



The Institutional Investors
Group on Climate Change

PARIS ALIGNED INVESTMENT INITIATIVE

CONSULTATION ON PROPOSED COMPONENTS FOR INFRASTRUCTURE



1 Background

IIGCC's Paris Aligned Investment Initiative (PAII) was launched in May 2019, with the aim of exploring how investors can align their portfolios to the goals of the Paris Agreement. The PAII is a collaborative forum for investors which aims to:

- Develop definitions of key concepts, terms and clarify pathways relevant to Paris alignment, in order to build understanding and consensus around these concepts
- Analyse potential methods that can be used to assess alignment of different asset classes
- Assess approaches for transitioning portfolios, in order to provide practical options for investors to transitioning and assessing alignment to the Paris goals.

The PAII published the Net Zero Investment Framework 1.0 in March 2021 and established the PAII as a global collaboration with 3 other investor networks: the Asian Investor Group on Climate Change (AIGCC), Ceres, and the Investor Group on Climate Change (IGCC).

The Net Zero Investment Framework 1.0 covered four asset classes: listed equity and corporate fixed income, sovereign bonds, and real estate. In 2021, IIGCC therefore established a working group to develop additional components of the Framework relevant to infrastructure.

This document includes the proposed components of a Net Zero Investment Framework (the Framework) for infrastructure which is published for public consultation.

Acknowledgements

We are grateful to the IIGCC working group co-leads Alistair Perkins, NN Investment Partners and Chris Newton, IFM and their teams for steering the work to develop the Net Zero Investment Framework components for infrastructure. We would also like to thank Chronos Sustainability who provided research and analysis to support the work of the group, the members of the IIGCC who contributed to the development of the Framework, and to members of the three PAII Network Partners (AIGCC, Ceres, IGCC) who provided additional feedback on the components. We are also grateful to colleagues at Arup and GRESB for their review of the working group's outputs.

2 Introduction

The Net Zero Investment Framework aims to provide a consistent basis for asset owners and asset managers to measure and manage portfolios towards the goal of achieving global net zero emissions by 2050 or sooner. It seeks to provide recommendations for methodologies and approaches to alignment that a broad range of investors can utilise. However, it recognises that investors will set their own specific strategies and undertake actions according to their circumstances and legal requirements. Investors utilising the Framework are therefore expected to do so on an 'implement or explain' basis.

The infrastructure components proposed for the Framework are intended to be relevant to both asset owners and asset managers. To determine the proposed components, the PAII has assessed a range of currently available methodologies and approaches for measuring or undertaking alignment to net zero, based on the guiding principles agreed for the PAII (Box 1). While all methodologies and approaches have some challenges or limitations, the PAII aims to identify practical solutions for investors to take action now, while also highlighting areas that need to evolve to improve investors' ability to align portfolios. In relation to infrastructure, the PAII recognises that infrastructure assets are physical assets, structures or facilities, systems and networks that provide or support essential public services. As such, the alignment of assets with the goal of global net zero emissions by 2050 or sooner will also need to take account of the broader social, economic and development benefits provided by infrastructure, and the key role of policy and regulation in infrastructure development.

Where asset owners and managers have multi-asset portfolios, the infrastructure components set out below are designed to be integrated with the broader recommendations of the Net Zero Investment Framework 1.0. For recommendations regarding methodologies, management and strategies that are cross cutting, such as parameters for net zero scenarios, emissions accounting and approach to use of offsets, the PAII has not sought to reproduce this content in this document. Similarly general components of investor action, not specific to infrastructure as an asset class, such as governance, Strategic Asset Allocation, policy advocacy and stakeholder engagement that should be part of a comprehensive approach to investor action are not reproduced in this document. This document should therefore be read in conjunction with the Net Zero Investment Framework 1.0.

The PAII also notes that if policy and corporate action does not progressively transition towards the net zero goal, it will be extremely challenging for a large number of investors to achieve a portfolio of assets that has net zero emissions in 2050. The Framework is therefore based on the expectation that governments and policy makers will deliver on commitments to achieve the 1.5°C temperature goal of the Paris Agreement.

Box 1: Guiding principles for developing the Framework

The PAII followed 5 key principles to guide its work, and to assess methodologies and test conclusions:

Impact

The primary objective is achieving emissions reductions in the real economy. While different investors have different scopes for undertaking action, the Framework should encourage investors to maximise their efforts to achieve the greatest impact possible.

Rigour

Alignment should be based on sound evidence and data, and be consistent with the best available science on meeting the temperature goals of the Paris Agreement.

Practicality

The methods and approaches should be feasible for a range of investors to implement, build on existing work, and be compatible with existing processes or requirements of investors.

Accessibility

Definitions, methodologies and strategies should be clear and easily applied, using publicly available information and assessments where possible.

Accountability

Definitions, methodologies and strategies should allow clients, beneficiaries and other stakeholders to assess whether investors and assets are aligned with the goals of the Paris Agreement.

3 Consultation on the proposed Framework components for infrastructure

The components of the Framework presented in the following sections of this document are presented as a draft for consultation. IIGCC is seeking feedback from a broad range of stakeholders to strengthen the Framework components for infrastructure and ensure we have fully considered all issues relevant to alignment with net zero for this asset class. The PAII Network Partners therefore warmly invite stakeholders to provide feedback on the proposed Framework components. There are a number of consultation questions throughout the document which indicate where we would specifically welcome feedback.

Stakeholders can submit feedback on the Framework and responses to questions via the online platform available [here](#).

The deadline for consultation responses is **8 July 2022**.

