SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

SBTi CORPORATE NET-ZERO STANDARD VERSION 2.0 – TARGET-SETTING METHODS DOCUMENTATION

Draft for Second Public Consultation

November 2025

ABOUT SBTi

The Science Based Targets initiative (SBTi) is a corporate climate action organization that enables companies and financial institutions worldwide to play their part in combating the climate crisis.

We develop standards, tools and guidance which allow companies to set greenhouse gas (GHG) emissions reductions targets in line with what is needed to keep global heating below catastrophic levels and reach net-zero by 2050 at latest.

The SBTi is incorporated as a UK charity, with a subsidiary SBTi Services Limited, which hosts our target validation services. Partner organizations who facilitated SBTi's growth and development are CDP, the United Nations Global Compact, the We Mean Business Coalition, the World Resources Institute (WRI), and the World Wide Fund for Nature (WWF).

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The SBTi reserves the right to revise this document according to a set revision schedule or as advisable to reflect the most recent emissions scenarios, regulatory, legal or scientific developments, and GHG accounting best practices.

This Standard is issued by the Science Based Targets initiative (SBTi). Any feedback on SBTi Standards can be submitted to info@sciencebasedtargets.org for consideration of the SBTi.

VERSION HISTORY

Version	Release date	Updates on earlier version
1.0 target-setting methods documentation	March 2025	
1.1 target-setting methods documentation	November 2025	Revised the method options based on the 2nd public consultation draft of the standard

CONTENTS

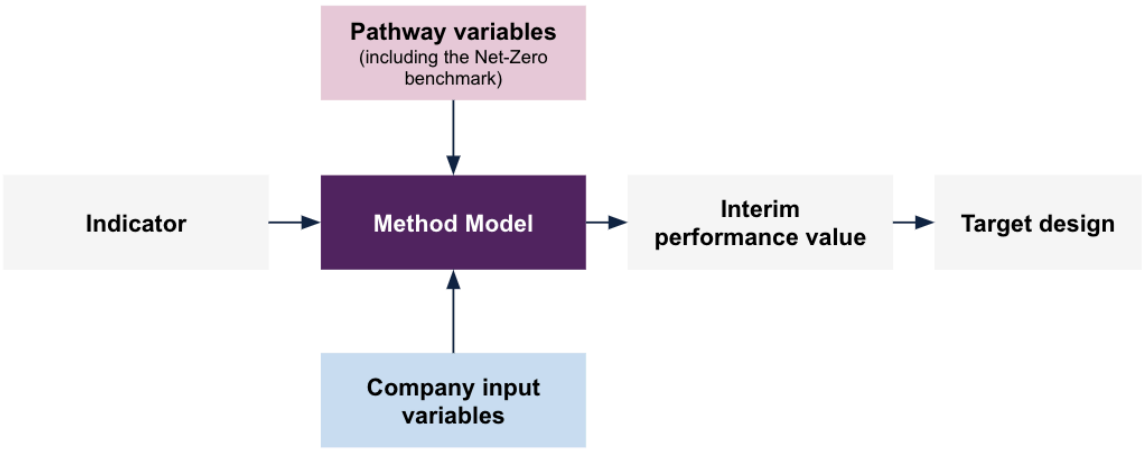
1. INTRODUCTION

This document provides detailed information about the target-setting methods used in the SBTi Corporate Net-Zero Standard Version 2.0, including a detailed explanation of each method and calculation algorithms. The SBTi Corporate Net-Zero Standard indicates which method or methods should be used to set targets for different indicators.This document may be revised independently from the main Corporate Net-Zero Standard.

Target-setting methods are mathematical formulae or algorithms used to calculate interim performance values that serve as the reference for entities to set targets. Target-setting methods are independent of but related to pathways and indicators. A target-setting method is applied to each target indicator to determine the required interim performance value to guide the formulation of science-based, measurable, and time-bound targets aligned with pathways that are consistent with limiting warming to 1.5°C with no or limited overshoot.

Pathways and company input variables enable the determination of the Net-Zero aligned benchmark values. The target-setting method can then be used to generate an interim performance value and subsequent target (Figure 1).

Figure 1. Elements of target design.



Each indicator listed in Annex E has a corresponding Net-Zero aligned benchmark and a target-setting method to derive interim performance values and subsequent targets. If the baseline performance has not yet reached the Net-Zero benchmark value, the target-setting method must be used to determine the targets required to close this performance gap. Table 1 characterizes the method(s) applied to each indicator.

Table 1. Target-setting method characterization.

Scope	Indicators	Target-Setting Methods	Target-Setting Method Description
Scope 1	Absolute GHG emissions (tCO2e)	Linear Contraction	The method determines near-term performance levels required on a linear path from the entity's baseline emissions level to Net-Zero emissions by 2050.
		Asset decarbonization plan	The asset decarbonization method does not generate a company level pathway ex-ante. It uses the company level budget (defined by a Linear Contraction or Sectoral decarbonization Approach) to determine the allowable cumulative emissions between the baseline and the net-zero year. The pace of reductions are defined by the company via an asset decarbonization plan
	Physical Emissions Intensity (tCO2e/output)	SDA	The method determines near-term performance levels required to converge at the sector average performance value (in emissions intensity) in the Net-Zero year.
	Non-emissions metrics (% low carbon heat and transport)	Index Alignment	The method determines interim performance values directly from the underlying pathways with targets defined as a linear path from baseline value to the pathway value in the target year.
Scope 2	Low carbon electricity share	Linear Alignment Approach	The method determines interim performance values directly from the underlying pathways with targets defined as a linear path from baseline value to the pathway value in the target year.
	Absolute GHG emissions (location-based)	Linear Contraction	The method determines near-term performance levels required so that baseline emissions are reduced at rates consistent with global 1.5°C low/no overshoot pathways.
	GHG emissions intensity (market-based)	Index Alignment Approach	The method determines interim performance values directly from the underlying pathways with targets defined as a linear path from baseline value to the pathway value in the target year.
Scope 3 (category 1-14)	Non-emissions metrics	Index alignment approach	The method determines interim performance values required to reach the Net-Zero aligned benchmark on a linear path from the baseline performance value.
	Absolute GHG emissions	Linear Contraction	The method determines near-term performance levels required on a linear path

			from the entity's baseline emissions level to Net-Zero emissions by 2050.

