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UN-convened Net-Zero Asset Owner Alliance

Target-Setting Protocol

Fifth edition



March 2026

The Net-Zero Asset Owner Alliance (NZAOA) receives ongoing legal advice with regard to antitrust compliance—as such, this publication has undergone a legal review.

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Acronyms and abbreviations

°C	Degrees Celsius
AR6	IPCC Sixth Assessment Report
ASCOR	Assessing Sovereign Climate-related Opportunities and Risks
AuM	Assets Under Management
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CREL	Commercial Real Estate Loans
CRREM	Carbon Risk Real Estate Monitor
DQS	Data Quality Score
EPD	Environment Product Declaration
GHG	Greenhouse Gas
IPCC	Intergovernmental Panel on Climate Change
KPI	Key Performance Indicator
LCA	Life Cycle Analysis
LULUCF	Land Use, Land-Use Change and Forestry
LTV	Loan-to-Value
NZAOA	Net-Zero Asset Owner Alliance
NZIF	Net Zero Investment Framework
M&A	Merger and Acquisition
PCAF	Partnership for Carbon Accounting Financials
Protocol	Target-Setting Protocol
REIT	Real Estate Investment Trust
SBTi	Science Based Targets initiative
TCFD	Task Force on Climate-related Financial Disclosures
YE	Year End

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Introduction to NZAOA's Target-Setting Protocol

T1. The Net-Zero Asset Owner Alliance (NZAOA) is pleased to introduce its Target-Setting Protocol (the Protocol).

T2. All relevant information from prior versions (Inaugural Target-Setting Protocol, TSPV2, TSPV3 and TSPV4) is incorporated in two distinct documents. Changes to paragraph content will be systematically tracked in tables provided in the final section of the document. Paragraph numbers are cited to indicate exact linkages between the two key documents.

The two key documents are structured as follows:

1. **Target-Setting Protocol:** This document consolidates all pertinent information for NZAOA signatories regarding target-setting and reporting criteria (all paragraphs are numbered for reference with T; e.g. *T3.1*).
2. **Background Document:** This document serves as a supplementary resource, providing additional insights on content related to target setting, allowing for detailed explanations and discussions not directly reflected in target-setting criteria (all paragraphs are numbered for reference with B; e.g. *B2.3*).

T3. The Protocol uses the following terminology:

- ***Shall*** means that a process is authoritative for the purpose of NZAOA but remains subject to the unilateral decision of the signatory concerned. If the signatory concerned does not follow the guidance, an explanation to the reviewer is required;
- ***Should*** means that a process is strongly recommended.

1. NZAOA's Commitment

1.1 Commitment of NZAOA signatories

T4. The signatories of NZAOA have made an independent commitment that is fully in line with the following commitment:

"The signatories of NZAOA commit to transitioning their investment portfolios to net-zero GHG emissions by 2050 consistent with a maximum temperature rise of 1.5°C above pre-industrial temperatures, taking into account the best available scientific knowledge including the findings of the IPCC, and regularly reporting on progress, including establishing intermediate targets every five years in line with Paris Agreement Article 4.9.

In order to enable signatories to meet their fiduciary duty to manage risks and achieve target returns, this Commitment must be embedded in a holistic ESG approach, incorporating but not limited to climate change, and must emphasize GHG emissions reduction outcomes in the real economy.

Signatories will seek to reach this Commitment, especially through advocating for, and engaging on, corporate and industry action, as well as public policies, for a low-carbon transition of economic sectors in line with science and under consideration of associated social impacts.

This Commitment is made in the expectation that governments will follow through on their own commitments to ensure the objectives of the Paris Agreement are met."

T5. In line with the above Commitment text, signatories are individually committed to supporting the real economy in its transition to a net-zero world, while, at the same time, being guided by scientific consensus. It is important to note that the real economy is not moving as fast as the science recommends and that this departure creates a substantial challenge for NZAOA signatories. Thus, defining pathways for net-zero portfolios will reflect both the requirements of science and the needs of the real economy, while also considering implications for a Just Transition (see Background Document, B39–47). Additionally, NZAOA emphasizes the importance of the principle of common but differentiated responsibilities, as reflected in Article 2.2 of the Paris Agreement.

To this end, NZAOA has heavily consulted several academic institutions on the scenarios and conclusions of the Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C and the IPCC Sixth Assessment

Report (AR6) to inform the recommended emissions reduction ranges for 2025 and 2030, respectively.

To achieve decarbonization, NZAOA recognizes the significance of financing the transition, particularly in high-emitting and hard-to-abate sectors. Credible corporate transition plans are seen as essential tools for unlocking capital flows into these areas.

T6. To join NZAOA, a Commitment document (NZAOA, 2025a) is approved by a C-Suite representative of each NZAOA organization before submitting the NZAOA registration form. NZAOA Governance (NZAOA, 2025c) establishes the minimum criteria that NZAOA signatories ***shall*** implement. By joining NZAOA, signatory organizations commit to:

1. Setting and publishing intermediate individual targets, in line with NZAOA's Target-Setting Protocol;
2. Disclosing annually and publicly on progress towards intermediate individual targets, including on investment portfolios' emissions profile and emissions reductions;
3. Receiving verification of intermediate individual targets and progress towards individual intermediate targets through review by NZAOA or a third party;
4. Where NZAOA has or establishes a Position, considering adopting and publishing, where applicable, a corresponding individual investment policy or approach, informed by NZAOA's Position, as applicable within 12 months of joining NZAOA, or within 12 months of publication of NZAOA's position;
5. Paying signatory fees within 30 days of invoicing. NZAOA's fee structure for signatories is established by the Steering Group and is always publicly accessible on NZAOA's website.

T7. The Protocol outlines the minimum criteria related to the first three points above, with '5' being treated separately. Further criteria for signatories related to positions mentioned in '4' are described in the positions themselves.

T8a. NZAOA's Governance document (NZAOA 2025c) also covers the Accountability Mechanism, which describes the process for review of minimum criteria and occasions when a signatory has not met the minimum criteria listed above within a specified time frame.

NZAOA recognizes that signatories may have unique business models and different operating jurisdictions, regulations, investment structures or data availability that might make it difficult for them to precisely follow all criteria of this Protocol as described. To accommodate for this variability, an overall approach to allow for explanations in case of deviations from those criteria is followed. To meet the first three minimum criteria, NZAOA signatories ***shall*** set targets based on the criteria outlined in the Protocol and ***shall*** explain any necessary deviations.

T8b. Providing a robust explanation for partial deviations from the Protocol is a common practice for signatories. Explanations ***should*** contain at minimum the following items:

- A well-defined reason for any deviation from the Protocol, which should be internally reviewed at the senior management level of the signatory. The reason should be based on sound arguments that are deemed plausible to an external party (e.g. the NZAOA Review Group or third party reviewer);
- If applicable, a timeline when this issue will be resolved; and
- If applicable, a specific plan as to how this issue resolution will be actioned.

T9. Throughout the Protocol, the terms "intermediate targets" and simply "targets" are used interchangeably, depending on context, to mean the targets signatories ***shall*** set every five years.

1.2 Objective of the Protocol

T10. The publication of the Protocol aims to address two objectives:

1. Maximize the impact of clear communication with external audiences. NZAOA aims to be reliably transparent and proactive in explaining its role, views, and how it is addressing key issues and limitations of asset owners' actions towards climate change. NZAOA's open approach to communication also means that it seeks to learn from, and build on, external feedback received through public dialogue.
2. Provide the necessary guidance on NZAOA criteria, which will guide and support signatories in implementing NZAOA-wide approaches. This document puts forward the best practice developed by NZAOA signatories for climate-related target setting. It is designed to be accompanied by the background document, which explains in detail the thinking behind the target-setting approach.

All actions and targets set under the Protocol are made unilaterally by individual asset owners to their stakeholders, including beneficiaries and/or shareholders, as part of their overall sustainability strategy.

1.3 Link to scientific basis

T11. Outdated

T12. As of the third version of the Protocol (NZAOA, 2023a), NZAOA assessed the AR6 to obtain an updated range for 2020 to 2030.[1] As the signatories' Commitment requires pursuit of net-zero greenhouse gases (GHGs) by 2050, in line with a maximum temperature rise of 1.5 degrees Celsius (°C) with no or limited overshoot, NZAOA has since its inception used carbon dioxide (CO_2) pathways with a 75/25 interquartile range as a proxy for the following reasons:

1 IPCC uses a range of 95/5th and 75/25th percentiles throughout its reports, NZAOA has historically used 75/25th interquartile range to remove outlier scenarios.

- CO_2 pathways target a 2050 net-zero end point
- Portfolios are largely CO_2 dominated
- Data are available largely for CO_2, but are not as available or reliable for other GHGs,[2] and
- Interquartile ranges eliminate some extreme outlier scenarios (noting that scenarios are not designed for portfolio steering but rather to test a range of assumptions in pursuing a given temperature outcome).

T13. NZAOA signatories will continue to use CO_2 pathways as a proxy for all GHGs, targeting a more ambitious year of net zero for all GHGs. **As a result, NZAOA signatories shall target reductions of 40 per cent to 60 per cent by 2030 (compared to Year End [YE] 2019) in line with IPCC estimates (AR6 Synthesis Report Summary for Policymakers, Table SPM.1).** For more information, see Background Document, B29–38.

2 Several data providers have confirmed to NZAOA that non-CO_2 gases are largely unreported even when CO_2 equivalent metrics are provided. In addition, several studies covering methane, the next most-reported gas, have shown the gas to be unreported by up to 60 per cent (EDF, 2020).

2. Scope of the Protocol

2.1 Coverage of assets by the Protocol

T14. Criteria of the Protocol cover all assets under management (and on balance sheet) managed by the asset owner while exercising asset allocation in fiduciary duty. These include assets that are:

- Managed in-house;
- Managed by third parties (e.g. exchange-traded funds, mutual funds, active/ passive);
- Managed for shareholder; and
- Managed for policyholder (in cases where the asset allocation is carried out by the asset owner).

But excludes:

- Money managed by group-owned asset managers on behalf of third-party clients, as this is not considered asset owner money as either it is not on the balance sheet of the asset owner or (strategic) asset allocation is under the responsibility/ discretion of clients/ customers. This may include unit-linked, separate account asset and mutual funds offered to third parties, among others.

T15. Outdated

T16a. NZAOA acknowledges that asset owners are not equal in terms of business mix, regulatory obligations, investment goals and management approaches. NZAOA signatories have:

- Different starting points in terms of portfolio carbon emissions;
- Diverse liability constraints;
- Diverse sector allocations that may not reflect the global investment universe and may be geographically concentrated;
- Very different asset class allocations, with pension funds at one end seeking diversification and balance across all asset classes, and insurance companies (which have a different business model) at the other end concentrating on fixed income;
- Varying levels of asset class and/or sector exposure in their portfolio, which may inform how material such strategies are from a tracking, reporting and target-setting perspective;
- Different investment horizons and portfolio rotation cycles, which may constrain the ability to keep steady portfolio holdings;
- Different levels of new business and growth;

- Varying investment approaches; e.g. active management versus buy-and-hold strategies; high conviction versus index investments; and direct ownership versus fund investments;
- Varying objectives, including that some investors may invest in the decarbonization of hard-to-abate sectors while others may prefer to avoid such sectors; and
- Diverse operational footprints and hence differences in geographical concentrations in their portfolios; as the Paris Agreement allows different country decarbonization paths, this will lead to differences in pace of the decarbonization of economies and thus portfolios.

T16b. Where necessary, NZAOA signatories may consider materiality thresholds in the application of the Protocol and ***shall*** disclose the materiality definition used. Signatories may exclude or consider as non-material assets or strategies that are in run-off mode, terminating before reaching the target year. If a materiality threshold is used, it ***shall*** be:

- Consistently applied to all NZAOA criteria; and
- Explained in the signatory's reporting, with no explanation required for thresholds of below 3 per cent of assets under management (AuM) in scope or less,[3] as long as only a limited number of asset classes are excluded using these thresholds and that this sum is not exceeding 5 per cent of the AuM in scope.[4]

2.2 Coverage of emissions scope

T17. **Emissions scope coverage of the Protocol**

The Protocol's focus is on portfolio emissions (mostly on asset owner's Scope 3 Category 15[5]) since these represent 95–97 per cent on average of an asset owner's emissions (Lütkehermöller et al., 2020). NZAOA signatories ***shall*** therefore set targets on their own Scope 3 emissions (Category 15).[6] However, NZAOA signatories ***should*** also commit to net zero (by 2050) with respect to their own operational carbon footprint (Scope 1 and 2), assessing their carbon footprint in line with the GHG Protocol and developing short- and mid-term targets as intermediate steps towards their net-zero target.[7]

3 The percentage threshold is assessed against the AuM in scope of NZAOA reporting framework.
4 Signatories should assess the impacts of aggregating smaller exposures in certain asset classes, which may result in more material exposure.
5 Portfolio asset where the asset owner has operational control report their emissions in Scope 1, 2 or different Scope 3 categories according to the GHG Protocol.
6 Emissions stemming from assets held only for investment purpose but where the asset owner is the majority owner or where the asset owner is in a control position need to be (partially) reported under Scope 1 and 2 (see GHG Protocol). Nevertheless, these investments shall be included in the investment targets set.
7 Those asset owners wishing to seek validation from the Science Based Targets initiative (SBTi) should follow the SBTi methodology for their operational Scope 1 and 2 GHG emissions.

T18a.

Emissions scope coverage of the underlying asset

Portfolio companies also have their own Scope 1, 2 and 3 emissions targets. Although improving, depending on the sector, corporate data on Scope 3 emissions range from somewhat unreliable to highly unreliable, and several data providers estimate Scope 3 emissions with a wide range of outcomes (LSEG, 2024). The estimation methods and reported data can differ significantly.

NZAOA signatories will review the targets of the companies in their portfolio and ***shall*** set targets on the investee company's Scope 1 and 2 emissions. NZAOA signatories ***should*** also set targets on the Scope 3 emissions of the portfolio company as soon as possible, and each individual NZAOA signatory is encouraged to move as early as it deems feasible.

At the portfolio level, NZAOA signatories ***should*** track Scope 3 emissions, but are not yet required to set targets on them until interpretation of these emissions in a portfolio context becomes clearer and data become more reliable.[8]

T18b.

Green Bonds

Green Bonds, which are categorized under use-of-proceeds structures, may be subject to special treatment. The Partnership for Carbon Accounting Financials (PCAF) suggests that financed emissions should be calculated based on the underlying financed assets. However, as for any conventional bond instrument, financed emissions in many cases are calculated by using the issuers reported emissions (Scope 1, 2 and possibly 3).

Signatories use different approaches to account for financed emissions related to Green Bonds.

These approaches mostly apply a range of discounts to the Green Bond issuers reported financed emissions—either across all sectors or specifically targeting high-emitting sectors such as energy and utilities. Additionally, some data providers are offering financed emissions estimates at the individual instrument level.

Signatories ***should*** be transparent and make information public regarding their approach of emission accounting of Green Bonds.

T19a.

GHG coverage

NZAOA signatories ***should*** report on a CO_2 equivalent (CO_2e) basis. Wherever disaggregation is available for non-CO_2 GHGs, signatories ***should*** report on a disaggregated basis.

T19b.

Usage of estimated data

For reporting purposes, signatories can use estimates for financed emissions. It is at individual signatory's discretion to decide on the quality criteria set for those estimates.

8 Comparisons of Scope 3 data reported by similar companies indicate the largest degree of divergence in reported emissions. See Busch et al., 2018.

Using primary data—collected directly from investees or operations—is preferred to reduce uncertainty. When primary data are not available, secondary data, such as sector averages or standard emission factors, can be used if they are up-to-date, geographically relevant and of high quality. Robust, validated and peer-reviewed models are preferable. The PCAF data quality score (DQS) reflects these estimation approaches accordingly. For reporting purposes, reported data are preferred over estimates, even if there is a lag of emission data. In order to be able to track improvements over time, signatories may disclose the use and level of PCAF DQS.

For target-setting purposes, signatories are advised to be cautious in using estimates, as many estimation approaches do not adequately reflect actual emission reductions achieved by investees. Signatories are advised to undertake due diligence to assess the robustness of estimates, as estimation approaches may not adequately reflect actual emissions reductions by investees.

2.3 Base and target year

T20. The Commitment (NZAOA, 2025a) requires targets to be set every five years in line with the Paris Agreement Article 4.9 cycle, specifying a five-year cycle of 2025, 2030, 2035 etc. When NZAOA signatories join between these dates, they ***shall*** establish targets that align with this cycle. NZAOA criteria default to five-year targets, while individual signatories may publish shorter or slightly longer (up to seven years when the next target year is reached within two years). Signatories ***should*** therefore consider the following target dates and underlying data when setting their targets.

