SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

DEEP DIVE: EVOLVING APPROACHES TO ADDRESS SCOPE 1 EMISSIONS

November 2025

Disclaimer

Setting the scene

The SBTi released an initial draft of the Corporate Net-Zero Standard Version 2 (CNZS V2) for public consultation over a 90 day period from March to June 2025. Following consultation and revision, the new, second public consultation draft marks the most significant evolution yet in how companies set near-term scope 1 targets.

The scope 1 revisions emerged from two years of consultation, research, and testing. It includes addressing ongoing challenges companies have reported while undergoing validation of their science based targets and responds to active debates in the academic literature. The revisions mark a shift from a *one-size-fits-all* framework to an integrated, flexible system that aims to reflect real world decarbonisation. The new scope 1 framework enables:

1. Simpler, more transparent emission reduction methods that work over multiple target cycles, ensuring consistent claims.
2. Greater recognition of how capital-intensive industries decarbonize in steps rather than smooth curves.
3. Non-emissions based metrics options for companies with fast growth or limited historical emissions data.

> **Quote:** *The updated scope 1 framework creates a level playing field for diverse companies to define and deliver science-aligned climate ambition.*

The journey so far: What prompted the scope 1 target-setting framework revision?

After an extensive public consultation and further testing with a range of stakeholders, the following themes emerged:

A. **Stakeholders asked for simplification, flexibility, and greater sectoral relevance** ensuring that their portfolio of emission generating activities reported in scope 1 can be more simply benchmarked against more representative pathways.
B. **Preference for *Linear Contraction* over *Budget-Conserving Contraction*** as the primary cross-sector method. Linear contraction does not require historical emissions data, and is much easier to implement for companies with changing organizational boundaries.
C. **Challenges with single scope focus: the separation of scope 1 and scope 2** requires the introduction of alternative approaches to addressing scope 1 on its own. In the absence of the buffering effect of scope 2 reductions for achieving combined scope 1 + 2 targets, companies must demonstrate measurable progress on their scope 1 emissions. For some sectors, this means adopting non-linear pathways aligned with asset turnover cycles; for others, it may involve intensity-based or non-emissions-based indicators that capture the rate of technology deployment or process transformation.

In addition to the public consultation feedback, internal research and ongoing testing with a range of stakeholders uncovered:

A. **Assessing progressing against linear pathways does not reflect actual decarbonisation trends**. Growing recognition that emissions don't decline linearly, they follow the pace of capital stock turnover. For capital-intensive sectors, companies wish to stick to specific carbon budgets, but their investment cycles and asset turnovers may not allow progress to be achieved on fixed linear reduction pathways.
B. **Existing SBTi methods favour incumbents more than innovators** — Need for alternative metrics where direct emissions quantification is complex, and for emerging, rapidly scaling companies that cannot demonstrate immediate reductions in absolute emissions, even when the emission intensity of their operations is aligned with, or below, that of 1.5°C benchmarks.
C. **Desire for interoperability between CNZS, sector standards**, and the broader SBTi architecture. Companies with a portfolio of different emission generating activities in scope 1 need a clear user journey to navigate SBTi cross-sector and sector specific standards, ensuring their targets reflect the real mitigation levers in each industry while maintaining consistency with global 1.5°C pathways.

What are the main updates compared to the first public consultation draft?

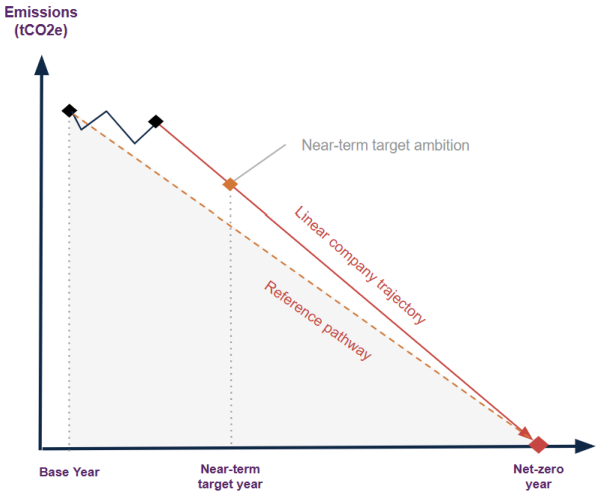
The new draft Standard offers companies three distinct approaches to set scope 1 targets—two based on emissions trajectories, and one based on activity alignment.

1. Emissions-Based Approaches—all three emissions-based methods—SDA, Linear Contraction, and the Asset Decarbonization Plan—are different ways of generating a company's decarbonization trajectory in emissions terms. They each translate a company's operational footprint into a 1.5°C-aligned pathway.