The PAII expects to publish the final components for infrastructure as a supplement to the Net Zero Investment Framework 1.0 following the conclusions of this consultation process.

4 Proposed components of the Net Zero Investment Framework for Infrastructure

The PAII Net Zero Investment Framework considers that ‘Paris-aligned’ investment means committing to a goal of net zero portfolio emissions by 2050 or sooner, consistent with limiting global temperature increase to less than 1.5 degrees Celsius and implementing an investment strategy that is consistent with achieving that goal of global net zero emissions by 2050. Delivering a ‘net zero investment strategy’ should focus on achieving two alignment objectives:

- Decarbonising investment portfolios in a way that is consistent with achieving global net zero greenhouse gas (GHG) emissions by 2050 or sooner
- Increasing investment in ‘climate solutions’ that are needed to meet that goal, such as renewable energy, low carbon buildings, and energy efficient technologies.

Therefore, the following components proposed for infrastructure are recommended for investors to be able to implement an investment strategy and manage their infrastructure funds or portfolio in line with this definition of Paris alignment and consistent with requirements of net zero commitments such as the Paris Aligned Asset Owners or Net Zero Asset Managers commitments.

The following sections propose:

- The scope of infrastructure assets to be considered for measurement and management as part of a net zero strategy for infrastructure
- The metrics and targets to measure alignment over time
- Implementation actions to achieve alignment targets and decarbonisation in the real economy.

On this basis, an asset manager or asset owner can be considered ‘Paris-aligned’ or ‘net zero-aligned’ if:

- Their infrastructure assets are measured based on the indicators in section 4.1
- They are setting and achieving targets based on the targets recommend in section 4.2
- They undertake actions set out in section 4.3 to continue to achieve those targets over time.

For asset owners, and multi-asset managers, infrastructure assets/portfolios should also be incorporated into portfolio-wide emissions reduction and climate solutions goals as recommended in the Net Zero Investment Framework.

4.1 Scope

The first stage in measuring the alignment of an infrastructure portfolio with net zero is to set the scope of investments to be included in this assessment, and then managed to increase the alignment with the net zero goal.

In the Solvency II amending Delegated Regulation (EU) 2015/35 issued by the European Commission on 8 June 2017 (points 55a and 55b of Article 1), an infrastructure investment is defined as being an investment in an entity or corporate group which derives the substantial majority of its revenues from owning, financing, developing or operating infrastructure assets. Infrastructure assets mean physical assets, structures or facilities, systems and networks that provide or support essential public services.

In the investment context, it typically includes greenfield and brownfield investments in economic and social infrastructure^{1,2}:

1 Investors may also refer to the EDHEC Infra TICCS classification <https://edhec.infrastructure.institute/ticcs>
2 Georg Inderst (2010) *Infrastructure as an asset class* EIB papers

Economic	Social
Transport (e.g. ports, airports, rail, light rail, roads, bridges, tunnels, parking)	Schools and education facilities
Utilities & Environment (e.g. energy distribution networks, storage, power generation, water, sewage, waste, coastal & flood protection)	Hospitals, healthcare facilities, care homes
Communication (e.g. transmission, cable networks, towers, satellites)	Defence and judicial buildings, prisons, stadiums
Renewable Energy	Government offices

Infrastructure as an asset class encompasses both equity and debt, including:

- Direct or co-investments in unlisted infrastructure companies
- Listed and unlisted infrastructure funds (closed-end or open-ended)
- Project finance
- Passive infrastructure indexes and funds, fund-of-funds, infrastructure ETFs

Assets and investment types covered by the above definitions should be included in scope for application of the Framework set out below.

Figures 1 and 2 provides a typology of investor types and investment styles for infrastructure as an asset class.

