Are you supportive of Avoided Emissions reporting standards for corporates?
24. Any additional considerations/feedback for approaches for Aligned and Aligning transition finance strategies (e.g., regarding EER/ERP allocation to the portfolio; cumulative emissions vs. intensity-based methods etc.)?

**Potential approaches for Climate Solutions and Managed Phaseout finance strategies**

25. Do you agree that avoided emissions approaches are well-suited to measuring the impact of Climate Solutions and Managed Phaseout?
26. Rather than using LCA for determining emissions factors for the BAU and the low-carbon alternative, do you agree with the simpler approach of using end-use emissions for calculating avoided emissions?
27. This consultation proposes that the full EER associated with Climate Solutions could be applied to related Enablers but disclosed separately from Solutions and Nature-based solutions. Do you support this approach?
28. Any additional considerations/feedback regarding impact methods for Climate Solutions, Enablers and Managed Phaseout? (e.g., alternative approaches to avoided emissions; apportioning EER to Enablers, for example using a pro-rata approach)

**Allocation: Attribute the Expected Emission Reductions to the financing entity**

29. Do you agree with leveraging the PCAF accounting method for EER allocation?
30. Any additional considerations/feedback regarding impact attribution methods (e.g., alternatives to the PCAF accounting method; specific considerations for employing the proposed attribution method for EER; considerations about disclosure of EER; anticipated challenges when aggregating the EER at portfolio level)?

**Other for Part II**

31. Any additional feedback regarding Part II of this consultation?

# Part I: Transition Finance

## Overview

Part I of this consultation suggests attributes that could be considered when identifying and segmenting a portfolio by one or more of the four key financing strategies.

*GFANZ defines **Transition Finance**<sup>8</sup> as the investment, financing, insurance, and related products and services that are necessary to support an orderly, real-economy transition to net zero as described by the four key financing strategies that finance or enable:*

1. *Climate Solutions: Entities and activities that develop and scale climate solutions;*
2. *Aligned: Entities that are already aligned to a 1.5 degrees C pathway;*
3. *Aligning: Entities committed to transitioning in line with 1.5 degrees C-aligned pathways; or*
4. *Managed Phaseout: The accelerated managed phaseout of high-emitting physical assets.*

*These strategies are inclusive of financing, investment, insurance, and related products and services that are critical to delivering real-economy emissions reduction in support of an orderly, net-zero transition of the global economy. While the financing strategies are not intended to serve as a formal taxonomy, they were designed to provide one lens for understanding whether and how particular entities, assets, and projects may be aligned to the transition.*

To support the net-zero transition of the economy, financial institutions can mobilize capital toward entities, assets, and projects that need to transition and/or that can play a role in driving whole economy decarbonization. Identification of such opportunities is required to inform capital allocation decisions. The GFANZ Financial Institution Net-zero Transition Plan (NZTP) report in 2022 identified four key financing strategies that comprise transition finance.

This consultation proposes a principles-based approach in anticipation of ongoing development of key performance indicators by several initiatives at the time of writing (see [Appendix C](#)). This approach will advance the strategic allocation and scaling of transition finance and support credibility, while allowing for flexibility across the global finance sector and for evolving frameworks, taxonomies, and standards.

The principles-based approach that this consultation proposes then serves two primary use cases:

1. **As a basis to scale transition finance and inform net-zero transition plans:** In an NZTP, a financial institution chooses priorities for its Implementation and Engagement Strategies.<sup>9</sup> Segmentation of its portfolio will help identify the assets that support the priorities. The financial institution could then develop, expand, and measure different parts of its portfolios. For example, a financial institution might opt to prioritize support for Aligning entities. The financial institution could segment its portfolio

<sup>8</sup> GFANZ. [Recommendations and Guidance on Financial Institution Net-zero Transition Plans](#), November 2022.

<sup>9</sup> Refer to GFANZ [Recommendations and Guidance on Financial Institution Net-zero Transition Plans](#). The NZTP framework suggests that in the Foundations theme, a financial institution will select an approach that prioritizes one or more of the four key financing strategies depending on its business characteristics. The priorities provide the context for the Implementation and Engagement Strategies.



and identify assets for a targeted Engagement Strategy and allocate sufficient resources to execute its Engagement Strategy.

- 2. As a foundation for potential decarbonization contribution calculation:** Progress toward net-zero commitments involves quantifying emissions reduction impact in the real economy (addressed in Part II of this consultation). Segmentation of the

portfolio provides the first boundary for this calculation. For example, Part II of this consultation suggests that potential decarbonization contribution calculations for Climate Solutions should be different from other transition finance strategies. A financial institution should identify the part of its portfolio that qualifies as Climate Solutions before applying the calculations to quantify the potential decarbonization contribution.

**Figure 2: Segmentation across the four key financing strategies**



**Transparency**

A foundational component of net-zero commitments is disclosure. Disclosure by real-economy entities and assets empowers financial institutions with the necessary information to make well-informed decisions about capital allocation. Conversely, financial institutions’ disclosure offers valuable insights for real-economy companies as they pursue financing and associated services. As net-zero practices in finance continue to evolve and mature, increased transparency from all parties is needed. The voluntary GFANZ NZTP framework

supports disclosure of key elements of a transition plan including targets, assumptions, priorities, and progress. For each of the four key financing strategies, this consultation highlights additional recommendations that should be considered and disclosed to support informed decision-making by all parties, including the use of third-party validation for targets and alignment wherever available and appropriate to support and demonstrate the credibility and impartiality of the assessment process.



## Existing frameworks

This consultation builds on the original GFANZ definitions for the four key financing strategies that were developed based on existing frameworks at the time of writing in 2022. The refined definitions proposed in this consultation draw on a range of publicly available frameworks and guidance published since then, as well as numerous conversations with industry practitioners and experts. Please refer to [Appendix C](#) for details on background research conducted. These frameworks reflect a wide

range of approaches currently in use, including high-level to granular maturity scales. The approaches proposed in this consultation are designed to be pan-sector, globally applicable, and principles-based to reflect the developing nature and wide applicability of transition finance, aiming to harmonize the field and to provide overarching guardrails for the definitions for transition finance, with other frameworks adding further granularity.

## Proposed Approach: Identifying and Segmenting Using Refined Definitions and Attributes

The proposed approach comprises two elements:

**Element A: Identification through refined definitions and attributes:** This consultation proposes principles-based attributes for each of the key financing strategies, building on the original GFANZ definitions and drawing insights from existing frameworks.<sup>10</sup>

Please refer to the respective sub-sections dedicated to each of the four key financing strategies for details:

1. [Climate Solutions](#)
2. [Aligned and Aligning](#)
3. [Managed Phaseout](#)

**Element B: Segmentation using refined definitions and attributes:** While the four key financing strategies are not mutually exclusive, each entity, asset, or project should be primarily segmented under one of the financing strategies, as per the financial institutions' chosen approach to meeting its net-zero commitment.

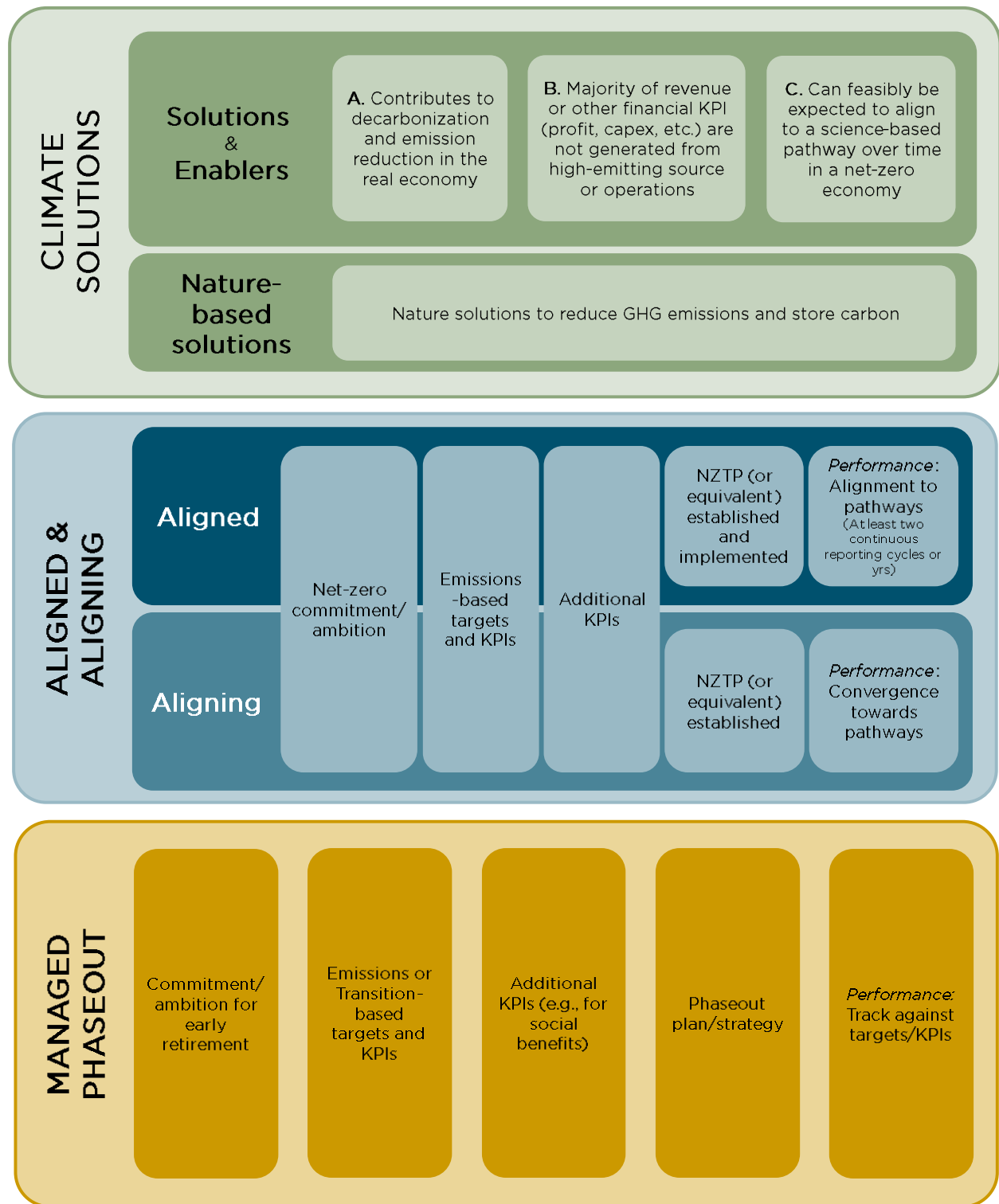
Please refer to [Element B: Segmentation using refined definitions and attributes](#) for the consultation discussion.

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<sup>10</sup> Refer to Appendix C for a list of select frameworks.

## Element A: Identification through refined definitions and attributes

Figure 3: Summary of attributes across the four key financing strategies



## Refined definitions for Climate Solutions

Climate Solutions play an important role in achieving net-zero commitments and supporting an orderly transition of the economic system. Existing solutions need to be scaled and new or nascent ones need to be commercialized and scaled. Financial institutions should identify and evaluate assets that directly and indirectly drive net emission reductions and mobilize capital towards the scaling of such assets.

**Climate Solutions:** *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. These solutions include scaling up zero-carbon alternatives to high-emitting activities — a prerequisite to phasing out high-emitting assets — as well as nature-based solutions and carbon removal technologies.<sup>11</sup>*

This consultation proposes refining Climate Solutions into three sub-segments that are necessary in a net-zero economy: Solutions, Enablers, and Nature-based solutions.

1. **Solutions** are assets that **directly** eliminate, remove, or reduce real-economy GHG emissions. Examples may include project financing to a pure play renewable energy solutions provider or project-specific financing support to expand the use of Carbon Capture, Utilization, and Storage (CCUS) technology by an energy company.
2. **Enablers** are assets that **indirectly** contribute to, but are critical for, emission

reductions by facilitating the deployment and scaling of Solutions. Examples may include general or project-specific financial support to a battery maker that is a supplier to an electric vehicle manufacturer or project-specific financing to develop smart grid infrastructure.

3. **Nature-based solutions** represent actions to protect, sustainably manage, and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits.<sup>12</sup> In the context of net-zero transition, nature-based solutions (or nature-based climate solutions) are those that use nature solutions to reduce GHG emissions and store carbon.<sup>13</sup> Examples may include general or project-specific support to an entity working with local communities to restore forests or project-specific support to an international hotel operator for the restoration of mangroves on one of its properties.

The proposed attributes outlined below reflect the important and distinct role of Solutions and Enablers. The attributes are designed to mobilize capital to the broad range of potential Solutions and Enablers that require financing to scale and operate, with guardrails to support focus on demonstrably contributing to emissions reductions and the transition to a net-zero economy.

With respect to Nature-based solutions, this consultation recognizes that further work is required. For some considerations, please see [Areas for Further Work — Part I](#).

<sup>11</sup> GFANZ. [Recommendations and Guidance on Financial Institution Net-zero Transition Plans](#), November 2022.

<sup>12</sup> IUCN. [Guidance for using the IUCN Global Standard for Nature-based Solutions](#), 2020.

<sup>13</sup> Adapted from The Nature Conservancy.

## Climate Solutions: Proposed Attributes

Attribute	
<b>A</b>	<p>Contributes to decarbonization and emission reduction in the real economy:</p> <ul style="list-style-type: none"> <li>• Should contribute to emissions reductions in a significant<sup>14</sup> manner<sup>15</sup></li> <li>• Should not lead to extension of lifespan (beyond net-zero pathways) of asset identified for phaseout</li> <li>• If not already aligned, entity should aim to become net-zero aligned over time</li> </ul> <p>It may be appropriate to consider the technical maturity and/or economic feasibility of a Solution or an Enabler when assessing its forward-looking decarbonization potential.</p>
<b>B<sup>16</sup></b>	Majority of revenue or other financial KPI (profit, capex, etc.) are not generated from high-emitting source or operations <sup>17</sup>
<b>C<sup>16</sup></b>	Reasonable efforts are made to address emissions reductions in the near and medium-term and can feasibly be expected to align to a science-based pathway over time in a net-zero economy

Firms are encouraged to draw upon existing frameworks, climate solutions data platforms, regional taxonomies, or their own proprietary methodologies to identify the activities and/or sectors that may be Solutions or Enablers. Activities and/or sectors identified by these other references should still be evaluated and assessed against Attributes A, B, and C.

This consultation recognizes that, while a Solution or Enabler entity's direct or indirect contribution to real-economy emissions reductions may be important, the entity may not yet have committed to aligning its own emissions to net-zero. While increased emissions in the short term may be necessary to scale Solutions and Enablers and, therefore, to qualify such entities as transition finance, financial institutions should consider working to transition Solution or Enabler entities to net-zero alignment over time.<sup>18</sup>

### Key considerations when applying and disclosing could include:

- Types of activities/sectors that are being classified as Solutions and Enablers
- Frameworks, guidance, or taxonomies that were used to define Solutions and Enablers, or identify relevant sectors or activities, if any
- Any proprietary methodology or scoring used for classification
- Identification and segmentation of Solutions and Enablers that are not also net-zero aligned

<sup>14</sup> WBCSD's [Guidance on Avoided Emissions](#) refers to companies and activities that have "a direct and significant decarbonization impact".

<sup>15</sup> For the identification of Enablers, it may be helpful to assess a potential Enabler entity in relation to a Solution. Consider the following: will a Solution exist without the Enabler in question? Is the Enabler specifically designed for/unique to the value chain of the Solution? Does the Enabler have a direct impact on the performance of the Solution and its ability to reduce/avoid emissions?

<sup>16</sup> Note that attributes B and C may not in all cases be applicable to Enablers. Individual judgement of the specific circumstances may be needed. Further feedback on this topic is welcome, please refer to the consultation questions.

<sup>17</sup> Attribute B may be most applicable when assessing entities (versus assets and specific activities).

<sup>18</sup> In these instances, firms may consider assessing the entities using the Aligning and Aligned proposed attributes and support such entities to align to net-zero, including development and implementation of an NZTP.

