SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Demonstrating Net Zero

The Next Generation of Science-Based Targets for Industry Decarbonization

eceee summer study presentation

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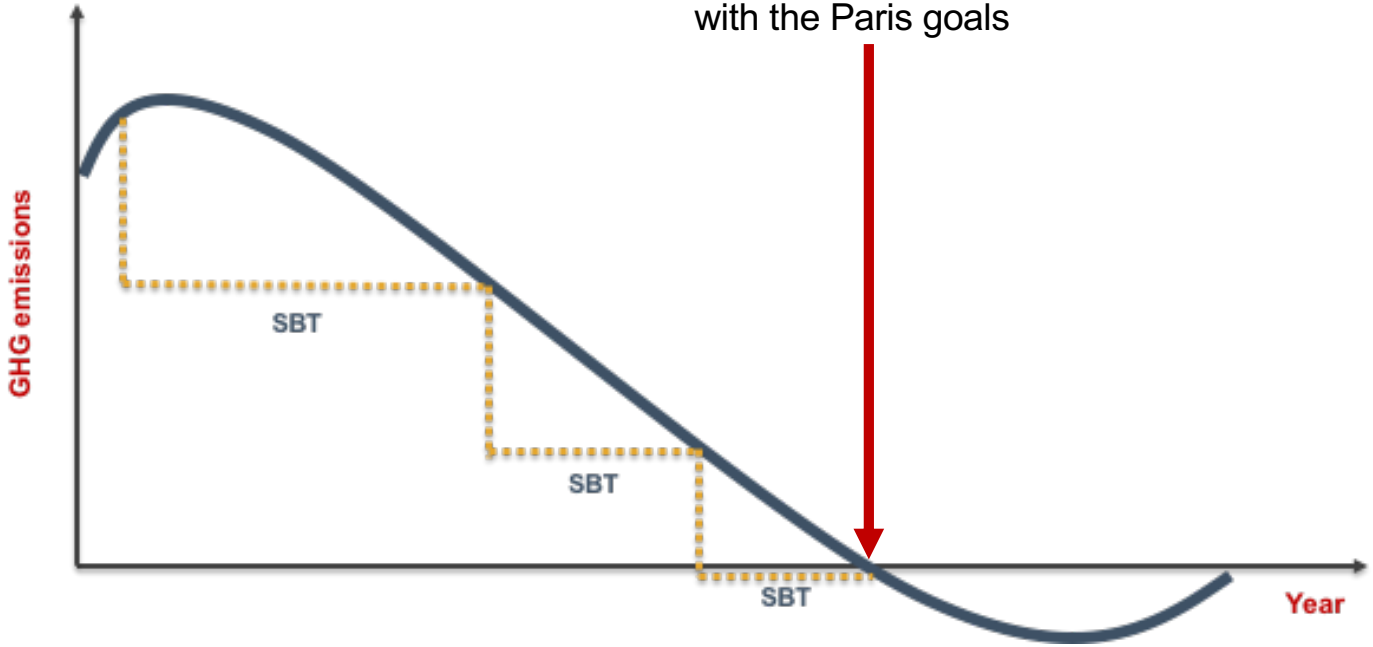
What are Science-Based Targets?

Long-term goal: to reach net-zero value-chain emissions within a timeframe *and* carbon budget that are consistent with the Paris goals



"SBTs are to businesses, what NDCs are to countries."