2. METHOD DOCUMENTATION

2.1 Scope 1 methods

The revised scope 1 proposal requires companies to set either an emission reduction target or a suite of alignment targets consistent with achieving net-zero emissions by 2050 or earlier. The framework now combines traditional emissions-based targets with a set of non-emissions metrics, offered as an alternative option rather than in addition to emissions targets. The metric and method applicability will depend on the portfolio of activities a company has within its operational boundaries.

Note 1: Methods are used to determine the minimum performance value in the next target cycle. In some cases, the method implicitly reflects and corrects for underperformance (or emissions overshoot) that occur between the base year and the target year. Underperformance of targets is also addressed via other requirements in the standard (XXX) which impose specific corrective mechanisms on the companies.

Note 2: All scope 1 target-setting methods use reference pathways which allocate residual emissions to specific hard-to-abate sectors. All other sectors are allocated zero residual emissions at Net-Zero. The complete list of reference pathways and their associated residual values can be found in the SBTi Pathways Appendix.

Method 1: Sectoral Decarbonization Approach

Method overview

The SDA method generates an emissions intensity pathway which is used to determine interim performance values for production of emissions-intensive commodities. The SDA is based on a physical intensity convergence approach, which requires the physical emissions intensity of production is reduced at a rate that ensures convergence with the sector average intensity in the Net-Zero year, given their project market share. The approach is described in detail in SBTi's SDA guidance (SBTi, 2015)[1]

Required company input variables

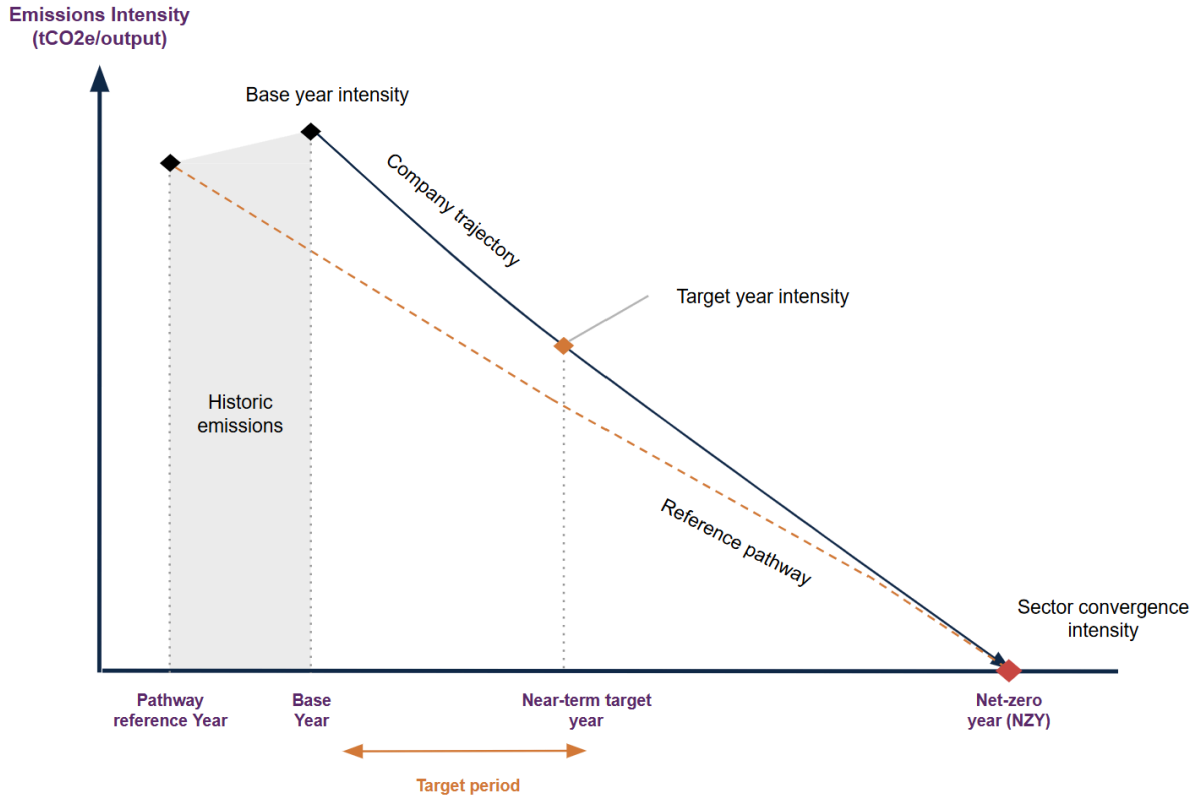
The methodology requires a number of company input variables as well as the selected reference pathway for the production activity. The company input variables required are:

1. Company emissions in the base year (tCO2e)
2. Company production in the base year (units of output e.g. tonnes of steel produced)
3. Projected company production in the target year (unit of output expected in the target year)

[1] Science Based Targets initiative (SBTi). (2015). *Sectoral Decarbonization Approach (SDA): A method for setting corporate emission reduction targets in line with climate science.* https://sciencebasedtargets.org/resources/files/Sectoral-Decarbonization-Approach-Report.pdf.

Figure 3 illustrates the SDA methods convergence approach.

Figure 2. Illustration of the Sectoral Decarbonization Approach (SDA).



Method Implementation

1. **Calculate the initial performance parameter:** the initial performance parameter (d) establishes the gap between the current physical emissions intensity (CI_{by}) of the procured commodity versus the Net-Zero aligned benchmark value (SI_{nzy})

   Equation 1. Calculating the initial performance parameter.

$$d = CI_{by} - SI_{nzy}$$

   Where:

   d = initial performance parameter
   CI_{by} = physical emissions intensity in the base year
   SI_{nzy} = physical emissions intensity in the net-zero year year (year of convergence)

2. **Calculate the sector decarbonization index:** The SDA method assumes that the emissions intensity for the commodities in scope will converge in 2050. This

convergence is represented by a sector decarbonization index (P) wherein the sector decarbonization is equal to 1 in the base year and 0 in 2050. This index is calculated by dividing the difference in the Sect or emissions intensities (SI_y - SI_{nzy}) by the difference in the company (SI_y - SI_{nzy})

Equation 2. Calculating the sector decarbonization index.

$$P_y = \frac{SI_y - SI_{nzy}}{SI_{by} - SI_{nzy}}$$

Where:

P_y = sector decarbonization index
SI_{by} = physical emissions intensity in the base year
SI_y = physical emissions intensity in the near-term target year
SI_{nzy} = physical emissions intensity in the net-zero year year (year of convergence)

3. **Calculate the market share parameter:** the expected future production levels are combined with the sector's expected activity levels from the underlying reference scenario to calculate the company's market share parameter for any given year following Equation 3. The market share parameter represents how the company's market share in the base year (CA_{by}/SA_{by}) has changed compared to its projected share in the target year (CA_y/SA_y).