### Specific considerations for Enablers

Some Enablers may fulfil a critical role for certain Solutions and for the transition in general, but their business operations may currently be misaligned with the transition. An example could be an entity deriving the majority of its revenue from mining for copper and lithium, both of which are critical for scaling clean energy systems but are currently associated with significant emissions and negative environmental impacts.<sup>19</sup> Climate Solutions' attributes B & C may disqualify it from being segmented under Climate Solutions. However, including financing of such entities or assets under transition finance may be important to attract additional capital and to support an economy-wide transition. Such cases should consider the pro-rata share of product or services supporting the transition and be complimented by engagement plans to ensure all reasonable efforts are made to align the Enabler's operations as closely as feasible and support further alignment towards appropriate net-zero pathways over time.

### Consultation questions

1. Are the proposed attributes sufficient and flexible enough to help you identify assets to this segment?
2. What would be an appropriate revenue threshold for the purposes of identification?
3. Would the feasibility of alignment to a science-based pathway over time be a key consideration when identifying Solutions and Enablers?
4. Are separate and/or additional attributes required for Enablers?
5. Are there any other considerations for Climate Solution attributes, especially relating to hurdles to implementation (e.g., additional KPIs to consider, data limitations, suggestions for specific attributes for Enablers)?

## Refined definitions for Aligned and Aligning

**Aligned:** *Financing or enabling entities that are already aligned to a 1.5 degrees C pathway. This strategy supports climate leaders and signals that the financial sector is seeking transition alignment behavior from the real-economy companies with which it does business.<sup>20</sup>*

Within GFANZ's four key financing strategies, two strategies represent stages in an entity's transition towards net zero: Aligned and

Aligning. Both strategies are widely recognized within a variety of other established frameworks as part of alignment maturity scales,<sup>21</sup> and they delineate an entity's commitment and progress towards achieving operations that are consistent with a net-zero pathway.

The **Aligned** strategy includes those entities that are well on track or have successfully transformed or repositioned their operations to be net-zero aligned. For example, this may include financing of a power company that is meeting its targets and tracking on the

<sup>19</sup> IEA. The Role of Critical Minerals in Clean Energy Transitions, revised version, March 2022.

<sup>20</sup> GFANZ. [Recommendations and Guidance on Financial Institution Net-zero Transition Plans](#), November 2022.

<sup>21</sup> For example, the IIGCC Net-Zero Investment Framework, SMI Asset Manager and Asset Owner Task Force Transition Categorization Framework, and SMI Energy Transition Task Force Framework for transitioning companies.

pathway, with a robust and detailed transition plan that was implemented and validated by a third-party accreditation organization.

**Aligning:** *Financing or enabling entities committed to transitioning in line with 1.5 degrees C-aligned pathways. This strategy supports both high-emitting and low-emitting firms that have robust net-zero transition plans, set targets aligned to sectoral pathways, and implement changes in their business to deliver on their net-zero targets.<sup>22</sup>*

At the core of the **Aligning** strategy are entities that currently fall short of full alignment with net-zero objectives yet demonstrate progress and are converging toward net-zero. Examples may include investment in a large high-emitting company that has made a net-zero commitment and has a transition plan in place that is converging towards – but has not yet demonstrated alignment to – a 1.5 degrees C pathway, or financing provided to a mid-sized enterprise that has established a net-zero commitment with targets and a transition plan to achieve the targets.

One of the primary attributes implied in the original GFANZ definition of entities and activities considered Aligning is the presence of a robust transition plan. This consultation

acknowledges that developing transition plans requires both time and resources. As the focus of Aligning is on progress toward full implementation with an emphasis on near-term action, there is uncertainty where entities may be committed and progressing, but still developing a full net-zero transition plan. Financial institutions should evaluate entities against the five themes and ten components of the GFANZ NZTP framework.<sup>23</sup>

This evaluation may provide valuable insights into an entity's current alignment status, may identify areas where support and progress are needed, and may support identification of the entity as Aligning despite not having a full net-zero transition plan.<sup>24</sup>

[Appendix E](#) sets out hypothetical examples illustrating potential alignment pathways for entities and where further assessment may be required for the purposes of identification and segmentation.

For discussion of the types of further work required regarding the proposed 2030 interim target timeframe, the 'Performance' attribute for Aligned, and other considerations, see [Areas for Further Work – Part I](#).

<sup>22</sup> GFANZ. [Recommendations and Guidance on Financial Institution Net-zero Transition Plans](#), November 2022

<sup>23</sup> Refer to Appendix B for an overview of the framework. For guidance on its application to real-economy companies, refer to the GFANZ report [Expectations for Real-economy Transition Plans](#).

<sup>24</sup> Firms may find it helpful to refer to Table 15 in the GFANZ [Measuring Portfolio Alignment: Driving Enhancement, Convergence, and Adoption](#) report for a list of indicators and considerations for assessment in instances where net-zero transition plans may not be readily available.

### Aligned and Aligning: Proposed Attributes

Attribute	Aligned	Aligning
<b>Established net-zero commitment/ambition</b>	Commitment/ambition to reach net zero by 2050, specifying pathways/benchmarks	
<b>Established net-zero targets (set to pathway)</b>	Emissions-based KPIs: Scope 1 and 2; Scope 3 if material; minimum of 2030 interim targets aligned to net-zero pathways/benchmarks	
<b>Additional KPIs</b>	Consider tracking low-carbon revenues, planned low-carbon capex, other financial metrics as proxy for alignment; benchmarking/accreditation scores by third-party platforms, etc.	
<b>Net-zero transition plan</b>	Established and <i>implemented</i> ; consider including <i>current</i> and planned low-carbon capex	Established; consider including planned low-carbon capex
<b>Performance</b>	Actual performance against established targets/KPIs and <i>alignment</i> to pathways – at least two continuous reporting cycles or years	Demonstrating increasingly meaningful <i>progress</i> toward established targets/KPIs and <i>convergence</i> toward pathways

#### Key considerations when applying and disclosing could include:

- Any material exceptions and assumptions made for the purposes of identification and segmentation
- Other KPIs used to track degree of alignment
- Use of external guidance, frameworks, and taxonomies
- Accreditation/benchmarking/scoring by third-parties
- Expected year of alignment (i.e., aligned by 2030)

#### Consultation questions

6. Are the proposed attributes sufficient to help you identify entities to this segment?
7. Is the proposed target timeframe for alignment, set at 2030 and articulated through net-zero interim targets, appropriate for the purposes of identification?
8. Is the proposed progress and two-year continuous performance threshold for Aligned and Aligning appropriate for the purposes of identification?
9. Are there any other considerations for Aligned/Aligning attributes, especially relating to hurdles to implementation (e.g., data limitations, lack of disclosure regarding capex, other KPIs for degree of alignment)?



## Refined definition for Managed Phaseout

The following summarizes principles-based considerations and proposed attributes for the purposes of identifying and segmenting existing exposures to Managed Phaseout assets.

In seeking more detailed guidance on structuring, financing mechanisms, and other strategic considerations for credible Managed Phaseout transactions, as well as illustrative examples of Managed Phaseout, financial institutions and real-economy companies should refer to the following resources:

- [The Managed Phaseout of High-emitting Assets \(June 2022\)](#)
- [Financing the Managed Phaseout of Coal-Fired Power Plants in Asia Pacific \(June 2023\)](#)
- [Metrics and Mechanisms to Finance a Managed Coal Phaseout](#) (RMI; commissioned by GFANZ)

GFANZ highlighted the essential role of Managed Phaseout in the transition towards a net-zero economy in [The Managed Phaseout of High-emitting Assets](#) (June 2022). For high-emitting assets that cannot economically be transitioned in the near and medium term, their accelerated retirement can support a net-zero aligned plan. A Managed Phaseout plan for high-emitting assets provides a responsible stewardship option for financial institutions that own or provide financing to such assets or their owners and/or operators.

Managed Phaseout refers to the planned decommissioning of assets and the cessation of activities and processes that are incompatible with a net-zero emissions future. Managed Phaseout does not encompass the alternative assets that may be constructed or deployed to replace the assets designated for phaseout. For example, when assessing a power plant designated for phaseout against the proposed identification and segmentation approaches, clean power assets that may replace it would

not be included in scope (e.g., the targets, pathways, KPIs, and performance to be evaluated will only include the phaseout asset). Identification and segmentation of the clean power asset would be conducted separately, e.g., subject to the Climate Solutions or Aligned proposed attributes. The assessment may result in the identification and segmentation of the power plant exposure as falling under the Managed Phaseout strategy and the alternative (renewable energy asset) as falling under the Climate Solutions financing strategy.

Further guidance on Managed Phaseout is in development by the GFANZ Asia-Pacific (APAC) network that may also be used for the purposes of identification and segmentation. As of the time of this writing, the final APAC phaseout report is still in draft stage and planned for release ahead of COP28.

**Managed Phaseout:** *Financing or enabling the accelerated managed phaseout (e.g., via early retirement) of high-emitting physical assets. This strategy facilitates significant emissions reduction by the identification and planned early retirement of assets while managing critical issues of service continuity and community interests.<sup>25</sup>*

As recommended in the [The Managed Phaseout of High-emitting Assets](#) report, to qualify for phaseout, an asset should exhibit certain key characteristics. **Figure 4** illustrates an approach to identifying assets relevant for the Managed Phaseout approach.

Managed Phaseout could be viewed as a special application of net-zero alignment for particular assets and thus may be part of the asset owner's broader Aligning and Aligned strategies.

<sup>25</sup> GFANZ. [Recommendations and Guidance on Financial Institution Net-zero Transition Plans](#), November 2022.



**Figure 4: Identifying assets relevant for Managed Phaseout approach<sup>26</sup>**

<b>1</b> DOES THE ASSET NEED TO BE PHASED OUT?	Potential considerations could include the following characteristics: <ul style="list-style-type: none"> <li>Is the asset in a high-emitting sector?</li> <li>Is there scope for investment to decarbonize through redevelopment or retrofitting?</li> <li>How does the asset sit within sector (e.g., GHG emissions intensity relative to substitute product/service, incoming/expected technology, cost)?</li> <li>Asset age; relatively young assets may need a plan to be retired early given potential length of operation otherwise.</li> </ul>
<b>2</b> OVER WHAT TIME FRAME DOES THE ASSET NEED TO BE RETIRED / PHASED OUT?	What is the normal operating life / time horizon of the asset? What timeframe for retirement is implied by a net zero-/1.5 degrees C-aligned sectoral pathway?
<b>3</b> ARE THERE OTHER STAKEHOLDERS WHO WOULD HAVE AN INTEREST?	Does the asset pertain to a broad set of stakeholder interests? What might be the implications of this on financing support and just transition considerations (e.g., employment, continuity of service)?

**Managed Phaseout: Proposed Attributes<sup>27</sup>**

Attribute	
<b>Established net-zero commitment/ambition</b>	Commitment/ambition to retire the asset early (i.e., before the expected or intended economic life)  The pathway or benchmark for early retirement may include (not exhaustive): emissions avoided, sector pathway, country carbon budget, max years of operations, etc.
<b>Established net-zero targets (set to pathway)</b>	Emissions or Transition-based: Targets set against the pathway or benchmark established as part of the phaseout commitment to track phaseout progress (e.g., early retirement year, interim targets along the phaseout GHG emissions profile, etc.)
<b>Additional KPIs</b>	May include operational KPIs, decommissioning provisions, retraining of staff, plans in place for alternative (e.g., clean energy) supply, third-party validation/audit, phaseout financing structure, etc.
<b>Net-zero transition plan</b>	In the context of phaseout, refers to the phaseout plan specific to the asset and/or captured as part of FI or owner/operator’s phaseout strategy. <sup>28</sup>  The phaseout plan may include estimations of capex requirements. Planned capex may also be used as an indicator/KPI that tracks capital allocation as part of progress towards phaseout; consider specific capex needs such as carbon efficiency, decommissioning, general capex to support early retirement, etc. <sup>29</sup>
<b>Performance</b>	Actual performance against established targets/KPIs for phaseout asset along the specific pathway or benchmark. <sup>30</sup>

<sup>26</sup> Figure 8 from the GFANZ [Managed Phaseout of High-emitting Assets report](#), June 2022.

<sup>27</sup> To support a range of approaches, the proposed attributes include potential entity-level application, but the identification and segmentation exercise in such instances may still necessitate assessment against the indicators on an asset-by-asset basis.

<sup>28</sup> Please refer to the GFANZ resources listed in the introduction to this section for further guidance on considerations for credible Managed Phaseout transactions and aspects to be included in a phaseout plan/NZTP.

<sup>29</sup> Please refer to Chapter 5 in the GFANZ [Managed Phaseout of High-emitting Assets report](#) for more guidance on information and indicators to include in phaseout plans.

<sup>30</sup> Note that this may be challenging if the asset is operated largely as normal until planned retirement.

**Key considerations when applying and disclosing could include:**

- Any material exceptions and assumptions made for the purposes of identification and segmentation
- Other KPIs used to track phaseout progress; particularly if unique to specific asset or structure
- Regional context, including on any supporting national policies, just transition elements, etc.
- Accreditation/benchmarking/scoring by third parties

**Consultation questions**

10. Are the proposed attributes sufficient to help you identify assets to this segment?
11. Are there any other considerations for Managed Phaseout attributes, especially relating to hurdles to implementation (e.g., data limitations, lack of disclosure regarding capex, other KPIs for tracking phaseout progress)?

**Element B: Segmentation using refined definitions and attributes**

This consultation proposes two tests to assist financial institutions in effectively segmenting portfolio positions into distinct transition finance strategies. These segmentation tests may be used independently or together in any sequence depending on the strategic priorities in the financial institution's NZTP. Financial institutions can integrate these tests into their Implementation Strategy (development of products and services, decision-making processes to drive capital allocation, and development of policies) and Engagement Strategy (support and education of clients and portfolio companies, collaboration with peers, working with policymakers).

**Test A:** Climate Solutions and Managed Phaseout are considered together under one test as they possess more distinct and unique attributes and are often assessed at the asset or project-level, although not exclusively.<sup>31</sup>

**Test B:** The Aligning and Aligned strategies are assessed together under another test as they pertain more to entities and represent

points on a continuum, denoting a progression towards net-zero alignment.

Any exposure that meets the attributes under Test A and/or B should be segmented as Transition Finance under the approach proposed in this consultation. Please refer to [Appendix E](#) for an illustrative example of how the segmentation tests may be implemented. Examples of use cases for these tests could include:

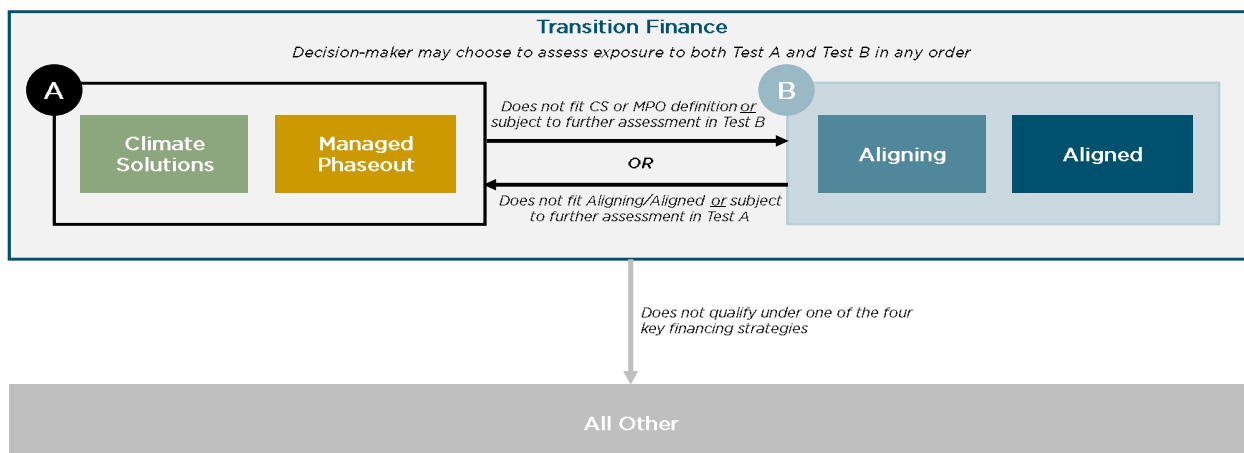
- **Only Test A:** If a financial institution has decided to focus on Climate Solutions either for its whole business or for a fund or department, only Test A may be needed and could inform capital allocation decisions toward Climate Solutions. For instance, a financial institution may have a dedicated strategic asset allocation to invest in CCUS projects. Given the financial institution's focus at the asset or project level and on specific Climate Solutions activities, the financial institution may benefit most from an assessment of its exposures through Test A.