T21. **Outdated**

2.4 Adjustments on pre-existing targets

T22. For NZAOA signatories with pre-existing public targets, it is possible to translate their base year to an earlier year if scientific pathways were considered. Signatories may add or deduct 5 percentage points to 8.5 percentage points per annum from the emissions reduction ambition for their first targets, if they consider the overall ambition towards 2030.

As per the example: A signatory that would like to align with a 45 per-cent reduction target for the period YE2019 to YE2029, but that joins in 2025 and therefore publishes a new target with base year YE2025, would take 5.8 percentage points from the range: so 45 per cent - (1-0,058) 6 per cent) = 21 per-cent target for YE2025 to YE2029.

T23. Finally, if setting an earlier base year, any decarbonization progress made before joining NZAOA must have been made public via a set target or evidenced via public reporting. Public targets issued more than three years prior to joining NZAOA ***should*** not be considered.

2.5 Target achievement and new intermediate target setting

T24. When reaching the target year (YEx) of an intermediate target, a new target ***shall*** be set. This target ***shall*** follow the below criteria for setting new YEx+5 targets:

T25. **Table I:** Key aspects of and reporting criteria for target achievement and new intermediate target setting

Key aspects of target setting	▪ **Complete time coverage:** signatories ***shall*** ensure every year is covered by a target. ▪ **Timeline:** new targets ***shall*** be set by the end of YE_X at the latest, with earlier updates possible. ▪ **Base year for subsequent target:** signatories ***shall*** choose either YE_X or the base year of their first target cycle. Divergent base years are allowed for asset classes that are gradually phased in. ▪ **In case of target underachievement:** The underachieved emissions delta ***shall*** be added to the new reduction target in case a signatory changes its initial base year to a subsequent base year. ▪ Signatories ***shall*** follow the Protocol and, with this, the IPCC's no or limited overshoot 1.5°C scenario ranges for all existing asset classes or asset classes being phased in for this target lifetime. ▪ **Methodology change:** Change of methodology and/or a metric is allowed so long as it corresponds to a published methodology and metric within the Protocol; signatories ***shall*** communicate this and consider the impacts this change has on overachievement or under-achievement of the target. ▪ **Change of target types chosen** (minimum three out of four) is allowed.
Reporting	▪ **New targets *shall*** include three of four target types, including engagement targets and ***shall*** be published by the end of Q2 of the following year. ▪ **Achievement of previous targets *shall*** be reported to the public by the end of Q2 of the following year. ▪ The link to the **published new targets *shall*** be reported in the subsequent NZAOA Reporting Cycle. ▪ **Methodology change:** If signatories change their methodology, signatories ***shall*** publish this change and clarify its impacts.

2.6 Introduction of four-part target-setting approach

T26. ### Four-part target-setting structure to contribute most effectively to real world GHG emissions reductions

Reducing GHG emissions and having real-world impact in a global, diversified investment portfolio is a complex challenge. No single stand-alone methodology was determined to address this challenge, so NZAOA decided on a four-part approach for target setting. By combining the four parts, an asset owner can have the greatest impact and contribute to the desired transition towards a net-zero economy. Hence, NZAOA signatories ***should*** set targets on all four parts.

T27. The minimum expectation is that each NZAOA signatory ***shall:***

- Set targets on three target types out of four;
- Always set targets on engagement; and
- Report information on climate solutions investments.

T28. Signatories ***shall*** set targets independently and in a manner that accounts for their specific investment scope, strategies and internal governance structures.

T29. ### Engagement targets

Engagement targets help track signatory engagement activities with companies, sectors and/or value chains, and asset managers, while also guiding signatory efforts to engage with the broader investment and real-economy sectors through position papers.

T30. ### Sector and transition targets

Signatories can choose between productivity-based sector-specific "sector targets" and "transition targets". Transition targets are portfolio coverage targets on transitioning assets. These targets allow for financing the transition and enhanced compatibility with other frameworks such as the Science Based Targets initiative (SBTi) or the Net Zero Investment Framework (NZIF). Sector targets help link portfolio-level reductions to the carbon efficiency criteria of a given sector and, therefore, to real-world outcomes. Productivity-based, sector-specific targets for hard-to-abate sectors reflect the details of each sector, their respective energy transition trade-offs with other sectors in the global economy and the role they are expected to play in the transition to a net-zero economy.

T31. ### Sub-portfolio targets

Sub-portfolio targets cover the asset classes where credible methodologies and sufficient data coverage exist as of the date of the target's publication. Once full coverage is reached, this target type will be termed simply, "portfolio targets". NZAOA assessed the IPCC no or limited overshoot 1.5°C scenarios and identified a global average absolute emissions reduction criterion in the range of 40–60 per cent by between YE2019 and YE2029.

T32. ### Climate solutions investment targets

Financing the transition to a net-zero economy is an important component of the Commitment as it is one aspect of investment portfolio alignment to net zero. NZAOA signatories are encouraged to use the resources and capabilities available to them to grow the supply of, and the demand for, net-zero investment solutions.

T33. In the following sections, each target type will be covered, laying out how targets will be set and which criteria are connected to each target type. This is summarized in Figure I below.

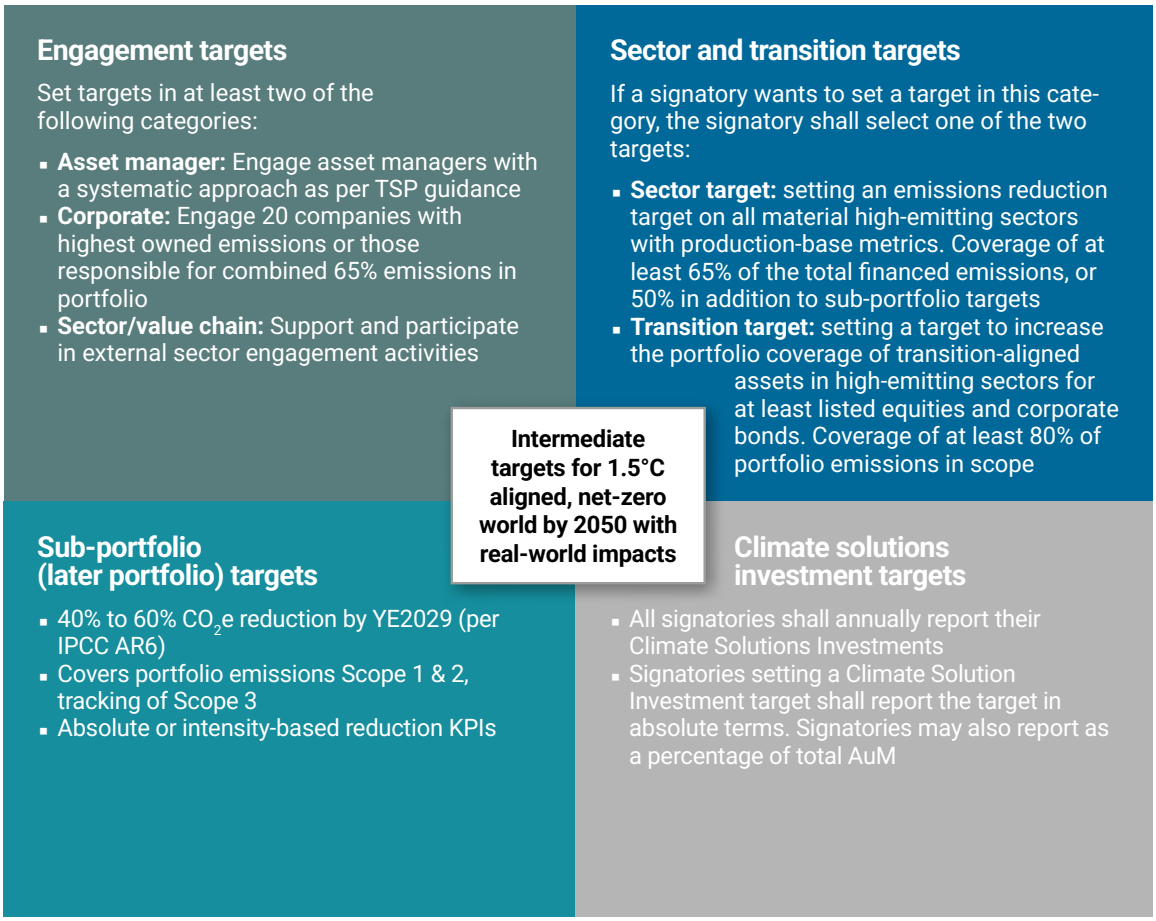


Figure I: Summary of four-part target-setting approach

2.7 Phase in schedule for all asset classes

T34a. When setting targets on asset classes, there are two approaches possible:

- Setting a target on emissions (sub-portfolio target); or
- Setting a transition target.

For both target types, Figure II shows the phase-in schedule and deadlines for target setting for all asset classes covered by the Protocol. Following the below schedule, NZAOA signatories ***should*** begin immediate phase-in of targets on best effort or commercially viable effort basis.

Signatories decide which type of target they individually wish to apply. The target chosen for listed equities and corporate bonds defines if a sub-portfolio or a transition finance target is chosen as three out of the four categories. Those signatories choosing the sub-portfolio approach may still use transition targets for certain asset classes, as indicated in the asset class tables in section 7.2. Targets can be defined individually for each asset class or aggregated into one comprehensive "portfolio target" encompassing all asset classes. Additionally, any configuration of target allocation in the range between these two options is possible. When phasing in new asset classes, the selection of the base year is up to the signatory and the available data but ***shall*** not be later than the defined phase-in year. The target year ***shall*** be aligned with the target year of the existing intermediate targets of the signatory.

T34b.

A note on "credible frameworks" for funds

In the asset class tables in section 7.2, NZAOA defines methodologies for signatories to apply for setting asset class targets. NZAOA provides criteria for credible asset manager fund level commitments in its *Call to Action to Private Market Asset Managers* (NZAOA, 2022a). Such criteria are embodied in several framework(s) recognized by asset managers and/or private markets.[9] A credible framework should be applied by the fund asset manager to their investees covering the vast majority of the funds financed emissions. The framework should be in line with the target-setting provisions of the Protocol, if appropriate referencing section 7, section 6 and/or section 5.

9 The application of NZAOA's own Protocol methodologies (such as those for direct assets) or those of SBTi or NZIF.

			2024	2025	2026	2027	2028	2029
Corporate & infrastructure equity	Listed equity	Reporting						
		Target setting						
	Infrastructure equity direct (20%, board seat, carbon intensive energy infra-structure)	Reporting						
		Target setting						
	Infrastructure equity direct (all other assets)	Reporting						
		Target setting						
	Private equity direct	Reporting						
		Target setting						
	Infrastructure equity funds	Reporting						
		Target setting						
	Private equity funds	Reporting						
		Target setting						
Corporate & infrastructure debt finance	Publicly traded corporate debt	Reporting						
		Target setting						
	Infrastructure loans (carbon intensive energy assets)	Reporting						
		Target setting						
	Infrastructure loans (all other assets)	Reporting						
		Target setting						
	Private debt, directly held*	Reporting						
		Target setting						
	Infrastructure debt funds	Reporting						
		Target setting						
	Private debt funds	Reporting						
		Target setting				Should		
Real estate	Real estate, directly held	Reporting						
		Target setting						
	Commerical mortgage loans	Reporting						
		Target setting						
	Real estate equity funds	Reporting						
		Target setting						
	Real estate debt funds	Reporting						
		Target setting				Should		
	Residential mortgages loans (direct)	Reporting	Should track					
		Target setting						
Public debt	Sovereign bonds	Reporting						
		Assessment		Should track				

T34c. **Figure II:** Phase-in schedule for each asset class

2.8 Approach on carbon removals

T35. NZAOA's approach to carbon dioxide removal (CDR) is based on the two principles outlined below and is detailed in NZAOA's The Net in Net Zero Position Paper (NZAOA, 2021b). These principles either comply with, or are more ambitious than, both the Oxford Principles for Net-Zero Aligned Carbon Offsetting (revised 2024) and the recommendations put forth by the United Nations' High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities (2022). NZAOA recommends that signatories and their investee companies engage in an approach that:

1. Prioritizes deep and rapid decarbonization across all sectors, particularly carbon-intensive industries.
2. Tracks progress against net-zero goals and ensures accountability such that the employment of carbon removals does not deter or detract from decarbonization efforts and/or ambition on a wider scale.

T36a. For real economy actors and investors alike, achieving net zero by 2050 and avoiding the worst impacts of climate change means aligning with science-based 1.5°C decarbonization pathways with no or limited overshoot. These science-based pathways are predominantly based on mitigation. Even with all mitigation measures deployed, however, residual emissions of up to ~7.4GtCO_2e[10] per year by 2050 are likely to remain. This means that, even with the highest ambition decarbonization pathways, there is still a need for CDR,[11] which will increase if decarbonization falters. According to IPCC AR6 (2021) "CDR refers to deliberate technologies, practices, and approaches that remove carbon dioxide (CO_2) from the atmosphere. CDR also involves durably storing carbon after it has been extracted from the atmosphere, either in reservoirs such as vegetation, soils, geological formations, or the ocean, or in manufactured products. Carbon dioxide is removed from the atmosphere by enhancing biological or geochemical carbon sinks or by direct capture of CO_2 from air".[12]

Therefore, signatories are highly encouraged to contribute to the financing of carbon removal projects (nature-based and technology-based). They are similarly encouraged to invest in a well-regulated carbon removal certificate market as such a market is important for accelerating investee companies' decarbonization and for scaling respective removal projects.

T36b. To emphasize the primary focus on decarbonization, NZAOA signatories ***shall not*** use carbon removals for their investment portfolio's own sub-portfolio or sector target achievement at this time or at any time before the Protocol comes to term (2030).[13]

10 The State of Carbon Dioxide Removal (2nd Edition, 2024, Table 9.1, p.174)

11 In order for an activity to count as CDR, the general agreement—as outlined in The State of Carbon Dioxide Removal (2nd Edition, 2024, p. 23)—is that the activity in question must capture CO_2 from the atmosphere, not from fossil fuel sources (Principle 1) and durably store it (Principle 2). It must also be a human intervention, in addition to the Earth's natural processes (Principle 3).

12 Climate Change 2021: The Physical Science Basis (Summary Volume, p.99)

13 Note, the extent to which NZAOA signatories may consider use CDR certificates after 2030 will be defined later by NZAOA. At such time, NZAOA will follow the best available scientific guidance.

Still, the total amount of CO_2 removed by investments in CDR may be reported in signatories' annual reports separately from emissions reductions.

In addition, CDR investments may be reported under, and contribute to, the achievement of a signatory's climate solutions investment target. Please refer to the "climate solution investments" chapter for criteria and recommendations on reporting to NZAOA and target setting.

T37. NZAOA signatories ***should*** encourage investee companies to prioritize abatement. To ensure ongoing and strong emphasis on carbon reduction, investee companies ***should*** decarbonize in line with broadly accepted sector pathways aligned with 1.5°C with no or limited overshoot before they start using CDR to address residual emissions ("residual emissions" as defined by science-based sector pathways).

T38. Investee companies and asset owners ***should*** prioritize high-quality[14] CDR certificates with long-term, durable storage (low risk of reversal), with consideration for co-benefits including improved air and water quality, biodiversity and adaptation, and social co-benefits. In line with Oxford Principles,[15] given long-term and durable CDR is not yet available at scale, high-quality projects with moderate risk of reversal (e.g. nature-based removals) also qualify if general carbon principles[16] are fulfilled. As the Oxford Principles state: "A diverse portfolio of carbon removal and storage technologies should be supported to maximize the chances of scaling removals whilst minimising the risks to biodiversity and food production from over-reliance on any one given approach at scale."[17] NZAOA signatories ***shall*** require investee companies to obtain independent, broadly accepted verification.

T39. All reporting by investee companies and by asset owners ***shall*** be done on a gross basis showing emissions and removals separately and ***shall*** be done on a sector-specific basis—showing emissions and removals separately, and accounting only for CDRs that do not exceed the sector emissions budget (according to no or limited overshoot pathways).[18]

14 In line with the ICVCM's Core Carbon Principles The Core Carbon Principles | ICVCM
15 Revised Oxford Principles for Net Zero Aligned Carbon Offsetting (Principle 3)
16 Such as the ICVCM's Core Carbon Principles The Core Carbon Principles | ICVCM
17 Revised Oxford Principles for Net Zero Aligned Carbon Offsetting (Principle 4D)
18 Standard data providers often do not yet distinguish between gross and net emissions, nor do they frequently provide an indication of the quality of the removal. In these cases, asset owners are encouraged to undertake their best efforts to assess the type of removals utilized. In some cases, this may not be possible, especially for smaller-sized asset owners. In the meantime, NZAOA encourages all data providers to begin to source, assure and provide these types of data.