Figure 1. Investor type

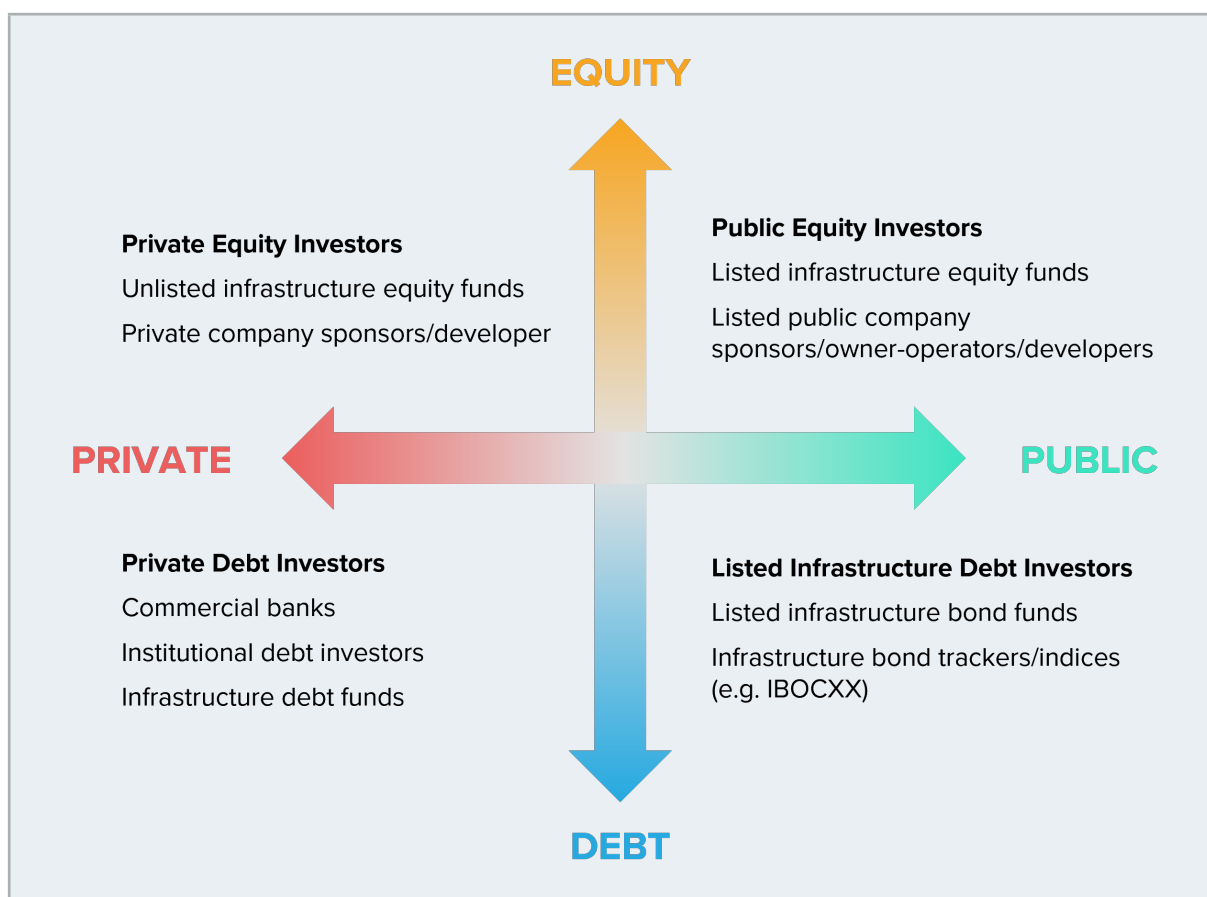
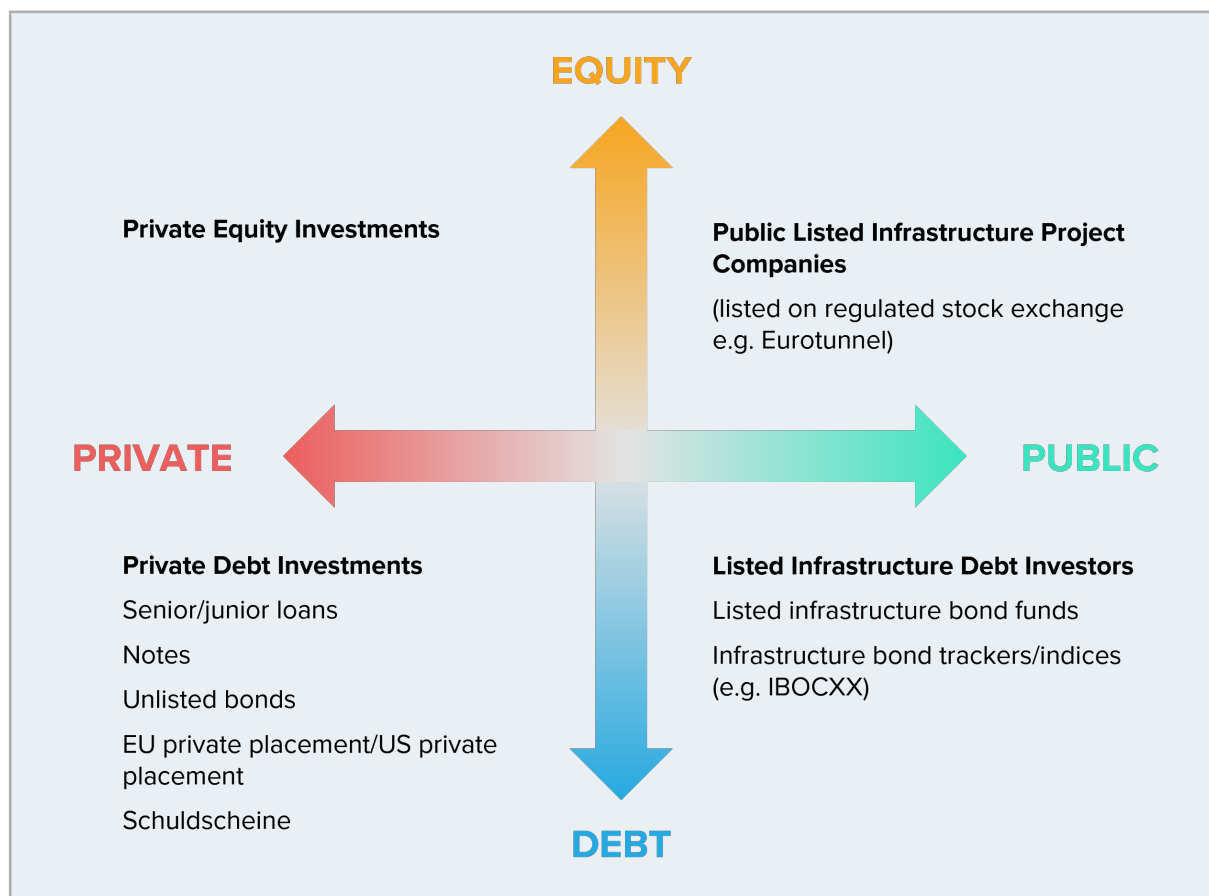


Figure 2. Investment type



Aspects of infrastructure investment are closely aligned to other asset classes already covered by the Net Zero Investment Framework. Therefore, in the case of listed infrastructure companies, investors should consider whether a company has the main focus of their business model on operation or provision of infrastructure to determine if it should be included as part of the infrastructure portfolio and recommendations for the infrastructure asset class. It may also be more relevant to utilise the listed equity or corporate fixed income asset class approach for companies in particular sectors or not primarily focussed on infrastructure. As infrastructure assets may be held through Real Estate Investment Trusts (REITs), investors will need to consider whether assessment of such funds requires use of methodologies set out for infrastructure or the approach set out in the Net Zero Investment Framework for real estate depending on the type of underlying assets in the fund.