<sup>31</sup> Climate Solutions, as proposed, may include entities, assets, and projects; Managed Phaseout is generally considered at the asset or project level.

- Only Test B:** If a financial institution has decided to focus on supporting companies transitioning to net zero, then Test B may be all it requires to guide its approach, as Test B could inform capital allocation decisions combined with a targeted engagement strategy. For instance, if a financial institution is looking to identify and segment the portion of its exposures to Aligning companies that are currently high-emitters to support execution of a dedicated engagement strategy, the financial institution may first filter exposures for high-emitting companies and then subject each of them to Test B to identify and segment them as Aligning and support their progression towards Aligned.
- Test A and Test B:**

  - If a financial institution is focusing on Climate Solutions, but also wants to evaluate emissions reductions in its financed emissions, Test A may be used to identify entities that are Climate Solutions and then Test B may be used to identify which of these entities are aligning their own operations to net zero. This could help the financial institution prioritize where efforts are needed to move such exposures onto the alignment scale. Specifically, for example, a financial institution that has provided financing to a pure play renewable energy solutions provider may have already segmented this exposure as Climate Solutions (sub-segment: Solutions). The financial institution, however, may have an objective in its NZTP to support progression towards net-zero alignment that is applicable to all entity-level exposures through a dedicated engagement strategy. In this instance, the financial institution may subject the solutions provider to Test B to additionally identify and segment the renewable energy solutions provider as Aligning/Aligned in support of the NZTP (by supporting the solutions provider's transition to net zero). The reverse order may also apply: the financial institution may have already segmented all entity-level exposures as Aligning/Aligned but may have dedicated products for Aligning solutions companies. In this instance, the financial institution may assess the Aligning entities under Test A to identify and segment as Climate Solutions (sub-segment: Solutions) in support of this implementation strategy.
  - If a financial institution has a comprehensive protocol to understand all exposures in its portfolio, it may develop a points system that uses both Test A and Test B (in any order) to evaluate exposures that fall within multiple segments and thus inform capital allocation decisions.

**Figure 5: Segmentation Decision Flow**



The 'All Other' segment would capture any exposures that do not qualify as transition finance under one of the four key financing strategies.

**Consultation questions**

12. Considering the proposed approaches, do you foresee any potential unintended consequences that may disincentivize financing in the four key financing strategies or motivate behavior that may not be supportive of the net-zero transition?
13. If you were to implement the proposed approaches today, what could be some challenges you might encounter?

## Areas of Further Work — Part I

This consultation proposes approaches to further operationalize the transition finance concept and associated four key financing strategies introduced in the GFANZ [Recommendations and Guidance on Financial Institution Net-zero Transition Plans](#) report. The GFANZ Secretariat acknowledges that additional work may be needed to further improve segmentation to support comparability and to scale transition finance.

This consultation proposes a conceptual and pan-sector identification and segmentation approach that may be applicable to both primary and secondary exposures to the four key financing strategies. Nuances associated with the varying degrees of influence and different asset classes may potentially impact the proposed attributes and segmentation considerations of each strategy. Further refinement of the attributes and approaches may be necessary to support implementation across different asset classes.

The attributes for Solutions and Enablers help to narrow the components of Climate Solutions, but further work is needed to specify other KPIs to track progress and identify what science-based pathways could be considered. Further work is warranted with respect to: the depth of specificity into Enablers; the complexity of Climate Solutions' value chains; and the degree of weight assigned to technological maturity and economic feasibility factors. The GFANZ work on Sectoral Pathways<sup>32</sup> suggests possible answers, given that key Climate Solutions are identified in sector pathways. Part II of this

consultation proposes a possible path to develop emission-based KPIs, but further work is needed to connect such KPIs with net-zero targets.

The treatment of Nature-based solutions is rapidly developing but is still new and evolving. While the GFANZ Secretariat recognizes that Nature-based solutions are essential to achieving net-zero goals, work to define the role of Nature-based solutions in net-zero transition is still developing.

The proposed two-year performance timeframe under the Aligned segment will necessitate testing with actual data to determine its feasibility and effectiveness in capturing climate leaders and entities that are aligned with pathways. In addition, the degree and period of divergence from a pathway and how these forward-looking factors should be accounted for in determining whether an entity is Aligning or not requires further testing and development. In this context, best practice approaches may be required to monitor the progress of Aligning entities over time and establish how long an Aligning entity may be classified as such without progressing to the Aligned stage. There are potential challenges, primarily due to the nascent stage of the Aligned concept, as well as limitations to data availability and restrictive sample sizes as a result. Data providers will be important contributors to drive this development forward.

Please note that the 'All Other' segment may encompass a variety of exposures. Further

<sup>32</sup> Refer to the GFANZ report [Guidance on Use of Sectoral Pathways for Financial Institutions](#) for details.

analysis of this segment could be warranted as the constituent components of this segment may be fluid and with further work, some exposures may move out of 'All Other' and into one of the four key financing strategies. For example, 'All Other' may include: holdings that have not undergone assessment yet (e.g., due to timing, process, or data limitations, but that may still qualify as Transition Finance upon assessment); enablers that do not qualify as Climate Solutions based on the proposed attributes; or exposures in other asset classes that may require further refinement of definitions and indicators before segmentation may take place. Financial institutions may find it beneficial to break down this 'All Other' segment to provide insights in support of other use cases and to inform their net-zero transition plans.

There may be situations where an interim target later than 2030 is merited. A possible approach

is to use forward-looking cumulative emissions. Multiple decision points would influence the useability and credibility of such a metric, including selection of baseline benchmark, forecast methodology, attribution versus hold period, and others. Some of these were contemplated in the Portfolio Alignment Measurement work,<sup>33</sup> but further industry implementation is needed to test them.

The role of regionality is important when evaluating the alignment of an entity or asset and in the context of Managed Phaseout. Different regions have distinct economic dynamics, regulatory landscapes, and other factors that may influence alignment or phaseout thresholds and timeframes. This consultation suggests attributes and application from a principles-based approach, but implementation should consider region-specific pathways. Availability of these may be limited at this time.

#### Consultation questions

14. What sub-segments would you consider under the 'All Other' segment? Please identify and provide rationale and examples.
15. Any additional feedback regarding Part I of this consultation?

<sup>33</sup> Refer to the GFANZ report [Measuring Portfolio Alignment: Driving Enhancement, Convergence, and Adoption](#) for details.

# Part II: Decarbonization Contribution Methodologies

## Overview

Monitoring portfolio GHG emission footprints over time enables financial institutions and their stakeholders to track and disclose progress toward net-zero targets based on historical data. However, current and historical GHG emission footprints do not necessarily correlate with the future expected real-economy decarbonization impact of capital allocation decisions. Calculating such forward-looking measures is not straightforward but is important, as without best practice approaches there is a risk that financial institutions are disincentivized from going to where the emissions are and providing financing to bring them down over time. Examples of areas where financing could contribute to future emissions reduction might include, for example, an investment in the electricity grid to support connecting renewables; an airline looking to switch to sustainable aviation fuel (SAF); or an energy company looking to retire fossil fuel assets early and pivoting to clean energy. The decarbonization contribution methodologies considered below seek, therefore, to develop proposed approaches for forward-looking real-economy emissions impacts for each of the transition finance strategies in Part I.

While the approach outlined in Part I supports financial institutions in quantifying the share of a portfolio allocated to transition finance either

as monetary value or percent of business, the methodologies proposed in Part II seek to quantify decarbonization impact across the four key financing strategies as Expected Emission Reductions (EER). An EER measurement has the potential to facilitate the monitoring and reporting of:

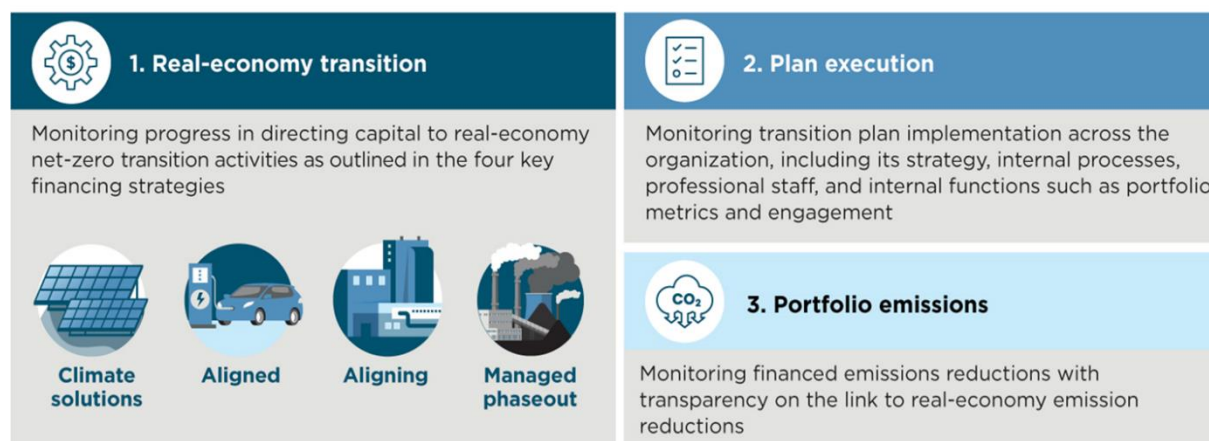
1. The amount of real-economy potential emissions impact the financing decision may have.
2. The potential emission reduction per unit of financing capital deployed.

This consultation seeks market feedback on the proposed approaches to quantify EER for transition finance as an impactful and complementary measure to financed emissions target-setting. Employing EER offers the advantage of quantifying the expected real-economy emissions impact – or the “emissions return” – that can aid those financial institutions looking to pursue decarbonization strategies designed to address future emissions, to make informed capital allocation decisions. Such a metric would also be important for reporting to a broad set of stakeholders with an interest in the progress financial institutions are making in supporting real economy decarbonization and in delivering on their individual net zero commitments.



**Figure 6: The EER uses metrics related to the real-economy transition (group 1 in the chart) and complements portfolio emissions metrics and targets (group 3 in the chart), as per the categories of metrics that form part of transition planning<sup>33</sup>**

### Categories of metrics for



## Current approach to measuring climate impact

Although best practice is evolving quickly, financial institutions generally report the scale of assets under management or allocated capital associated with transition strategies and/or the current level of associated financed emissions to articulate the scale and impact of their transition finance activities. While measures of emissions may help to quantify the current status of transition financing and its impact, and can help set targets for future growth in transition finance activities, it does not necessarily indicate the real-economy GHG impact. Thus, measures of emissions have limited applicability in strategic, institution-wide, forward-looking efforts to decarbonize the real economy and to track and communicate progress.

When financial institutions prioritize financing to real-economy companies that have made net-zero commitments (Aligning and Aligned strategies), common metrics employed today, such as financed emissions, are often backward-looking and focus on the downward slope of the

emissions profile that is required to meet the long-term target, i.e., annual percent reduction. While such an approach is needed to chart a net-zero implementation pathway it does not express the future “emissions return” or EER of that effort. Therefore, when financial institutions provide finance or investment to hard-to-abate sectors that require a shift toward low-carbon practices, there is a risk that the emissions associated with these financed activities may rise. This potential increase in financed emissions could discourage financial institutions from pursuing transition finance strategies in these sectors.

Allocation methods<sup>35</sup> applied today focus on allocating the current emissions to financial institutions depending on a financial metric, such as share of equity or enterprise value. This consultation considers how these allocation methods could also be applied to EER.

<sup>34</sup> GFANZ. [Recommendations and Guidance on Financial Institution Net-zero Transition Plans](#), November 2022.

<sup>35</sup> The Global GHG Accounting and Reporting Standard for the Financial Industry, The Partnership for Carbon Accounting Financials (PCAF), 2022.

## Considerations for proposed approaches to quantifying a decarbonization contribution

The concept of EER relies on two key considerations:

1. Selection of – and comparison with – a business-as-usual (BAU) benchmark based on science-aligned scenario pathways, or an emission factor.<sup>36</sup>
2. Allocation of the EER – either apportioning its contribution in a Climate Solution's value chain or attributing it to financing capital deployed.

### Business as usual benchmark

Employing the EER involves comparing a projected emissions profile to a BAU scenario, i.e., what would have happened if no efforts to transition were made. For the transition financing strategies of Aligned and Aligning, this is usually compared against a sector-specific scenario pathway but can also be based on a counterparty-specific emissions reduction trajectory (**Figure 9**). For Climate Solutions and Managed Phaseout, BAU can be expressed as an emissions factor that relates to the emissions associated with the current technology. For instance, in numerous countries the prevailing heating systems are gas-powered. Therefore, if a financial institution intends to provide financing or investments for an entity transitioning from gas-powered systems to heat pumps, the baseline emissions factor would correspond to the emissions factor of the gas being replaced.

As set out in Part I, **Aligned and Aligning** entities would be expected to develop a net-zero transition plan for emissions reductions to an interim target, e.g., 2030, and long-term target, e.g., 2050, in line with appropriate science-based pathways for the sector. To quantify EER, the projected emission profile to net zero can therefore be benchmarked to a BAU pathway. To support credibility, the BAU pathway should be carefully chosen to be

robust and sector and/or region specific if available.

Relatedly, the use of a forward-looking methodology accommodates net-zero plans that may result in stepwise financing and real-economy GHG impact instead of smoother, year-on-year reductions. Some entities may have emission reduction steps in their plan, e.g., replacement of high-emitting equipment. Comparing the entity's net-zero plans to a BAU pathway allows for a forward-looking assessment of potential emissions over- or undershoots.

**Climate Solutions** and **Managed Phaseout** both involve financing an alternative to a high-emitting technology or activity (the BAU). However, considering Scope 1, 2, and 3 emissions may not be sufficient to reflect the true emissions reduction potential of Solutions. Hence, employing life cycle emissions analysis allows for quantifying potential emissions savings outside of the alternative's immediate value chain, and helps to provide a more accurate evaluation of when and where during the Solution's lifetime emissions savings can be realized. Additionally, when calculating or selecting a BAU emissions factor, considering cradle-to-grave emissions helps to account for embodied emissions<sup>37</sup> throughout the entire value chain.

Nonetheless, life-cycle emissions approaches face significant data, resource, and expertise challenges. To address these challenges in the short-term, a simpler, more implementable BAU could be the use of direct end-use emissions factors from the technologies or activities being replaced. Such a simpler BAU could be beneficial when fossil fuel technologies are replaced with a renewable energy technology (Climate Solutions), or when a coal-fired power plant is phased out (Managed Phaseout). In

<sup>36</sup> An emissions factor is a numerical value that represents the amount of greenhouse gas emissions produced per unit of a specific activity or resource use, for example kg CO<sub>2e</sub> per tons of steel or cement.

<sup>37</sup> E3G describes embodied or embedded emissions as follows: "Embodied carbon emissions of goods, also known as embedded carbon emissions, refer to the greenhouse gas emissions generated during the production and transportation of goods, from the extraction of raw materials to the manufacturing process and final delivery to the consumer."



such cases, the BAU could simply correspond to the emissions factor of the fossil source.

Enablers have additional considerations. [Part I](#) of this consultation characterized Enablers as those technologies and services that are critical to developing and scaling a Solution, but that have an indirect link with the emission reduction. Two critical considerations for Enablers are:

1. The appropriate BAU emission factor (assuming the Enabler is part of a Solution's value chain), and
2. The appropriate attribution factor to represent the Enabler's contribution in the value chain of the end-use Solution.

### Allocation of EER to financial institutions

Once the EER is calculated, the share that a financial institution may claim at a point in time needs to be determined. Allocating the share of EER to financial institutions could provide decision-useful information for strategic capital allocation decisions and transparency on net-zero progress. However, based on the holding period of a specific transition finance exposure, guidance is needed to help financial institutions attribute a credible percentage of EER to their portfolio and to aggregate EER at the portfolio level.

### Consultation questions

16. What is your organization's preferred approach for measuring the impact of transition finance activities, for example for capital allocation, monitoring, and disclosure purposes? What are the benefits and drawbacks of these approaches?
17. Would best practice approaches for calculating EER add value to your current investment/financing/underwriting practices?
18. What are key considerations for the development of a decarbonization contribution methodology? What challenges do you anticipate?
19. What important references and research papers should we take into account with regard to further work on decarbonization contribution?
20. Any additional feedback regarding the Overview and Current State section?