3. Reporting

3.1 Reporting by signatories on targets and progress

T40. As mentioned in section 1, the principle of NZAOA signatories reporting publicly on target setting and progress is firmly rooted in the signatories' Commitment (NZAOA, 2025a) and NZAOA's Governance document (NZAOA, 2025c). The following table summarizes the criteria for signatories related to the disclosure of targets and progress to the public and, where applicable, to NZAOA. Reporting criteria will be specified for each of the four target types in the following sections.

T41. All adjustments made to targets and methodologies ***shall*** be communicated in a transparent way to the public, explaining the reasons and the methods in detail.

"Public disclosure" means to publicly disclose targets within the public domain. The form in which such disclosure is presented is at the discretion of the NZAOA signatory, respecting the signatory's own publication and communication criteria.

"Submission to NZAOA" means to submit the details of the published targets to the NZAOA Secretariat for review and/or aggregation in the annual progress report.

T42. **Table II:** Target-setting and reporting criteria to the public and, where applicable, to NZAOA

	NZAOA accountability mechanism	Third-party review
Public disclosure	Signatories ***shall*** publish targets before submitting the NZAOA registration form. Signatories ***shall*** disclose annually, individually, and publicly on progress towards individual targets, including on investment portfolios' emissions profile and emissions reductions. This includes reporting on absolute emissions, irrespective of whether intensity targets are set. Examples of published can be found here.	
Submission to NZAOA	Signatories ***shall*** report targets and progress through the NZAOA reporting template in the NZAOA reporting cycle.	Signatories ***shall*** fill out the Yearly Signatory Questionnaire.

3.2 NZAOA reporting cycle

T43. The NZAOA reporting cycle always takes place in the first half of every year, and may span Q1 and Q2 of each calendar year.

T44. Outdated

T45. Outdated

T46. Each NZAOA signatory is also encouraged to go beyond the Protocol by setting more ambitious targets. More ambitious quantitative targets in the areas defined in the Protocol may be submitted through the reporting template. Any asset class that is not (yet) covered by the Protocol may not be systematically collected; however, signatories are encouraged to publish such targets independently.

3.3 NZAOA progress reporting

T47. NZAOA ***shall*** issue an annual progress report reflecting NZAOA's work and achievements. The annual progress report is based on the aggregated data of NZAOA signatories' reporting to cover progress against targets to date. Individual signatory data will only be made available via links to public disclosures as provided by signatories to NZAOA.

4. Engagement targets

4.1 Introduction and the definition of 'engagement'

T48. Engagement is perhaps the most important mechanism that asset owners have to actively contribute to a net-zero transformation. NZAOA engagement targets should reflect this ambition to generate real world impact.

T49. NZAOA signatories ***shall*** therefore define their engagement approach in a systematic way and share the link to the document with NZAOA.[19] This can also be an existing document such as an engagement policy or responsible investment report or it can be the submission on stewardship practices to relevant regulatory bodies that includes a description of the engagement approach implemented by the asset owner and/or in partnership with asset managers or service providers.

In addition to targeting real-world decarbonization, engagement efforts need to outline what action is taken when engagement expectations are not met. The approach ***should***:

- Clearly define escalation measures for their own climate engagements or set escalation expectations for the asset managers[20] conducting climate engagements on their behalf.
- Design these escalation measures to accelerate a just transition to a 1.5°C-aligned, no or limited overshoot orientation in the real economy.
- Ensure that these targets are set in conjunction with any sub-portfolio or sector targets that the NZAOA signatory sets.

T50. Many NZAOA signatories have ongoing direct and collaborative corporate engagements focused on net zero. NZAOA encourages these efforts, while also seeking additive ways to contribute to the investor's net-zero engagement efforts. One of the most important and impactful engagement opportunities that NZAOA can directly facilitate is engaging asset managers to support greater climate action in line with long-term interests and alignment with NZAOA's 1.5°C objective with no or limited overshoot. This focus is driven by the recognition that asset managers are key partners for signatories' net-zero alignment, often taking responsibility for actions that impact signatories' net-zero alignment through allocating assets, conducting corporate engagements, casting proxy votes (notably on resolutions related to directors and climate) and acting as an important voice in the business community.

19 As outlined in the Future of Investor Engagement publication.

20 The expectations regarding engagement through asset managers apply, to the extent possible, to engagement through engagement service providers.

T51. All NZAOA signatories that work with investment managers ***shall*** engage them to increase:

1. Understanding of how asset managers are representing the asset owner's long-term climate interests (NZAOA 2025b); and
2. The alignment between the asset manager's actions and their interest as an asset owner when necessary (Freshfields Bruckhaus Deringer 2021).

T52. Asset owners ***should*** encourage stewardship activities by asset managers that move beyond incremental and linear levers, which are insufficient to meet the ambition of NZAOA signatories to limit global temperature rise to 1.5°C. This means moving some corporate engagement topics like transparency requests into public expectations of all portfolio companies that are reinforced by systematic stewardship action, such as votes against directors. Lastly, the expansion of activities beyond corporate engagement should include sector and policy engagement (see Background Document, B48).

T53. To guide NZAOA signatories' engagement of asset managers on systemic stewardship, the Engagement track has published three discussion papers in line with the stewardship needs outlined in 'The Future of Investor Engagement'. These three papers are:

1. Elevating Climate Diligence on Proxy Voting Approaches: A foundation for asset owner engagement of asset managers (hereafter: 'Proxy Voting publication')
2. Aligning Climate Policy Engagement with Net-Zero Commitments: A foundation for asset owner engagement of asset managers (hereafter: 'Policy Engagement publication')
3. Elevating asset manager net-zero engagement strategies: A foundation for asset owner expectations of asset managers (hereafter: 'Engagement Best Practices publication')

T54. Corporate and asset manager engagement is further supported by position papers published by NZAOA that outline clear and practical steps for net-zero-committed investors to take on complex topics related to the transition. [21]

T55. ### Definition of engagement

The below excerpt from NZAOA's Engagement Best Practices publication sets the minimum **definition of engagement**.[22] This definition is intended to guide investor activity towards NZAOA's commitment to support the net-zero transition and aligns with the definition of engagement as active dialogue, as put forward by the Investor Forum (The Investor Forum, 2019).[23]

21 These are the Position on the Oil and Gas Sector (NZAOA, 2023b) and the Thermal Coal Position (NZAOA, 2020) (as of June 2025)

22 In order to distinguish engagement from stewardship, a definition on stewardship can be found in the discussion paper, Aligning Climate Policy Engagement with Net-Zero Commitments.

23 The Investor Forum (2019, p.1) states: "Engagement is active dialogue with a specific and targeted objective. It is intended to put the stewardship role into effect. The underlying aim of the engagement dialogue should always be to preserve and enhance the value of assets on behalf of beneficiaries and clients."

1. **Climate risk and/or opportunity is raised with an issuer**

Climate engagement consists both of raising climate risks and/or opportunities that an investor has identified through a process-driven approach (such as scoring, thematic research or consideration of portfolio- and economy-wide impact), and of providing the investor's description of why it is important that the issuer addresses the specified topic.

2. **Investor sets expectations for issuer action**

All climate engagements—including with individual issuers, policymakers, and industry bodies—should have clear and well-defined objectives linked to public accountability frameworks, standards or equivalent mechanisms to ensure rigour and transparency.

T56. NZAOA encourages all investors to expand the constructive dialogue within their engagement programmes by discussing not only their successes, but also the limitations and challenges that they encounter. Furthering the identification and collective understanding of these barriers can help move engagement practices forward and thus allow the finance industry to accelerate decarbonization.

T57. ### NZAOA Guidance for engagement ambitions

The following paragraphs provide guidance to NZAOA signatories on the expectations of their engagement activities with companies and asset managers to enhance consistency with NZAOA's ambition. By focusing on common goals, the delivery of positive real-world outcomes (by expanding the coverage of entities engaged by NZAOA signatories on net-zero expectations) and enhanced collaboration, the NZAOA Guidance for Engagement Ambitions is consistent with the PRI Active Ownership 2.0 framework. NZAOA also recognizes that differentiated approaches are needed in different geographies, including in emerging and developed markets.[24]

T58. ### The following bullets are reference points for engagement topics that can be raised with asset managers relating to net zero:

- Publicly commit to support the transition to a net-zero world by 2050 in line with no or limited overshoot 1.5°C
- Commit their entire portfolios to no or limited overshoot 1.5°C alignment and net zero by 2050, preferably through an established framework and industry best practices
- Collaborate with NZAOA signatories in developing viable opportunities to finance the transition to net zero and expand the no or limited overshoot 1.5°C-aligned investable universe, including through collaboration on blended finance vehicles, hard-to-abate sectors, and emerging and developed markets
- Publish their approach to integrating climate risks and opportunities (both transition and physical) across their portfolio management, training and incentives
- Use systematic engagement approaches to streamline engagement efforts, where possible; for example, call publicly for company or sector action and systematically reinforce expectations through principle and merit-based voting, as detailed by NZAOA

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- Align their climate policy engagement policies and practices with any stated commitments to net zero, as detailed by NZAOA
- Clearly state the benefits and limitations of their climate engagement programme(s) and/or stewardship and/or value creation activities, and how the limitations are addressed via complementary workstreams, including how they leverage public discourse. This includes how their engagement approach differs across asset classes, what levers of influence are applied to each and how their approach supports portfolio decarbonization objectives, as detailed by NZAOA
- Adopt policies that are congruent with NZAOA position papers; for example, the NZAOA's Thermal Coal Position (NZAOA, 2020) and the NZAOA's Position on the Oil and Gas Sector (NZAOA, 2023b).

T59. **The following bullets are reference points for engagement topics that can be raised with companies relating to net zero:**

- Publicly commit to support the transition to a net-zero world by 2050 in line with no or limited overshoot 1.5°C
- Immediately put into place strategies and transition plans that commit the company to net-zero GHG emissions across their value chains by no later than 2050 and to be supportive of the transition to a net-zero-GHG-emissions world by 2050. These strategies or plans ***should*** also include a focus on alignment of lobbying practices with net zero
- Accelerate progress towards full 'green' on the Climate Action 100+ (CA100+) Net Zero Company Benchmark indicators, or, if not a CA100+ focus company, to still meet all of its expectations
- Set science-based, near-term GHG reduction targets that are in line with reaching net-zero emissions by 2050, consistent with 1.5°C no or limited overshoot scenario
- Develop and implement plans for their businesses to remain viable in a carbon-neutral economy, with meaningful consideration of associated social impacts
- Support the adoption and implementation of governmental policies and regulations that facilitate the transition to net-zero emissions within their sector and value chains
- Support, prepare for and avoid disrupting pricing mechanisms on GHG emissions
- Take action and make progress on efforts to lower GHG emission intensity of their operations and products
- Disclose their efforts and progress on decarbonization in line with the four core elements of the Task Force on Climate-related Financial Disclosures (TCFD) recommendations

T60. In addition to engaging NZAOA's investee companies, asset managers and policymakers on net-zero expectations, NZAOA also wants to hold itself and its activities to the same standards that it expects of others. Therefore, in light of NZAOA's support for the CA100+ Net Zero Company Benchmark as a useful tool for engaging and assessing companies and asset managers, NZAOA evaluated the indicators that are relevant for its own activities. See Background Document B50 for more details on how NZAOA aligns with the CA100+ benchmark criteria.

4.2 How to set targets

T61. All engagement activities seek to move towards a common goal: to support the transition of the real economy to align with a 1.5°C no or limited overshoot scenario. Therefore, to meet the NZAOA net-zero engagement commitments, signatories ***shall*** set targets in at least two categories, and, where possible, in all three categories outlined below. If signatories are working with asset managers, signatories ***shall*** always set a target in the asset manager engagement category.[25] All of the underlying key performance indicators (KPIs) (see T63) of the chosen category ***shall*** be reported. The signatory is free to choose how engagements are implemented (bilateral, collaborative or delegated to an external provider).[26]

T62. The targets ***should*** be set according to the guidance for each of the categories below:[27]

1. **For asset manager engagement:** set up or maintain a structured engagement approach that is integrated with the asset owner's selection, appointment and monitoring activities of asset managers. The signatory ***should*** utilize the expectations of asset managers described in T53 and T58.

   In cases where the signatory works with internal asset managers, the signatory should explore opportunities to align internal practices with these expectations (i.e. a monitoring component and ongoing dialogue between teams to encourage the adoption of best practices).

2. **Corporate engagement:** identify either: (i) 20 companies with a preferential focus given to companies that the asset owner believes will have the largest real-world decarbonization impact (e.g. those with the highest owned emissions in their portfolios); or (ii) the companies responsible for at least 65 per cent of owned emissions in asset owners corporate bond/equity portfolio, with a focus on non-aligned emitters.[28] The signatory ***should*** utilize the expectations of corporates described in T59.[29]

25 If an asset owner has a majority of its portfolio internally managed, it should explore how to drive alignment as described in T58. This could include internal managers participating in roundtables, education sessions and peer-to-peer learning to understand best practice. Recognizing that structurally this may look different than engagement of external asset managers, the signatory may revert to corporate engagement as a way to satisfy target-setting criteria in place for asset manager engagement.

26 NZAOA signatories are of different size, geography and business nature. Therefore, they have different engagement strategies and operations. As such, a one-size-fits-all approach is insufficient. Instead, NZAOA identifies various options by which signatories can set and report on targets.

27 Signatories that had previously set 2030 engagement targets under prior versions of the Protocol, and used 'publication contributions' as one of the two required categories, may continue reporting against their existing target until 2030 without the need to add a new category retroactively.

28 'Non-aligned' refers to those emitters that do not already have Paris-aligned commitments or do not have a concrete set of mid-term reduction targets. Alignment with the Paris Aligned Investment Initiative (PAII) or CA100+ benchmarking criteria is encouraged.

29 If the majority of a signatories' assets are managed through an asset manager, it is possible that the asset manager engages on the signatory's behalf. To do so, the signatory would have to engage with its asset manager and ensure that the correct level of ambition is given through the engagements.

3. **Sector and value chain engagement:** support and participate in engagements with multiple companies and their stakeholders from the same sector or value chain, most often collaboratively with other investors.[30] Examples of sectoral workstreams that address climate topics and that exist outside NZAOA include the CA 100+ Global Sector Strategies Workstream and the Global Investor Commission on Mining 2030.

30 In all cases, collaborative engagement will be undertaken with proper respect of antitrust laws and regulations or applicable regulatory criteria

4.3 Metrics[31]

T63. **Table III:** Categories and KPIs of engagement targets with guidance

Category	KPI	Overview	Guidance
Asset manager engagement actions	Engagement with asset managers informed by the Protocol, with reporting on either the number of managers engaged or the proportion of AuM covered by these managers.	**Focus:** This KPI aims to capture a signatory's engagement activities with asset managers related to climate-related stewardship. **Scope:** Qualifying actions include bilateral or collaborative engagements with asset managers (as outlined in T58) on climate specific topics (for existing managers) and building in climate expectations on climate topics for asset manager selection, appointment and monitoring programmes (for new asset managers)	The asset owner engages with asset managers **(both internal and external)** on where they see opportunities for greater alignment between the asset owner's commitment to support the transition to net zero and the asset manager's climate-related stewardship activities (see T58). The definition of an engagement is outlined in T55. It can be conducted through written communication, virtual or in-person meetings and/or collaborative engagements. Asset owners should prioritize the points they deem to be the most impactful and effective in all asset manager engagements. Discussing with a manager its progress on implementation and alignment with asset owner expectations also counts as an engagement. For this metric, the asset owner reports the number of asset managers engaged or the percentage of AuM covered by these asset managers in their portfolio.
	Following an engagement, the number of asset managers aligning their activities to NZAOA's best practices	**Focus:** This KPI aims to captures the outcome of the engagement: i.e. asset managers aligning their stewardship and investment practices to NZAOA's best practices. **Scope:** Asset managers that have implemented actions outlined in NZAOA's best practices (as articulated in section 4.1) following an engagement.	This KPI lists the number of asset managers in the asset owner's portfolio that implemented actions outlined in NZAOA's best practices (as articulated in section 4.1) after an engagement was initiated by the asset owner or by an asset manager/service provider on the owner's behalf. This KPI can also detail how practices of internal managers have become better aligned with NZAOA's best practices. Asset owners should prioritize the points they deem to be the most impactful and effective. Discussing with a manager its progress on implementation and alignment with asset owner expectations also counts as an engagement.

31 In all cases, NZAOA signatories will implement their strategies with respect for antitrust laws and regulations or applicable regulatory criteria.