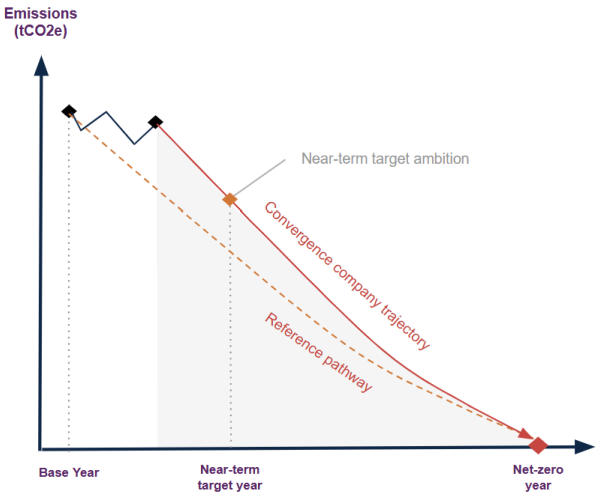
    - **Linear contraction:** Defines a straight-line reduction from base-year emissions to net-zero by 2050. It's a simple, transparent, and comparable approach that can be applied across companies. Suitable for most organizations with steady emissions profiles.
    - **SDA:** Allocates a share of the global or sectoral carbon budget to a company based on its activity. Produces either an absolute or intensity-based pathway consistent with sector benchmarks. Suitable for companies in sectors with established sectoral pathways (e.g., steel, cement, power).
    - **Cumulative emissions with asset replacement:** Introduces flexibility for capital-intensive sectors by allowing non-linear step wise reductions. Companies set a carbon budget using either the linear contraction or the SDA approach, and plan asset replacements, fuel switching, or retirements to stay within that budget. This approach ensures a stricter emissions cap, while enabling some flexibility for companies to determine their pathway, aligned with capital investment and asset turnovers. It is most suitable for companies with long-lived assets or with process-based abatement roadmaps, (where the decarbonisation relies on changing or upgrading core assets and processes, rather than just fuel switching or efficiency improvements, e.g., in heavy industry).

    The budget conserving contraction method introduced in the first consultation draft is not directly offered in the Standard.

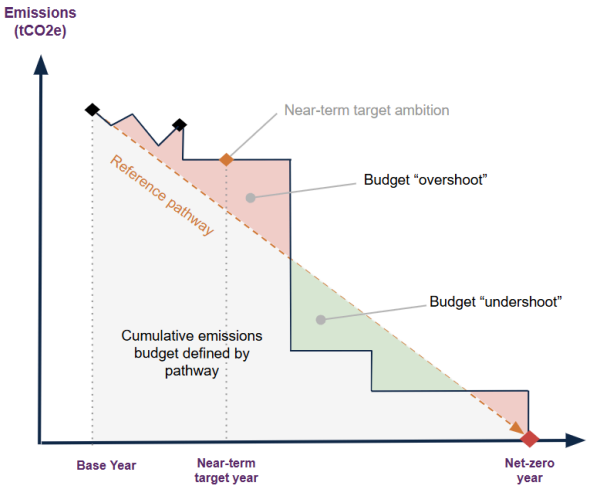
(a) Linear Contraction
(Non-corrective)



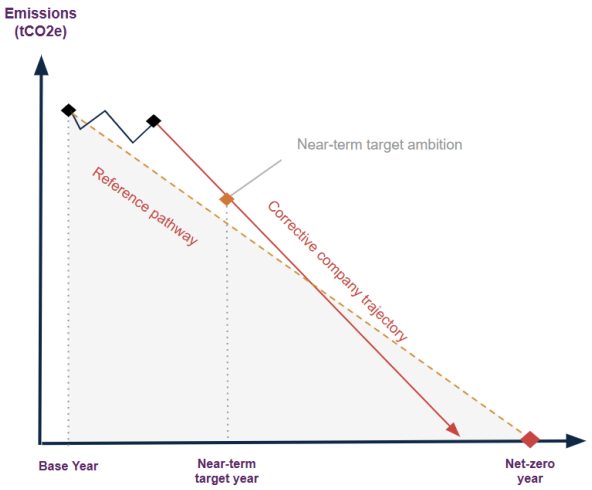
(b) Sectoral Decarbonisation Approach
(Market share based correction)



(c) Asset Decarbonisation Plan
(Non-Linear correction mechanism)



(d) Budget Conserving Contraction
(Linear correction mechanism)



2. **Activity-Based (Outcome) Approaches — Defining the Company's Transition Trajectory in non-emissions terms.** The Standard also introduces a non-emissions, outcome-based option—an *Alignment Target*—for companies whose scope 1 emissions arise primarily from combustion sources like heating or vehicles. Three specific sources have been identified, that correspond to the main emission sources from non-emissions intensive companies:

    - Low-temperature space and water heating e.g., heating for offices and warehouses.
    - Medium temperature process heating e.g., heating for industrial boilers.
    - Owned and operated vehicle fleets e.g., company cars or fleet of delivery vans.