Questions for consultation

- Q1. Do you agree with the proposed definition of infrastructure assets and types of investments to be included in scope?**
- Q2. If not, what amendments to this definition do you propose? Please explain how these would ensure an approach that is consistent with the PAII criteria to ensure impact, rigour, and practicality.**

4.2 Metrics and Targets

As set out in the Net Zero Investment Framework, achieving net zero global emissions by 2050 or sooner will involve reducing the emissions associated with assets in line with emissions reductions pathways necessary to reach that goal. Ideally, this should include all GHGs and scope 1, 2 and 3 emissions. It will also require scaling up investments in ‘climate solutions’ – the low-carbon technologies, activities, assets and supply chain, that are needed to displace higher carbon technologies and activities in the economy.

The Net Zero Investment Framework 1.0 recommends that investors should assess the alignment of assets towards global net zero emissions, as well as their contribution to climate solutions. Assessment of alignment of assets should factor in both current and future expected performance, and the likelihood of future alignment. Investors should aim to increase the percentage of portfolio companies that are achieving net zero or aligned to the 2050 goal and contributing to climate solutions. The Framework currently recommends methodologies and metrics to assess net zero alignment for four asset classes, and associated targets that investors should set in order to align portfolios to net zero, in line with science-based pathways.

4.2.1 Proposed metrics for measuring net zero alignment of infrastructure investments

Based on research undertaken by Chronos Sustainability, the working group considered available methodologies and metrics for measuring the alignment of infrastructure investments. These methodologies included those from the Transition Pathways Initiative (TPI); Science Based Targets initiative (SBTi); GRESB; the Carbon Risk Real Estate Monitor; Carbone4; and the ClimateWise Transition Framework.

It is clear that there is no ‘off the shelf’ methodology that fully meets the PAII principles or allows a straightforward and comprehensive approach to measuring current and forward-looking alignment of an asset or fund for infrastructure. However, some key features of methodologies and metrics to assess alignment of infrastructure assets were able to be drawn from the analysis.

The most robust approaches to assess the current and forward-looking alignment of an asset to net zero pathways include:

- The measurement and disclosure³ of scope 1, 2 and scope 3 GHG emissions to the extent possible
- The presence and achievement of short- and medium-term targets set in line with net zero emissions trajectories. To the extent possible, these emissions trajectories should be based on the most robust science-based approaches available, e.g. the sectoral decarbonisation approach (TPI/SBTi) or ‘carbon budget’ approach (Carbone4)
- A robust decarbonisation plan for achieving scope 1, 2 and 3 emissions associated with the asset in line with targets
- Clear governance and management responsibilities for the achievement of targets and implementation of the above strategies.

A number of key considerations are also relevant to consider when assessing the alignment of infrastructure assets:

- Expectations regarding the potential for an asset to achieve a net zero target can and should take into account of forecast dynamic changes expected in policy and technology for different geographies to understand the expected transition and required additional effort to achieve alignment of an asset with a net zero emissions pathway that should be the subject of the decarbonisation strategy. Examples of these changes include:
 - Changes in operations of the asset, e.g. fuel switch in power generation
 - Changes resulting from mitigation actions expected, e.g. the effect of EV phase-in in national policy for Scope 3 emissions in road transport

3 Where this paper refers to ‘disclosure’, this means public disclosure unless otherwise specified.

- Grid emissions factors to calculate expected emissions from electricity imported from the grid – CRREM data may be useful in this regard
- Asset performance degradation which may affect carbon efficiency over time
- Given the long-lived nature of infrastructure assets, it is particularly relevant to assess marginal abatement cost curves and ability to meet IRR hurdles in a net zero scenario, to ensure investment in an asset is consistent with achieving a net zero pathway over the long term
- Infrastructure investments in scope include both brownfield (operational) and greenfield assets (in construction). For greenfield assets, emissions associated with construction should also be included in targets and decarbonisation strategies
- Scope 3 emissions for infrastructure assets are highly impacted by policy and regulatory decisions affecting use of infrastructure assets. However, investors can ensure development and implementation of strategy including the following elements relevant to achieving the value chain reductions required for decarbonisation of the sector. Components may include:
 - Procurement policy incorporating carbon objectives
 - Value chain engagement
 - Provision of relevant infrastructure/services for facilitating scope 3 emissions reductions
 - Policy advocacy consistent with achieving net zero for the activities/sector associated to the asset
- As long-lived assets, most types of infrastructure will undergo significant periodic maintenance or refurbishment to maintain performance and achieve the longevity expected for the asset. These capex investments may have significant short term embodied and operational emissions associated. Separately, assets may undergo expansion to increase the service provision of an asset. These capex investments may have both short-term embodied and operational emissions, but may also change the longer term emissions profile of an asset. It is proposed that emissions associated with these activities are treated as follows in the assessment of alignment:
 - Investors should assess full lifecycle emissions and consistency with net zero pathways, including anticipated emissions associated with maintenance or planned expansion as part of assessing whether to invest in an asset, or support expansion
 - For refurbishment and maintenance, these emissions should be included in emissions accounting, and included in emissions reduction strategies. Optimally, emissions associated with refurbishment and maintenance should be forecast for the purposes of setting target pathways. In this context, it is noted that such short-term changes in asset GHG intensity should not impact the assessment of aligned/aligning categories
 - For new expansion planning, investors should re-assess whether the expanded asset can be aligned to net zero based on credible science-based net zero pathways. If an asset can be aligned, then the target and pathway for the asset may need to be re-baselined and assessed against the alignment indicators accordingly, and targets updated as relevant.