Category	KPI	Overview	Guidance
Corporate engagement actions	Number of investees engaged in line with the Protocol	**Focus:** This KPI aims to measure a signatory's engagement activities with investees related to climate-related stewardship. **Scope:** Qualifying actions include bilateral or collaborative engagements with investees on climate specific topics (as outlined in T59).	The asset owner engages with investees on where it sees opportunities for greater alignment between owner's commitment to support transition to net zero and investees' climate-related activities (see T59). The definition of an engagement is outlined in T55. It can be conducted through written communication, virtual or in-person meetings. Asset owners should prioritize the points they deem to be the most impactful and effective in all corporate engagements. Discussing with an investee its progress on implementation and alignment with asset owner expectations also counts as an engagement.
	The number or percentage of investees committed to net zero before 2050	**Focus:** This KPI aims to capture the outcome of engagement activities: i.e. the commitment of investees to progress to net zero. If according to T61 the target has been set on 20 corporates, the signatory reports the number of those companies aligned. If the target has been set on 65 per cent of owned emissions, the signatory reports the percentage of those emissions aligned. **Scope:** Portfolio companies that have set one of the following aligned with net zero: (i) science-based target or decarbonization plan; (ii) commitment capturing the majority the points in T59; or (iii) a credible transition plan	This lists the number or percentage of companies in the asset owner's portfolio that have committed to progress towards net-zero emissions by 2050 aligned with no or limited overshoot 1.5°C. For: (i) verified science based targets as well as corporate targets or decarbonization plans that can be shown to be based in scientific scenarios will be accepted (reference to appropriate sector pathways should be included in the latter case); (ii) commitments capturing the majority of the points in T59 will be accepted; and (iii) the credibility of company transition plans should be assessed in line with the principles laid out in Table VI. If Scope 3 emissions constitute more than 40 per cent of the investee emissions, they ***shall*** be included in the target.

Category	KPI	Overview	Guidance
Sector and value chain engagement actions	Collaborative sectoral engagements supported by the asset owner, such as via CA100+	**Focus:** This KPI aims to capture collaborative engagement focused on sectors/value chains. **Scope:** Qualifying actions include any support for collaborative engagement with sectors that is in line with the ambition of NZAOA; e.g. taking a leadership role or active participation. It could also include a contribution to the creation of sector positions or contributing to sector roundtable discussions by either representing its institution as a signatory of NZAOA or helping organize the engagement.	This reflects the number of sector engagements supported by the asset owner. If the asset owner is participating in multiple initiatives within the same sector or multiple sectors within the same initiative, it can count each distinct initiative or sector as an additional engagement (Example 1). However, if the asset owner is involved in the same initiative and same sector, it will only be counted once, regardless of the number of individual events in which it participates (Example 2). Example 1: The signatory takes part in collaborations for two sectors across two initiatives. Within one initiative, it participates in both sectors; within the other initiative, it participates in only one sector. This counts as three engagements. Example 2: The signatory joins a collaboration on a single sector in a single initiative. The initiative has five meetings with sector participants over the period of two years. This counts as one engagement.

4.4 Reporting

T64. The number of companies, asset managers or sectors engaged by NZAOA signatories ***shall*** be reported in a cumulative manner over the course of the relevant target period. For clarity, cumulative reporting is based on the number of engagements of companies, asset managers or sectors conducted by the signatory from the start of the target period until the close of the respective reporting date. The length of engagement, or the number of contacts, within the target period does not change the figure reported. This approach helps demonstrate the progress over time of each NZAOA signatory to reach their targets. Figure III below demonstrates how an NZAOA signatory ***shall*** report progress on its targets. This example shows a signatory whose target is to engage with eight companies in its portfolio over the 2019–2025 period. Company 2, which is engaged consecutively in 2021 through to 2024 only counts as one engagement in this example.

	2020	2021	2022	2023	2024
Companies engaged within the year	Company 1	Company 1 Company 2 Company 3	Company 2 Company 4 Company 5	Company 2 Company 4 Company 5 Company 6 Company 7 Company 8	Company 2 Company 4 Company 6 Company 8
Contribution towards targets	= 1	= 3	= 5	= 8	= 8

T65. **Figure III:** Example of counting contributions to engagement target setting

5. Climate solutions investment targets

T66. The overall focus of NZAOA is investment portfolio alignment towards a net-zero world and financing the net-zero transition. NZAOA's Transition Financing Track's efforts contribute to enlarging the scale, pace and geographic reach of financing the net-zero transition through the following objectives:

- Create an enabling environment to finance the net-zero transition by engaging with service providers to develop tools and instruments that support investment portfolio steering and transparency
- Contribute to financing the net-zero transition; e.g. in emerging markets and 'technologies of tomorrow', through de-risking activities and identifying and addressing barriers
- Provide guidance on investing that supports target setting and transparency on financing climate solutions

T67. As asset owners have a fiduciary responsibility to achieve a given level of risk/return, climate solutions investments are required to be as economically viable as other investments. NZAOA therefore strives to collaborate with all stakeholders (e.g. public finance institutions such as development finance institutions and multilateral development banks, policymakers, asset managers, philanthropic entities and other stakeholders) to work on de-risking mechanisms and enlarging the supply of climate solutions investment opportunities.

5.1 Introduction and definition of climate solutions investments

T68. To enable consistency across NZAOA signatories, a definition for "climate solutions investments" has been established, taking into account publicly available definitions:

T69. **Climate solutions investments are investments in economic activities considered to contribute to climate change mitigation (including transition enabling) and/or adaptation, in alignment with existing climate related-sustainability taxonomies and other generally acknowledged climate-related frameworks.**[32]

T70. NZAOA explicitly considers net-zero transition enabling investments as high-impact investments, which substantially contribute to the net-zero transition; e.g. high-voltage direct current transmission lines, smart grids, electric battery plants, etc.

32 NZAOA provides respective guidance for its signatories via a separate internal document.

T71. Climate solutions are critical to fulfilling net-zero commitments and transition finance plans in conjunction with the activities covered by the three other NZAOA objectives outlined in the Protocol. As such, the climate solutions investment target focuses on climate-related "green" investments. The elements of transitioning are captured within NZAOA signatories' individual sub-portfolio decarbonization targets and their sectoral targets.

T72. These investments strongly support an orderly transition of the economic system. In financing the net-zero transition, climate solutions investments can strongly contribute to accelerating the real economy's transition by allocating capital to companies, financial instruments (e.g. green bonds[33]) and projects to limit climate change, foster the transition to a low-carbon economy and promote sustainability.

T73. In addressing climate change adaptation, climate solutions investments set out to reduce the risk of adverse impacts from climate change, especially climate hazards. Examples of climate solutions investments for adaptation include building defences to protect against sea-level rise or planting more heat-resistant crops. These investments ***should*** contribute to climate change mitigation and pathways that keep global warming in line with 1.5°C no or limited overshoot.

T74. **Climate solutions investments can be pursued through several channels and through most asset classes of asset owners:**

- Green revenues: these can also comprise the green revenue proportion generated by investing in companies whose activities and/or products contribute to climate solutions in accordance with authorities' green taxonomies or other recognized frameworks. The investment amount is the sum of the exposure in green revenue shares in the invested companies.
- Green assets: climate solutions investments consist of green assets, including sovereign and corporate green bonds, that comply with the existing guidelines defined by recognized international bodies such as the International Capital Market Association, the Green Bond Principles, the Climate Bond Initiative, and the Loan Syndications and Trading Association Green Loan principles, among others.

5.2 How to set targets

T75. Climate solutions investment targets ensure that NZAOA signatories use the resources and capacities available to them to also grow net-zero solutions in their investment portfolios. Signatories ***should*** build on their network of governments, asset managers, industry entities and other stakeholders to contribute to this overarching target. Signatories ***shall*** support the growth of climate solutions investments as defined above, in line with the domestic context and supportive of aspirations of national governments towards the goal of limiting global warming to a no or limited overshoot threshold of 1.5°C.

33 Green Bonds are defined as fixed-income instruments specifically earmarked to raise money for climate-related and environmental projects, in line with the definition of the Green Bond Principles.

T76. All NZAOA signatories ***shall***:

- Report on their climate solutions investments to NZAOA annually.

T77. In addition, signatories ***shall:***

- Conduct a credible assessment that the economic activities contributing to the objectives of the investment do not cause significant harm to people and the environment.[34]

T78. NZAOA signatories that decide to set a climate solutions investments target ***shall***

- Set a quantitative target on climate solutions investments in absolute terms or as a percentage of total AuM.

T79. The table below summarizes the criteria for signatories.

Table IV: Summary of climate solutions investment reporting and target-setting criteria

	All NZAOA signatories	NZAOA signatories setting a climate solutions investment target
Reporting climate solutions investments to NZAOA	Yes	Yes
Setting a quantitative target on climate solutions investments	n/a	Yes

NZAOA will support signatories on climate solutions investments by enabling knowledge sharing, developing content and offering guidance via its Transition Financing Track. Many frameworks exist and NZAOA signatories ***should*** take this guidance into consideration when choosing an investment that qualifies as a climate solutions investment.

5.3 Metrics

T80. Investment, in absolute terms (e.g. US$ millions) in assets within an asset class (See Table V, T82) that are qualified as "climate solutions" as defined in T69. NZAOA recognizes different metrics for these targets, as long as they are applied consistently, such as:

- "Invest $ x million in [subset of] climate solutions between 202X and 202X"
- "Invest $ x million cumulatively by 202X"
- "Invest x % of AuM in CSI in line with XX Taxonomy by 202X"

The metrics outlined above are intended to be indicative rather than exhaustive. It is within the discretion of the signatory which target metrics it chooses.

34 In line with existing applicable frameworks, such as the EU Taxonomy or Canada's Taxonomy Roadmap Report

5.4 Reporting

T81. All NZAOA signatories ***shall*** annually report their climate solutions investments in line with the general reporting criteria to NZAOA.

T82. Signatories setting a climate solution investment target ***shall*** report the target in absolute terms. Signatories ***may*** also report as a percentage of total AuM.

Signatories setting a climate solution investment target ***should*** report an asset class breakdown as set out in Table V and should report a split of climate solutions investments in OECD and non-OECD countries.

Table V: Asset class reporting criteria for climate solutions investments

Asset class	Green bonds (including corporate and supra-, sovereigns and agency bonds)
	Other corporate bonds
	Other supra-, sovereigns, and agency bonds
	Listed equity
	Real estate
	Private equity/private debt/infrastructure
	Carbon Removals
	Other (forestry, farmland, other)

6. Sector and transition targets

T83. If a signatory decides to set a target in this target category, signatories ***shall*** select one of the two target types:

- Transition target, with a minimum target of at least 80 per cent of total financed emissions in assets with a credible transition plan for asset classes in scope by 2040; or
- Sector target, covering at least 65 per cent of its total financed emissions.

NZAOA signatories that are already setting productivity-based sector targets are encouraged to continue doing so. Other signatories not in a position to use sector targets are encouraged to set transition targets while maintaining the other target types. Signatories that already set targets in three target categories are free to adapt transition targets if wanted.

6.1 Transition targets

6.1.1 Introduction

T84a. Transition finance addresses the financing of companies and/or activities in high-emitting sectors (see T88) with a credible transition plan. NZAOA encourages signatories to finance both climate solutions and companies (as well as projects), taking credible and robust steps to align with their set Paris Agreement-aligned net-zero targets. To determine whether a company or an activity is taking credible steps towards this, NZAOA introduces a principles-based approach. NZAOA is not establishing its own framework but is relying on other credible frameworks with a strong emphasis on a set of guiding principles. In addition, NZAOA is establishing a phase-in approach that provides a flexible and structured way to gradually align investment portfolios with climate transition goals, while accounting for differences in investment universe, regional contexts and market maturity. The focus is on high-emitting sectors, but it can be applied more broadly. It includes companies as well as activities with the ability to reduce Scope 1 and 2 emissions, and relevant Scope 3 emissions,[35] such as through investment in green capital expenditure (CapEx) and/or responsible retirement of high-emitting assets.

NZAOA recognizes a set of principles that can be relied on to assess the credibility of a company's transition plan (see Table VI). These are not ranked by priority; they are understood as interdependent and mutually reinforcing, are informed by existing guidance and are not prescriptive. Signatories can use frameworks or taxonomies that best align with these principles, as several robust frameworks and taxonomies

35 Selected sectors where Scope 3 emissions shall be included are fossil fuel related industries – in-line with the Thermal Coal and Oil and Gas position paper.

on transition finance and transition plans are in place.[36] Although transition plans are primarily relevant for investee companies, many principles can be extended to the activities and the assets of investments.

T84b. **Table VI:** Principles of a credible transition plan

#	Principle
1	**Strategy and commitments:** The transition plan should outline commitments to either a Paris Agreement-aligned net-zero pathway or a trajectory in line with Nationally Determined Contributions (NDCs). It should be underpinned by credible, time-bound, science-based targets with interim and longer-term commitments covering Scope 1 and 2 emissions, and, in the case of fossil fuel-related sectors, covering Scope 1, 2 and 3 emissions. Commitments should be integrated into the overall business strategy and decision-making, such as financial planning and capital allocation, and should reflect Just Transition (see Background Document, B39–B47) considerations, among others.[37]
2	**Governance and risk management:** The commitments and targets should be included in the relevant internal policies, endorsed at board level and reflected in executives' performance accountability or remuneration schemes. A credible transition plan should be underpinned by a robust risk management framework.
3	**Actions and dependencies:** The transition plan should describe the company's action plan, including quantified measures such as CapEx, to achieve longer-term and interim commitments. It should identify key dependencies, assumptions and limitations (such as regulatory developments or external enablers) and outline relevant engagement activities.
4	**Advocacy:** For companies that undertake advocacy (including through industry associations), these activities should be aligned with the objectives of the Paris Agreement or with an NDC trajectory, thereby supporting the transition to a net-zero and climate-resilient economy.
5	**Reporting:** The company should disclose its transition plan and report at least annually on progress against this plan (including emissions performance) so as to determine the credibility of its plans and actions. Disclosure should include any challenges related to data availability and quality.

T84c. NZAOA observes that an emerging consensus is forming that transition finance is brown to green and, as such, separate from climate solutions, which is green at outset. NZAOA recognizes that in some instances there may be ambiguity in distinguishing at company level (e.g. use of proceeds bonds issued) or at activity level (e.g. increasing the recycling quota for steel) between climate solutions investments and transition finance. In the Protocol, transition finance primarily refers to investing and financing companies that are taking credible steps to align with net-zero targets in the high-emitting sectors.

36 Framework/Taxonomies: Relevant state or non-state taxonomy, CBI Transition Principles, NZIF2.0, ICMA Climate Transition Handbook 2023, SBTi

37 Credible transition strategies may also consider: (i) addressing carbon lock-in risks through the responsible retirement or transformation of high-emitting assets; and (ii) integrating nature-based solutions and climate adaptation or resilience investments that contribute to emissions reductions across Scope 1, 2 and material Scope 3.

6.1.2 How to set targets

T84d. NZAOA signatories ***shall***:

- Set transition targets that cover at least 80 per cent of total emissions in scope and ***should*** cover the top five high-emitting sectors (based on their internal sector classification scheme at the highest level). Fossil fuels ***shall*** be included in transition targets in line with the criteria laid out in NZAOA's two position papers on Thermal Coal (NZAOA, 2020) and Oil & Gas (NZAOA, 2023b).
- At least cover the listed equities and public corporate debt under their transition target, with the optionality to incorporate additional asset classes progressively (see Step 3 on how to set targets).

T84e. There are four steps involved in setting transition targets. NZAOA signatories that choose to set transition targets ***shall:***

T84f. **Step 1: Define the data source for assessing transition plans**

Signatories setting transition targets ***shall*** first decide on the data sources used for assessing the credibility of transition plans that are consistent across time and coverage (geography/sector/market classifications) to establish the baseline and base year of the assessment. Signatories ***should*** rely on best available data when creating the definition of a transitioning asset and when performing the assessment on their investments.

T84g. **Step 2: Determine the baseline and coverage of companies with a credible transition plan**

Signatories setting transition targets ***shall*** define what a transitioning asset is following the principles and components of a Credible Transition Plan, identified in Table VI. NZAOA acknowledges that ambition levels may differ by transition-readiness, and that data quality and availability may be uneven across signatories, asset classes and regions.

Once the definition of transitioning assets has been clearly elaborated, signatories ***shall*** calculate the current transition coverage that defines the baseline. The transition coverage is the percentage of financed emissions of current transitioning assets out of the total financed emissions of portfolio asset classes that are in scope of the target in the base year.

The denominator of the percentage of portfolio emissions covered ***shall*** be determined based on the asset classes in the scope of the assessment (at least listed equities and public corporate debts and, when feasible, incorporating additional asset classes progressively). Financed emissions are calculated based on Scope 1 and 2 emissions and, in the case of fossil fuel-related sectors, Scope 1, 2 and 3.