Equation 3. Calculating the market share parameter.

$$M_y = \frac{\frac{CA_{by}}{SA_{by}}}{\frac{CA_y}{SA_y}}$$

Where:

M_y = market share parameter
CA_{by} = company production activity in the base year
SA_{by} = sector production activity in the base year
CA_y = company production activity in the target year
SA_y = sector production activity in the target year

4. **Calculate the target year intensity of procured commodity**: combining the company's initial performance parameter with its market share and the sectoral decarbonization index for year *y* results in an Equation 4 that provides the company's intensity target for any year *y* (CIy)

Equation 4. Calculating the target year intensity of the procured product.

$$CI_y = \left(d \times P_y \times M_y \right) + SI_{nzy}$$

Where:

CI_y = physical emissions intensity in the target year
d = initial performance parameter
P_y = sector decarbonization index
M_y = market share parameter
SI_{nzy} = physical emissions intensity in the net-zero year year (year of convergence)

Mitigation Option 2: Linear Contraction

Method overview

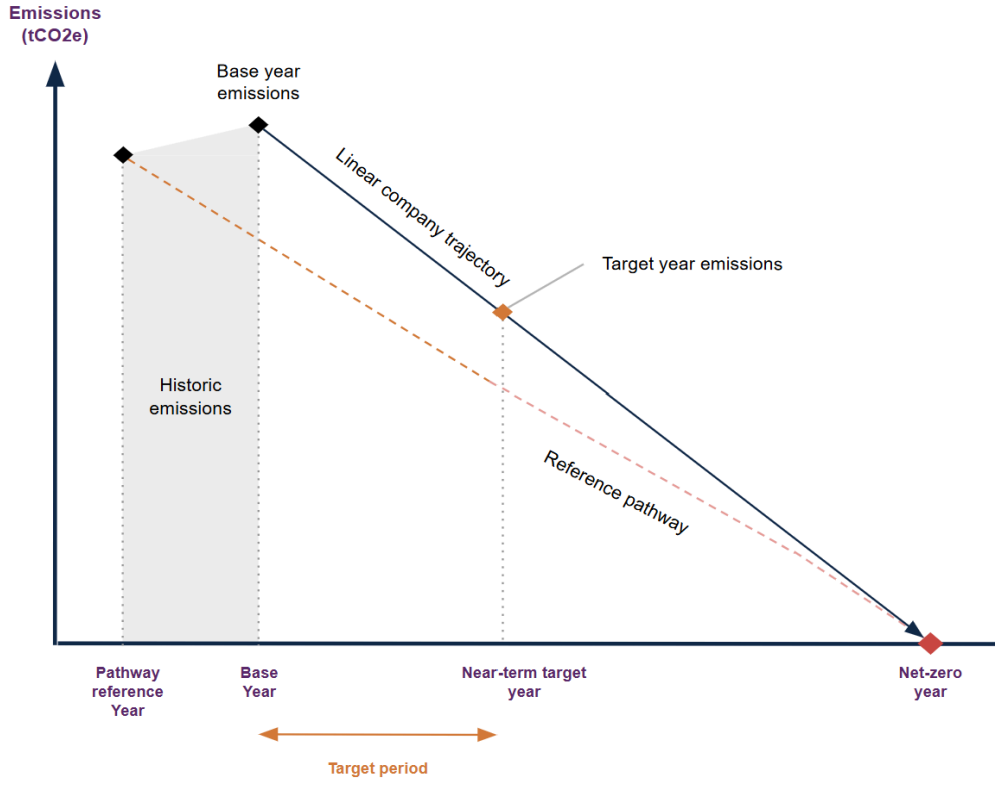
The Linear Contraction approach produces a linear absolute emissions reduction pathway based on the gap that remains between the company's actual base year emissions and the required net-zero residual value. This reduction curve is derived from an entity's base year emissions regardless of past cumulative emissions between the reference year and the base year. The method uses a grandfathering allocation principle which implies that the larger a company's emissions in the base year, the larger its share of emissions in a desired target year.

The Linear Contraction approach does not seek to ensure that cumulative emissions between the base year and the target year stay within the required carbon budget of the cross-sector pathway, or to correct any historic emissions overshoot before the base year. The introduction of a Linear Contraction approach means that any entity can establish targets to reduce emissions to Net-Zero by 2050, regardless of its past or current emissions performance. Figure 3 presents an illustrative example of how the method works, introducing the reference year (start year of the pathway), the base year, and the target year.

Required company input variables

The methodology requires a number of company input variables as well as the selected reference pathway for the production activity. Only the company emissions in the base year (tCO2e) and the desired net-zero year are required as input variables

Figure 3. Illustration of the Linear Contraction approach.



Method Implementation

1. **Determine the linear reduction rate**: linear contraction assumes a linear trajectory from the baseline emissions to net-zero by 2050. The resulting reduction is calculated as in Equation 5

   Equation 5. Calculating the linear annual reduction rate

$$LAR = \frac{1}{nzy - by}$$

   Where:

   LAR = linear annual reduction rate between the base year and the net-zero year
   nzy = net-zero year (2050 or earlier)
   by = company base year

2. **Calculate the interim reduction rate (target ambition)**: the interim reduction is determined by multiplying the LAR rate by the time period of the next target cycle (Equation 6).