# Considerations for Decarbonization Contribution Methodologies to Derive Expected Emission Reductions<sup>38</sup>

This section, which outlines potential approaches to derive EER for each of the four key financing strategies in more detail, is organized under the following headlines:

- A. **Potential approaches for Aligned and Aligning transition finance strategies** – this section explores the application of the Emissions Reduction Potential (ERP) method for calculating EER in the context of Aligning and Aligned segments
- B. **Potential approaches for Climate Solutions and Managed Phaseout transition finance strategies** – this section explores the application of Avoided Emissions methods for calculating EER in the context of Climate Solutions and Managed Phaseout segments
- C. **Allocation: Attribute the expected emission reductions to the financing entity** – this section proposes an approach for attributing EER to the financial institution (applicable across all four key financing strategies)
- D. **Disclosure considerations** – this section includes an exploration of various disclosure recommendations.

## A. Potential approaches for Aligned and Aligning transition finance strategies

To calculate EER for Aligning and Aligned entities, this consultation paper proposes employing the Emissions Reduction Potential (ERP) method.<sup>39</sup> This is a forward-looking methodology to quantify the GHG emissions reduction potential of transition finance activities over a specified time horizon, compared to a BAU baseline pathway for Aligning and Aligned financing strategies. Such an approach<sup>40</sup> takes advantage of the use of existing standards for net-zero aligned target-setting,<sup>41</sup> i.e., mapping an entity's future pathway based on its reduction commitments against a net-zero pathway. It is also complementary with established guidance on Measuring Portfolio Alignment (PAM)<sup>42</sup> that could provide additional insights for computing ERP.

The suggested steps for computing EER with the ERP are as follows:

1. Benchmark: Select a BAU pathway
2. Projection: Develop an entity's forward-looking emissions profile
3. Calculation: Compare and select metrics for expressing the difference

Application of steps 1-3 leads to the allocation of the EER to the financing entity.

<sup>38</sup> Refer to [Appendix H](#) for a list of select methodologies and frameworks that were drawn on to develop the considerations proposed.

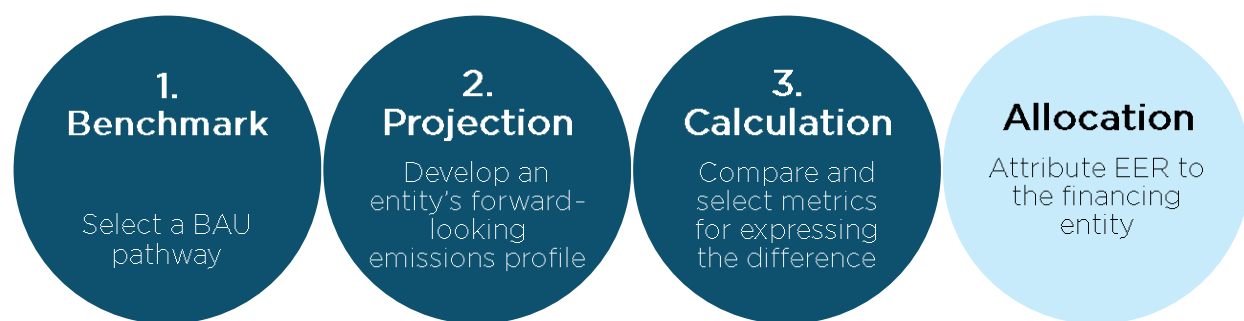
<sup>39</sup> CDP, Emerging Climate Technology Framework, 2021.

<sup>40</sup> ERP aligns closely with the concept of Avoided Emissions. While the Avoided Emissions framework reflects past data, the ERP approach is forward-looking.

<sup>41</sup> For example, best practice guidance such as the SBTi Corporate Net-Zero Standard.

<sup>42</sup> GFANZ, Driving Enhancement, Convergence and Adoption, Measuring Portfolio Alignment, 2022.

**Figure 7: Steps to the ERP method**



**Step 1 – Benchmark: Select a BAU**

Building upon existing PAM approaches (Figure 10), selecting a BAU benchmark could employ the same principles as those used for net-zero benchmarks. PAM provides Key Design

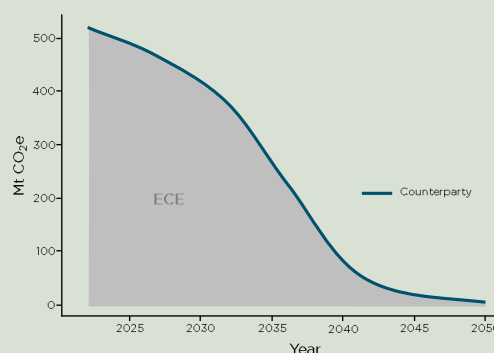
Judgements that could be valuable in this context, such as considering the use of absolute versus intensity emission units, emissions Scope, granularity of benchmark scenarios validated by science (sectors/geography), technology assumptions, and others.<sup>43</sup>

**A complimentary measure to address the challenges of defining BAU pathways**

Determining the BAU scenario is often challenging as it involves making predictions of the emissions that would have occurred in the absence of a specific intervention or project. This prediction can be complex and may involve uncertainties related to factors like economic growth, technological advancements, policy changes, and other external variables. In this context, **Expected Cumulative Emissions (ECE) could be an important, complementary measure for assessing an entity's or asset's future absolute emissions in comparison to the remaining carbon budget as outlined by the IPCC.**

Rather than relying upon the projection of a hypothetical BAU, ECE simply represent the cumulative total expected remaining emissions of an entity or asset on its journey to net zero<sup>44</sup>. Essentially, ECE are the forward-looking area under the curve that can be linked to the remaining carbon budget (Figure 8). A smaller ECE indicates that the entity is using up a smaller amount of the remaining carbon budget, as calculated by IPCC<sup>45</sup>. In terms of data needs, the approach solely relies on projected data for the entity or asset (Step 2 in Figure 7).

**Figure 8: Expected Cumulative Emissions are the area under the curve of a counterparty's pathway towards net zero**



Depending on the Aligned/Aligning entity, the BAU pathway may be specific to the entity, could be a broader sector or region-specific

pathway, or it could require a combination of both. Alternatively, a potential BAU for

<sup>43</sup> These considerations and others are discussed in the GFANZ [Guidance on Use of Sectoral Pathways for Financial Institutions and Measuring Portfolio Alignment: Driving Enhancement, Convergence, and Adoption reports](#). Key findings for the former are in Appendix D and for the latter are in Appendix G.

<sup>44</sup> This could also be an asset's remaining lifetime in the context of Managed Phaseout.

<sup>45</sup> IPCC. [Climate Change 2023: Synthesis Report](#), 2023.

Aligned/Aligning entities could also be based on historical emissions.

- Example 1: If the entity’s emissions are primarily from direct Scope 1 GHG emissions, such as in steel manufacturing, the BAU pathway may be based on emission factors of the specific steel intensity coupled with planned production capacities.
- Example 2: If the entity’s business is supporting a broader activity, such as operating a toll road, the BAU pathway may be based on societal behaviors such as driving habits and uptake of low-emissions vehicle technology.
- Example 3: If the entity produces a scalable product or service and has plans to expand, the BAU pathway may be a combination of emissions required to produce or deliver the product or service, and the expected demand to use the product or service, e.g., a mail-order retailer that delivers its product to the customer.

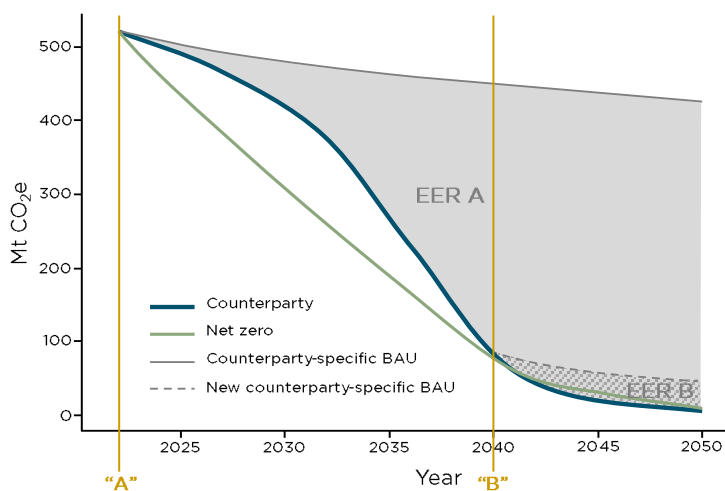
In all cases above, the financial institution would have two options for developing or selecting a BAU pathway:

Option 1: Use a disclosed BAU pathway from the Aligned/Aligning entity

Option 2: Develop a BAU based on the financial institution’s own data and assumptions

In both cases, the point at which the financial institution adds the Aligned/Aligning entity to its portfolio is a key determining factor in the BAU and therefore in the quantity of EER that the financial institution can claim. Therefore, EER will be influenced by both the timing of the financing and the remaining EER potential in the entity’s net-zero transition. By way of example, choosing to finance an entity that is in the initial stages of alignment (see to point “A” in **Figure 9**) could result in a greater EER (compared to the grey area marked EER A). In contrast, choosing to finance an entity that is already aligned (refer to point “B” in **Figure 9**) could result in a significantly reduced EER (see the striped area marked EER B). This is analogous to expecting a higher return for the risk of financing early-stage entities (point “A”) and conversely, a lower expected return for financing mature entities (point “B” in **Figure 9**). It is crucial to note that if a financial institution chooses to provide funding or to invest in early emissions reduction initiatives that ultimately do not materialize as expected, the EER should be revised downward accordingly.

**Figure 9: Timing of financing decision impact on available EER**



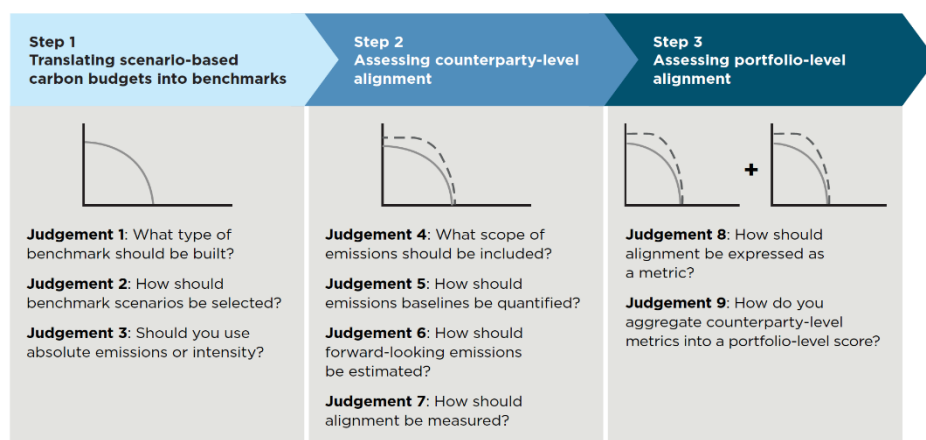
If the financing decision is made at point “A”, the financial institution could report its share of EER based on the entire grey shaded area (EER A). If the financing decision is made at point “B”, the available EER is reduced to the striped area (EER B). Note that in this illustration a counterparty-specific BAU emissions trajectory could have been derived from the counterparty’s historical emissions performance.

Hence, in contrast to the current emphasis on reducing financed emissions, the proposed EER approach encourages financing of entities in high-emitting sectors that have yet to achieve net-zero alignment but possess a robust net-zero transition plan. Such financing decisions support and scale a whole-economy transition. Even if a financial institution has prioritized the Aligning financing strategy, applying the proposed EER approach would not necessarily justify reducing continued support of Aligned entities. Ultimately, both Aligned and Aligning entities will require substantial financial support to become aligned and maintain alignment over time.

### Step 2 – Projection: Develop an Entity’s Forward-looking Emissions Profile

If an entity has developed a net-zero transition plan, a forward-looking net-zero emission profile can be calculated based on the entity’s emissions reduction target. According to best practice approaches outlined in PAM, the projection could be based on historical and forward-looking data, with the weighting supported by a credibility or risk factor, or a combination of the two. The PAM work explored these options as shown in the Key Judgments 4, 5, 6, and 7 in **Figure 10** below which should be considered and implemented when projecting an entity’s emissions into the future.<sup>46</sup>

**Figure 10: Summary of judgements from Portfolio Alignment guidance**



When measuring alignment, practitioners can follow nine Key Design Judgements across three steps. Step 1 is about building the benchmark; step 2 is about comparing company-level alignment against this benchmark, and step 3 is about aggregating alignment at the portfolio level.

### Step 3 – Calculation: Compare and Select Metrics for Expressing the Difference (EER)

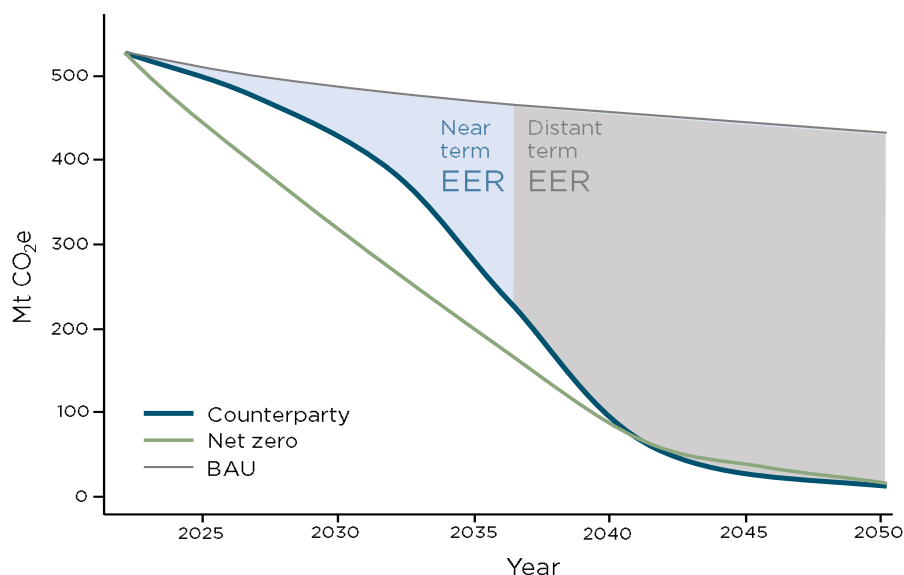
Calculating the EER involves comparing the BAU pathway (Step 1 – **Figure 9**) to an entity’s forward-looking emission profile (Step 2 – **Figure 9**). This could be accomplished by either comparing the change in cumulative emissions over time or by examining point-in-time emissions<sup>47</sup> between the BAU and the entity. When using cumulative emissions, the EER would be expressed as absolute emissions and would therefore establish a direct link to the

remaining carbon budget. Judgment 7 of the PAM work discusses considerations such as the appropriate time period for comparison. **Figure 11** demonstrates that although the EER in the short term is significantly lower than the EER in the more distant future, it may carry greater credibility because it is based on concrete short-term actions being undertaken by the entity. Considerations related to temporal factors and potential risk-weighting are discussed further in [Areas for Further Work – Part II](#).

<sup>46</sup> Please see [Measuring Portfolio Alignment: Driving Enhancement, Convergence, and Adoption](#), 2022, GFANZ. Key judgements are provided in Appendix G. The PAM report also recommends performing a credibility assessment of the entity’s emission reduction target, with preference of short-and medium-term over long-term targets.

<sup>47</sup> For example, a physical intensity ratio.

**Figure 11: Potential application of EER across time periods**



Near term EERs (blue) are lower than distant term EERs (grey), i.e., the area between the BAU and counterparty emissions curves. However, the near term EERs might be considered more credible as they could be based on current actions, while distant term EERs would be more uncertain.

Alternatively, the EER could also be calculated based on a point-in-time assessment, e.g., using a physical or production intensity unit. In this case, the comparison to the BAU pathway would reference a specific point in time.

EER could be the input for quantifying “Financed EER” which would constitute a

comparable metric across different portfolios and entities. To calculate Financed EER, the EER would need to be allocated to each financial institution, for example by using an attribution approach as proposed under the heading: [C. Allocation: Attribute the Expected Emissions Reductions to the financing entity.](#)

**Use case for the EER metric to analyze an entity’s deviation from a net-zero pathway**

Over time, an entity may deviate from its previously established net-zero emissions reduction profile ([Appendix E](#)). A financial institution would need to take into consideration the quantity and length of deviation and relevant strategic efforts the entity is undertaking to address these changes in its emissions reduction profile. Comparing the adjusted EER to the original EER may help a financial institution monitor the net-zero progress of portfolio positions. In instances where an entity is deviating from its original emissions reduction profile, the adjusted EER may be reduced compared to the original EER. Although a slight temporary deviation may not be a concern, more significant changes should be addressed as the entity may require substantial corrections and support in the medium and long term in order to fulfil its net-zero commitment.