The baseline for measuring progress ***shall*** be based on financed emissions, which ***should*** be expressed in absolute terms. The calculation baseline ***should*** allow for

inclusion of company or activity level (e.g. use of proceeds/green bonds, sustainability-linked debt, project finance).

T84h. **Step 3: Develop a phase-in approach that defines key milestones over time and is tailored to signatories' portfolios**

Signatories ***shall*** develop a phase-in approach for sectors and asset classes that:

- Includes listed equities and public corporate debt, and, when feasible, incorporates additional asset classes progressively.[38]
- Respects the following guiding principles:
  - **Credibility & strategic alignment:** The approach should be credible and align with the signatory's strategic ambition, including its long-term decarbonization goals. Credibility entails the use of science-based pathways, third party-validated methodologies and alignment with public frameworks and transition taxonomies.[39]
  - **Materiality:** The phase-in approach should follow a materiality-based approach, which means prioritizing the most material exposures (e.g. high-emitting sectors, carbon-intensive industries, or large portfolio holdings) based on net-zero impact or portfolio risk.
  - **Transparency:** The rationale, scope and timing of the phase-in approach should be clearly articulated and justified.

Signatories ***should*** consider a set of dimensions when applying a differentiated phase-in approach. All else equal:

- **Asset class:** Timeline Principles (T101) ***should*** apply.
- **Market classification:** Expectations ***should*** be tiered by market maturity, where developed markets are subjected to the highest standards, followed by emerging markets, with frontier markets being afforded the most flexibility.
  - Sectors[40] that are more advanced in their transition readiness[41] ***should*** be subjected to a higher standard. Transition readiness ***should*** be assessed based on reliable, independent third-party assessments (i.e. T91 – "modelled sector pathway").

T84i. **Step 4: Set the transition target in line with time-bound key milestones**

Signatories ***shall*** translate the key insights into an ambitious target in terms of transition coverage ratio or percentage. The target transition coverage ratio ***shall*** increase over time, with targets to be set in line with the general guidance in the Protocol (every five years). Signatories ***shall*** state a long-term ambition in line with the overall commitment (e.g. at least 80 per cent transition coverage by 2040).

38 Opting out of certain asset classes is permissible (e.g. sovereign bonds) due to limited portfolio steering or lack of credible transition frameworks. See B78 in Background Document.

39 Such as the Singapore-Asia Taxonomy for Sustainable Finance and ASEAN taxonomy.

40 For sectors without established pathways, flexibility is permitted during the development of these pathways. Alternative alignment approaches, such as engagement targets, CapEx alignment targets, asset alignment targets and temperature alignment targets, should be considered.

41 Transition Readiness can be assessed with considerations such as technological feasibility, regulatory maturity, enabling infrastructure and market demand, among others.

T84j. If a signatory decides to set transition targets, signatories ***should*** also set the relevant and adjacent engagement targets for: (1) asset manager; (2) corporate; and (3) sector and value chain, noting that the approach differs between public and private assets as well as between direct investments and investments through funds. The engagement target ***should*** be designed to catalyze the achievement of the transition target.

6.1.3 Metrics

T84k. **Table VII:** Non-exhaustive list of metrics to measure progress

Metric	Remarks	Type	Calculation	Purpose
Transition coverage ratio (%)	Required	Emissions-based	= Financed emission of transitioning assets / Total financed emissions of in-scope assets	Measures the percentage of portfolio-financed emissions from high-emitting sector holdings that are classified as transitioning asset (as signatory defined)
Asset alignment ratio (%)	Optional	Finance-based	= Market value of transitioning assets / Total market value of in-scope assets	Measures how much of a portfolio is aligned with credible transition or net-zero pathways, in monetary terms
CapEx-alignment ratio (%)	Optional	Finance-based	= Total value invested in green CapEx in a given period / Total value invested of all CapEx in the same period	Measures the proportion of a company's or portfolio's CapEx that is aligned with climate transition goals. This metric provides a forward-looking element to the transition-readiness of a corporate and/or activity.
Portfolio temperature score (°C)	Optional	Temperature-based	Weighted average of company-level temperature scores (°C), using financial or emissions-based weights	Translates corporate target ambition into a single intuitive metric (°C). Enables measurement and management of portfolio alignment with long-term temperature goals (e.g. no or limited overshoot 1.5°C).

6.1.4 Reporting

T84l. When setting transition targets, NZAOA signatories ***shall*** report on:

- The chosen target year and base year;
- The transition coverage ratio in the base year;

The targeted transition coverage ratio; and

- The methodology used to calculate the transition coverage ratio (the inclusion of Scope 1 and 2 emissions and Scope 1, 2 & 3 emissions for fossil-fuel related sector in line with the Oil & Gas (NZAOA, 2023b) and Thermal Coal Position Paper) (NZAOA, 2020).

Signatories ***shall*** report annually on the progress of their transition coverage.

T84m. NZAOA signatories ***should*** disclose transparently:

- Definition of transitioning assets: threshold/criteria used.
- Phase-in plan: a time-bound roadmap to phase in other asset classes and explain any exclusions or delays due to externalities (i.e. data gaps, geography-specific constraints).
- Criteria to move assets in and out of the "transitioning" definition.
- Other details on the methodology, such as the use of an independent third-party verifier.
- Changes in assessment methodology, and assumptions and dependencies used in the assessment methodology over time (e.g. assets and sectors in scope).

6.2 Sector targets

6.2.1 Introduction

T85. The global carbon budget[42] as referenced by NZAOA is the cumulative amount of CO_2 and other GHG emissions that the world can permit until the end of the century to stay within a no or limited overshoot 1.5°C threshold. Sector targets are conceptualized so as to allocate this remaining carbon budget across economic sectors and to split it by geographic locations, using a set of economic and technological assumptions compatible with no or limited overshoot 1.5°C pathways. In particular, setting sector targets on production-based intensities relates to real-world decarbonization and efficiently informs asset owners' engagement processes.

Setting sector targets is a relatively new exercise for asset owners. Therefore, NZAOA signatories that set sector targets ***shall*** progressively implement sector targets, beginning with their most material sectors (from an owned-carbon and financed emissions standpoint). NZAOA signatories ***shall***:

- Set sector targets on Scope 1 and 2; and
- Track and report on Scope 3 emissions.

NZAOA signatories ***should*** set sector targets on Scope 3 where possible.

42 For a given warming level, the IPCC's Working Group I assessed the remaining carbon budget from the beginning of 2020 onwards. These are 650 / 500 / 400 $GtCO_2$ for limiting warming to 1.5°C with a chance of 33 per cent / 50 per cent / 67 per cent, respectively.

6.2.2 How to set targets

T86. There are three steps involved in setting sector targets. NZAOA signatories that choose to set sector targets ***shall***:

T87. **Identify the most material sectors in the investment portfolio on an owned-emissions basis**

Signatories setting sector targets ***shall*** cover at least 65 per cent of their total financed emissions. If sector targets are set in addition to sub-portfolio targets, the minimum threshold of 50 per cent applies. The scope relates to listed equity and publicly traded corporate debt, with the ambition to include private assets when data availability allows.

Sectors in scope for target setting	▪ Oil and Gas
	▪ Utilities (including coal)
	Materials ▪ Steel ▪ Cement ▪ Aluminium
	Transport ▪ Civil aviation ▪ Shipping ▪ Road transport
	▪ Agriculture, forestry, and fisheries
	▪ Chemicals
	▪ Construction and buildings
	▪ Water utilities
	▪ Textiles and leather

T88. **Figure IV:** Material sectors in scope for target setting

T89. **Sector targets related to fossil fuel sectors**

Following the scientific consensus as derived from the IPCC pathways for no or limited 1.5°C overshoot on fossil fuel sectors, NZAOA has developed position papers on Thermal Coal (NZAOA, 2020) and on Oil and Gas (NZAOA, 2023b). These positions shall guide sector targets for these sectors.

T90. **Identify available carbon emission metrics for the identified sectors**

NZAOA signatories ***should*** set targets using absolute emissions or economic or production emission intensities. However, signatories ***shall*** set targets using production-based metrics wherever possible before using economic-based metrics. NZAOA is mindful that relevant production-based data may be limited. For this reason, NZAOA issued a Call to Action to companies and data providers to provide critical sector data. All carbon emission metrics are elaborated by sector in section 4.2.2. For a comparison of carbon emission metrics, see Background Document B55.

T91.

Select and apply a modelled sector pathway

A small number of models/scenarios are known to provide sector decarbonization pathways for total CO_2e emissions on Scope 1 and 2, as well as on a sector product/production-specific level using a production-based metric.

To set a target on sector level, signatories ***should*** use a sector pathway that comes from credible and well-recognized sources, such as:

- International Energy Agency (IEA) Net Zero by 2050 scenario;
- One Earth Climate Model (Teske et al., 2020), which also includes Scope 3;
- The Network for Greening the Financial Services;
- Scenarios referenced by local regulators (e.g. the European Sustainability Reporting Standards);
- Scenarios referenced or developed by standard setters (e.g. SBTi Sectoral Decarbonization Approach, Climate Bond Initiative sector pathways);
- Any 1.5°C no or limited overshoot scenario from the IPCC which provides sector granularity; and/or
- NDCs in line with the Paris Agreement.

Signatories ***should*** be aware that the chosen sector model source has implications for the metrics used for target setting and, as such, for the data availability of portfolio companies.

NZAOA signatories ***should*** apply the proposed sectoral decarbonization at the relevant country or regional level applicable to the business profile and geographical locations of the individual portfolio companies. Further flexibility can be introduced by signatories as per B35, B37 and B38.

The scenarios selected ***shall*** rely conservatively on negative emissions technologies (i.e. carbon dioxide removal).[43] For further details on carbon removals, see T35. For an exemplary and detailed comparison of the IEA and One Earth Climate Model (OECM) sector pathways, see B56 onwards.

T92. If a signatory decides to set sector targets, signatories ***shall*** set the targets expressed either as a percentage of reduction in carbon metrics or the carbon level (absolute or intensity basis) that it aims to reach by the target year.

43 IPCC AR6 (2021)

6.2.3 Metrics

T93. **Table VIII:** Recommended production-based and economic-based metrics per sector

Production-based metrics		
Oil and gas		$gCO_2(e)$/ MJ gCH_4/MJ
Utilities		$tCO_2(e)$/MWh gCH_4/MJ
Transport	**Aviation**	$gCO_2(e)$/RTK (reported separately for short- and long-haul flights)
	Shipping	$gCO_2(e)$/TKM
	Heavy duty road	$gCO_2(e)$/TKM
	Light duty road	$gCO_2(e)$/KM
Materials	**Steel**	$tCO_2(e)$/tonne of crude steel
	Cement	$tCO_2(e)$/tonne of cementitious product
	Aluminium	$tCO_2(e)$/tonne of aluminium
Agriculture, forestry and fisheries	**Agriculture**	tCO_2/tonne of agricultural product CH_4/tonne of agricultural product NO_2/tonne of agricultural product
	Forestry	$tCO_2(e)$/tonne of forestry product For paper: $tCO_2(e)$/tonne of pulp, paper and paperboard
	Fisheries	$tCO_2(e)$/tonne of edible protein
Chemicals		$tCO_2(e)$/tonne of chemical produced
Construction and buildings		$CO_2(e)/m^2$/annum kWh/m^2/annum
Water utilities		$CO_2(e)/m^3$
Textiles and leather		$tCO_2(e)$/tonne of manufactured goods produced
Economic-based metric		
$tCO_2(e)$/ Mn USD (EVIC or EV) $tCO_2(e)$/ Mn USD (Revenue)		
Absolute emission metrics		
$tCO_2(e)$		

6.2.4 Reporting

T94. When setting sector targets, NZAOA signatories ***shall*** report on the chosen target year and base year, plus the selected scenario, as well as the targeted reduction or carbon level for each sector with the respective metric used. Signatories ***shall*** also report the absolute emissions reductions associated with the necessarily intensity-based targets described above.

7. Sub-portfolio targets

7.1 Introduction and definition of sub-portfolio targets

T95. Together with the sector targets, the sub-portfolio targets are the most significant quantitative component of NZAOA's target-setting framework and reporting rubric. Sub-portfolio targets aim to guide a decrease in the overall emissions profile of the portfolio. They enable an aggregate ambition and the monitoring of progress, which is achieved most notably through engagement and financing activities.

T96. **Signatories' sub-portfolio targets *shall* strive for science-based GHG reductions versus YE2019 as described above in the range of 40–60 per cent by YE2029.** All criteria for each investment type are outlined in the subsequent asset class tables in section 7.2. Signatories may choose to fulfil these obligations either per investment type individually or by using a portfolio approach combining and aggregating various asset classes: i.e. setting and disclosing targets for a pool of investments, which encompass investment types mandated by the Protocol. Sub-portfolio targets will be referred to as simply "portfolio targets" when available methodologies and data cover more than 85 per cent of the asset classes.

T97. Signatories ***should,*** wherever possible, seek third-party assurance of their emissions data and associated methodological processes.

T98. ### Types of assets

The Protocol distinguishes between assets based on whether they are invested:

- In corporations (incl. infrastructure) or real estate;
- As equity or debt; and
- Directly or indirectly, where indirect investments are also called "funds" and are defined as all investments in vehicles and structures:
  - Where the asset allocation is done by an external asset manager and the vehicle is not consolidated on the asset owners International Financial Reporting Standards (IFRS) (or similar) balance sheet; and/or
  - In a "blind pool", where the asset owner commits a certain amount into the vehicles' investment strategy not knowing the individual investments at the time of commitment.

T99. ### Guiding principles

The various granular methodologies for the different asset classes all follow a sample of common principles:

T100. **Methodology principles**

1. Methodology ***shall*** be guided by science and in line with no or limited 1.5°C overshoot scenarios.
2. Methodology ***should*** first be defined by the underlying asset class (e.g. real estate, corporations), and secondly by the investment vehicle (e.g. direct vs fund) and the investment type (e.g. debt vs equity).
3. Methodology ***should*** not fundamentally differentiate between listed and unlisted financing instruments.[44]
4. Methodology ***should*** acknowledge that for private assets there are fewer levers of influence with existing book, where only engagement is possible, while there are more levers of influence for new investments, where a phase-in of strict criteria may be possible.
5. Methodology ***may*** make use of 'common but differentiated responsibilities' principle by allowing differentiated targets within asset classes in a proportionate and reasonable manner. These can be informed by sectoral and regional pathways and NDCs in line with the Paris Agreement.

T101. **Timeline principles**

6. Targets ***should*** cover direct investments before fund investments; equity investments before debt investments; and majority investments before minority investments. This sequence is put forward based on the individual capacity of asset owners to exercise influence.
7. Targets ***should*** cover the higher-emitting assets and sectors first.[45]
8. NZAOA signatories ***should*** phase in targets as soon as possible, where reliable data and sufficient investment options exist.

T102. **Optional approach on additional exposures to high-emitting assets with credible transition plans**

Providing additional finance to high-emitting assets with a credible transition plan (see Table VI) (including timebound phase-out strategies) is supported by NZAOA. To factor in these additional exposures, signatories can either adjust the reduction range of their sub-portfolio targets or include them in a transition target. Adjustments can thus reflect the fact that emission reductions of high-emitting assets may be slower than the pathways used to set portfolio-wide targets, as such pathways do not always reflect sectoral and regional differences. Signatories ***shall*** transparently explain how they will integrate such assets into their sub-portfolio targets or include them in their transition finance targets.

T103. **A note on private assets**

For all private asset classes, NZAOA strongly urges that emission transparency be provided through GHG reporting of the underlying assets. Without detailed emissions data, the impact of investments on climate cannot be understood or even

44 NZAOA believes that methodologies for all asset classes should converge; however, it notes there are differences between the maturity levels of listed and non-listed companies.

45 For significantly small general partners: If materiality does not apply due to limited asset class, sectors, or asset exposure, any action on mitigating climate change is appreciated by NZAOA.

managed. NZAOA's requests to asset managers in private markets were formulated in a Call to Action to Private Market Asset Managers (NZAOA, 2022a).

T104. Outdated

T105. **Adjustments on growth**

Where a signatory sets targets on absolute emissions, an adjustment for extensive variation in portfolio size (either organic or inorganic) may be necessary.

For instance:

If a portfolio grows significantly faster or slower than the average GDP over time, a target adjustment could be made. The climate models used by NZAOA signatories to define their CO_2e reduction targets usually assume GDP growth based on reliable data sources.[46]

If a portfolio might vary significantly in size due to its structure, signatories may use intensity targets. In this way, signatories would both encompass inflows in their target-setting scope and neutralize the bias resulting from capital outflows.

Intensity-based targets ***should*** reflect expected future portfolio growth to lead to the same absolute emission reductions as absolute emission-based targets over the long term.

T106. **Adjustments on currency changes**

For investment portfolios split across different currencies, intra-year foreign exchange movements may need to be adjusted in case of material currency volatility. This adjustment may be particularly relevant for carbon intensity targets.