Companies and financial institutions are setting SBTs

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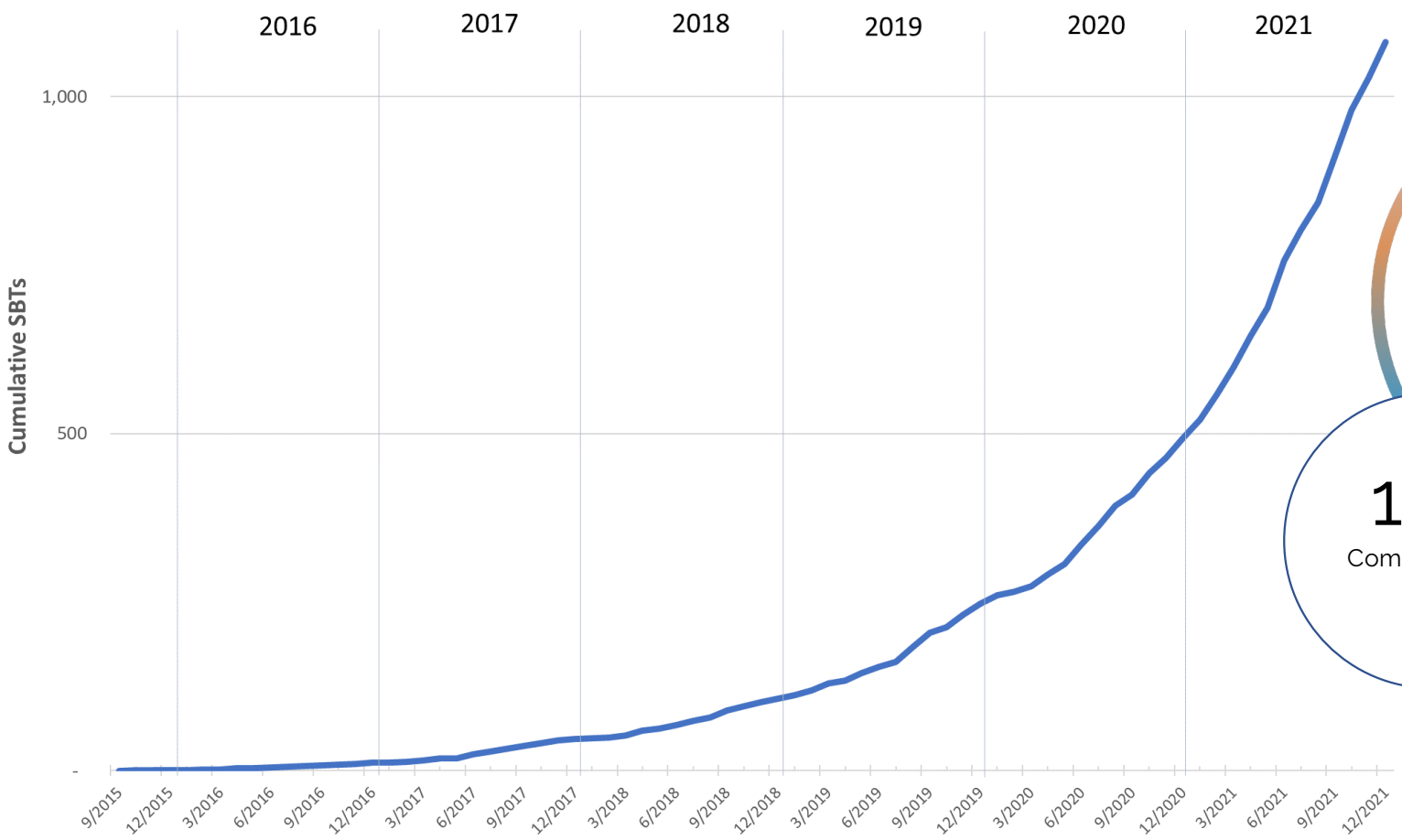


3,130
companies and financial institutions committed to setting SBTs

160
Committed FIs

24
FI SBTs

1,440
Companies & FIs with SBTs

Source: https://sciencebasedtargets.org/companies-taking-action/

The SBTi uses 5 core criteria to assess company targets

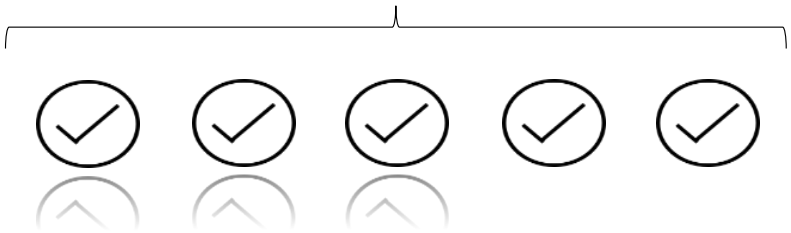
1. Boundary
Covers company-wide scope 1 and scope 2 emissions and all GHGs as required in the GHG Protocol Corporate Standard.

2. Timeframe
Commitment period must cover a minimum of 5 years and a maximum of 15 years from the date the target is submitted for an official quality check.

3. Level of ambition
At a minimum, the target will be consistent with the level of decarbonization required to keep global temperature increase to well-below 2°C compared to pre-industrial temperatures, though we encourage companies to pursue greater efforts towards a 1.5° trajectory.

Intensity targets are only eligible when they lead to absolute emission reductions in line with climate science or when they are modelled using an approved sector pathway or method (e.g. the Sectoral Decarbonization Approach).

All five criteria are mandatory



4. Scope 3

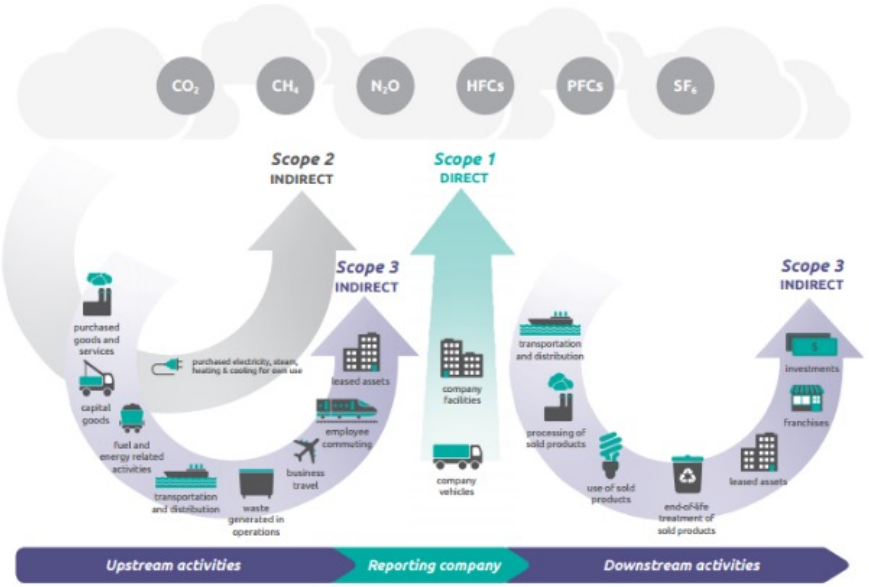
Companies must complete a scope 3 screening for all relevant scope 3 categories in order to determine their significance per the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

An ambitious and measurable scope 3 target with a clear time-frame is required when scope 3 emissions cover a significant portion (greater than 40% of total scope 1, 2 and 3 emissions) of a company's overall emissions.

