



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

SBTi CORPORATE NET-ZERO STANDARD V1.3.1 METHOD APPENDIX

Version 1.0

April 2026

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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VERSION HISTORY

| Version | Change/update description | Release date | Effective dates |
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1. METHOD ADJUSTMENT DESCRIPTION

The ACA used in CNZS v1.3 included an adjustment for targets with base years after 2020 which resulted in reduction rates that far exceeded levels consistent with reaching net zero emissions by 2050, or technical feasibility. The adjustment presented a challenge for companies setting targets with recent base years, which led to annual reduction rates of 8.4% for targets with a 2025 base year, 10.5% with a 2026 base year, etc. CNZ v1.3.1 implements a new dynamic rate adjustment to the ACA, which resolves the issue of near-term reduction rates described above, while ensuring that near-term targets remain consistent with net-zero ambition.

The updated dynamic rate adjustment maintains the concept of a linear annual reduction rate expressed as a percentage reduction per year, but modifies how this rate is calculated. The reduction rate is adjusted dynamically according to the time remaining between the company's base year and the pathway's net-zero year (or the company's own net-zero target year, if earlier). The reduction rate increases as the timeframe to the net-zero year decreases, i.e., with later base years and earlier net-zero target years. This ensures that the rate reflects the time available to achieve the same overall reduction magnitude required by the reference pathway. Minimum near-term reduction rates are imposed on each target type to ensure that minimum ambition is maintained.

The dynamic rate adjustment results in less steep immediate reductions over the 2025 to 2030 target period compared to the current version of the ACA, as it removes the post-2020 base year adjustment and spreads out emissions reductions over a longer time period. To avoid higher cumulative emissions over time, a calculation adjustment is applied that assumes scope 2 emissions are reduced to zero by 2040. This follows the assumption observed in net-zero-emission pathways that the global power system decarbonizes by 2040, thereby acting as a key enabler of the transition to net-zero.

Although reduction rates differ on the basis of several variables, Table 1 provides a selection of representative reference reduction rates across different target types.

Table 1. Linear annual reduction rate reference values

| Target type | Linear Annual Reduction Rate (LARR) | | |
|---|-------------------------------------|------------------------------|------------------------------|
| | BY 2024 | BY 2025 | BY 2026 |
| Combined Scope 1+2 50:50 S1 to S2 emissions ratio | 4.86% | 5.13% | 5.45% |
| Combined Scope 1+2 100:0 S1 to S2 emissions ratio | 3.46% (corrected to 4.2%) | 3.60% (corrected to 4.2%) | 3.75% (corrected to 4.2%) |
| Combined Scope 1+2 0:100 S1 to S2 emissions ratio | 6.25% | 6.67% | 7.14% |
| Scope 3 1.5C | 3.46% | 3.60% | 3.75% |

| | | | |
|----------------|---------------------|---------------------|---------------------|
| | (corrected to 4.2%) | (corrected to 4.2%) | (corrected to 4.2%) |
| Scope 3 WB2C | 2.88% | 3.00% | 3.13% |
| FLAG | 3.03% | 3.03% | 3.03% |

2. UPDATED METHOD EQUATIONS

Across all target types, the basic steps for calculating reduction rates and target ambition under the dynamic rate adjustment are as follows:

1. Define initial dynamic linear annual reduction rate (dLARR) (% per year).
2. Calculate initial target ambition (% reduction) and emissions (t CO₂e) in terms of reduction from most recent year emissions.
3. Express the target ambition in terms of the reduction from base year to target year.
4. Define dLARR (% per year) from base year to target year.
5. Calculated adjusted target ambition (% reduction) and emissions (t CO₂e) in terms of reduction from base year emissions.
6. Calculated adjusted dLARR (% per year) from most recent year to target year, on the basis of adjusted target ambition.
7. Calculate target year emissions (tCO₂e).

The details of Step 1 above vary depending on target type, e.g., Step 1 for Combined Scope 1+2 targets includes additional calculation substeps not required in Step 1 for Scope 3 targets. Additionally, some key parameters used in the equations documented in this annex differ depending on target type. These parameters are listed and defined in Table 2.