### Combining EER with Portfolio Alignment approaches to determine the impact of Aligned/Aligning Transition Finance Strategies

The PAM report<sup>48</sup> discussed assessing alignment by comparing an entity's projected net-zero emissions profile with an appropriate net-zero benchmark, based on cumulative emissions. Entities that have made a net-zero science-aligned reduction commitment should eventually become aligned with their net-zero benchmark. In this context, the use of cumulative emissions is helpful as it reflects the remaining carbon budget and facilitates a varied pace of decarbonization over the entity's net-zero target time horizon.

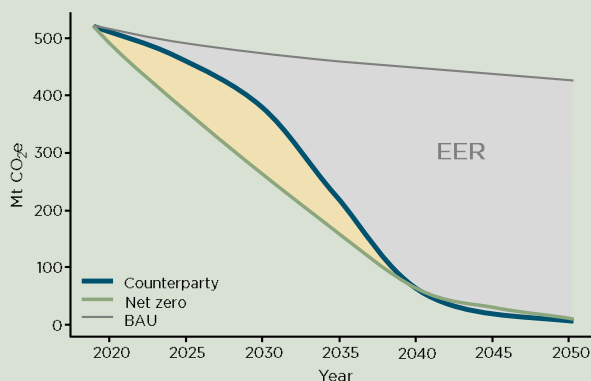
Building on PAM and the EER concept discussed in this consultation, additional forward-looking impact metrics, such as maturity scale alignment, benchmark divergence, and implied temperature rise (ITR), could be valuable in reflecting EER in the net-zero context.

Maturity scale alignment metrics are well-established and used by financial institutions following the recommendations of the IIGCC Net Zero Investment Framework (NZIF). NZIF proposes grouping entities into alignment categories on a scale of net zero, aligned, aligning, and non-aligned. Key considerations for identification and segmentation as proposed in Part I of this consultation may be used to determine whether an entity is Aligning versus Aligned.<sup>49</sup>

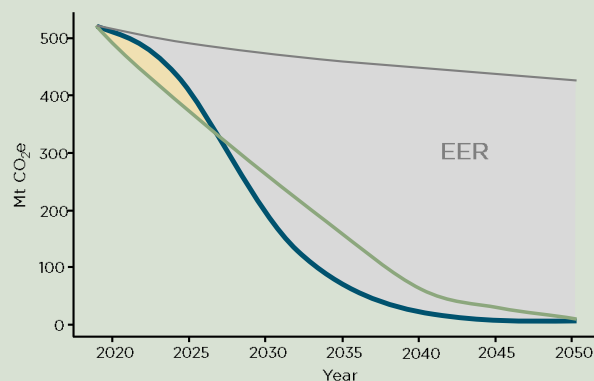
The benchmark divergence metric, in contrast, could directly feed into assessing the ambition of a specific EER. The metric expresses a carbon budget over- or undershoot based on an entity's reduction commitment over short-, medium-, or long-term time horizons versus a net-zero benchmark. The lower the differential to the net-zero benchmark, the closer the entity would be to becoming aligned. The graph on the right side in **Figure 12** depicts a company overshooting its net-zero benchmark by only a small margin and therefore demonstrating a larger EER compared to the BAU benchmark. Conversely, if the overshoot to the net-zero benchmark is more significant, a steeper decarbonization trajectory is required from 2030 onwards, resulting in a lower EER (see the graph on the left side in **Figure 12**).

**Figure 12: Use of benchmark divergence approach**

Example of medium to long term decarbonization efforts



Example of short term decarbonization efforts



ITR builds on the benchmark divergence approach and translates the carbon budget over- or undershoot into a global warming impact that represents the expected increase in temperatures by 2100. The analysis thus provides a direct link between an entity's alignment and future warming outcomes. Employing ITR in an EER context could be helpful to identify the "warming reduction contribution" of a specific transition finance activity. The example below showcases the ITR for two companies, considering their net-zero targets. The net-zero aligned ITRs for Companies A and B are at 1.8 degrees C and 1.3 degrees C versus 2.1 degrees C and 1.5 degrees C for their BAU pathway. Although Company B has a lower net-zero ITR, it is expected to have a lower decarbonization impact (expressed as the warming reduction contribution) compared to Company A.



**Use of ITR approach**

Counterparty	Net-zero ITR (including reduction targets)	BAU ITR (sector-based average)	EER expressed as Warming Reduction Contribution
Company A	1.8	2.10	0.30
Company B	1.3	1.50	0.20

**Consultation questions**

21. What are considerations for choosing a BAU pathway for Aligned/Aligning transition finance strategies and what is the minimum required level of granularity (i.e., sectoral, regional)?
22. Concerning the timing of EER claims (see **Figure 9**), do you concur with the general principles and considerations proposed?
23. Are you supportive of Avoided Emissions reporting standards for corporates?
24. Any additional considerations/feedback for approaches for Aligned and Aligning transition finance strategies (e.g., regarding EER/ERP allocation to the portfolio; cumulative emissions vs. intensity-based methods etc.)?

**B. Potential approaches for Climate Solutions and Managed Phaseout**

This consultation proposes to calculate EER for Climate Solutions and Managed Phaseout based on existing Avoided Emissions (AE) approaches. AE is a counter-factual approach that focuses on the replacement of a high-emitting source with a no or low-emitting alternative. Hence, BAU emissions associated with the high-emitting source are compared to a Climate Solution or Managed Phaseout scenario. Emerging AE methodologies contemplate using life-cycle analysis (LCA) to calculate emission factors for both the BAU and the alternative low or no-emission source in order to consider emissions savings over the lifetime of assets. When data for a LCA is not available, this consultation proposes the use of a simpler option to help practitioners get started with calculating the impact of transition finance activities.

This section covers the following:

1. LCA-based avoidance factors
2. Direct end-use avoidance factors
3. Considerations for Enablers

Once the EER for the Solution, Enabler, or Managed Phaseout is calculated, it can then be attributed to the financing entity as outlined in [C. Allocation: Attribute the Expected Emission Reductions to the financing entity](#).

**LCA-based avoidance factors (for Climate Solutions)**

The underlying assumptions for computing avoided emissions is the notion that an alternative accomplishes the same function with significantly less GHG emissions. Thus, the difference in life-cycle emissions between the high-emitting BAU source versus the alternative

<sup>48</sup> Refer to the GFANZ report [Measuring Portfolio Alignment: Driving Enhancement, Convergence, and Adoption](#) for details.

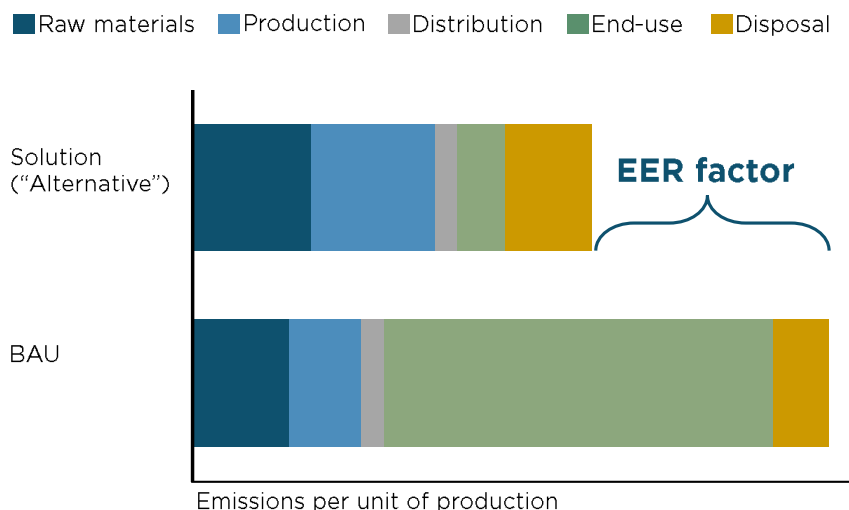
<sup>49</sup> For clarity, this consultation considers the NZIF Aligned and Aligning categories to be equivalent to the GFANZ Transition Finance Aligned and Aligning segments, respectively.



low or no-emission source (the “Alternative”) could be used to create an avoidance factor.<sup>50</sup> Employing a life-cycle approach would allow to determine whether the emissions in the Alternative’s value chain are indeed lower

compared to those within the BAU’s value chain (**Figure 13**). Conducting this analysis presents two intertwined challenges: obtaining high-quality value chain data and establishing the suitable emissions boundary.<sup>51</sup>

**Figure 13: Illustrative example of calculating the EER factor based on life-cycle analysis**



For any proposed Climate Solution, the emissions throughout the value chain per unit of production would need to be calculated for both the BAU and the Alternative. For example, an electric battery drive chain versus an internal combustion engine will have different value chains and hence different emissions per passenger-kilometer. The difference between the two will be the avoidance factor for electric vehicles. The EER can then be calculated based on forecasted usage characteristics such as demand, driving habits, efficiencies, etc.

for full value chains may be incomplete or of varying quality for an extended period into the future. Lack of good quality data across the value chain is therefore one reason why the use of a smaller boundary is proposed to allow financial institutions to get started.

**Direct end-use avoidance factors**

Reducing the emissions boundary may allow practitioners to focus on where emissions data is reliably available, especially for direct substitutions, for instance, fossil to renewable sources.

While there is ongoing work to develop a source for avoidance factors,<sup>52</sup> data availability

<sup>50</sup> An emissions factor is a numerical value that represents the amount of greenhouse gas emissions produced per unit of a specific activity or resource use. The avoidance factor is the difference between the BAU and the climate solution emissions factor. GS SUSTAIN: Avoided Emissions. How quantifying Avoided Emissions can broaden the decarbonization investment universe, p. 4. July 25, 2023.

<sup>51</sup> In a life-cycle assessment, an emissions boundary determines whether only the emissions directly associated with the production of the product are considered (often referred to as “cradle-to-gate”, or if it includes emissions associated with the entire life cycle of the product, including its use and disposal phases (referred to as “cradle-to-grave”).

<sup>52</sup> Example of sources in development at the time of writing include: [Mirova & Robeco lead initiative to develop global database of avoided emissions factors and associated company-level avoided emissions](#); [Watershed’s acquisition of VitalMetrics, the world’s most comprehensive multi-regional GHG emissions database](#).

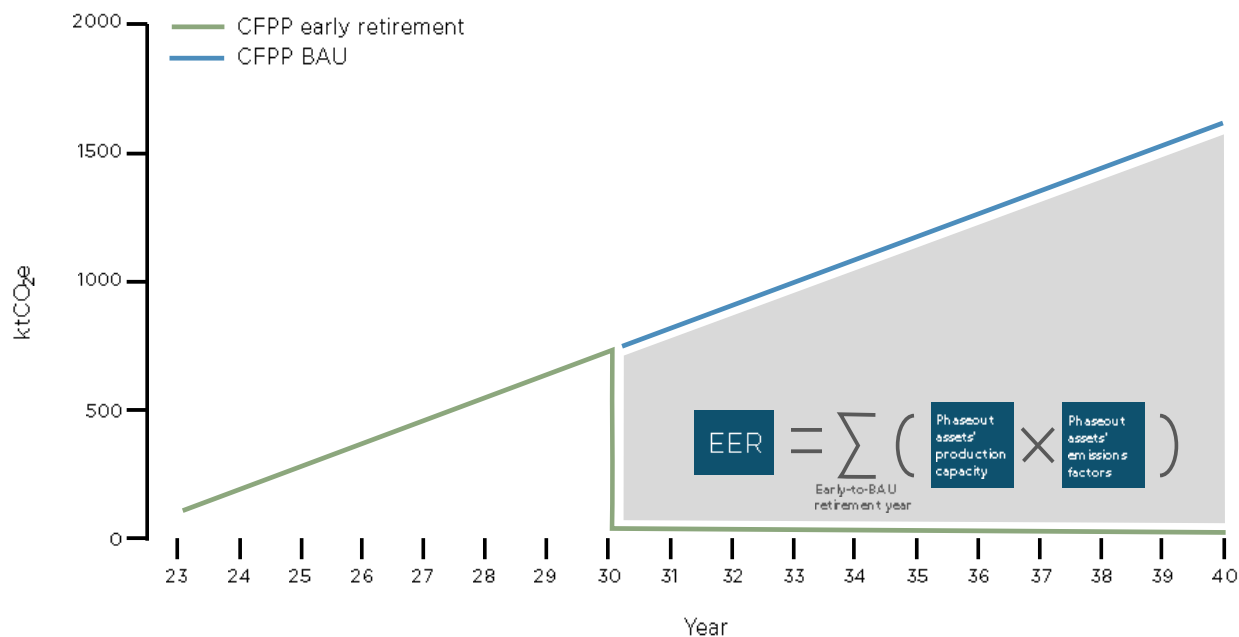
**Figure 14: Calculation of EER**



For Climate Solutions, LCA-based emissions factors for the Alternative and the BAU are calculated based on the final technology, product, or service. However, there are certain cases where the data availability for LCA-based emissions factors are hard to establish, for example, for an energy-efficient appliance where the value chain is globally distributed and includes independent suppliers that do not disclose their emissions. To overcome this data challenge, emissions factors based on the end-use GHG emissions of both the Alternative and the BAU could be employed to calculate EER until more comprehensive value chain data become available.

Relying on end-use emissions factors could also be suitable for Managed Phaseout where the alternative is the absence (the early phaseout) of the high-emitting source. For this reason, in Managed Phaseout strategies, a single (end-use) emissions factor needs to be paired with the timing decision of early phaseout.<sup>53</sup> For example, if a coal-fired power source is being retired early, actual emissions data based on the production capacity of the plant could be used as emissions factor. Also, additional data, such as plant efficiency, run times, and forecasted demand over the economic life of the asset, might feed into the calculation of the emissions factor (see **Figure 15**).

**Figure 15: Illustrative example of avoided emissions method for a Managed Phaseout asset**



<sup>53</sup> A practitioner would use only a single emissions factor for the asset being phased out but would calculate avoided emissions in terms of a temporal dimension (early closure).

### Considerations for Enablers

As per Part I, Enablers are technologies, products, and services that play an important role for developing and scaling Climate Solutions, even though they are not directly responsible for emissions reductions. Because Enablers are crucial for an economy-wide net-zero transition, this consultation proposes that transition finance should also consider the decarbonization contribution impact of these enabling technologies.

An Enabler could be connected to emissions reductions through its ties to a Solution but allocating a portion of EER to the Enabler is more nuanced and challenging.

For example, lithium could be considered a critical Enabler for EV batteries. A mining company that is contracted to deliver lithium to an EV battery plant could be associated with the EER calculated for the battery plant. The basis for allocating avoided emissions to the mining company to claim EER may include a bill

of materials or value add,<sup>54</sup> but if the Enabler is needed to develop the Solution, allocating a percentage of the EER seems to be underestimating the contribution.

To incentivize the financing of Enablers, financial institutions may consider attributing the full EER of the Solution to the Enabler and allocating a percentage share based on the proposed attribution method described under [C. Allocation: Attribute the Expected Emissions Reductions to the financing entity](#). An important consideration is the separate tracking and disclosure from Solutions and Nature-based solutions to avoid double-counting when reporting portfolio contribution to transition finance activities. Tracking and disclosing Enablers separately could also feed into the financial institution's net-zero transition plan objectives and priorities.

As noted in [Areas for Further Work – Part II](#), calculating and allocating EER for Enablers requires further consideration.

### Addressing the risk of double counting

The risk of double counting life cycle emissions arises in situations where multiple entities or stages of a product's life cycle are responsible for emissions, but those emissions are counted separately for each entity or stage. This can lead to an overestimation of the product's total emissions. The example of an electric vehicle (EV) battery maker and a lithium mining company illustrate why double counting might occur:

- **Lithium mining company:** The first stage involves mining and extracting lithium, a critical component of EV batteries. During this stage, the mining company emits GHG emissions, mainly from the energy-intensive processes and equipment used in mining and refining lithium. These emissions are calculated as part of the mining company's carbon footprint.
- **EV battery maker:** The second stage involves the production of EV batteries, which require lithium as a raw material. The battery manufacturing process also emits GHG emissions due to energy consumption and other factors. These emissions are calculated as part of the battery maker's carbon footprint.