   Equation 6. Calculating the near-term ambition

$$CE_{ty} = CE_{by} \times LAR \times (ty - by)$$

   Where:

   CE_{ty} = absolute emissions value in the target year
   CE_{by} = absolute emissions value in the base year
   LAR = linear annual reduction rate between the base year and the net-zero year
   ty = near-term target year
   by = company base year

Method 3: Asset Decarbonization Plan

Method overview

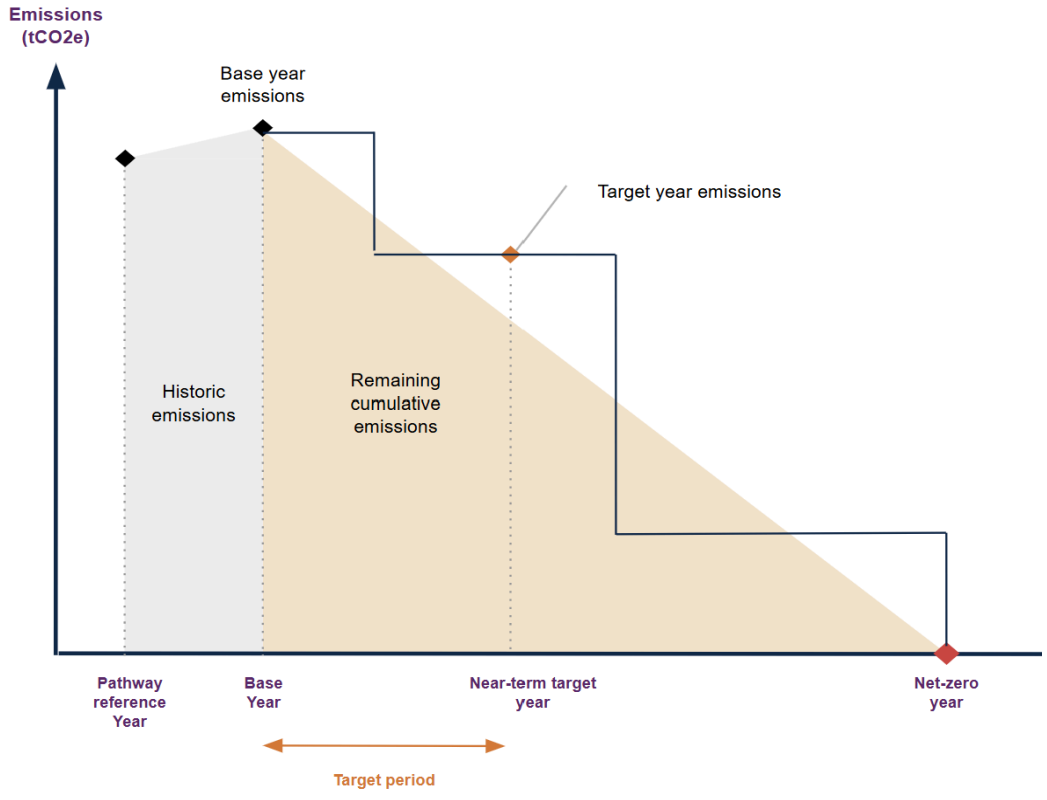
Existing methods such as linear contraction and SDA prescribe fixed reduction pathways between the base year and the near-term target year. Yet in practice, emissions from capital-intensive assets decline in stepwise patterns, as assets are retired, replaced, or retrofitted in discrete cycles rather than through continuous change. To address this, the **asset decarbonization method** provides greater flexibility in the pace of decarbonization while ensuring that companies remain within their company-level long-term budget. The asset decarbonization method combines a top-down budget allocation with a bottom up implementation substantiated by capital stock turnover and fuel switching efforts. The associated asset replacement plan must ensure that the company decarbonises at a pace consistent with its long-term budget from the base year through the net-zero target year.

Required company input variables

Based on the above equations, the company shall provide input data as follows:

1. Company emissions in the base year (tCO2e)
2. Company production in the base year (units of output e.g. tonnes of steel produced), when relevant
3. Projected company production in the target year (unit of output expected in the target year), when relevant

Figure 4. Illustration of the asset decarbonization approach.



Method implementation

The asset deacarbonisation plan is implemented using five steps.

1. **Determine emissions from relevant activities:** Quantify absolute emissions for each applicable scope 1 activity in the base year.
2. **Establish cumulative emissions budget:** the budget covers the period from the base year to the net-zero year. The cumulative emissions budget is derived using either the Linear Contraction and/or Sectoral Decarbonization Approach (SDA) pathway(s), depending on the types of the company's scope 1 activities. If the company has multiple different activities, an aggregate emissions budget derived from the SDA and the Linear Contraction can be established.

   For activities with sector-specific pathways, the cumulative emissions budget is derived using the SDA method. The SBT SDA tools provide the absolute emissions pathways which the company can use to determine their cumulative emissions between the base year and the net-zero year.

   For activities without sector-specific pathways, the cumulative budget allocated to the company is defined using the linear contraction approach (Equation 7).

   Equation 7. Calculating the cumulative emissions budget for the linear contraction approach

$$B = CE_{by} \times \frac{nzy - by}{2}$$

   Where:

   B = cumulative emissions budget between the base year and the net-zero year
   CE_{by} = absolute emissions value in the base year
   nzy = net-zero target year
   by = company base year

3. **Asset decarbonization strategy:** Develop a plan to abate, replace or phase-out the applicable assets that is consistent with the carbon budget. The asset decarbonization strategy shall be disclosed during Initial Validation, and include the measures, timelines, and investment plans to decarbonize assets, including

efficiency measures, fuel-switching, and asset replacement, phase-out, or abatement plans.[2]]

4. **Cumulative emissions assessment:** Demonstrate how the intended measures maintain cumulative emissions within the company-specific carbon budget.

5. **Five-year milestones:** Companies shall estimate the emission reductions resulting from the implementation of their asset decarbonization plan based on five-year milestones.