4.2.2 Alignment criteria for infrastructure assets

The PAI therefore proposes that alignment for infrastructure assets should be assessed based on the fulfilment of the following criteria⁴. In applying these criteria, investors should take account of the considerations outlined above. The objective of an investor is to ensure that all assets are achieving against these indicators.

For operational assets, if an asset is achieving against all criteria set out below it can be considered ‘aligned’ to a net zero pathway. If an asset is achieving these indicators but already has an emissions intensity of the ‘net zero’ level required for its sector in 2050, it would be considered ‘net zero’ already.

⁴ These criteria align to the indicators used for listed assets in the Net Zero Investment Framework, based on the CA100+ benchmark, and are consistent with the proposed indicators for private equity.

As a measure of progress, where an asset has initial criteria 2, 3, 4 and 6 in place, it can be considered ‘aligning’ to a net zero pathway. Assets whose emissions performance level is and has historically been at or below the relevant science-based net zero intensity pathway for the sector can also be considered ‘aligning’.

Criteria: Operational Assets		Net Zero	Aligned	Aligning
1	Current and forecast scope 1, 2 and material scope 3 emissions ⁵ performance level (relative to target or to a net zero benchmark/pathway, or asset's science-based target ⁶ , over time)	Asset with emissions intensity required by the sector and regional pathway for 2050 ⁷ and whose ongoing operational model will maintain this performance	x	EITHER x OR all of the below marked criteria
2	Long-term goal for the asset to be net zero emissions by 2050 or sooner		x	x
3	Disclosure of scope 1 and 2 emissions, and disclosure of material scope 3 within a reasonable timeframe and in line with regulatory requirements where applicable or the PCAF standard		x	x
4	Short- ⁸ and medium- ⁹ term targets for scope 1,2 and material scope 3 emissions in line with science based ‘net zero’ pathway. These may be absolute or intensity based: a. Where available, a sectoral decarbonisation approach (TPI/SBTi) or ‘carbon budget’ approach (Carbone4) should be used b. Minimum for other assets is a global or regional average pathway		x	x
5	Development and implementation of credible decarbonisation strategy for scope 1, 2, and material scope 3 emissions ¹⁰		x	
6	Governance/management responsibility for targets/ decarbonisation plan		x	x

5 IIGCC is undertaking analysis relating to materiality and measurement of scope 3 emissions which is aiming to provide relevant guidance on determining materiality.

6 Science-based target refers to any target, whether or not it is verified by SBTi, that is consistent with a relevant decarbonisation pathway consistent with achieving net zero global emissions by 2050 or sooner, and limiting temperature increase to below 1.5 degrees as described in the [supplementary target setting guidance](#) for the NZIF. Third party validation or verification of such targets is recommended best practice.

7 It is noted that for some infrastructure sectors this will be zero emissions, as all emissions are expected to be abatable by 2050 and it is unlikely that many assets will achieve this criteria across scope 1, 2 and material scope 3 in the near term

8 3-5 year

9 10-15 year

10 For scope 1 and 2 emissions this should include identifying and implementing commercially viable abatement measures consistent with achieving medium targets and identifying longer term transition strategies based on reasonable assumptions for policy and technology development, and undertaking any short-term actions to support progress towards that goal (e.g. policy advocacy to support development of hydrogen technology). For scope 3 emissions this should include actions available to influence scope 3 and that enable a sector transition to net zero (e.g. procurement policy, value chain engagement, provision of ‘facilitative’ infrastructure) plus supportive policy and stakeholder engagement and advocacy.

For a greenfield asset to have an investment strategy consistent with achieving net zero, an investor should assess the transition potential of any greenfield investment, and should not invest in any asset that cannot be aligned to net zero based on credible science-based net zero pathways, based on reasonable assumptions (e.g. technology development). Such new investment decisions should also follow the Framework recommendation with regard to thermal coal and tar sands, and take into account the IEA NZE2050 scenario regarding new fossil fuel exploration. For other high impact sectors¹¹, investors should provide evidence and rationales in relevant disclosures as to how they consider assets are consistent with achieving net zero goals. This is therefore a minimum requirement for all greenfield assets to be developed, if an investor has made a net zero commitment. During the period of the construction phase, it is further proposed that an asset can be classified as ‘aligning’ to net zero if it fulfils all of the following criteria:

Criteria: Greenfield assets		Aligning
1	The asset will be or is being constructed in a way that is designed to deliver an asset that can be aligned to a net zero pathway, including consideration of whole lifecycle emissions to minimise embodied emissions and avoid carbon lock-in	x
2	The emissions associated with the construction phase are disclosed (see operational indicator 3)	x
3	There is an ambition for the asset to be net zero by 2050 or sooner (see operational indicator 2)	x
4	There is a decarbonisation or management strategy to minimise emissions in the construction phase	x
5	Governance/management responsibilities are in place to minimise emissions in the construction phase (indicators 5 & 6)	x

It is recognised that achieving emissions disclosure (and several other indicators) may take a significant period of time. Investors will need to use best available data or estimates to address gaps, and engage with companies, users, regulators as relevant to improve disclosure.