To address the risk of double counting this consultation points to the importance of separate disclosure, especially for Solutions and their Enablers.

<sup>54</sup> Note that Enablers are often underappreciated relative to the role that they play in contributing to the overall decarbonization. Goldman Sachs Global Equity Research. [GS Sustain: Avoided Emissions. How quantifying Avoided Emissions can broaden the decarbonization investment universe](#), July 2023.

**Consultation questions**

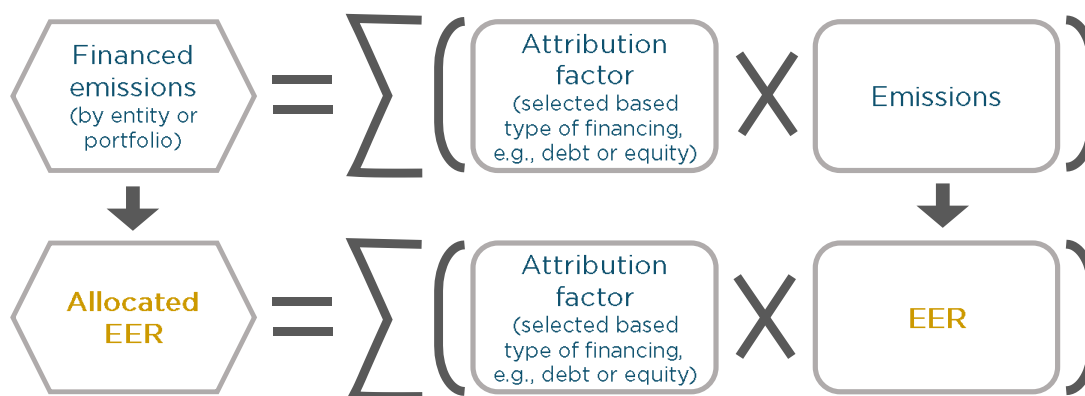
- 25. Do you agree that avoided emissions approaches are well-suited to measuring the impact of Climate Solutions and Managed Phaseout?
- 26. Rather than using LCA for determining emissions factors for the BAU and the low-carbon alternative, do you agree with the simpler approach of using end-use emissions for calculating avoided emissions?
- 27. This consultation proposes that the full EER associated with Climate Solutions could be applied to related Enablers but disclosed separately from Solutions and Nature-based solutions. Do you support this approach?
- 28. Any additional considerations/feedback regarding impact methods for Climate Solutions, Enablers and Managed Phaseout? (e.g., alternative approaches to avoided emissions; apportioning EER to Enablers, for example using a pro-rata approach)

**C. Allocation: Attribute the Expected Emission Reductions to the financing entity**

EER could be allocated to the financing entity in a manner similar to how current emissions are reported and accounted for based on prevailing financed emissions accounting standards. This consultation proposes leveraging the PCAF *Global GHG Accounting & Reporting Standard for the Financial Industry* to perform this allocation. For example, the share of the EER could be proportional to the equity share or the enterprise value share held by the financial institution. As PCAF builds out its facilitated and insurance emission standards, those methods could also be applied to capital market and insurance transactions in the future.

When attributing EER based on the PCAF attribution factor it is crucial to acknowledge that there are other influencing factors that could potentially impact the allocated EER (**Figure 16**). These factors may include changes in the enterprise valuation of the transition finance entity or asset or inflows and outflows (position changes) at the portfolio level. A more refined attribution analysis might therefore be required to establish the real-world emissions impacts on a forward-looking basis.

**Figure 16: Application of PCAF general attribution method to allocate EER**



**Consultation questions**

29. Do you agree with leveraging the PCAF accounting method for EER allocation?
30. Any additional considerations/feedback regarding impact attribution methods (e.g., alternatives to the PCAF accounting method; specific considerations for employing the proposed attribution method for EER; considerations about disclosure of EER; anticipated challenges when aggregating the EER at portfolio level)?

**D. Disclosure considerations**

The primary objective of this consultation is to further develop potential approaches to decarbonization contribution, with the goal of supporting greater financial institution transparency with respect to the capital allocation to transition finance activities, scaling the four key financing strategies, and enabling impact measurement and monitoring of those activities. Supplementary disclosure considerations, alongside traditional carbon accounting methods and other common financial metrics, could include:

- Separate disclosure of EER and impact metrics for each Transition Finance strategy. If a financial institution has prioritized a subset of the four key strategies (in the Foundations part of its NZTP), it may choose to disclose only its priorities
- Separate disclosure of EER and impact metrics from Scope 1-3 GHG emissions
- Disclosure of portfolio-level metrics, such as an aggregated EER
- Disclosure of metrics by counterparty/asset, sector, or region

**Areas for Further Work — Part II**

As noted above, emissions data on the complete value chain of a Climate Solution is often incomplete and/or of varying quality. There are industry efforts underway to improve the availability and quality of avoided emission factors. Such efforts would be helpful to support the use of life-cycle analysis for EER. As a priority, work could focus on the more common Climate Solutions and Enablers. For example, in a recently issued call for expression of interest for the creation of a global avoidance factor database,<sup>55</sup> a group of European investors proposed focusing on eight key sectors.<sup>56</sup>

As critical components to Climate Solutions, Enablers should, in principle, be recipients of transition finance to support an orderly whole-economy transition to net zero. Further work is

needed to determine how to apportion avoided emissions to Enablers and calculate EER. The option for separate disclosure presented in this consultation is helpful to allow financial institutions to communicate the different impacts of their transition finance strategy for Enablers but does not allow for aggregation at portfolio-level. Further work should be done to address key questions of:

- Whether the calculated avoided emissions associated with the Solution is the appropriate EER to use for Enablers or if there is a better suited metric, and
- How – and on what basis – should any EER be allocated to an Enabler if those EER are not directly created by the Enabler.

<sup>55</sup> PRI, Call for expression of interest global avoidance factor database and associated company-level avoided emissions, 2023.

<sup>56</sup> Power and heat, buildings, transportation, mining, metal and heavy industry, waste, food and agriculture, forestry, apparel, and textiles.

When quantifying and allocating EER, the temporal dimension of the financing decisions and expected period of exposure (e.g., investment horizon/holding period) are critical considerations. Further work should be done to clarify how timing can be factored into allocated EER. Consider, for instance:

- A financial institution is financing an Emerging Solution that is at the early stages of technological maturity but is expected to realize decarbonization impact starting 10 years from today. This exposure entails a greater “risk” compared to financing a mature-stage Solution where much of the decarbonization impact may be realized in the short to medium term (all else being equal). Consideration is needed to determine how much of the total expected EER of the early-stage Solution can be allocated to the financial institution at a point in time (e.g., potential risk-weighted allocation).
- A financial institution invested in an Aligning entity as the sole direct investor in 2023 and is expected to hold the

investment for five years based on its investment mandate (until 2028). Part of the invested capital is being used to support existing decarbonization initiatives that is expected to realize impact starting in 2030, with decarbonization to continue until 2045 when the entity is expected to reach net zero. Consideration is needed to determine how much of the total expected EER of the Aligning entity can be allocated to the current investor in 2023 (e.g., potential pro-rated allocation) and, therefore, to the next investor upon exit in 2028.

Finally, what is crucial in the context of quantifying decarbonization contribution is ensuring that the underlying methods employed are credible and sound. Consequently, the establishment of guiding principles and harmonizing approaches to decarbonizing contribution will be critical to establishing a consistent application by financial practitioners and the tie-in with the principles-based approaches for transition finance.

### Consultation questions

31. Any additional feedback regarding Part II of this consultation?

## Conclusion

Gathering input from financial market actors regarding the proposed enhancements to the four transition financing strategies and assessing their decarbonization impact will assist Financial Institutions in making more informed capital allocation decisions. This, in turn, will enable them to more effectively contribute to the transition to a net-zero economy. To achieve this, this consultation outlines refined approaches for identifying and segmenting transition finance activities and proposes emerging methods for quantifying the decarbonization contribution potential of the four key financing strategies.

The GFANZ Secretariat recognizes that the success of this consultation relies on receiving constructive input from a diverse range of stakeholders, including participants from the financial industry, standard-setting bodies, NGOs, regulators, and other sectors. Their valuable insights will contribute to the further development of these concepts and practices. We welcome and encourage support for broad promotion and active participation in this consultation.



# Appendix

Appendix A: Glossary and abbreviations

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Appendix C: Select transition finance frameworks

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## Appendix A: Glossary and abbreviations

KEY TERM	DEFINITION
<b>1.5 degrees C-aligned</b>	A pathway of emissions of greenhouse gases and other climate forcers that provides an approximately one-in-two to two-in-three chance, given current knowledge of the climate response, of global warming either remaining below 1.5 degrees C or returning to 1.5 degrees C by around 2100 following an overshoot. <sup>57</sup> Pathways giving at least 50% probability based on current knowledge of limiting global warming to below 1.5 degrees C are classified as “no overshoot,” while those limiting warming to below 1.6 degrees C and returning to 1.5 degrees C by 2100 are classified as 1.5 degrees C “low overshoot.” <sup>58</sup>
<b>Absolute emissions</b>	Greenhouse gas emissions expressed in metric tons of CO <sub>2</sub> e. <sup>59</sup>
<b>AE</b>	Avoided emissions methodology
<b>ACT</b>	Assessing low-Carbon Transition initiative
<b>ATF</b>	Asia Transition Finance Study Group
<b>BAU</b>	Business As Usual
<b>BNEF</b>	Bloomberg New Energy Finance
<b>CBI</b>	Climate Bonds Initiative
<b>CCUS</b>	Carbon Capture, Utilization, and Storage
<b>CDP</b>	Formerly known as Climate Disclosure Project
<b>Climate Solutions</b>	<p>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. These solutions include scaling up zero-carbon alternatives to high-emitting activities – a prerequisite to phasing out high-emitting assets – as well as nature-based solutions and carbon removal technologies.</p> <p>In this consultation, “Climate Solutions” is used to refer to solutions that support mitigation of climate change and emissions reduction. GFANZ acknowledges that a broader use of the term may include solutions that are aimed at developing adaptation.</p>

<sup>57</sup> IPCC. [Annex 1: Glossary](#), 2018.

<sup>58</sup> IPCC. [Summary for Policymakers](#), 2018, p. 24.

<sup>59</sup> Adapted from PCAF. [The Global GHG Accounting & Reporting Standard for the Financial Industry](#), November 18, 2020.

<b>COP28</b>	28 <sup>th</sup> session of the Conference of Parties to the UNFCCC (United Nations Framework Convention on Climate Change)
<b>EER</b>	Expected Emissions Reduction
<b>ERP</b>	Emissions Reduction Potential methodology
<b>Emissions intensity metric</b>	Emissions per a specific unit, for example:  tCO <sub>2</sub> e/\$M invested, tCO <sub>2</sub> e/MWh, tCO <sub>2</sub> e/ton product produced, tCO <sub>2</sub> e/\$M company revenue. <sup>60</sup>
<b>Emissions profile</b>	In the context of this consultation, also referred to as “forecast net-zero emissions profile” to indicate the forward-looking plan of an entity to reduce its emissions toward a net-zero pathway
<b>ETC</b>	Energy Transitions Commission
<b>Financed emissions</b>	This broadly corresponds to the definition Scope 3 Category 15 emissions under the GHG Protocol, but in the pan-financial sector context also includes insurance-associated emissions. GFANZ encourages the use of the PCAF Standards, built on and accepted by the GHG Inventory Protocol, and acknowledges PCAF’s ongoing work to further develop and refine methodological guidance to measure and disclose GHG emissions associated with different asset classes and categories of financial activity. GFANZ encourages financial institutions to use these standards, as appropriate, as they are released.
<b>GFANZ</b>	Glasgow Financial Alliance for Net Zero
<b>GHG</b>	Greenhouse gases; emissions that include carbon dioxide, methane, and nitrous oxide, among others. <sup>61</sup>
<b>ICE</b>	Intercontinental Exchange (Sustainable Finance and Ecofin Advisors Ltd.)
<b>ICMA</b>	International Capital Market Association
<b>IIGCC</b>	Institutional Investors Group on Climate Change
<b>Industry-related bodies</b>	May include civil society and non-governmental organizations providing subject matter expertise, targeted initiatives, and collaborative opportunities among other purposes (e.g., ShareAction, WWF, World Resources Institute, and others).
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IEA</b>	International Energy Agency

<sup>60</sup> Adapted from PCAF. [The Global GHG Accounting & Reporting Standard for the Financial Industry](#), November 18, 2020.

<sup>61</sup> IPCC. [IPCC Updates Methodology for Greenhouse Gas Inventories](#), 2019. The definition excludes water vapor.

<b>ITR</b>	Implied Temperature Rise
<b>Key performance indicator (KPI)</b>	A type of performance measurement that evaluates the success of an organization or of a particular activity in which it engages.
<b>LCA</b>	Life-cycle analysis
<b>Managed phaseout (MPO) projects</b>	Targeted efforts to reduce GHG emissions through accelerated retirement of high-emitting physical assets (shortening their operating life). Financial Institutions can finance or enable strategies for managed phaseout of such assets within a defined science-aligned time horizon, thereby limiting the likelihood that such assets will be stranded in a low-carbon future. <sup>62</sup> These projects require appropriate scrutiny and governance to ensure that emissions reduction occurs as planned. Further information can be found in the <a href="#">GFANZ Managed Phaseout of High-emitting Assets report</a> , which outlines the challenges and opportunities for financial institutions in these transactions, as well as details on how financial institutions can develop strategies for managed phaseout projects.
<b>Nature-based solutions</b>	Actions to protect, sustainably manage, and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits. <sup>63</sup> In the context of net-zero transition, nature-based climate solutions are those that use nature solutions to reduce GHG emissions and store carbon. <sup>64</sup>
<b>Net zero</b>	A state when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals. Organizations are considered to have reached a state of net zero when they reduce their GHG emissions following science-based pathways, with any remaining GHG emissions attributable to that organization being fully neutralized by like-for-like removals exclusively claimed by that organization, either within its value chain or through purchase of valid offset credits.
<b>Net-zero transition plan (NZTP)</b>	A set of goals, actions, and accountability mechanisms to align an organization's business activities with a pathway to net-zero GHG emissions that delivers real-economy emissions reduction in line with achieving global net zero. For GFANZ sector-specific alliance members, a transition plan should be consistent with achieving net zero by 2050, at the latest, in line with commitments and global efforts to limit warming to 1.5 degrees C, above pre-industrial levels, with low or no overshoot. <sup>65,66,67</sup>
<b>OECD</b>	Organization for Economic Co-operation and Development

<sup>62</sup> IPCC's [AR6](#) cites the "combined global discounted value of the unburned fossil fuels and stranded fossil fuel infrastructure has been projected to be around 1-4 trillion dollars from 2015 to 2050 to limit global warming to approximately 2 degrees C, and it will be higher if global warming is limited to approximately 1.5 degrees C." p. 36-37.

<sup>63</sup> IUCN. [Guidance for using the IUCN Global Standard for Nature-based Solutions](#), 2020.

<sup>64</sup> Adapted from The Nature Conservancy.

<sup>65</sup> Pathways giving at least 50% probability based on current knowledge of limiting global warming to below 1.5 degrees C are classified as "no overshoot," while those limiting warming to below 1.6 degrees C and returning to 1.5 degrees C by 2100 are classified as "1.5 degrees C limited overshoot."

<sup>66</sup> These requirements reflect sector-specific alliance member commitments.

<sup>67</sup> Through their net-zero alliances, alliance members have all committed to setting an interim target for 2030 or sooner.