Method 4: Index Alignment: low carbon heat/ transport

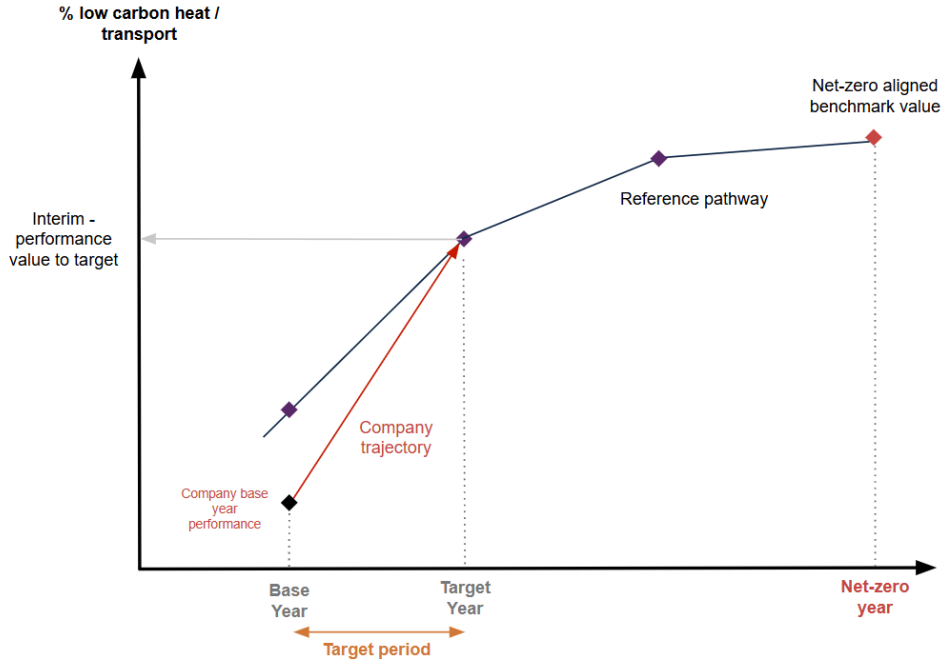
Method overview

The Index Alignment Approach uses pathways with pre-defined interim benchmark values for eligible target years that each company must achieve. The method applies a sector convergence principle that requires all companies to converge to the sector benchmark value in the desired target year, which is independent of the company's starting point.

Required company input variables

The methodology requires company input variables as well as the selected reference pathway for the production activity. The company input variables required are only the performance values in the base year.

Figure 5. Illustration of the Index Alignment approach for scope 1 activity based metrics.



[2] The SBTi will explore the guardrails for asset replacement through further consultation, for example rules for asset replacement beyond a cut-off date, limits on investment prior to this date, and data requirements related to age of capital.

Method implementation

The method is implemented simply as targeting the value in the reference pathway. Companies who are already at or exceeding the performance value in the target year, must at least maintain this over the target cycle.

2.2 Scope 2 Methods

Linear Alignment Approach: Zero Carbon Electricity Procurement

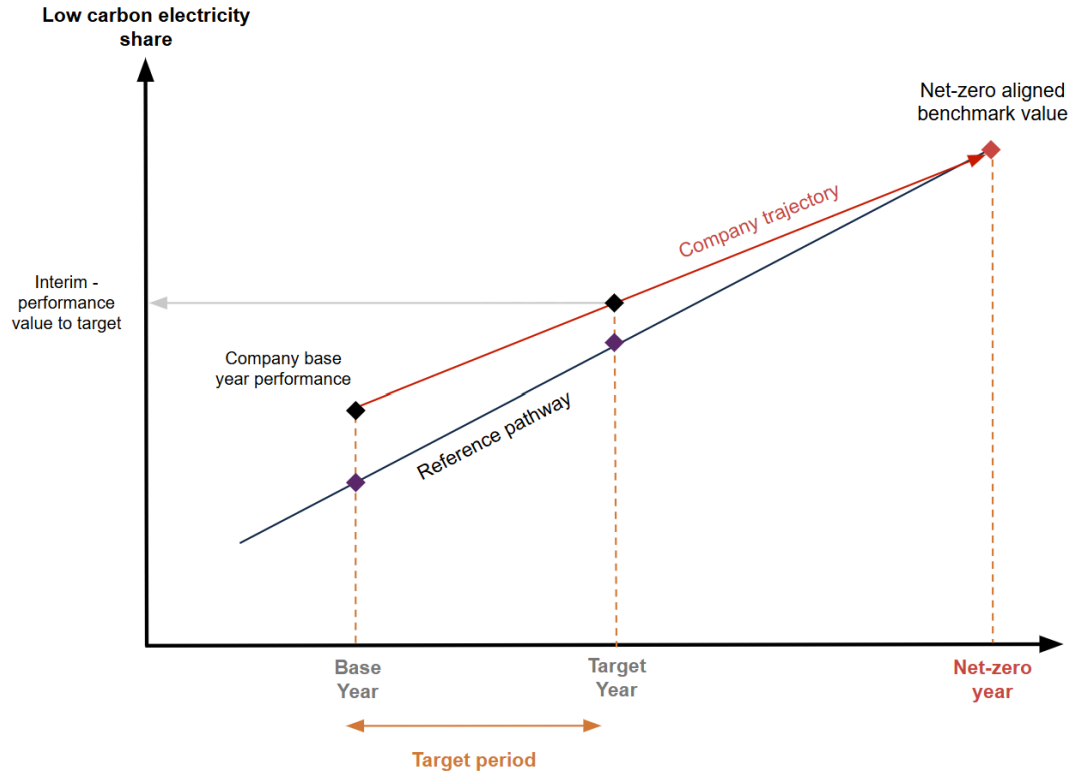
Method overview

The Linear Alignment Approach uses pathways with pre-defined interim and net-zero benchmark values for eligible target years. The method applies a sector convergence principle that requires all companies to converge on a linear path to the long-term net-zero benchmark value. Interim target values are then defined on this linear path for each interim target year.

Required company input variables

The methodology requires company input variables as well as the selected reference pathway for the production activity. The company input variables required are only the performance values in the base year.

Figure 6. Illustration of the Linear Alignment approach for scope 2 low carbon electricity procurement.



Method Implementation

1. **Determine the linear reduction rate**: linear alignment assumes a linear trajectory from the baseline performance value to net-zero performance by 2040. The resulting reduction is calculated as in Equation 8

   Equation 8. Calculating the linear annual reduction rate

$$LAR = \frac{1}{nzy - by}$$

   Where:

   LAR = linear annual reduction rate between the base year and the net-zero year
   nzy = net-zero year (2040 or earlier)
   by = company base year

2. **Calculate the interim reduction rate (target ambition)**: the interim reduction is determined by multiplying the LAR rate by the time period of the next target cycle (Equation 9).