Table 2. Key target calculation parameters.

| Target type | Parameter | Definition | Value |
|-----------------|------------------------|--------------------------------------|-------|
| Scope 1 | NZA _{S1} | Scope 1 net-zero ambition | 90% |
| | NZY _{S1} | Scope 1 net-zero year | 2050 |
| | LARR _{min} | Minimum linear annual reduction rate | 4.2% |
| Scope 2 | NZA _{S2} | Scope 2 net-zero ambition | 100% |
| | NZY _{S2} | Scope 2 net-zero year | 2040 |
| | LARR _{min} | Minimum linear annual reduction rate | 4.2% |
| Scope 3 - 1.5°C | NZA _{S3 1.5C} | Scope 3 1.5°C net-zero ambition | 90% |
| | NZY _{S3 1.5C} | Scope 3 1.5°C net-zero year | 2050 |

| | | | |
|----------------|------------------------|--------------------------------------|-------|
| | LARR _{min} | Minimum linear annual reduction rate | 4.2% |
| Scope 3 - WB2C | NZA _{S3 WB2C} | Scope 3 WB2C net-zero ambition | 75% |
| | NZY _{S3 WB2C} | Scope 3 WB2C net-zero year | NA |
| | LARR _{min} | Minimum linear annual reduction rate | 2.5% |
| FLAG | NZA _{FLAG} | FLAG net-zero ambition | 72% |
| | NZY _{FLAG} | FLAG net-zero year | 2050 |
| | LARR _{min} | Minimum linear annual reduction rate | 3.03% |

The equations documented below are presented in a generic form that can be applied to all of the target types identified in Table 2.

Equation 1. Initial dLARR: The initial rate of reduction from the most recent year to the net-zero aligned benchmark.

$$dLARR_{mry \rightarrow ty} = \frac{NZA}{NZY - MRY}$$

Where:

dLARR_{mry → ty} = Initial dynamic linear annual reduction rate, most recent year to target year (% per year).

NZA = Pathway net-zero ambition in terms of absolute reduction from the pathway start/reference year to the net-zero year (%).

NZY = Net-zero year.

MRY = Most recent year.

Equation 2. Initial target ambition, most recent year to target year: The initial target in terms of absolute emissions reduction from the most recent year to the target year.

$$TA_i = dLARR_{mry \rightarrow ty} \times (TY - MRY)$$

Where:

- TA_i = Initial target ambition (%).
- dLARR_{mry → ty} = Initial dynamic linear annual reduction rate, most recent year to target year (% per year).
- TY = Target year.
- MRY = Most recent year.

Equation 3. Initial target year emissions: The initial target in terms of absolute emissions in the target year.

$$TE_i = E_{mry} \times (1 - TA_i)$$

Where:

- TE_i = Initial target year emissions (t CO2e).
- E_{mry} = Most recent year emissions (t CO2e).
- TA_i = Initial target ambition (%).

Equation 4. Converted target ambition, base year to target year: The initial target, derived in Equations 1-3, expressed in terms of absolute emissions reduction from the base year to the target year.

$$TA_c = \frac{(E_{by} - TE_i)}{E_{by}}$$

Where:

- TA_c = Converted target ambition (%).
- E_{by} = Base year emissions (t CO2e).
- TE_i = Initial target year emissions (t CO2e).

Equation 5. dLARR, base year to target year: The rate of reduction from the base year to the target year. A minimum rate of reduction is applied, variable depending on the target type (see Table 1).

$$dLARR_{by \rightarrow ty} = \text{Max} \left(LARR_{min}, \frac{TA_c}{TY - BY} \right)$$

Where:

- dLARR_{by → ty} = dLARR, base year to target year (% per year).
- LARR_{min} = Minimum linear annual reduction rate, varies by target type (% per year).
- TA_c = Converted target ambition (%).
- TY = Target year.
- BY = Base year.

Equation 6. Adjusted target ambition, base year to target year: The adjusted target in terms of absolute emissions reduction from the base year to the target year. This equation yields the final near-term target ambition that companies will report publicly.

$$TA_{adj} = dLARR_{by \rightarrow ty} \times (TY - BY)$$

Where:

- TA_{adj} = Adjusted target ambition, base year to target year (%).
- dLARR_{by → ty} = dLARR, base year to target year (% per year).
- TY = Target year.
- BY = Base year.

Equation 7. Adjusted dLARR, most recent year to target year: The adjusted target ambition, expressed in terms of the annual rate of reduction from the most recent year to the target year. This is provided for informative purposes only, and does not affect the target ambition derived in Equations 1-6.

$$dLARR_{mry \rightarrow ty, adj} = \frac{TA_{adj}}{TY - MRY}$$

Where:

- $dLARR_{mry \rightarrow ty, adj}$ = Adjusted dLARR, most recent year to target year (%)
- TA_{adj} = Adjusted target ambition, base year to target year (%)
- TY = Target year
- MRY = Most recent year

Equation 8. Target year emissions: The target value of absolute emissions in the target year, calculated by applying the base year to target year dLARR (see Equation 5) across the target timeframe. This equation may be also used to calculate the emissions value for any year between the base year and the target year.

$$E_{ty} = E_{by} - (E_{by} \times dLARR_{by \rightarrow ty} \times (TY - BY))$$

Where:

- E_{ty} = Target year emissions (tCO₂e)
- E_{by} = Base year emissions (tCO₂e)
- $dLARR_{by \rightarrow ty}$ = dLARR, base year to target year (% per year)
- TY = Target year
- BY = Base year



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