T107. **Adjustments on merger and acquisitions activities**

Merger and acquisition (M&A) transactions may require an adjustment to sub-portfolio targets. For the adjustment, a linear reduction between base year and target year is assumed. The emissions of the acquired (or sold) portfolio are measured at transaction time and the adjusted portfolio will then receive a new target. It is the responsibility of each NZAOA signatory to decide whether an M&A transaction is large enough to justify a new target and to properly document the adjustment if a new target is set.

	Company A	Company B	Company A + B
Base date	31.12.2019	30.06.2021	
Target date	31.12.2024	31.12.2024	31.12.2024
Share in target timeline	100%	70%	
Reduction	-25%	-18%	
CO_2 emissions @base date	100	35	
Target CO_2 emissions	75	28.9	103.9

46 E.g. OECD real GDP long-term forecast: oecd.org/en/data/indicators/real-gdp-long-term-forecast.html

T108. For example, Company A sets targets with base date 31.12.2019 and absolute reduction of -25 per cent in five years (target date: 31.12.2024), reducing emissions from the (assumed, normalized) 100 baseline figure to 75. Company A acquires Company B on 30.06.2021 with assumed emissions of 35 at that date. As the remaining time until the target date (31.12.2024) is 70 per cent of the initial five-year period, Company B needs to reduce emissions by 18 per cent from 30.06.2012 to 31.12.2024 and the new joint emissions target is 103.9. The calculation adjustment is detailed in the table above.

T109. ### Matching portfolio information with emissions data

The following considerations may be useful to NZAOA signatories when selecting their emission data matching and reporting principles:

T110. ### Option 1

Matching reporting year financial data (e.g. 2020) with corresponding CO_2e data (e.g. 2020, as available in the second half of 2021):

Advantages

- Data reflects an adequate snapshot of financed emissions at a certain point in time.

Drawbacks

- Portfolio decisions need to be made before data become available. Most data providers collect data from CDP, which only releases data during Q3. Accordingly, data tend to only become available for >80 per cent of a portfolio in Q4. This causes reporting lags of at least one year and requires additional ex-post data matching for the purpose of reporting.

T111. ### Option 2

Matching reporting year financial data (e.g. 2020) with most recent available CO_2e data (e.g. latest available data at year-end 2020):

Advantages

- Latest available data, although backward looking, can be fed into portfolio management systems as soon as they become available.
- Portfolio decisions are made on latest available data.
- Data systems can run in sync with standard data processes, such as system freezes, audit schedules, etc.
- Reporting can be adjusted to annual/sustainability report cycles without artificial time lags.
- Some regulation (such as EU CSRD or FrenchArt29) requires up-to-date reporting, which is only possible by matching year-end financial data with most-recent emission data.

Drawbacks

- Financed emissions systematically combine current portfolio holdings with reported emissions that are one–two years old by the time they become available, creating a time lag from emissions data to portfolio data.

T112. NZAOA signatories ***should*** choose a reporting principle before calculating the target baseline and refer to the methodology chosen in target reporting. Additionally, the approach ***should*** be applied in subsequent time periods. Any adjustments ***shall*** be clearly communicated.

T113. Moved to section 2

T114. Moved to section 2

T115. Moved to section 2

7.2 How to set targets, metrics and reporting for all asset classes

T116. ### Listed equity and publicly traded corporate debt

Listed equity Publicly traded corporate debt	
Definition	A corporation is a legal entity that is separate and distinct from its owners. A listed corporation refers to any corporation whose shares are listed on a stock exchange. Publicly traded corporate debt refers to bonds issued by these corporations or to bonds admissible to standard corporate bonds indices. Debt or equity investments are all forms of loans, bonds or shares that provide financing to these corporations.
Scope of emission	▪ Scope 1: ***Shall*** be in scope for reporting & target setting ▪ Scope 2: ***Shall*** be in scope for reporting & target setting ▪ Scope 3: ***Should*** track, but not yet set, targets on Scope 3 emissions

Accounting approach	**Calculation of financed GHG emissions**: **Absolute approach:**[47] Financed emissions with metric tCO_2e/annum Weighted by enterprise value or EVIC: $$\sum\left(\frac{Current\ value\ of\ investment\ of\ issuer}{Enterprise\ Value\ or\ EVIC\ of\ issuer} \times Emissions\ of\ issuer\right)$$ Weighted by market cap: $$\sum\left(\frac{Current\ value\ of\ investment\ of\ issuer}{Market\ capitalization\ of\ issuer} \times Emissions\ of\ issuer\right)$$ **Intensity approach:**[48] Financed emissions intensity with metric tCO_2e/annum/value invested, and $kgCO_2e$/annum/revenue Carbon Intensity by enterprise value or EVIC: $$\frac{\left[\sum\left(\frac{Current\ value\ of\ investment\ (issuer)}{Enterprise\ Value\ or\ EVIC\ of\ issuer} \times Emissions\ of\ issuer\right)\right]}{\sum Current\ value\ of\ investment\ in\ issuer}$$ Carbon intensity by revenues $$\frac{\left[\sum\left(\frac{Current\ value\ of\ investment\ (issuer)}{Annual\ revenue\ of\ issuer} \times Emissions\ of\ issuer\right)\right]}{\sum Current\ value\ of\ investment\ in\ issuer}$$ For details, see Background Document B72—74.
Key metrics	▪ Absolute: $tCO_2(e)$ or ▪ Intensity: $tCO_2(e)$/Mn USD (EVIC), $tCO_2(e)$/Mn USD (Revenue).
Data availability and sources	Data are readily available from commercial providers and relatively reliable for these asset classes. Data coverage is still increasing for Scope 3 emissions.
Scientific reduction pathway or benchmark sources	Net-zero criteria ***shall*** be formulated using IPCC's no or limited overshoot global scenarios for 1.5°C. The SR1.5 and AR6 provide ranges of 22–32 per cent for 2020–2025 and 40–60 per cent for 2020–2030, respectively.
Target-setting methodology	Set quantitative decarbonization targets on the basis of absolute carbon emissions or emission intensity.
Target setting	Signatories ***shall*** publish decarbonization targets prior to registering as prospective signatory.
Reporting	Emissions & target ***shall*** be reported annually.
Reporting metrics	▪ Signatories ***shall*** report on: Base year, target year, metric used, target reduction (%), Scope 3 (yes/no), annual financed GHG emissions since base year, GHG emission data coverage (%), total AuM, total AuM covered by sub-portfolio target (possible to set targets on combined asset classes) and carbon intensity (if applicable) ▪ Signatories ***should*** report on***:*** Scope 3

47 Other initiatives that are utilising similar metrics include TCFD and PCAF.

48 Other initiatives that are utilising similar metrics include the European Union Financial Supervisory Authorities (EBA, ESMA and EIOPA), PCAF, and TCFD.

T117.

Private equity and debt

Private equity:
- **Private equity direct**
- **Private equity funds**

Private debt:
- **Private debt, held directly**
- **Private debt funds**

Definition	A corporation is a legal entity that is separate and distinct from its owners. All corporate financing instruments not covered by the Listed Equity and publicly traded corporate debt are covered in Table T116.
Scope of emission	▪ Scope 1: ***Shall*** be in scope for reporting & target setting ▪ Scope 2: ***Shall*** be in scope for reporting & target setting ▪ Scope 3: ***Should*** track, but not yet set targets on
Accounting approach	**Calculation of financed GHG emissions:**[49] **Absolute approach:**[50] Financed emissions with metric tCO_2e/annum Weighted by enterprise value or EVIC: $$\sum\left(\frac{Current\ value\ of\ investment\ of\ issuer}{Enterprise\ Value\ or\ EVIC\ of\ issuer}\times Emissions\ of\ issuer\right)$$ Weighted by market cap: $$\sum\left(\frac{Current\ value\ of\ investment\ of\ issuer}{Market\ capitalization\ of\ issuer}\times Emissions\ of\ issuer\right)$$ **Intensity approach:**[51] Financed emissions intensity with metric tCO_2e/annum/value invested, and tCO_2e/annum/revenue Carbon Intensity by enterprise value or EVIC: $$\frac{\left[\sum\left(\frac{Current\ value\ of\ investment\ (issuer)}{Enterprise\ Value\ or\ EVIC\ of\ issuer}\times Emissions\ of\ issuer\right)\right]}{\sum Current\ value\ of\ investment\ in\ issuer}$$ Carbon intensity by revenues $$\frac{\left[\sum\left(\frac{Current\ value\ of\ investment\ (issuer)}{Annual\ revenue\ of\ issuer}\times Emissions\ of\ issuer\right)\right]}{\sum Current\ value\ of\ investment\ in\ issuer}$$ For details, see Background Document B72—74
Key metric	▪ Absolute: $tCO_2(e)$ or ▪ Intensity: $tCO_2(e)$/Mn USD (EVIC), $tCO_2(e)$/Mn USD (Revenue)

49 The market value of equity component of enterprise value (EVIC) for private assets should be understood as latest (and best) available market value of equity or proxy thereof. If no valuation at all is available, the latest available balance sheet value can be used as "last resort".

50 Other initiatives that are utilising similar metrics include TCFD and PCAF.

51 Other initiatives that are utilising similar metrics include the European Union Financial Supervisory Authorities (EBA, ESMA and EIOPA), PCAF, and TCFD.

Data availability and sources	There is limited data availability; NZAOA identifies the paramount need for greater emissions transparency (through GHG reporting of the underlying assets) for all private asset classes. Without detailed emissions data, investments' climate impact cannot be properly understood nor managed. NZAOA encourages signatories to join initiatives that call for data disclosure for private assets, such as the ILPA ESG Data Convergence Initiative.
Scientific reduction pathway or benchmark sources	Net-zero criteria ***shall*** be formulated using IPCC's no or limited overshoot global scenarios for 1.5°C. The SR1.5 and AR6 provide ranges of 22–32 per cent for 2020–2025 and 40–60 per cent for 2020–2030 respectively.
Target-setting methodology	▪ **Private equity direct:** set quantitative decarbonization targets on the basis of absolute carbon emissions or emission intensity. ▪ **Private debt (held directly), private equity funds and private debt funds:** ▫ Engagement with borrowers/asset managers/fund managers towards: • Reporting Scope 1 and 2 GHG emissions data (Scope 3 where possible) • Setting intermediate net-zero targets by YE2026 ▫ Set a climate target. This can either be: • A quantitative decarbonization target on the basis of absolute carbon emissions or emission intensity (e.g. x% reduction in emissions) • A portfolio coverage target on funds/mandates which applies a credible net-zero framework (e.g. y% of new funds will have net-zero framework in place)[52] ▫ Commit predominantly to loans with credible net-zero-aligned transition plans/funds with a credible net-zero framework

52 It is evident that, in the beginning of the phase-in of these asset classes, the targeted percentage falls below the range that NZAOA aims for in the long term. This percentage will also vary by region.

Target setting	▪ **Private equity direct:** ▫ ***Shall*** engage: Not applicable ▫ ***Shall*** publish decarbonization targets prior to registering as prospective signatory. ▪ **Private debt, held directly:** ▫ ***Shall*** engage borrowers within 12 months of joining NZAOA ▫ By YE2026 signatories ***shall*** publish climate targets for **new** investments on asset class/sub-portfolio level. ▫ By YE2026 signatories ***should*** predominantly commit to new investments where the underlying corporations have a credible, net-zero-aligned transition plan.[53] ▪ **Private equity funds:** ▫ ***Shall*** engage asset managers within 12 months of joining NZAOA ▫ By YE2026 signatories ***shall*** publish climate targets for new investments on asset class/sub-portfolio level. ▪ **Private debt funds:** ▫ ***Shall*** engage asset managers within 12 months of joining NZAOA ▫ By YE2026 signatories ***should*** publish climate targets for new investments on asset class/sub-portfolio level.
Reporting	▪ **Private equity direct:** ▫ Emissions ***shall*** be reported annually, starting from 2025 ▫ Target ***shall*** be reported in 2026 ▪ **Private debt, held directly:** ▫ Emissions ***shall*** be report annually, starting from 2026 ▫ Target ***shall*** be reported in 2027 ▪ **Private equity funds:** ▫ Emissions ***shall*** be reported annually, starting from 2026 ▫ Target ***shall*** be reported in 2027 ▪ **Private debt funds:** ▫ Emissions ***shall*** be reported annually, starting from 2026 ▫ Target ***should*** be reported in 2027
Reporting metrics	▪ Signatories ***shall*** report on: Base year, target year, metric used, target reduction (%), Scope 3 (yes/no), yearly financed GHG emissions since base year, GHG emission data coverage (%), total AuM, total AuM covered by sub-portfolio target, (possible to set targets on combined asset classes), carbon intensity (if applicable) ▪ Signatories ***should*** report on: Scope 3

53 Guidance: IIGCC Investor Expectations of Corporate Transition Plans: From A to Zero. https://139838633.fs1.hubspotusercontent-eu1.net/hubfs/139838633/Past_resource_uploads/IIGCC_Investor_-expectations-of-corporate-transition-plans_Final.pdf

T118.

Infrastructure

Infrastructure (private): ▪ **Equity direct** ▪ **Equity funds** ▪ **Loans** ▪ **Debt funds**	
Definition	An infrastructure investment is defined as an investment in an entity, project or corporate that derives the substantial majority (i.e. more than two thirds) of its revenues from owning, financing, developing or operating infrastructure assets. Infrastructure assets include physical assets, structures, facilities, systems and networks that often provide or support essential public services.[54] For various infrastructure asset class types, see Background Document, B75. Greenfield Definition: Construction of new assets or re-constructing an existing asset to a material extent. Brownfield Definition: All other projects that are not greenfield.
Scope of emission	▪ Scope 1: ***Shall*** be in scope for reporting & target setting ▪ Scope 2: ***Shall*** be in scope for reporting & target setting ▪ Scope 3: ***Should*** be in scope for targets & reporting
Accounting approach	**Calculation of financed GHG emissions:** **Absolute approach:** Financed emissions with metric tCO_2e/annum $$Financed\ emisions = \sum\left(\frac{Outstanding\ amount}{Total\ equity + debt} \times \frac{Infrastructure\ asset}{annual\ emissions}\right)$$ Aligned with PCAF. For infrastructure companies, the formula is in line with the corporates approach. For details see Background Document, B76—81.
Key metrics	▪ Absolute: $tCO_2(e)$ or ▪ Intensity: $tCO_2(e)$/Mn USD (EVIC), $tCO_2(e)$/Mn USD (Revenue).
Data availability and sources	For assets where financial data are unavailable and owned emissions cannot be calculated, estimations are accepted based on region- and sector-specific average financial data and the outstanding amount. PCAF provides direction on how to estimate annual emissions in the face of data availability issues.

54 Definition following Solvency II amending Delegated Regulation (EU) 2015/35 issued by the European Commission on 8 June 2017.

Scientific reduction pathway or benchmark sources	NZAOA signatories ***shall*** use sector-specific pathways (where applicable), or the IPCC's no or limited overshoot 1.5°C global range of 40–60 per cent for 2020–2030. This holds especially for investments in coal, oil, and gas: ▪ **For coal** ▫ Signatories ***shall*** follow NZAOA's position paper on thermal coal. ▪ **For oil** ▫ Signatories ***shall*** not make new investments in assets that are not aligned with science-based or government-issued regional/national 1.5°C pathways. Signatories ***shall*** especially not finance upstream greenfield projects beyond those already committed by the end of 2021. ▫ Signatories ***shall*** follow NZAOA position paper on Oil and Gas ▪ **For gas** ▫ Signatories ***shall*** not make new investments in assets that are not aligned with science-based or government-issued regional/national 1.5°C pathways. ▫ Signatories ***shall*** follow NZAOA's position paper on Oil and Gas.
Target-setting methodology	▪ **Infrastructure equity direct:** ▫ Set quantitative decarbonization targets on the basis of absolute carbon emissions or emission intensity. ▪ **Infrastructure loans:** ▫ Engagement with borrowers/asset managers towards • reporting Scope 1 and 2 GHG emissions data (Scope 3 where possible) • setting targets by YE2025 ▫ set quantitative decarbonization targets on the basis of absolute carbon emissions or emission intensity. ▪ **Infrastructure equity funds, debt funds:** ▫ Engagement with borrowers/asset managers/fund managers towards • Reporting Scope 1 and 2 GHG emissions data (Scope 3 where possible) • Setting targets by YE2025 ▫ Commitment predominantly to loans with credible, net-zero-aligned transition plans/funds with a credible net-zero framework and ▫ Set a climate target. This can either be: • A quantitative decarbonization target on the basis of absolute carbon emissions or emission intensity (e.g. x% reduction in emissions) • A portfolio coverage target on funds which applies a credible net-zero framework (e.g. "x% of new funds will have net-zero commitments")

Target setting	▪ **Infrastructure equity direct, where one of the three criteria holds:** • Where a signatory owns more than 20 per cent, or • Where a signatory has a seat on the board,[55] or • the investment qualifies as carbon intensive energy infrastructure (for definition, see Background Document, B75) ▫ ***Shall*** publish decarbonization targets prior to registering as prospective signatory. ▪ **Infrastructure equity direct (all other assets)** ▫ ***Shall*** publish decarbonization targets prior to registering as prospective signatory. ▪ **Infrastructure equity funds** ▫ ***Shall*** engage asset managers within 12 months of joining NZAOA ▫ By YE2026 signatories ***shall*** publish climate targets for **new** funds on asset class/sub-portfolio level. ▫ By YE2026 signatories ***should*** predominantly commit to new funds which apply a credible net-zero framework. ▪ **Infrastructure loans (carbon intensive energy assets)** (for definition, see Background Document, B75) ▫ ***Shall*** engage borrower within 12 months of joining NZAOA ▫ ***Shall*** publish decarbonization targets prior to registering as prospective signatory. ▪ **Infrastructure loans (all other assets)** ▫ ***Shall*** engage borrower within 12 months of joining NZAOA ▫ ***Shall*** publish decarbonization targets for **new** loans by YE2026. ▪ **Infrastructure debt funds** ▫ ***Shall*** engage asset managers within 12 months of joining NZAOA ▫ By YE2026, signatories ***shall*** publish climate targets for **new** funds on asset class/sub-portfolio level. ▫ From YE2026, signatories ***should*** predominantly commit to new funds that apply a credible net-zero framework.