Which companies can use the alignment based approach?

The approach can be used by any companies whose emissions are solely generated by these activities. Meaning that 100% of scope 1 emissions would have to be derived from these sources.

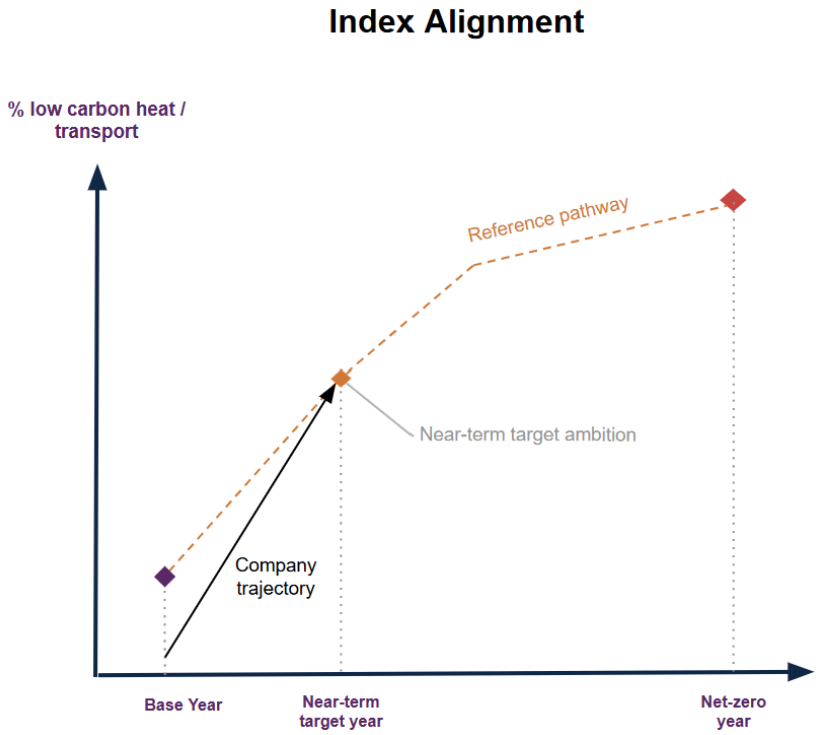
The approach requires companies to demonstrate credible climate ambition by ensuring growth is matched by the increasing share of low-carbon activities—a major gap in earlier scope 1 methodologies. Alignment-based approaches are especially valuable for smaller or fast-growing companies without long emissions histories but with expanding operations. They are also particularly valuable for climate-solution companies (e.g., clean-tech, renewable developers, low-carbon transport providers) that may increase activity while improving carbon intensity.

How are non-emissions metrics and targets still considered science-based?

Science-based targets rely on using benchmarks from pathways. These can be in emissions terms i.e., how quickly emissions should reduce by certain points in time, or they can be activity based, how quickly technologies or fuels should be switched. These indicators converge toward global 1.5°C pathway benchmarks (e.g., 95–100% low-carbon shares by 2050).

% of low-carbon space and water heating	% of low-carbon process heating	% of low-carbon road transport energy
Measures the share of low-temperature heat that is generated from low-carbon sources (or electrified)	Measures the share of medium-temperature heat that is generated from low-carbon sources (or electrified)	Measures the share of a vehicle fleet (passenger, light duty vehicles, and heavy goods vehicles) that are classified as low-carbon vehicles

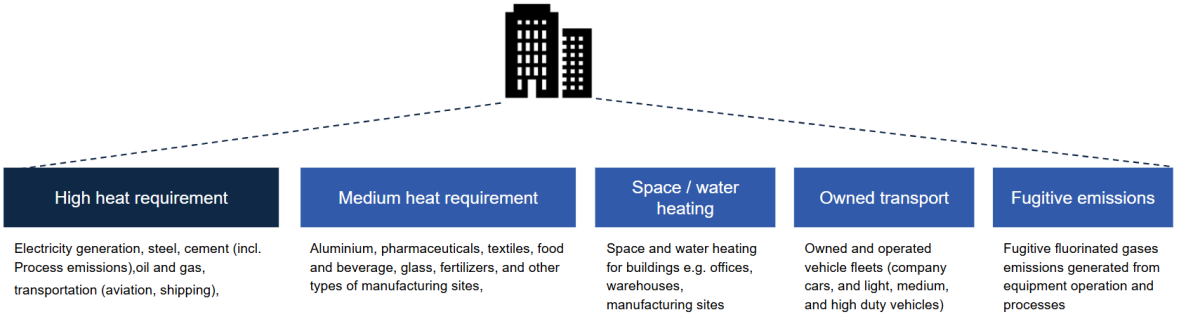
For scope 1 activities, both emissions and non-emissions based benchmarks are available in science-based pathways, and hence can be used to design science-based targets.