<b>Orderly transition</b>	A net-zero transition in which both private sector action and public policy changes are early and ambitious, thereby limiting economic disruption related to the transition (e.g., mismatch between renewable energy supply and energy demand). In an orderly transition, both physical climate risks and transition risks are minimized relative to disorderly transitions or scenarios where planned emissions reductions are not achieved.
<b>Paris Agreement</b>	Also known as the Paris Accords or the Paris Climate Accords; refers to an international treaty on climate change adopted in 2015. It covers climate change mitigation, adaptation, and finance
<b>Pathway</b>	A goal-oriented scenario or combination of scenarios answering the question “What needs to happen?” to accomplish a specific objective (e.g., what are the steps needed to reach net zero by 2050, limit global warming to 1.5 degrees C, with low or no overshoot?). <sup>68</sup>
<b>PCAF</b>	Partnership for Carbon Accounting Financials
<b>Physical intensity metric</b>	Measurement of GHG impact per unit of physical activity.
<b>Portfolio alignment metric</b>	A metric that measures the alignment of a portfolio with a selected benchmark scenario.
<b>PRI</b>	Principles for Responsible Investment
<b>Real economy</b>	This refers to economic activity outside of the financial sector.
<b>SBTi</b>	Science Based Targets initiative
<b>Scenario</b>	Projections of what can happen by creating plausible, coherent, and internally consistent descriptions of possible climate change futures. Scenarios are not predictions of the future. <sup>69</sup>
<b>Scope 1 emissions</b>	Direct emissions from owned or controlled sources.
<b>Scope 2 emissions</b>	Indirect emissions from the generation of purchased energy.
<b>Scope 3 emissions</b>	All indirect emissions (not included in Scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

<sup>68</sup> Definition taken from [Guidance on Use of Sectoral Pathways for Financial Institutions](#).






<sup>69</sup> Definition taken from [Guidance on Use of Sectoral Pathways for Financial Institutions](#).

	<p>Scope 3 financed emissions consistent with the net-zero, sector-specific alliance commitments include those emissions associated with a financial institution’s investment, lending, and underwriting portfolios, or from clients of investment consultants or financial service providers. In contrast, Scope 2 emissions from a financial institution’s own operations pertain to business travel, supply chain, etc.</p> <p>Note that this consultation uses “financed emissions” and “portfolio emissions” interchangeably.</p>
<b>SMI</b>	Sustainable Markets Initiative
<b>Time horizon (in context of portfolio alignment)</b>	The time period over which a portfolio alignment metric is calculated (e.g., a 2030 time horizon means that the portfolio alignment metric is calculated from the present day until 2030).
<b>Transition finance</b>	Investment, financing, insurance, and related products and services that are necessary to support an orderly, real-economy transition to net zero as described by the four key financing strategies, which finance or enable: 1) entities and activities that develop and scale climate solutions; 2) entities that are already aligned to a 1.5 degrees C pathway; 3) entities committed to transitioning in line with 1.5 degrees C-aligned pathways; or 4) the accelerated managed phaseout of high-emitting physical assets.
<b>TPI</b>	Transition Pathway Initiative
<b>WBCSD</b>	World Business Council for Sustainable Development


# Appendix B: GFANZ Net-zero transition plan framework

## Recommendations and Guidance on Financial Institution Net-zero Transition Plans




Net-zero Transition Plans (NZTPs)	Aligning the financial sector with the net-zero transition
<p><b>NZ Commitment</b> &gt; Develop and Implement a NZTP</p> <p>A net-zero transition plan (NZTP) is a set of goals, actions, and accountability mechanisms to align an organization's business activities with a pathway to net-zero GHG emissions that delivers real-economy emissions reductions in line with achieving global net zero.</p> 	<p>Increase transition finance &gt; Achieve NZ by 2050 and support global NZ transition</p> <p>Four key financing strategies to reduce real-economy emissions</p> <ol style="list-style-type: none"> <li>1  Climate solutions</li> <li>2  Aligned</li> <li>3  Aligning</li> <li>4  Managed phaseout</li> </ol>


### GFANZ recommendations and guidance





The framework provides globally applicable voluntary recommendations and guidance across the finance sector.


It can be used by any financial institution working to turn their climate commitments into action alongside guidance from net-zero alliances and civil society.


  
Banks


  
Asset owners

  
Asset managers


  
Insurers


  
Financial service providers


  
Investment consultants

  
Regulators

### Further refinements and ongoing considerations

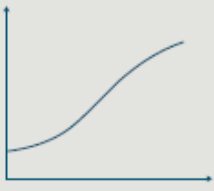
- 1 

Core element refinements
- 2 

Overarching issues
- 3 

Supporting data and disclosures

### Look ahead



- Widespread adoption of NZTPs
- Increase capital allocation and services to four key financing strategies
- Co-operation between finance, real-economy and policymakers

Please refer to the GFANZ [Recommendations and Guidance on Financial Institution Net-zero Transition Plans](#) for details.



## Appendix C: Select transition finance frameworks

The concepts in Part I of this Consultative Document builds on the original GFANZ definitions of the four key financing strategies that were developed based on prevailing frameworks at the time of writing last year and draws on a range of publicly available frameworks and guidance issued by sector-specific alliances and other industry bodies since then. Research focused on frameworks and guidance that include similar transition finance types and/or maturity scales (referred to as Categories below). We also placed emphasis on frameworks and guidance that specify credibility indicators and other principles and scoring criteria (to assess qualification of entities, assets, projects as

transition finance; referred to as Indicators/Principles below).

Financial institutions are encouraged to familiarize themselves with all relevant reports in their assessment process, including regional-specific regulatory frameworks, standards, and taxonomies, where appropriate.

The organizations listed in the table below were selected to illustrate the broad range of sources of available alliance and industry body frameworks and guidance. The list is not comprehensive of all frameworks and reports that may be relevant and/or that were considered in Part I of this consultation.

### Select transition finance frameworks

	FRAMEWORK/REPORT	CATEGORIES	INDICATORS/ PRINCIPLES
ACT	<a href="#">Generic Methodology</a> and <a href="#">Sectoral Methodologies</a>		
ATF	<a href="#">Asia Transition Finance Guidelines</a>		
CBI	<a href="#">Transition Finance for Transforming Companies</a> and <a href="#">Financing Credible Transitions – A framework for identifying credible transitions</a>		
EU Commission	<a href="#">Commission Recommendation (EU) 2023/1425 of 27 June 2023 on facilitating finance for the transition to a sustainable economy</a>		
G20	<a href="#">2022 G20 Sustainable Finance Report</a>		
ICMA	<a href="#">Climate Transition Finance Handbook (Dec 2020) and Update June 2023</a>		
IIGCC	<a href="#">Net Zero Investment Framework</a> and <a href="#">Investor Expectations of Corporate Transition Plans: From A to Zero</a>		
IPSF	<a href="#">Transition Finance Report (November 2022)</a>		
OECD	<a href="#">Guidance on Transition Finance</a>		
SBTi	<a href="#">The SBTi Financial Institutions Net-zero Standard</a>		
SMI	<a href="#">SMI Asset Manager and Asset Owner Task Force Transition Categorization Framework</a> and <a href="#">SMI Energy Transition Task Force Framework for transitioning companies</a>		
TPI	<a href="#">TPI's methodology report: Management Quality and Carbon Performance</a>		

## Appendix D: GFANZ Sectoral pathways considerations

The following excerpts highlight the main conclusions on the use of sectoral pathways. Please refer to the GFANZ [Guidance on Use of Sectoral Pathways for Financial Institutions](#) for details.

**Table 1: Pathway framework: scope and ambition**

1. SCOPE AND AMBITION OF THE PATHWAY	
<b>Scope</b>	<ul style="list-style-type: none"> <li>• What sectors and sub-sectors does the pathway cover?</li> <li>• How does the pathway consider system interactions (e.g., energy systems and land-based systems)?</li> <li>• What sector system boundaries are considered?</li> <li>• What scopes are considered and how is each scope defined?</li> <li>• What is the timeframe and interval of reported data?</li> <li>• What geographies and regions does the pathway cover?</li> <li>• What GHGs does the pathway consider (e.g., CO<sub>2</sub> or all GHGs)?</li> </ul>
<b>Net-zero and temperature alignment</b>	<ul style="list-style-type: none"> <li>• What is the total emissions pathway to 2050 (both in terms of absolute and intensity)?</li> <li>• What is the global carbon budget from 2020 to net zero?</li> <li>• What is the temperature alignment (degrees C), level of overshoot, and likelihood?</li> <li>• What is the sector share of the global carbon budget? What is the methodology/assumptions to assign carbon budget to each sector?</li> <li>• What are the emissions per scopes 1, 2, and 3?</li> </ul>
<b>Reliance on carbon capture and removal</b>	<ul style="list-style-type: none"> <li>• What technologies does the pathway consider for removals and carbon capture?</li> <li>• To what extent does the pathway rely on removals and carbon capture?</li> <li>• What is the sector share of global carbon captured and removed?</li> </ul>

**Table 2: Pathway framework: underlying assumptions of pathways**

2. UNDERLYING ASSUMPTIONS TO ACHIEVE THE PATHWAY	
<b>Socioeconomic/ policy</b>	<ul style="list-style-type: none"> <li>• What are the key socioeconomic assumptions (e.g., GDP and population growth)?</li> <li>• What are the assumptions for carbon price development from 2020 to 2050?</li> <li>• What are the policy requirements to achieve the pathway?</li> </ul>
<b>Energy demand and supply</b>	<ul style="list-style-type: none"> <li>• What is the assumed energy demand?</li> <li>• What is the rate of energy-intensity improvements?</li> <li>• What is the assumed mix of energy supply through time (fossil fuels, renewables, nuclear)?</li> <li>• What are the assumptions regarding the adoption of hydrogen and biofuels over time?</li> </ul>
<b>Technology</b>	<ul style="list-style-type: none"> <li>• What are the overall technology development assumptions?</li> <li>• What is the assumed timeline for technologies to be developed/ready for use?</li> <li>• What are the assumptions around the lifetime of existing high-emitting assets, and asset retirement timeframes given the development of greener technologies?</li> </ul>
<b>Production/ demand</b>	<ul style="list-style-type: none"> <li>• What is the industry's assumed production/demand volume (e.g., tons of steel, passengers/km)?</li> </ul>
<b>Investments</b>	<ul style="list-style-type: none"> <li>• What are the assumptions on investment needed to achieve the pathway?</li> <li>• How are current infrastructure, assets, and their lifetimes considered?</li> <li>• How are the financial flows distributed during the time horizon?</li> </ul>

**Table 3: Pathway framework: credibility and feasibility of the pathway****3. CREDIBILITY AND FEASIBILITY OF THE PATHWAY**

- What was the pathway created for?
- Has the pathway been validated by the scientific community for credibility around temperature alignment?
- Have the model and scenarios been peer reviewed? What are the current use cases of the scenarios (e.g., alignment, risk)?
- Has the pathway been submitted for international model intercomparison exercises (e.g., IPCC database)?
- Has the pathway been evaluated by industry and other key stakeholders (e.g., regulators) to assess the commercial feasibility?
- How are just transition and fair share considered in regional/country-specific pathways?

**Table 6: Current limitations for pathway users**

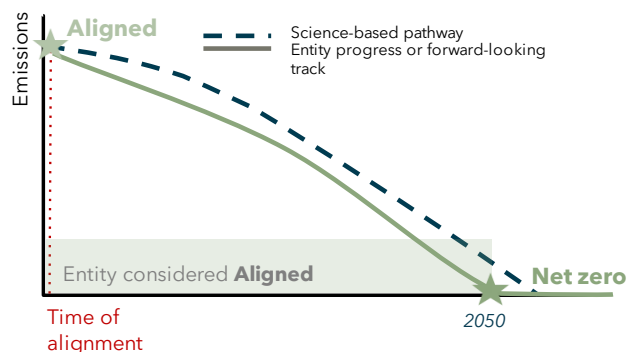
LIMITATIONS	EXAMPLES	IMPLICATIONS FOR FIS
<b>1. Access to data</b>	No open access to underlying data and models for users restricting the information to specific publications with limited data (e.g., time intervals only available on five or ten-year periods)	Multiple sources required to extract information (e.g., methodology documents, spreadsheets, online portals), and users required to make assumptions to fill in information gaps (e.g., interpolate data between time periods, regional granularity from global models)
<b>2. Standardization of scope, terminology, and formatting</b>	Pathways cover different scopes (e.g., CO <sub>2</sub> vs. GHG emissions) and also provide different definitions for key concepts like carbon price and investments	Difficult to make like-for-like comparisons across pathways produced by different providers without adjusting/standardizing key concepts into common metrics
<b>3. Geographical granularity</b>	Limited number of pathways with output variables available at regional/country level	Varying level of applicability of pathway to specific institutions depending on portfolio and geographical footprint (e.g., regional financial institutions may need to use assumptions to regionalize pathways)
<b>4. Sub-sector granularity</b>	Different level of sector-specific granularity available among pathways and varying level of detail/granularity of data available among sectors	Difficulty for financial institutions to apply consistent pathways from the same provider to all firms in a portfolio, leading to the risk of inconsistencies among sector-specific and cross-sector pathways
<b>5. Cross-stakeholder credibility/feasibility assessment</b>	Limited disclosure on how validation processes, including experts from industry, policy, and finance, have been involved on assessing pathway feasibility	Uncertainty on the level of credibility (i.e., temperature alignment) and commercial feasibility of pathways from different stakeholders' perspectives (e.g., scientific community vs. industry vs. financial institutions)

## Appendix E: Hypothetical examples to illustrate potential alignment pathways

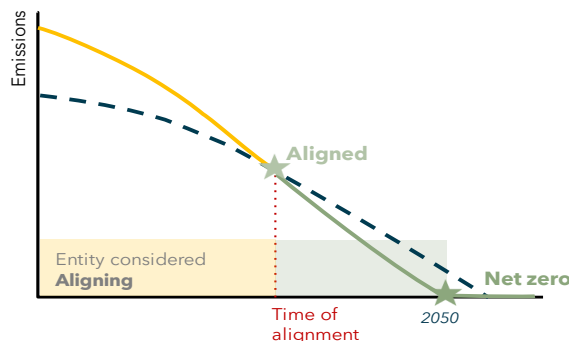
Not all assets will conform to reference scenarios; in many cases the determination of whether an entity can be segmented as Aligning or Aligned will require individual assessment by the financial institution or other stakeholder. The attributes outlined in this consultation could inform decision-making.

### Hypothetical illustrations of alignment trajectories

#### Reference cases:

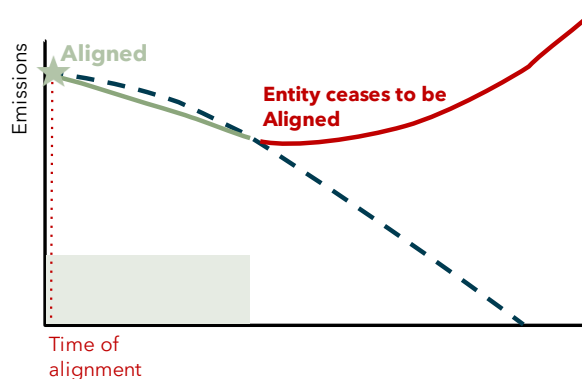
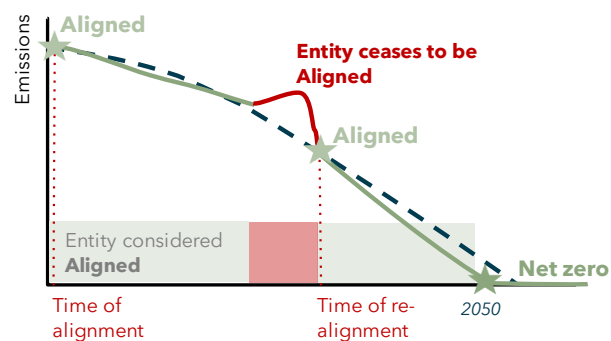


**Aligned.** In this scenario, an entity could be segmented as Aligned at the start of the engagement with the financial institution.

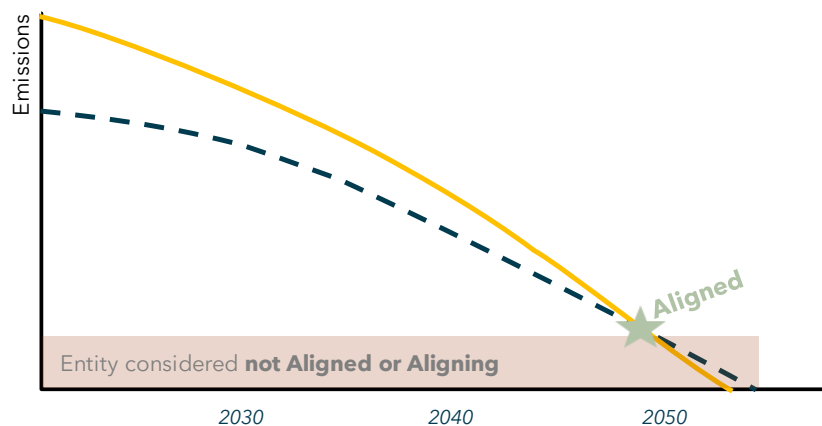


**Aligning to Aligned.** In this scenario, an entity could be segmented as Aligning if its cumulative emissions in 2050 are less than that of the net-zero pathway and if it meets the attributes outlined in this consultation. It will need to be Aligned at an interim year.