55 This follows international accounting standards where significant influence is assumed; see, IAS 28.5. If an entity holds 20 per cent or more of the voting power of the investee, it is presumed that the entity has significant influence. This does not include seats on a fund's board where the fund also invests in infrastructure. See, PCAF 2020 p73. Table 5.6, options 3b and 3c.

Reporting	▪ **Infrastructure equity direct, where one of the three criteria holds:** • Where a signatory owns more than 20 per cent, or • Where a signatory has a seat on the board, or • Where the investment qualifies as carbon-intensive energy infrastructure ▫ Emissions & target ***shall*** be reported annually ▪ **Infrastructure equity direct (all other assets)** ▫ Emissions ***shall*** be reported annually, starting from 2025 ▫ Target ***shall*** be reported in 2026 ▪ **Infrastructure equity funds** ▫ Emissions ***shall*** be reported annually, starting from 2026 ▫ Target ***shall*** be reported in 2027 ▪ **Infrastructure loans (carbon-intensive energy assets)** ▫ Emissions & target ***shall*** be reported annually ▪ **Infrastructure loans (all other assets)** ▫ Emissions ***shall*** be reported annually, starting from 2026 ▫ Target ***shall*** be reported in 2027 ▪ **Infrastructure debt funds** ▫ Emissions ***shall*** be reported annually, starting from 2026 ▫ Target ***shall*** be reported in 2027
Reporting metrics	▪ Signatories ***shall*** report on: base year, target year, metric, target reduction (%), Scope 3 (yes/no), yearly financed GHG emissions since base year, GHG emission data coverage (%), total AuM, total AuM covered by sub-portfolio target, carbon intensity (if applicable) ▪ Signatories ***should*** report on: Scope 3

Real estate

Operational carbon

Signatories ***should*** use the following components as to guide their efforts to transition their real estate portfolios to net zero:

For operational carbon;

- The building ***shall*** be highly energy efficient (taking into account the building type and geographic location), and
- All remaining energy required ***shall*** come from on-site and/or off-site renewable sources, or ***shall*** be connected to an energy supply that will be fully decarbonized by 2050, at the latest.

For detailed information, see Background Document, B82.

Location vs market-based method

With regard to the use of either a location-based or a market-based method[56] for calculating Scope 2 emissions, signatories ***should*** use the location-based method. Regardless of the method applied, when carbon emissions data according to both

56 Location-based method: Scope 2 emissions are based on the average emissions intensity of the grids on which the energy consumption occurs (national or regional boundaries). Market-based method: Scope 2 emissions are based on emissions associated with the generators from which a company has purposefully chosen.

methods are available, signatories ***shall*** use one method consistently across the portfolio and disclose which method is used.

Real estate: ▪ **Directly held**	
Definition	Refers to fully owned buildings (i.e. buildings that are held to 100 per-cent ownership by the signatory) and buildings that are partly owned through a joint-venture or joint operation, or are in a joint ownership.[57] Both residential and commercial buildings are included in the scope. Residential buildings refer to private dwellings such as apartments and houses. Commercial buildings refer to properties related to trade, finance, retail, public administration, health, food and lodging, education and other commercial services.
Scope of emission	Targets ***shall*** be set on whole-building, in-use operational emissions (i.e. energy-related emissions from both base building/common spaces and tenant spaces ***shall*** be included in target setting and reporting).
Accounting approach	Signatories ***shall*** align their carbon accounting of financed emissions with recommendations outlined in the Accounting and Reporting of GHG Emissions from Real Estate Operations—Technical Guidance for the Financial Industry V1.0, developed by PCAF, the Carbon Risk Real Estate Monitor (CRREM) and the Global Real Estate Sustainability Benchmark (GRESB). Signatories ***should*** use the operational control approach. For detailed information, see Background Document, B83–87.
Key metrics	▪ Absolute: $kgCO_2(e)$/annum or $tCO_2(e)$/annum ▪ Intensity: $kgCO_2(e)/m^2$/annum
Data availability and sources	Reported asset-level data are preferred. When these data are unavailable, two different options exist for signatories in their target setting: ▪ Signatories aggregate data and set a target only for those assets in the portfolio where reported and reliable data can be retrieved. Signatories then ***shall*** disclose the share of the total portfolio that is covered by the target and establish a time-bound plan to retrieve reported and reliable data for those assets not covered by the target. ▪ Signatories aggregate data and set targets for the whole portfolio and use estimations for those assets where reported and reliable data cannot be retrieved. Signatories then ***shall*** disclose the proportion of assets where estimated data are used, ***should*** give a general description of the methodology used, and ***shall*** establish a time-bound plan to retrieve reported and reliable data for those assets where estimations are used.

57 Joint venture partners with a stake of 25 per cent or higher are considered to have significant influence over operational initiatives and shall be defined as directly held real estate.

Scientific reduction pathway or benchmark sources	Signatories ***should*** strive to use pathways specifically designed for the real estate sector like the CRREM Global Pathways. If other pathways are used, they ***shall*** meet the criteria in being aligned with IPCC's no or limited overshoot 1.5°C global range of 40–60 per cent for 2020–2030. Signatories ***shall*** disclose which benchmark is being used.
Target-setting methodology	Set quantitative decarbonization targets on the basis of absolute carbon emissions or emission intensity. For detailed information, see Background Document, B88–92.
Target setting	Signatories ***shall*** publish decarbonization targets prior to registering as prospective signatory.
Reporting	Emissions & target ***shall*** be reported annually.
Reporting metrics	▪ Signatories ***shall*** report on: base year, target year, metric, target reduction (%), yearly financed GHG emissions since base year, GHG emission data coverage (%), total AuM, total AuM covered by sub-portfolio target, carbon intensities (if applicable), share of portfolio covered by emission data (%), share of portfolio where estimated data are used (%)

T122.

Commercial mortgage loans[58]

Commercial mortgage loans (CML)	
Definition	A commercial mortgage is a type of loan used for the acquisition, refinancing or refurbishment of commercial real estate, collateralized by a mortgage, land charge mortgage or hypothec. Commercial real estate are buildings fully or dominantly owned by the borrower or portfolios of commercial assets where all buildings within the portfolio are fully or dominantly owned by the borrower. In the case of mixed use (commercial and residential), the building ***should*** be included if the majority of the floor area (over 50 per cent) is commercially used.
Scope of emission	Targets ***shall*** be set on whole-building, in-use operational emissions (i.e. energy-related emissions from both base building/common spaces and tenant spaces), based on the proportional share of emissions financed through mortgage loan or the Loan-to-Value (LTV) ratio. This is the outstanding loan amount divided by the value of building. When the property value at origination is not feasible to obtain, lenders may use the latest property value available and fix this value for the remaining loan duration. Alternatively, they may use the mortgage value at origination. The LTV ratio can be at maximum 100 per cent.

58 Previously known as commercial real estate loans (CREL)

Accounting approach	**Calculation of financed GHG emissions for mortgages**: **Absolute approach:**[59] Financed emissions with metric $kgCO_2e$/annum $$\sum_{\text{Mortgages}} \left[(Building\ Emissions) \times \left(\frac{Outstanding\ Loan}{Value\ of\ property\ at\ origination} \right) \right]$$ **Intensity approach:**[60] Financed emissions intensity with metric $kgCO_2e/m^2$/annum $$\frac{\sum_{\text{Mortgages}} \left[(Building\ Emissions) \times \left(\frac{Outstanding\ Loan}{Value\ of\ property\ at\ origination} \right) \right]}{\sum_{\text{Mortgages}} \left[(Floor\ area\ in\ m^2) \times \left(\frac{Outstanding\ Loan}{Value\ of\ property\ at\ origination} \right) \right]}$$ Following PCAF, the approach assumes that the commercial property owner also takes ownership of the building's emissions. In some cases, a loan might be structured into different risk stakes (senior tranche and one or more subordinated tranches). In this case, the outstanding loan in the formula above does only contain the loan share of the lender. The LTV ratio applied for the calculation of the financed emissions may differ to the internal risk-oriented LTV view. This ensures that only the emissions of the signatory's loan tranche will be included. In some cases, such as subsequent loan increases, the market value of the property changes and ***should*** be adjusted in the formula. In these cases, the relevant market value differs from the one at the time of the loan origination. Thus, the market value at the time of the last increase ***should*** be taken. For detailed information, see Background Document, B83–87.
Key metrics	▪ Absolute: $kgCO_2(e)$/annum or $tCO_2(e)$/annum ▪ Intensity: $kgCO_2(e)/m^2$/annum
Data availability and sources	CRREM, among others. When data are not available, two different options exist for signatories in their target setting: ▪ Signatories aggregate data and set a target only for those assets in the portfolio where reported and reliable data can be retrieved. Signatories then ***shall*** disclose the share of the total portfolio that is covered by the target and establish a time-bound plan to retrieve reported and reliable data for those assets not covered by the target. ▪ Signatories aggregate data and set targets for the whole portfolio and use estimations for those assets where reported and reliable data cannot be retrieved. Signatories then ***shall*** disclose the proportion of assets where estimated data are used, ***should*** give a general description of the methodology used, and ***shall*** establish a time-bound plan to retrieve reported and reliable data for those assets where estimations are used.

59 Under the absolute approach, the financed emissions of the entire debt portfolio correspond to the sum of the LTV-weighted building emissions of each corresponding loans.

60 Under the relative approach, the financed emissions per m^2 or sf^2 of the entire debt portfolio correspond to the sum of the LTV-weighted building emissions of each corresponding financing in relation to the sum of the LTV-weighted buildings floor area of each corresponding loans.

Scientific reduction pathway or benchmark sources	Signatories ***should*** strive to use pathways specifically designed for the real estate sector like the CRREM Global Pathways. If other pathways are used, they ***shall*** meet the criteria in being aligned with IPCC's no or limited overshoot 1.5°C global range of 40–60 per cent for 2020–2030. Signatories ***shall*** disclose which benchmark is being used.

Target-setting methodology	▪ Engagement with borrowers/asset managers towards
	  ▫ Reporting emissions data
	  ▫ Setting intermediate net-zero targets by YE2025
	Focus of engagement with the borrower (for the existing loans):
	▪ Transparency of the borrower (asset owner) regarding the consumption data of the building. This information is needed as part of the calculation of the real estate debt portfolio emissions. Emissions from reported data significantly improve the quality of the data basis compared to the pure estimation basis.
	▪ Focusing on levers such as engagement or borrower commitment that could be particularly important at a stage of refinancing discussions is highly recommended
	Set quantitative decarbonization targets on the basis of absolute carbon emissions or emission intensity in line with CRREM Global Pathways (in its given regional/sector split).

Target setting	▪ ***Should*** engage borrowers within 12 months of joining NZAOA ▪ ***Shall*** publish decarbonization target for **new** loans by YE2026
Reporting	▪ Share of portfolio covered by emissions data on new loans ***shall*** be reported annually ▪ Emissions ***shall*** be reported annually, starting from 2026 ▪ Target ***shall*** be reported in 2027
Reporting metrics	▪ Signatories ***shall*** report on: base year, target year, metric, target reduction (%), yearly financed GHG emissions since base year, GHG emission data coverage (%), total AuM, total AuM covered by sub-portfolio target, share of portfolio covered by emission data (%), and share of portfolio where estimated data are used (%)

T123.

Real estate equity and debt funds

Real estate ▪ Equity funds ▪ Debt funds	
Definition	Real estate assets[61] (e.g. buildings) held and pooled in a private collective investment scheme. Real Estate Investment Trusts (REITs) and listed funds investing in REITs are excluded.[62] Real Estate Debt Funds are real estate loans issued by a lender for a commercial property or properties with mortgage-linked securities (e.g. direct mortgages, secured bonds, credit linked notes, tranches in commercial mortgage-backed securities and mortgage-backed securities) that are pooled in a fund. All listed funds investing in real estate loan structures are excluded.
Scope of emission	Targets ***shall*** be set on a whole-building, in-use basis and ***should*** apply an operational control emissions approach (i.e. energy-related emissions from both base building/common spaces and tenant spaces) on a proportional share basis (see Accounting approach, below).
Accounting approach	$$\sum_{b=1}^{n}\left[(Building\ Emissions_b) \times \left(\frac{Outstanding\ Amount_b}{Value\ of\ property\ at\ origination_b}\right)\right]$$ Following PCAF. **Equity funds** This is based on the proportional share of emissions invested, calculated using the investment amount divided by the value of property at origination (percentage of equity ownership). **Debt funds** This is based on the proportional share of emissions financed through mortgage loans or the LTV ratio, calculated using the outstanding mortgage loan divided by the property value at origination. When the property value at origination is not feasible to obtain, asset managers or lenders may use the latest property value available and fix this value for the remaining loan duration. For debt funds, they may use the mortgage value at origination or the LTV ratio equals to 100 per cent. For detailed information, see Background Document, B83–87.
Key metrics	▪ Absolute: $kgCO_2(e)$/annum or $tCO_2(e)$/annum ▪ Intensity: $kgCO_2(e)/m^2$/annum

61 Residential buildings: refers to private dwellings such as apartments and houses. Commercial buildings: includes properties related to trade, finance, retail, public administration, health, food and lodging, education, logistics and other commercial services.

62 REITs and listed funds investing in REITs are covered in the Listed Equity table.

Data availability and sources	CRREM, among others. When this information is not available, two different options exist for signatories in their target setting: ▪ Signatories aggregate data and set a target only for those assets in the portfolio where reported and reliable data can be retrieved. Signatories then ***shall*** disclose the share of the total portfolio that is covered by the target and establish a time-bound plan to retrieve reported and reliable data for those assets not covered by the target. ▪ Signatories aggregate data and set targets for the whole portfolio and use estimations for those assets where reported and reliable data cannot be retrieved. Signatories then ***shall*** disclose the proportion of assets where estimated data are used, ***should*** give a general description of the methodology used, and ***shall*** establish a time-bound plan to retrieve reported and reliable data for those assets where estimations are used.
Scientific reduction pathway or benchmark sources	Signatories ***should*** strive to use pathways specifically designed for the real estate sector, such as the CRREM Global Pathways. If other pathways are used, they ***shall*** meet the criteria in being aligned with IPCC's no or limited overshoot 1.5°C global range of 40–60 per cent for 2020–2030. Signatories ***shall*** disclose which benchmark is being used.
Target-setting methodology	Real estate equity and debt funds: ▪ Engagement with borrowers/asset managers/fund managers towards ▫ Reporting emissions data ▫ Setting intermediate net-zero targets by YE2025 ▪ Set a climate target. This can either be: ▫ A quantitative decarbonization target on the basis of absolute carbon emissions or emission intensity (e.g. X% reduction in emissions) ▫ A portfolio coverage target on funds which applies a credible net-zero framework (e.g. "X% of new funds will have net-zero commitments") ▪ Commit predominantly to loans with credible net-zero-aligned transition plans/funds with a credible net-zero framework
Target setting	Real estate equity funds: ▪ ***Shall*** engage asset managers within 12 months of joining NZAOA ▪ By YE2026, signatories ***shall*** publish climate targets for new funds at asset-class/sub-portfolio level. ▪ From YE2026, signatories ***should*** predominantly commit to new funds that apply a credible net-zero framework. Real estate debt funds: ▪ ***Should*** engage borrowers within 12 months of joining NZAOA ▪ By YE2026, signatories ***should*** publish climate targets for new funds at asset class/sub-portfolio. ▪ From YE2026, signatories ***should*** predominantly commit to new funds which apply a credible net-zero framework

Reporting	**Equity funds** ▪ Emissions ***shall*** be reported annually, starting from 2026 ▪ The target ***shall*** be reported in 2027 **Debt funds** ▪ Emissions ***shall*** be reported annually, starting from 2026 ▪ The target ***should*** be reported in 2027
Reporting metrics	▪ Signatories ***shall*** report on: base year, target year, metric used, target reduction (%), Scope 3 (yes/no), yearly financed GHG emissions since base year, GHG emission coverage (%), total AuM, total AuM covered by sub-portfolio target, carbon intensity (if applicable) ▪ Signatories ***should*** report on: Scope 3

T124.