How to operationalize the new scope 1 framework

Different sectors can apply the methods in ways that reflect their operational and strategic realities. There are three steps a company must follow to establish their desired scope 1 targets:

1. **Map scope 1 activities**. The Standard Annex A lists all of the applicable scope 1 activities, covering all sectors. The SBTi's cross-sector pathway has been disaggregated to provide more granular, activity specific pathways.



2. **Select metrics and measure baseline performance of each activity**; Companies can select between emissions (absolute and intensity) and non-emissions based metrics for activities. Some activities have more than one applicable metric e.g., medium temperature heat. In these cases companies can select how they wish to measure performance.
3. **Establish targets using a suitable approach**: companies determine which of the approaches is most suitable for the type of activity portfolio. Companies must use one

approach to address all eligible activities i.e., either fixed emission reduction targets, alignment targets, or an asset replacement plan. Within each approach there is still a possibility to set multiple activity specific targets that can be aggregated into one headline target. Examples include:

- For a company with both emissions intensive and non-emissions activities, they could establish emissions intensity reduction targets using the SDA for some activities, and absolute reduction targets using linear contraction for other targets.
- For a company with just non-emissions intensive activities, they could establish only alignment based targets to address their heat and owned transport activities.

***Quote**: Each company can choose a method that matches its emissions reality—while maintaining accountability and comparability within a unified, science-based framework.*

What are the expected impacts and open questions?

The new scope 1 framework represents a strategic evolution in how corporate climate ambition is defined and measured. Scope 1 target-setting has matured—from a narrow focus on emissions reduction rates to a holistic blueprint for transition planning. It now enables more flexibility, offering different routes that reflect a diversity of the transition states of companies. It also moves from static metrics to introduce dynamic trajectory, where companies' decarbonisation trajectories account for asset lifecycles and technology readiness. Finally, the framework broadens its scope to better include smaller, innovative, and fast-growing companies that can now participate meaningfully in science-based target setting.

While the revised scope 1 framework provides a robust architecture for near-term target-setting, two of its innovations—the Alignment Metrics and the Asset Decarbonization Plan—remain at an early stage of practical validation. Both approaches broaden accessibility, but may also introduce new implementation challenges that will require further research, piloting, and guardrail development over the second consultation and pilot testing phase. Implementing the alignment-based (outcome) approach raises several open questions:

- **Comparability:** How will alignment-based progress be benchmarked against traditional emissions trajectories to ensure equivalent ambition?
  Boundary setting: To what extent must a company's scope 1 emissions originate from combustion activities (e.g., fuel use for heat, steam, or transport) for alignment-based metrics to be an appropriate measure of progress?
- **Verification:** How can improvements in the share of low-carbon heating or transport be validated consistently across geographies and data systems?

Strengthening Guardrails for the Asset Decarbonization Plan: The Asset Decarbonization Plan (ADP) provides flexibility to mirror real-world transition cycles, but that flexibility must not dilute near-term ambition. Ongoing research is exploring several critical guardrails:

- **Minimum near-term milestones:** Ensuring five-year reduction checkpoints drive tangible progress before 2030.
- **Technology-readiness thresholds:** Clarifying when low-carbon alternatives are considered commercially deployable (e.g., TRL 8–11).
- **Capital-turnover disclosure:** Requiring transparency on asset vintages, retirement schedules, and investment in low-carbon replacements.
- **Fossil-investment limits:** Confirming the prohibition of new unabated fossil assets beyond 2030.

Pilot testing with diverse company profiles—ranging from technology start-ups to service-sector leaders—will help determine whether these alignment metrics deliver a credible proxy for absolute emissions reductions. Additionally further testing with larger capital intensive companies aims to ensure that asset-based planning reinforces, rather than delays, decarbonization outcomes.

Insights from this testing will feed directly into the final Standard—ensuring that by the time CNZS V2 is finalized, each new method has been grounded in real-world application and empirical evidence.

We encourage all stakeholders to continue to engage in this process. Your expertise can help ensure the final Corporate Net-Zero Standard V2 provides clear, actionable guidance that accelerates corporate climate action and supports a high-integrity system essential for the net-zero transition. To stay informed on key developments and future engagement opportunities, sign up to our mailing list and follow us on social media.