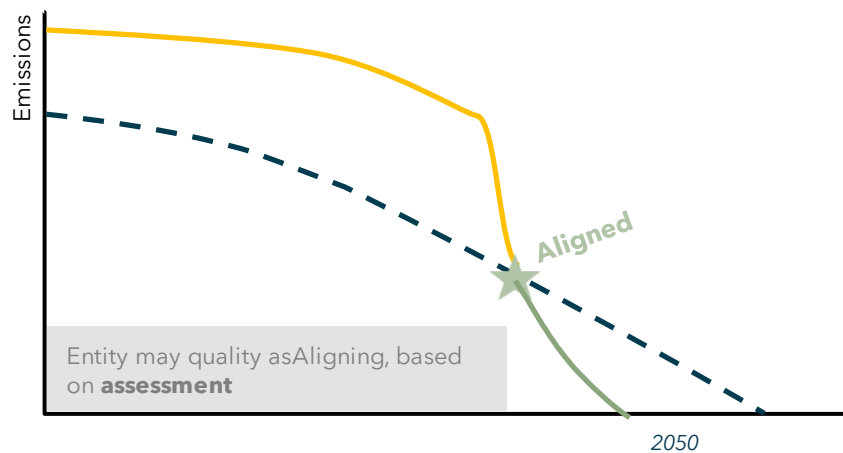
#### Cases requiring individual judgement:



**Conforming fluctuation or divergence.** Aligned entities may encounter difficulties that result in them temporarily or permanently falling out of alignment. Segmenting an entity during a period of misalignment is challenging and will require individual assessment of the entity; the reasons for the misalignment; and its plans to re-converge with the pathway to net-zero. It is in this circumstance that the attributes outlined in this consultation and especially a solid net-zero transition plan are helpful to credibly segment the entity as Aligning during a temporary period of misalignment (red area). If such a transition plan is in place, the entity would be able to outline within the plan the specific actions that will allow it to re-align within a specified timeframe. In the absence of a transition plan, classifying the entity as Aligning would be more challenging since no concrete actions are outlined that could provide confidence that the entity is not on a path toward permanent misalignment.



**Not Aligned or Aligning – cumulative net zero not reached.** In this scenario, an entity’s cumulative emissions are larger than that of the net-zero pathways. Even though it decarbonizes and intersects with the net-zero pathway at some point in the distant future, it cannot be segmented as Aligning or Aligned since alignment is reached too late and cumulative emissions exceed those of the net-zero pathway.

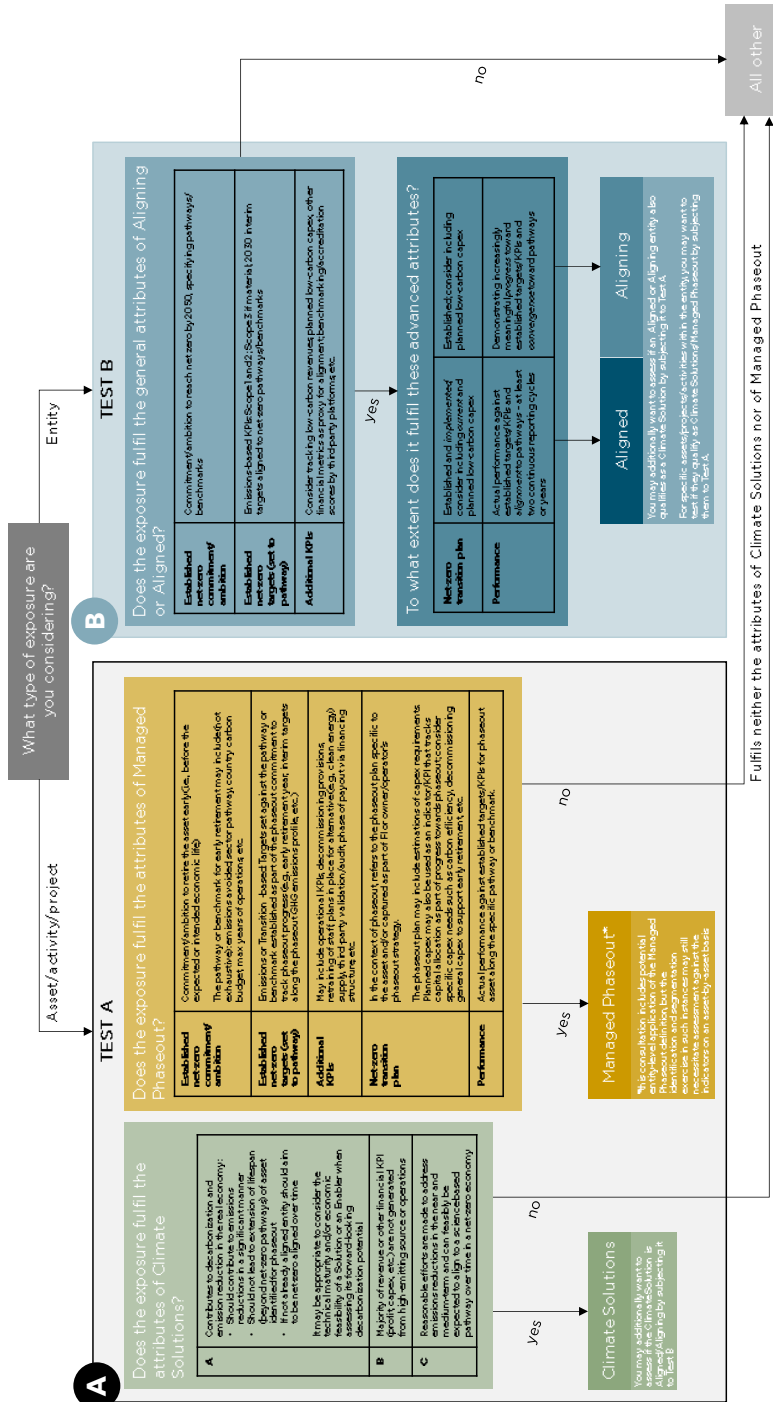


**Hard barriers but demonstrated ambition (for hard-to-abate sectors only).** In this scenario, an entity in a hard-to-abate sector has hard external (e.g., technological) constraints (barriers) on its ability to decarbonize. However, it has demonstrated its ambition to reach net zero and projects it will be able to drastically cut its emissions contingent on a specific external lever/innovation. Financial institutions are encouraged to take discretionary assessments for such entities, which they could segment as Aligning if they are satisfied the entities are on a credible pathway to become Aligned. Such individual assessments could take into account, for example, the degree of divergence from the net-zero pathway and the nature of the plan for alignment, including how likely the projected developments are.

# Appendix F: Illustrative example of how the segmentation tests may be implemented

Please see below for an example of how Tests A and B might be used in conjunction and how they could be used to shape the flow of segmentation decisions.

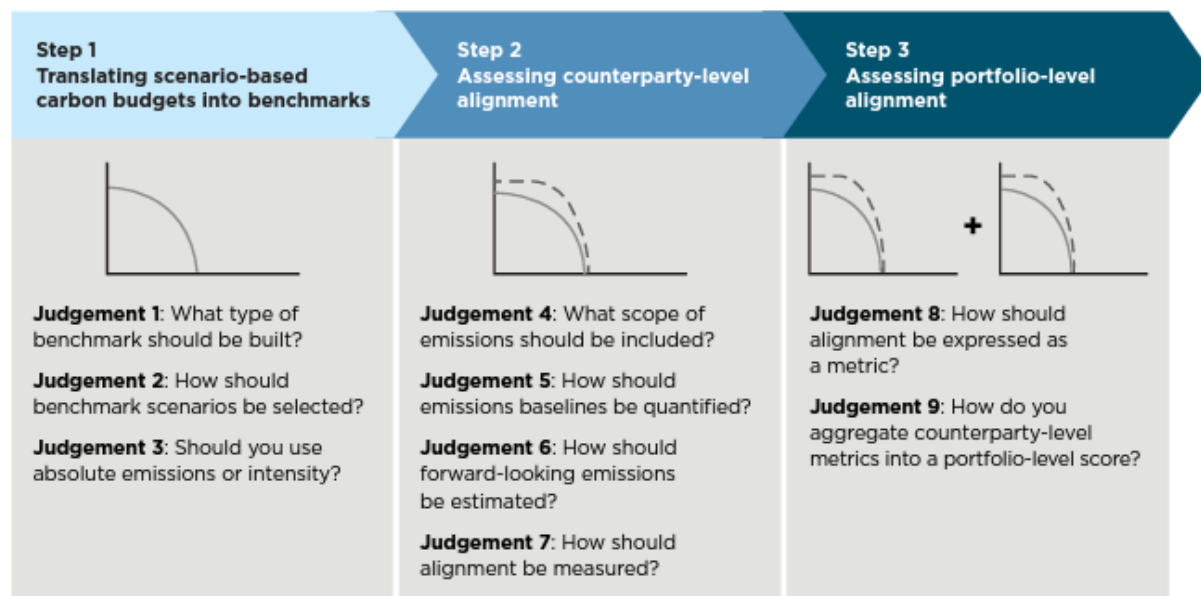
Flow chart for potential use of Tests A and B



## Appendix G: GFANZ portfolio alignment measurement Key Design Judgements

The following excerpts highlight the main conclusions on the measurement of portfolio alignment that may be relevant in the implementation of the decarbonization methods proposed in this consultation. Please refer to the GFANZ [Measuring Portfolio Alignment: Driving Enhancement, Convergence, and Adoption](#) for details.

**Figure 2: Some, or all, of the nine Key Design Judgements are required to build portfolio alignment metrics**



When measuring alignment, practitioners can follow nine Key Design Judgements across three steps. Step 1 is about building the benchmark; step 2 is about comparing company-level alignment against this benchmark, and step 3 is about aggregating alignment at the portfolio level.



**Table 1: High-level summary of voluntary guidance by Key Design Judgement**

<b>KEY DESIGN JUDGEMENT</b>	<b>GFANZ PORTFOLIO ALIGNMENT MEASUREMENT WORKSTREAM GUIDANCE</b>
<b>1. What type of benchmark should be built?</b>	<ul style="list-style-type: none"> <li>Practitioners should use single-scenario benchmark approaches.</li> <li>For homogenous sectors, practitioners should apply a fair-share carbon budget approach using physical emissions intensity and absolute emissions, or the convergence benchmark.</li> <li>For heterogenous sectors, practitioners should apply the fair-share carbon budget approach using economic emissions intensity and absolute emissions. Where economic intensity is not preferred, a rate-of-reduction benchmark can be used.</li> </ul>
<b>2. How should benchmark scenarios be selected?</b>	<ul style="list-style-type: none"> <li>When selecting a 1.5 degrees C-aligned benchmark scenario, practitioners are encouraged to use the GFANZ guidance on use of sectoral pathways for financial institutions<sup>6</sup> and prioritize benchmark scenarios with higher regional and sectoral granularity.</li> </ul>
<b>3. Should absolute emissions, production or emission intensity units be used?</b>	<ul style="list-style-type: none"> <li>The use of physical intensities is preferred to economic intensities for companies in homogenous sectors.</li> <li>For most sectors, the fair-share carbon budget approach should be used. This approach translates physical or economic emissions intensities into absolute emissions (following Judgement 1).</li> <li>For the oil and gas sector, practitioners should use multiple metrics in combination, to reflect different decarbonization levers and their relevant benchmarks.</li> </ul>
<b>4. What scope of emissions should be included?</b>	<ul style="list-style-type: none"> <li>Scope 3 emissions should, at a minimum, be included in portfolio alignment measurement if they exceed 40% of a company's total emissions and if the absolute magnitude of the company's Scope 3 emissions is large. Sector-level category guidance detailed in Section 3.4 should be considered. Given the scarcity of Scope 3 disclosures, the use of Scope 3 estimates might be useful, especially when bottom-up production and activity data are available.</li> </ul>
<b>5. How should emission baselines be quantified?</b>	<ul style="list-style-type: none"> <li>Practitioners should consider the PCAF standard, which prioritizes reported over estimated emissions, for at least Scope 1 and Scope 2. Estimation methods based on activity levels as close as possible to the emissions drivers should be preferred over top-down methods, especially for Scope 3 emissions.</li> </ul>
<b>6. How should forward-looking emissions be estimated?</b>	<ul style="list-style-type: none"> <li>For companies that have set emissions reduction targets, practitioners should calculate a company's alignment based on a credibility-weighted combination of two distinct emission forecasts: 1) a forward-looking approach based on stated emissions reduction targets, and 2) a backward-looking approach based on historical emissions. Practitioners should perform a credibility assessment to reflect the likelihood of a company achieving its stated emissions reduction targets.</li> <li>For companies without emissions reduction targets, practitioners should implement a "waterfall" approach of four methods and a lower bound score on the alignment metric, detailed in Section 3.6.</li> </ul>
<b>7. How should alignment be measured?</b>	<ul style="list-style-type: none"> <li>Practitioners should calculate alignment on a cumulative-emissions basis to reflect the remaining carbon budget.</li> <li>Practitioners should compute alignment over short- and medium-term time horizons, which could be supplemented by longer-term time horizons. When computing alignment using an ITR metric, practitioners should consider the technical guidance in Section 3.7 and <a href="#">Appendix O</a>.</li> </ul>
<b>8. How should alignment be expressed as a metric?</b>	<ul style="list-style-type: none"> <li>When selecting a portfolio alignment metric, practitioners should consider its suitability for the specific use case(s). For technical guidance on the calculation approaches for ITR metrics, see <a href="#">Appendix O</a>.</li> </ul>
<b>9. How do you aggregate counterparty-level metrics into a portfolio-level score?</b>	<ul style="list-style-type: none"> <li>An aggregated-budget approach should be used as this allows financial institutions to compute the overall carbon budget overshoot or undershoot at the portfolio-level.</li> <li>When calculating an ITR metric using an aggregated budget approach, practitioners should convert the total carbon budget overshoot or undershoot into an ITR using an approach consistent with the methodology selected in Judgements 7 and 8.</li> </ul>

## Appendix H: Select decarbonization contribution methodologies and frameworks

The potential approaches and concepts outlined in Part II of this Consultative Document reference a range of methodologies issued by industry bodies, standard setters, and financial institutions. As the field continues to evolve, it is expected that more methodologies and frameworks will be developed over time. The organizations and methodologies listed in the table below have been selected for the purpose

of formulating the preliminary considerations proposed in this consultation. This list is not exhaustive of all references or entities that may be relevant to Part II of this consultation going forward. Feedback on additional references and sources that may be considered in the next phase of work is welcomed — please provide feedback through the consultation survey.

### Select methodologies and frameworks

	Methodology / Framework	Capital flow	Financed emissions	Emission reduction potential	Avoided emissions
CDP	<a href="#">Emerging Climate Technology Framework</a>				
GIC-Schroder	<a href="#">A Framework for Avoided Emissions Analysis: Uncovering Climate Opportunities Not Captured by Conventional Metrics</a>				
Goldman Sachs	<a href="#">Carbonomics: Affordability, Security and Innovation</a> ; <a href="#">Carbonomics: Introducing the GS Net Zero Carbon Models and Sector Frameworks</a> ; <a href="#">Carbonomics: The third American energy revolution</a> ; and GS Sustain: Avoided Emissions — How quantifying Avoided Emissions can broaden the decarbonization investment universe				
ICE	<a href="#">From Climate Risk to Opportunity: The Concept of Avoided Emissions</a>				
Mission Innovation	<a href="#">Towards &gt;60 Gigatonnes of Climate Innovations, Module 2</a>				
PCAF	<a href="#">The Global GHG Accounting and Reporting Standard for the Financial Industry</a>				
Project Frame	<a href="#">Pre-investment Considerations: Diving Deeper into Assessing Future Greenhouse Gas Impact</a>				
Systemiq / ETC	<a href="#">Financing the Transition: How to Make the Money Flow for a Net-Zero Economy</a>				
WBCSD	<a href="#">Guidance on Avoided Emissions: Helping business drive innovations and scale solutions toward Net Zero</a>				