Investors are expected to work towards their assets achieving these indicators as soon as possible but the expectation is that assets will achieve these indicators progressively, and the targets relating to alignment can be set to take account of the timeframes it may take to achieve these.

Third party verification of an asset’s disclosures, targets and compliance with the criteria is recommended, and should be annual to the extent possible.

Box 1: Investment in climate solutions

The working group noted that increasing investment in climate solutions is highly relevant for infrastructure as an asset class. Investors should therefore also measure the overall investment in activities or assets that can be classified as ‘climate solutions’. This should be based on the EU Taxonomy mitigation criteria and other science-based taxonomies or criteria for robustly identifying assets or activities that represent the climate solutions required to achieve net zero emissions by 2050 or sooner. The working group recognised that there is debate around some types of assets and categorisation, such as nuclear, which may nonetheless be considered as part of a net zero infrastructure mix. In addition, infrastructure investors are encouraged to support development of emerging technologies such as CCS that may be nascent but should be recognised as relevant to infrastructure investors’ net zero strategies.

¹¹ High impact sectors are defined in Appendix B of the Net Zero Investment Framework Implementation Guide

Questions for consultation

- Q3. Are the proposed alignment criteria and additional recommendations relevant to assessing and ensuring alignment of infrastructure assets to a net zero pathway, and measuring progress towards alignment? If not, please describe the amendments or additions to the proposals that you recommend?**
- Q4. Do you agree that existing performance of an asset should be considered as sufficient to be categorised as ‘aligning’ if its current and forecast performance is below the intensity of the net zero pathway relevant for that asset, and it continues to perform in line with this over time?**

4.2.3 Net zero target setting for infrastructure

In the context of identifying the above criteria for assessing the alignment of infrastructure assets and taking account of the targets recommended in the NZIF at the portfolio and asset class level, the following target setting approach is recommended for infrastructure assets.

The portfolio coverage approach recommended, and measurement of portfolio companies’ scope 1, 2 and material scope 3 GHG emissions, would facilitate investors to set the following targets for PE portfolios and funds.

All of the following (Target 1a, 1b, 2, and, as relevant, 3) are proposed to be set by GPs and LPs to be considered ‘net zero aligned’, and is therefore recommended to be set by an asset manager or asset owner making a net zero commitment (e.g. Net Zero Asset Managers (NZAM); Paris Aligned Asset Owners).

These targets also align closely to the existing asset level alignment targets and portfolio level emissions reduction targets of the Net Zero Investment Framework, allowing aggregation across asset classes and portfolios for multi-asset managers, and at portfolio level for asset owners.

Portfolio coverage (asset alignment)

At the asset level (for infrastructure funds/allocations including all equity and debt investments):

- 1a)** A <5 year (or 2030) 'portfolio coverage' goal for increasing the percentage of AUM invested in assets that are i) achieving net zero, or meeting the criteria to be considered ii) 'aligned' or iii) 'aligning' to net zero. This target should increase towards the goal of 100% of assets to be i) 'net zero' or ii) 'aligned' to net zero, by 2040.
- 1b)** As a subset of 1a, for any new assets where the GP has a significant influence or control influence, criteria should be achieved progressively, reaching 100% of operational assets 'aligned' or 'net zero' by 2030, or, for acquisitions after 2025, within 5 years of investment. For assets in the construction phase, they would need to meet the 'aligning' criteria.

These targets are expected to be set on a fund-by-fund basis by asset managers but may be set as an aggregate for the portfolio if more relevant.

Portfolio reference targets

- 2)** To aggregate infrastructure into portfolio-level emissions reduction reference targets, investors may also set a relevant reference target for overall emissions reduction for infrastructure assets:
 - a)** A <5 year (or 2030) portfolio CO₂ emissions reduction reference target. This should include scope 1 and 2 emissions, with scope 3 reported separately in line with Phase-in. This target may be expressed in absolute or intensity terms (CO₂e/\$mn invested).

To the extent possible, targets should relate to absolute emissions reductions relative to a baseline (re-calculated as necessary). However, for open ended funds, and/or to enable aggregation across a portfolio (including other asset classes) the targets may also be expressed in intensity terms.

- b)** A <10-year goal for allocation to climate solutions representing a percentage of revenues or capex from AUM (based on EU taxonomy mitigation criteria), increasing over time, in line with investment trajectories based on a net zero pathway.

Fund of Funds

- 3)** Where investing in fund of funds, the asset owner or asset managers shall aim to ensure that as soon as possible - and by 2030 at the latest - to only invest with firms or fund managers who themselves are setting portfolio coverage targets as set out above and undertaking relevant actions in line with those recommended in subsequent sections.

Engagement threshold

- 4)** Investors should also include infrastructure assets within the scope of the portfolio engagement goal set out in the Net Zero Investment Framework. This recommends that at least 70% of financed emissions in material sectors are either assessed as net zero, aligned with a net zero pathway, or the subject of direct or collective engagement and stewardship actions. This threshold should increase to at least 90% by 2030 at the latest. Given the scale and impact of energy-intensive infrastructure assets, it is additionally recommended that, for infrastructure investments, 100% of carbon-based energy and transport assets are the subject of collective or direct engagement, or management interventions.

All targets should be reviewed and updated at least every 5 years, in line with the existing NZIF guidance and net zero commitments (NZAM and Paris Aligned Asset Owners).