Residential mortgages

Real estate ▪ **Residential mortgages**	
Definition	Mortgage finance includes loans granted by a lender for residential occupancy and secured by a mortgage on the underlying property or properties. Residential properties or portfolios of residential properties are fully owned by the borrower. Alternative living types are included. Reverse mortgages are excluded.[63] Signatories decide if multi-family investments are considered Commercial Mortgages or Residential Mortgages.
Scope of emission	If targets are set, they ***shall*** be set on a whole-building, in-use approach where feasible, based on the proportional share of emissions financed through the mortgage loan or the LTV ratio. This is the outstanding loan amount divided by the value of building at origination. When the property value at origination cannot be obtained, lenders may use the latest property value available and fix this value for the remaining loan duration. Alternatively, they may use the mortgage value at origination. The LTV ratio can be at maximum 100 per cent.
Accounting approach	**Absolute approach:** Financed emissions with metric $kgCO_2e$/annum $$\sum_{\text{Mortgages}} \left[(Building\ Emissions) \times \left(\frac{Outstanding\ Loan}{Value\ of\ property\ at\ origination}\right)\right]$$ **Intensity approach:** Financed emissions intensity with metric $kgCO_2e/m^2$/annum $$\frac{\sum_{\text{Mortgages}} \left[(Building\ Emissions) \times \left(\frac{Outstanding\ Loan}{Value\ of\ property\ at\ origination}\right)\right]}{\sum_{\text{Mortgages}} \left[(Floor\ area\ in\ m^2) \times \left(\frac{Outstanding\ Loan}{Value\ of\ property\ at\ origination}\right)\right]}$$ Following PCAF, this equation assumes that the residential property owner also takes ownership of the building's emissions.
Key metrics	▪ Absolute: $kgCO_2(e)$/annum or $tCO_2(e)$/annum ▪ Intensity: $kgCO_2(e)/m^2$/annum

63 Reverse mortgages, home equity loan, and home equity line of credits are considered general consumer loans where use of proceeds cannot be reasonably determined, as per guidance from PCAF-financed emissions.

Data availability and sources	Due to the lack of operational control, lenders are usually facing a bigger challenge as regards collecting the data needed. However, this ***should*** not preclude them trying to obtain data or from the use of estimates or proxies. Reported asset-level data are preferred. When these data are unavailable, two different options exist for signatories in their target setting: ▪ Signatories aggregate data and set a target only for those assets in their portfolio where reported and reliable data can be retrieved. Signatories then ***shall*** disclose the share of the total portfolio that is covered by the target and establish a time-bound plan to retrieve reported and reliable data for those assets not covered by the target. ▪ Signatories aggregate data and set targets for the whole portfolio and use estimations for those assets where reported and reliable data cannot be retrieved. Signatories then ***shall*** disclose the proportion of assets where estimated data are used, ***should*** give a general description of the methodology used, and ***shall*** establish a time-bound plan to retrieve reported and reliable data for those assets where estimations are used.
Scientific reduction pathway or benchmark sources	Signatories ***should*** strive to use pathways specifically designed for the real estate sector, such as the CRREM Global Pathways. If other pathways are used, they ***shall*** meet the criteria in being aligned with IPCC's no or limited overshoot 1.5°C global range of 40–60 per cent for 2020–2030. Signatories ***shall*** disclose which benchmark is being used.
Target-setting methodology	Under consideration
Target setting	Under consideration
Reporting	While emission reporting is not explicitly required at present, signatories ***should*** track emissions internally
Reporting metrics	▪ Signatories ***should*** report on: total AuM, yearly financed GHG emissions since general base year provided, GHG emissions data coverage (%), carbon intensity, share of portfolio covered by emission data (%) and share of portfolio where estimated data are used (%)

T125.

Energy efficiency

Real estate ▪ **Energy efficiency (only applicable to directly held Real Estate)**	
Definition	**Energy efficiency** in operational buildings is the measure of a building performing its intended functions with a given amount of energy used. Higher energy efficiency directly reduces emissions through reduced energy criteria. **Energy intensity** refers to the amount of energy used in kilowatt hour (kWh) per unit of floor area, per annum. A lower energy intensity indicates higher energy efficiency. For detailed information, see Background Document, B93.
Scope of measure	If targets are set, they ***shall*** be set on a whole-building, in-use operational control approach (i.e. energy-related emissions from base building/common spaces and from tenant spaces ***shall*** be included in target setting and reporting).

Accounting approach	Intensity approach: $$Building\ energy\ intensity = \frac{\sum Annual\ energy\ consumption\ (in\ kWh)}{\sum Floor\ area\ in\ m^2}$$ There are adjustments that can be made with recognized methodology to any of following factors: ▪ Hours of operation or working days per week ▪ Vacancy ▪ Occupant density ▪ Heating and cooling (weather correction) ▪ Special uses Signatories ***should*** disclose the use of any given adjustments to the methodology, where applicable.
Key metrics	▪ Absolute: Energy consumption/annum (kWh/annum) ▪ Intensity: Energy intensity (kWh/m^2/annum)
Data availability and sources	Reported asset-level data are preferred. When these data are unavailable, two different options exist for signatories in their target setting: ▪ Signatories aggregate data and set a target only for those assets in the portfolio where reported and reliable data can be retrieved. Signatories then ***shall*** disclose the share of the total portfolio that is covered by the target and establish a time-bound plan to retrieve reported and reliable data for those assets not covered by the target. ▪ Signatories aggregate data and set targets for the whole portfolio and use estimations for those assets where reported and reliable data cannot be retrieved. Signatories then ***shall*** disclose the proportion of assets where estimated data are used, ***should*** give a general description of the methodology used, and ***shall*** establish a time-bound plan to retrieve reported and reliable data for those assets where estimations are used.
Scientific reduction pathway or benchmark sources	Signatories ***should*** strive to use pathways specifically designed for the real estate sector, such as the CRREM Global Energy Pathways. If other pathways are used, they ***shall*** meet the criteria in being aligned with IPCC's no or limited overshoot 1.5°C global range of 40–60 per cent for 2020–2030. Signatories ***shall*** disclose which benchmark is being used.
Target-setting methodology	Signatories ***should*** set targets on energy intensity on a whole building and operational control approach (including tenant-controlled emissions) in line with CRREM Global Energy, or other pathways or benchmark used.
Target setting	NZAOA signatories ***should*** set targets on energy intensity prior to registering as prospective signatory.
Reporting	▪ While reporting on energy efficiency is not explicitly required at present, signatories ***should*** track energy efficiency data internally as of YE2024 ▪ Portfolio share that is covered by data ***should*** be reported in 2026 ▪ Energy Efficiency targets ***should*** be reported in 2026
Reporting metrics	▪ Signatories ***should*** report on: base year, target year, intensity metric used, target reduction (%), AuM covered by sub-portfolio target, absolute metric (where applicable), share of portfolio covered by data (%) and share of portfolio where estimated data are used (%)

T126.

Embodied carbon

Real estate ▪ **Embodied carbon (only applicable to directly held Real Estate)**	
Definition	**Embodied carbon** emissions of an asset are the total GHG emissions and removals associated with materials and construction processes throughout the whole life cycle of an asset. **Upfront carbon** emissions, a subset of Embodied Carbon, are the GHG emissions associated with materials and construction processes up to the point of practical completion. Upfront carbon excludes the biogenic carbon sequestered in the installed products at practical completion. For detailed information, see Background Document, B94–97.
Scope of emission	Signatories ***should*** track embodied carbon emissions for new constructions and major refurbishments for directly held real estate.
Accounting approach	NZAOA signatories ***should*** carry out a carbon life cycle analysis (LCA), according to standards such as EN15804 and EN15978 (which are developed by the European market) or the ISO 21930:2017 for Environment Product Declarations (EPD). Signatories ***should*** use reference area according to International Property Measurement Standard 2 and ***should*** consider a building lifespan of 50 years. When using other assumptions (i.e. building lifespan) to adhere to local or jurisdictional regulatory criteria, signatories ***should*** disclose any divergence. Signatories ***should*** also differentiate embodied carbon and upfront carbon emissions.
Key metric	$kgCO_2(e)/m^2$ or $tCO_2(e)/m^2$
Data availability and sources	LCA calculation that includes preferred EPD and the hierarchy between specific and generic data, whether country-adjusted or not. When these data are not available, two different options exist for signatories in their target setting: ▪ Signatories aggregate data only for those assets in the portfolio where reported and reliable data can be retrieved. Signatories then ***should*** disclose the share of the total portfolio that is covered and establish a time-bound plan to retrieve reported and reliable data for those assets not covered. ▪ Signatories aggregate data and use estimations for those assets where reported and reliable data cannot be retrieved. Signatories then ***should*** disclose the proportion of assets where estimated data are used, ***should*** give a general description of the methodology used, and ***should*** establish a time-bound plan to retrieve reported and reliable data for those assets where estimations are used.
Scientific reduction pathway or benchmark sources	To be developed
Target-setting methodology	Under consideration

Target setting	Under consideration Signatories ***should*** seek to engage with asset managers to reduce the embodied carbon for new constructions and major refurbishment, and, where possible, for all real estate investments.
Reporting	Reporting is currently not expected but signatories: ▪ ***Should*** track the portfolio share that is covered by data as of YE2025 ▪ ***Should*** track embodied carbon emissions for new constructions and major refurbishments as of YE2025
Reporting metrics	To be developed

T127.

Sovereign debt

Sovereign debt	
Definition	This asset class includes sovereign bonds of all maturities issued in domestic or foreign currencies. Sovereign debt is typically issued by a central government or treasury department. Sub-sovereigns, supra-nationals and municipals are explicitly not part of this outline and will be considered in a separate workstream.
Scope of emission	NZAOA signatories: ▪ ***Shall*** report production emissions excluding Land Use, Land-Use Change and Forestry (LULUCF) ▪ ***Should*** report production emissions related to LULUCF only ▪ ***Should*** report consumption emissions excluding LULUCF, when data can reasonably be obtained and estimated. **Production emissions:** align with Scope 1, emissions produced domestically and include domestic consumption and export. **Consumption emissions:** demand side of sovereign emissions and account for consumption patterns and trade effects, ***should*** be in scope for reporting, where data are available or reasonably assessed. **LULUCF**: addresses the different accounting treatment by countries and investors. For detailed information on Scopes, as well as consumption- and production-based emissions, see PCAF standard and Background Document, B98—107.

Accounting approach	Signatories ***should*** use PCAF's accounting methodology: **Absolute approach**[64] $\sum Sovereign\ Emissions\ (tCO_e^2) \times \frac{Expsoure\ to\ Sovereign\ Bonds\ (USD)}{PPP-adjusted\ GDP\ (international\ USD)}$ Where exposure to sovereign bonds is in Nominal Value. **Intensity approach** For production emissions: $\sum_{i=1}^{n} w_i \times \frac{Sovereign\ production\ emissions\ (tCO_e^2)_i}{PPP-adjusted\ GDP\ (international\ USD)_i}$ Where w_i represents the weighted exposure of sovereign bonds for sovereign "I" in a portfolio consisting of "n" securities based on market value. For consumption emissions: $\sum_{i=1}^{n} w_i \times \frac{Sovereign\ consumption\ emissions\ (tCO_e^2)_i}{Total\ population_i}$ Where w_i represents the weighted exposure of sovereign bonds for sovereign "I" in a portfolio consisting of "n" securities based on Market Value.
Key metrics	tCO_2(e, tCO_2(e/PPP-adjusted GDP, tCO_2(e/capita, and portfolio score
Data availability and sources	Sovereign emissions data can be retrieved from OS Climate or from any other credible sources. For assessment, data used for scoring can be retrieved from ASCOR, as processed by NZAOA. For more information, see Background Document, B108–116.
Scientific reduction pathway or benchmark sources	NZAOA signatories expect all governments to follow through on their Paris Agreement climate commitments, as stated in NZAOA's Commitment (NZAOA, 2025a). The overall objective remains to limit global warming to 1.5°C with no or limited overshoot, while respecting country differences.
Target-setting methodology	Not required
Target setting	Not required
Reporting	▪ Emissions ***shall*** be reported annually. Where possible, signatories ***should*** make public carbon data for sovereigns' carbon accounting. ▪ Assessments ***should*** be reported annually. For detailed information, see T129–132.
Reporting metrics	▪ Signatories ***shall*** report on: yearly financed GHG emissions since selected base year (Production emissions excluding LULUCF or Scope 1). ▪ Signatories ***should*** report on: production emissions LULUCF only, consumption emissions excluding LULUCF, production emission intensity (excluding LULUCF), consumption emission intensity (excluding LULUCF) and portfolio score (return-seeking or full sovereign portfolio).

64 NZAOA will evaluate and align with PCAF on alternative attribution factors as they emerge.

T128. **Assessment of sovereign debt**

To have a holistic understanding of the climate alignment of those countries whose sovereign debt asset owners hold, NZAOA believes it is important to supplement carbon accounting with an additional step by assessing sovereign portfolios through a scorecard.

T129. NZAOA signatories ***should***

- Pilot the use of the scorecard indicators to assess the performance of their sovereign debt holdings
- Initiate the pilot assessment (as covered by ASCOR)
- Report on the initial outcomes of the pilot assessment. This timeline reflects NZAOA signatories' willingness to move forward with the development of this section of the Protocol in parallel with ASCOR's work.

T130. Signatories ***should*** apply the assessment to the whole portfolio, when possible. If signatories choose to assess their full Sovereign Debt portfolio, they ***should*** disclose a market value-weighted portfolio average score.

T131. However, due to the multifaceted role of sovereigns in an asset owner's portfolio, NZAOA signatories may treat these sub-portfolios differently with regards to sovereign debt assessment. For sovereign debt assessment, the following definition of sub-portfolios may be applied:

- **Liquidity sub-portfolio:** this sub-portfolio comprises the sovereign bonds whose presence in the portfolio is dictated by a regulatory or liquidity management criterion or are used for purely financial functions such as duration management. The signatory is constrained against wholesale selling of these bonds. Typically, this sub-portfolio will contain issuance by the sovereign or sovereigns in which the signatory entities are domiciled (e.g. gilts in the United Kingdom and treasuries in the United States). The proposal would be for individual signatories to define the Liquidity Sub-Portfolio that best suits their fiduciary and risk-management circumstances.
- **Return-seeking sub-portfolio:** this sub-portfolio comprises all other sovereign bonds.

If signatories choose to assess their Sovereign Debt on the return-seeking sub-portfolio only, NZAOA signatories:

- ***Shall*** disclose their definition of Return Seeking Portfolio
- ***Should*** disclose a market value-weighted portfolio average score

T132. **Monitoring of sovereign debt**

To encourage signatories to undertake advocacy actions that are supportive of the improvement in the climate alignment of those countries whose sovereign debt asset owners hold, NZAOA believes it is important to supplement emissions reporting with an approach to monitor progress over time. This approach should be implemented where feasible, depending on data availability and the suitability of the methodology, and should be subject to successful pilot testing.

T133. Signatories may give consideration to their ASCOR rating and identify opportunities for improving ASCOR scores over time. Signatories could consider establishing a monitoring process to track progress within their assessment scope (based on a signatory's choice in assessment scope, see T133–134).

T134. The proposed metric is **ASCORe Improvement** (see B122–124). For a portfolio with weight wi for bond holdings of sovereign i that has an ASCORe of Ai, the ASCORe improvement can be defined as:

$$\Delta A = \sum_i w_i \times (A_i - A_i')$$

Where wi refers to the portfolio weights of the most recent available portfolio, and (Ai—Ai') to the change in score of the most recent available portfolio over the given period.

Since ASCOR are likely only to have meaningful variations over several years, is chosen to refer to the ASCORe from e.g. 3–5 years prior.

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PRI PRINCIPLES FOR RESPONSIBLE INVESTMENT

UN-convened Net-Zero Asset Owner Alliance

unepfi.org/net-zero-alliance/