   Equation 9. Calculating the near-term ambition

$$LCE_{ty} = LCE_{by} \times LAR \times (ty - by)$$

   Where:

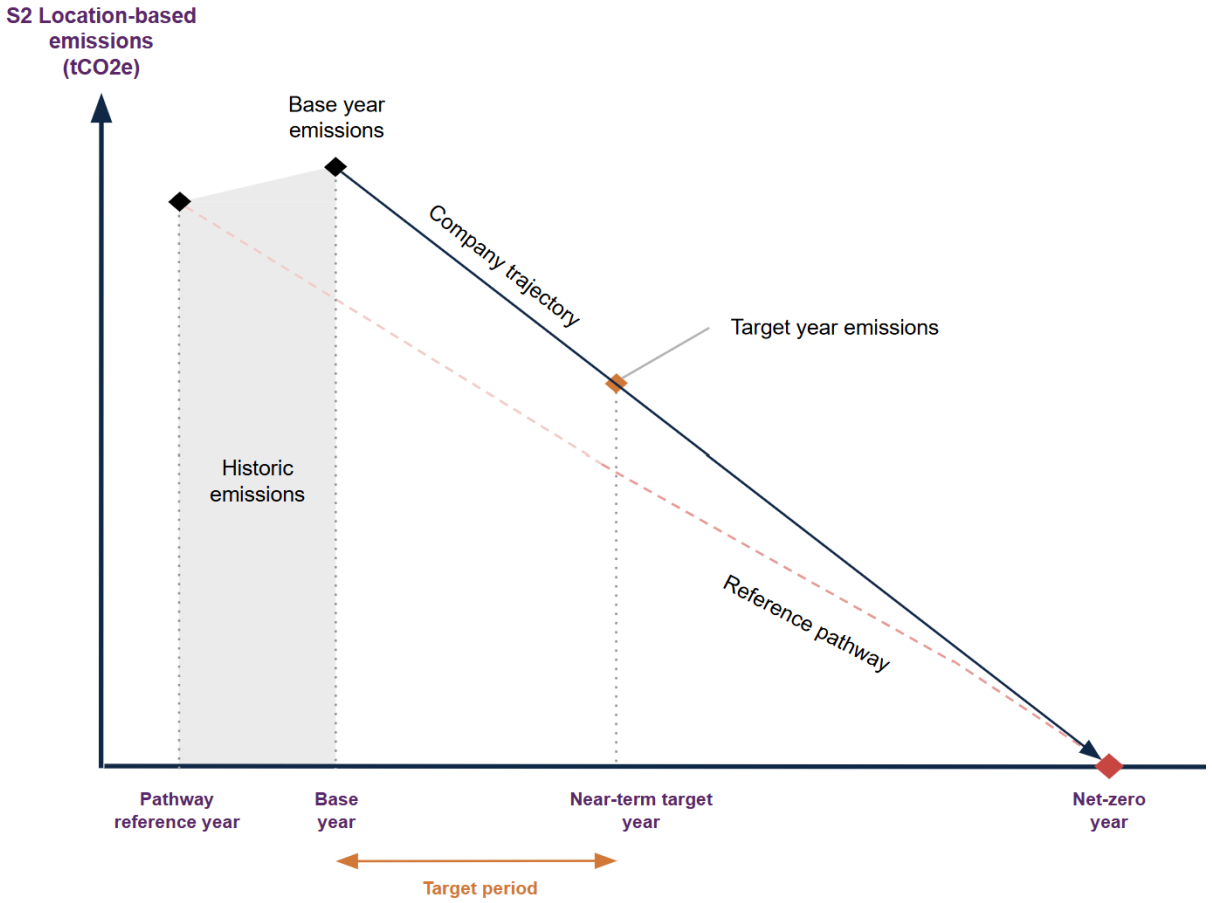
   LCE_{ty} = Low carbon electricity value in the target year
   LCE_{by} = Low carbon electricity value in the base year
   LAR = linear annual reduction rate between the base year and the net-zero year
   ty = near-term target year
   by = company base year

Linear Contraction for scope 2 location based emissions

Method overview

The linear contraction method is described in detail in Section 2.1. It is applied to scope 2 location based emissions in the same manner as when applied to scope 1 emissions. The net-zero year must be 2040 or earlier to reach zero emissions.

Figure 7. Illustration of the Linear Contraction approach for scope 2 location based emissions.



Index Alignment for scope 2 market based emissions

Method overview

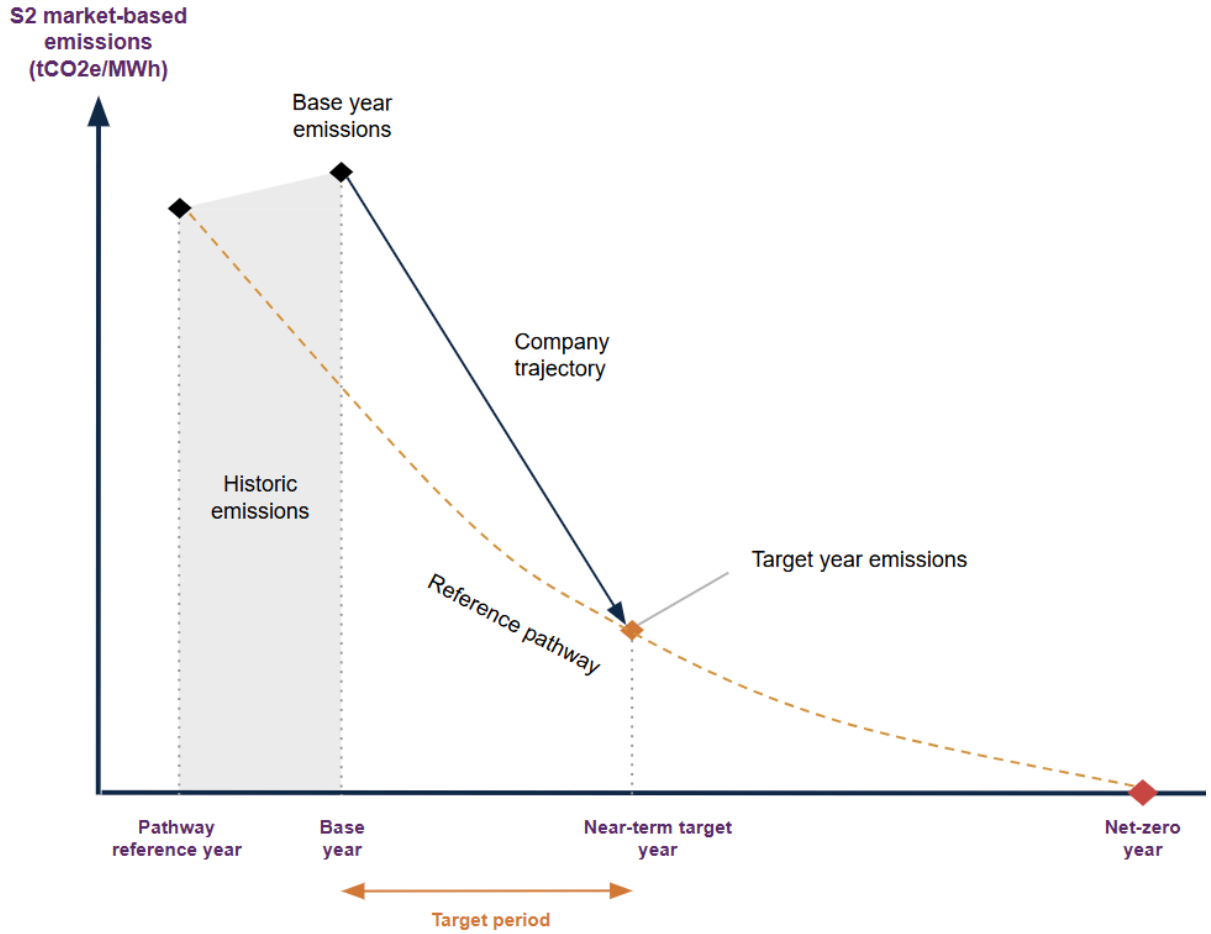
The index alignment method is described in detail in Section 2.1. It is applied to scope 2 market based emissions in the same manner as when applied to scope 1 alignment metrics for low carbon heat and transport. The net-zero year must be 2040 or earlier to reach zero emissions.