Similar to asset owners, asset managers with multi-asset class portfolios are encouraged to set and disclose on both asset-level and portfolio-level targets to inform portfolio-wide decision-making. Asset managers with only infrastructure holdings may set only the portfolio coverage target, but are expected to disclose:

- Scope 1 and 2, and material scope 3 (in line with Phase-in) GHG emissions, including data for a relevant baseline year
- Allocation to climate solutions and provide forecasts of potential emissions reductions to enable asset owners to consider how portfolio level emissions reduction reference targets can be delivered.

4.2.4 Additional recommendations for measurement and disclosure

Investors should measure emissions in line with the GHG Protocol, allocate financed emissions responsibility in line with the PCAF standard, and report portfolio emissions and any associated reference targets accordingly. In order to account for (and manage) whole life cycle emissions, investors can use the PAS2080 standard. To consider whether an asset can be aligned to net zero, investors should consider the remaining lifetime emissions of an asset including refurbishment, maintenance, retrofitting, expansion and decommissioning. For potential greenfield investments, whole lifecycle emissions should be assessed as part of investors' due diligence (see section 4), and disclosed where a greenfield investment is undertaken. While scope 3 emissions are challenging and resource intensive/time-consuming to measure, investors should seek to measure scope 3 in line with the GHG Protocol standard, phasing in measurement, if necessary, in line with regulatory requirements where applicable or the PCAF standard. This should focus on material scope 3 emissions. IIGCC recommends that investors use the GRESB guidance on scope 3 reporting: <https://gresb.com/wp-content/uploads/resources-2022-gresb-supplementary-guidance-on-scope-3-emissions.pdf>

With regard to other aspects of measurement such as appropriate use and accounting for offsets etc, it is expected that investors would apply the approaches currently set out in the Net Zero Investment Framework. It is emphasised that avoided emissions cannot be used to offset emissions from other assets in the portfolio. However, avoided emissions may be accounted for separately as a measure of the impact of investment in climate solutions. IIGCC is producing additional guidance on metrics to assess investment in climate solutions and relative impact which would be applicable to infrastructure assets.

Similarly, investors should refer to recommendations regarding avoidance of new investment in unabated thermal coal and oil/tar sands exploration set out in the Framework which should also be applied by funds, asset owners and asset managers to be considered net zero aligned.

Although the Framework does not seek to create a new reporting standard for investors, section 9 of the Net Zero Investment Framework provides a clear overview of the broad disclosure expectations for investors to include in TCFD reporting or other disclosures associated with their net zero commitments. Additional asset classes, such as infrastructure, should be included in these public disclosures. In particular, it is expected that asset owners and asset managers integrate infrastructure assets into the disclosure of portfolio emissions reduction reference targets and asset level targets, and disclose their targets and performance against these targets in line with the recommendations above.

Questions for consultation

- Q5. Do you consider the proposed targets appropriate for asset owners and asset managers? If not, please describe amendments or clarifications you would recommend and describe how these ensure targets are science-based, support achieving impact in the real economy, and are practical for a range of asset owners and managers to use.**
- Q6. Do you agree with the approach for Fund of Funds? If not, how do you propose ensuring managers in fund of funds structures set net zero goals?**

4.3 Approaches for transitioning a portfolio and increasing alignment

The key objective to align a portfolio of infrastructure assets is to ensure that an increasing proportion of assets are aligned to a net zero pathway by setting targets and decarbonisation strategies in line with achieving net zero pathways, and implementing these strategies to achieve the set targets over time (as set out in section 4.2).

Investors can take actions at different stages of the investment cycle to increase their exposure to more aligned assets and influence these assets to achieve the alignment indicators referred to in section 4.2.2.

The opportunity set will vary depending on the type of investor and investment style. For example, fund managers with private equity holdings in infrastructure will have direct influence on the asset or owner/operator. In this circumstance, and particularly where the investor has a meaningful share or board seat, the investor can engage directly to ensure appropriate steps are taken to measure and manage alignment progressively over time. Public equity infrastructure investors can have a significantly shorter investment time frame when compared to private investors. However, many aspects of the pre-screening/due diligence will be similar. While an investor (or investors) can hold significant shareholdings, the listed infrastructure investors are typically one of many investors, many of whom may not be specific, or solely, public infrastructure investors. Public infrastructure investment does not have the direct operational control available to some private equity investors. Investors will therefore use direct or collaborative shareholder engagement, escalation strategies and voting to achieve similar objectives in relation to companies' achievements of the alignment indicators for assets. In addition, publicly listed companies are typically subject to greater public scrutiny and specific listing requirements that can provide for better communication of emission management.

Debt investors will generally have both more limited information on assets, and more limited influence. Therefore, undertaking pre-investment screening is important to avoid investing in assets that cannot be aligned to net zero. These assessments would apply similarly for re-financing to avoid extending investment for carbon-intensive assets without credible targets and strategies to align to net zero. As debt investors will have more limited influence during the holding period, it is important to consider the potential role of clauses in covenants, ESG ratchets, or KPI-linked bonds for infrastructure to ensure action is undertaken to set targets, implement carbon management strategies, reduce emissions, and disclose performance during the lifetime of the bond.

The following elements set out recommended actions identified by the working group that can be applied by asset managers and asset owners, and at different stages of the investment cycle, to increase the alignment of their assets and portfolios. An asset owner or asset manager with a net zero commitment should implement relevant actions set out below.

4.3.1 Asset/fund managers key actions to increase the alignment of assets and the portfolio

A Portfolio assessment and management
<ul style="list-style-type: none"> • Build skills and capacity to better understand and value climate risk and assess/manage net zero transition for assets • Implement TCFD recommendations and reporting in relation to climate-related financial risk as a firm • Define a net zero investment strategy and set portfolio/fund level targets and objectives, in line with the recommendations in section 4.2: <ul style="list-style-type: none"> • For open ended funds, it is expected that emissions performance will be reported on an intensity basis. Where investors are setting portfolio level reference targets, a re-baselining policy for emissions intensity should take account of significant changes to the exposure of the fund. • For closed ended funds, it is noted that, where the end of fund date is sooner than the target dates recommended (2030, 2040) an appropriate shorter term end target should be set. • Assess and disclose current and ongoing scope 1, 2 and 3 emissions, net zero strategy and progress towards delivering against targets.
B Pre-acquisition/due diligence
<ul style="list-style-type: none"> • Negative screening: Assess emissions intensity of the asset including scope 3 and facilitated emissions¹², and potential for asset to align with net zero pathway. For greenfield assets, this assessment should consider full lifecycle emissions. Where assets cannot be aligned, new investment should not be considered. For debt investments, given more limited ability to influence during the holding period, the screening test should be higher, including whether the asset has a target or strategy to align, or the investor has a reasonable expectation that they can engage the issuer to achieve this • Negative screening: Undertake climate risk assessment and, to the extent possible, assess marginal abatement cost curves, and forecast IRR in a net zero scenario and only invest in assets where forecast IRR hurdles can be achievable in these net zero scenarios • Positive screening: Investors should seek to increase exposure in assets that are climate solutions (e.g. renewable energy) in line with the scaling-up of these assets required to achieve global net zero emissions by 2050 • A Do No Significant Harm assessment (for example, as referred to in the EU SFDR regulation, or equivalent) should be conducted. Where opportunities with credible strategies/pathways to address harm exist, this should not preclude investment. Implementation of the strategy to mitigate harm should then be undertaken during the holding period • Where possible, secure commitments to net zero strategies/targets at acquisition, and invest via credible KPI-linked or transition-labelled instruments and engage with bodies such as the Loan Market Association to include standard information requirements in the standard template loan documentation.
C During the holding period
<ul style="list-style-type: none"> • Direct engagement or management (unlisted) to establish timebound KPIs for emissions measurement/disclosure, target setting, development and implementation of strategies. This may include support through training, knowledge sharing etc. • Ensure governance and management responsibilities for climate change are defined for each asset/operator, including establishing remuneration linkage to delivering on targets and climate strategy as relevant • Collaborative stewardship and engagement (listed) with escalation strategy based on achievement of alignment indicators • For debt holdings: <ul style="list-style-type: none"> • In particular with blocking vote, use change/waiver processes to introduce relevant ESG requirements • Raise issues in lender meetings to influence shareholders/operators to achieve net zero objectives and targets • Monitoring and reporting on carbon performance and achievement of milestones/actions defined in company strategies • Engagement of employees, suppliers, regulators and community to ensure a just and effective transition process.

¹² Facilitated emissions refers to emissions that are not included in scope 3 guidance according to the GHG protocol but are associated with and facilitated by the operation of these assets. Such emissions include the emissions from use of products transport via pipelines, or total journeys facilitated by transport infrastructure. It is relevant to consider facilitated emissions to ensure the broader impact of the operation of an asset is consistent with achieving global net zero emissions by 2050 or sooner.

D At exit:

- Aim to meet the following 'exit criteria':
 - the asset is in a position to be profitable in a net zero future
 - the asset has the potential to continue to align to the relevant net zero decarbonisation pathway over time.

E Advocacy

- Investors and operators engaging in policy advocacy that is consistent with achieving net zero global emissions by 2050, as relevant
- Operators/investors engaging with relevant sectoral policy initiatives and actions to ensure alignment, in particular of scope 3 emissions with net zero
- For debt investors, engagement with banks who have a significant role as lead arrangers, etc. is a key action to secure terms relating to climate performance and disclosure
- Engagement with regulators of regulated assets, again individually or collectively, is also used to argue for the inclusion of capital expenditure that may be required as part of the emission reduction strategy to be included in regulated pricing decisions.

4.3.2 Asset Owners (i.e. pension funds, insurers) key actions to increase the alignment of assets and the portfolio

Asset owners will generally invest through an asset manager rather than directly. Asset owners should therefore implement the following approaches relevant to ensuring their overall portfolio is aligned and managers are operating in a manner consistent with achieving those objectives:

- Inclusion of infrastructure assets in net zero commitments, climate risk governance and TCFD reporting
- Inclusion of net zero and climate risk assessment in investment committee sign-off processes/memos to approve commitments to new funds and investments
- Drawing on data/information provided by asset managers as necessary, set portfolio targets for emissions reductions and asset level alignment for infrastructure investments (see section 4.2.3)
- Invest with asset managers applying the recommendations of the Net Zero Investment Framework (as indicated above, and in the following investment type sections) with regard to measurement and management of infrastructure assets and funds
- Undertake engagement with asset managers/listed assets as appropriate to ensure achievement of targets and actions expected
- Undertake policy advocacy as set out in section 4.3.1 (Section E) above.
- Implement SAA approaches to optimise portfolios, including infrastructure, increasing allocation to green infrastructure to the extent possible.

Where asset owners invest directly, co-invest or manage their own infrastructure funds, the relevant asset manager sections would apply.

Questions for consultation

- Q7. Do the recommended actions for asset managers and asset owners capture the key activities that should be undertaken to manage climate risk/opportunity, increase net zero alignment of portfolio companies and funds/portfolios, and to achieve net zero targets? If not, what actions should also be included?**



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