Required company input variables

The methodology requires company input variables as well as the selected reference

pathway for the production activity. The company input variables required are only the performance values in the base year.

Figure 8. Illustration of the Index alignment approach for scope 2 market based emissions.



Method implementation

The method is implemented simply as targeting the value in the reference pathway. Companies who are already at or exceeding the performance value in the target year, must at least maintain this over the target cycle.

2.3 Scope 3 methods

Value Chain Index Alignment

Method overview

The index alignment method is described in detail in Section 2.1. It is applied to scope 3 alignment metrics in the same manner as when applied to scope 1 alignment metrics for low carbon heat and transport.

Required company input variables

The methodology requires company input variables as well as the selected reference pathway for the production activity. The company input variables required are only the performance values in the base year.

Method implementation

The method is implemented simply as targeting the value in the reference pathway. Companies who are already at or exceeding the performance value in the target year, must at least maintain this over the target cycle.

Table 2. Overview of metrics and benchmarks for scope 3 index alignment.

Metric Type	Unit	Interim benchmarks
Average Emissions Intensity of value chain commodities and transport	tCO2e/ t commodity; tCO2e/ t.km	See reference intensity benchmarks for the relevant commodity
Volume Share Alignment of value chain commodities and transport	% volume meeting sector intensity benchmarks	Benchmarks defined in Standard Annex
Supplier Share Alignment of value chain commodities and transport	% volume delivered by aligned suppliers	Benchmarks defined in Standard Annex
Share of ZEV (volume share of transportation delivered via zero emission vehicles)	% volume delivered by aligned ZEVs	Benchmarks defined in Standard Annex
Supplier Share Alignment (spend on suppliers with aligned status)	% $ procurement spend (tier 1)	Benchmarks defined in Standard Annex
Supplier Low-Carbon Energy alignment (volume of supplier energy usage covered by low-carbon energy)	% MWh covered	Benchmarks defined in Standard Annex
Customer Share Alignment	% annual revenue from	Benchmarks defined in

(revenue from customers with aligned status)	aligned customers	Standard Annex
Product Share Alignment (sold units that meet best-practice energy efficiency standards)	% annual revenue or unit sales	Benchmarks defined in Standard Annex
Customer Electricity Alignment (volume of customer electricity usage covered by low-carbon electricity)	% MWh covered	Benchmarks defined in Standard Annex
Product Circularity (sold units that with circular end-of-life options)	% annual revenue or unit sales	Benchmarks defined in Standard Annex
Customer Share Alignment (revenue from customers with aligned status)	% annual revenue to aligned customers	Benchmarks defined in Standard Annex
Customer Energy Alignment (volume of customer energy usage matched with low-carbon energy)	% MWh covered	Benchmarks defined in Standard Annex

Value Chain Linear Alignment

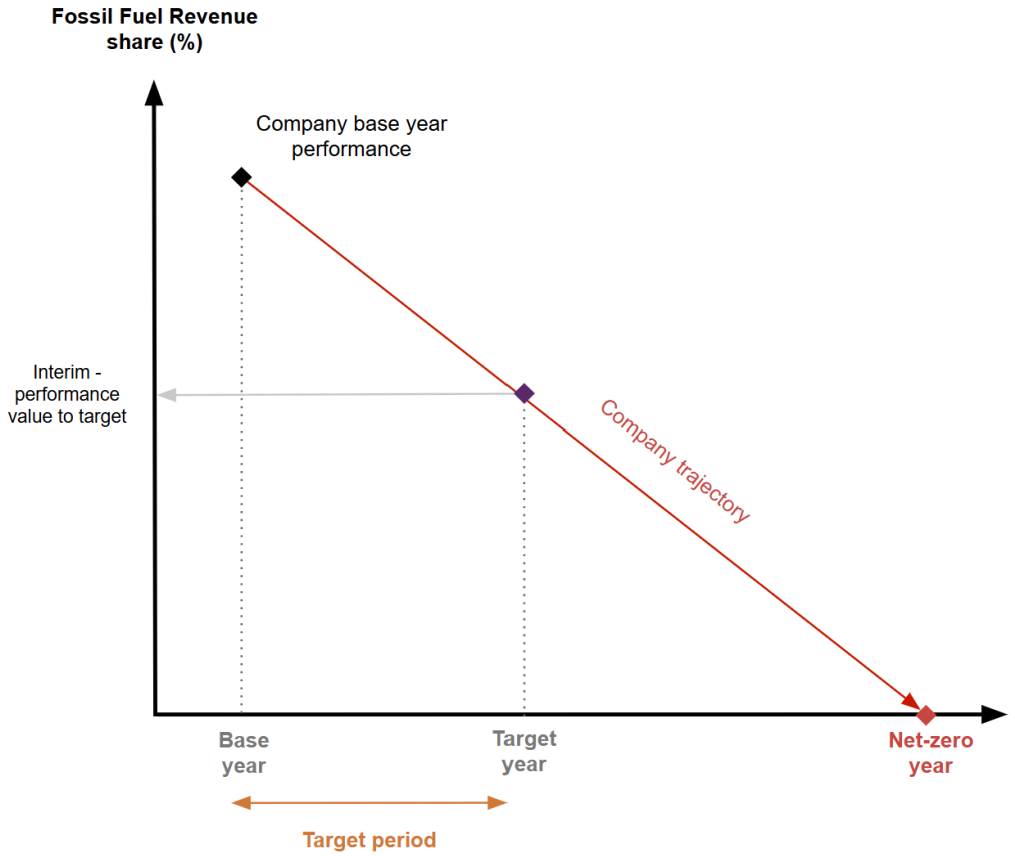
Method overview

The Linear Alignment Approach uses pathways with pre-defined interim and net-zero benchmark values for eligible target years. The method applies a sector convergence principle that requires all companies to converge on a linear path to the long-term net-zero benchmark value. Interim target values are then defined on this linear path for each interim target year.

Required company input variables

The methodology requires company input variables as well as the selected reference pathway for the production activity. The company input variables required are only the performance values in the base year.

Figure 9. Illustration of the linear alignment approach for scope 3 fossil fuel revenue share phaseout.



Method Implementation

3. **Determine the linear reduction rate**: linear alignment assumes a linear trajectory from the baseline performance value zero by 2050 or earlier. The resulting reduction is calculated as in Equation 10

Equation 10. Calculating the linear annual reduction rate

$$LAR = \frac{1}{nzy - by}$$

Where:

LAR = linear annual reduction rate between the base year and the net-zero year

nzy = net-zero year (2050 or earlier)
by = company base year

4. **Calculate the interim reduction rate (target ambition)**: the interim reduction is determined by multiplying the LAR rate by the time period of the next target cycle (Equation 11).

Equation 11. Calculating the near-term ambition

$$\text{FF Revenue}_{ty} = \text{FF Revenue}_{by} \times \text{LAR} \times (ty - by)$$

Where:

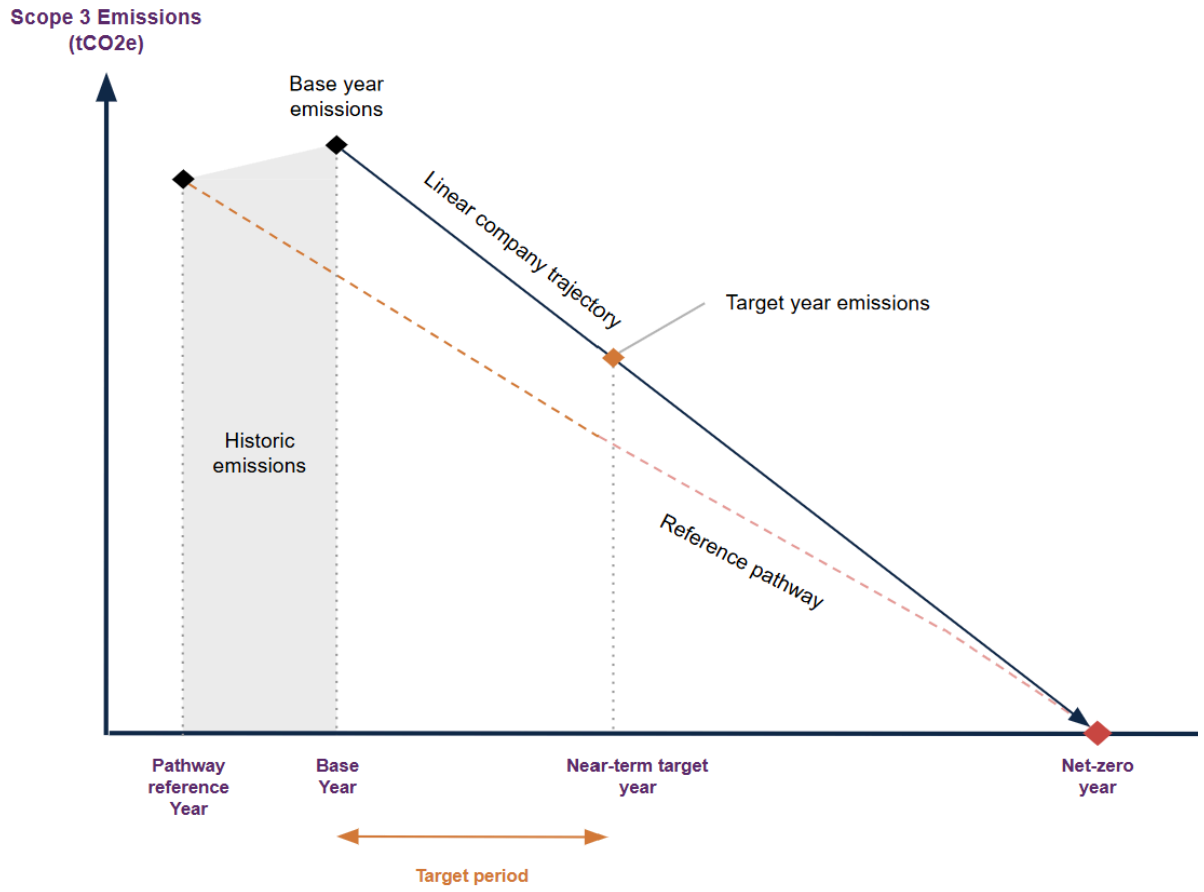
FF Revenue$_{ty}$ = Fossil Fuel revenue share in the target year
FF Revenue$_{by}$ = Fossil Fuel revenue share in the base year
LAR = linear annual reduction rate between the base year and the net-zero year
ty = near-term target year
by = company base year

Value Chain Linear Contraction

Method overview

The linear contraction method is described in detail in Section 2.1. It is applied to scope 3 absolute emissions in the same manner as when applied to scope 1 emissions. The net-zero year must be 2050 or earlier to reach net-zero emissions.

Figure 10. Illustration of the linear contraction approach for scope 3 absolute emissions.



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