The target boundary must include the majority of value chain emissions as defined by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard

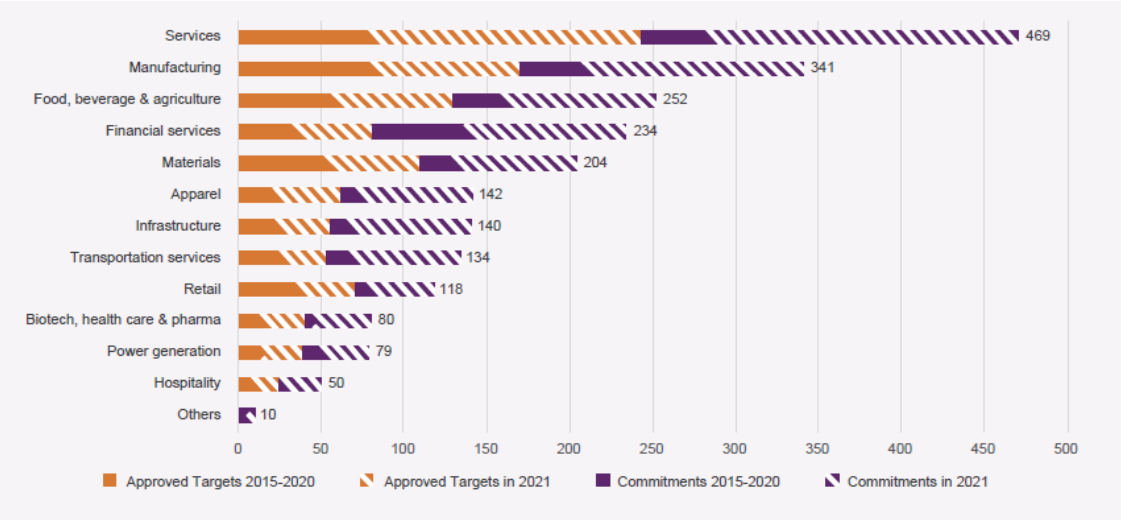
5. Reporting

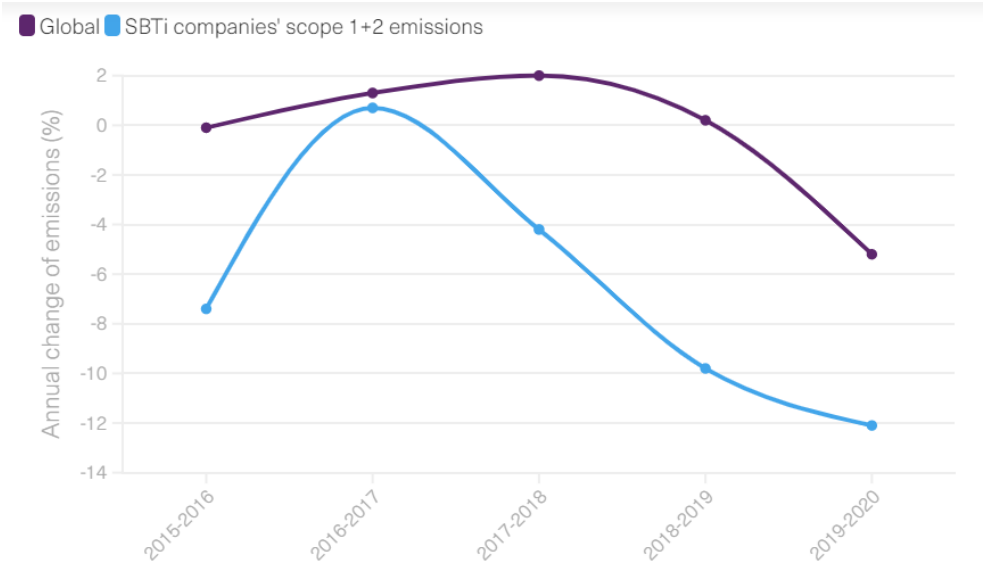
Disclose GHG emissions inventory on an annual basis.



Source: GHG Protocol Scope 3 Standard
http://www.ghgprotocol.org/standards/scope-3-standard

SBTs are spreading across sectors and reducing emissions





Source: https://sciencebasedtargets.org/reports/sbti-progress-report-2021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SBTi Corporate Net-Zero Standard

SBTi uses a mitigation hierarchy approach

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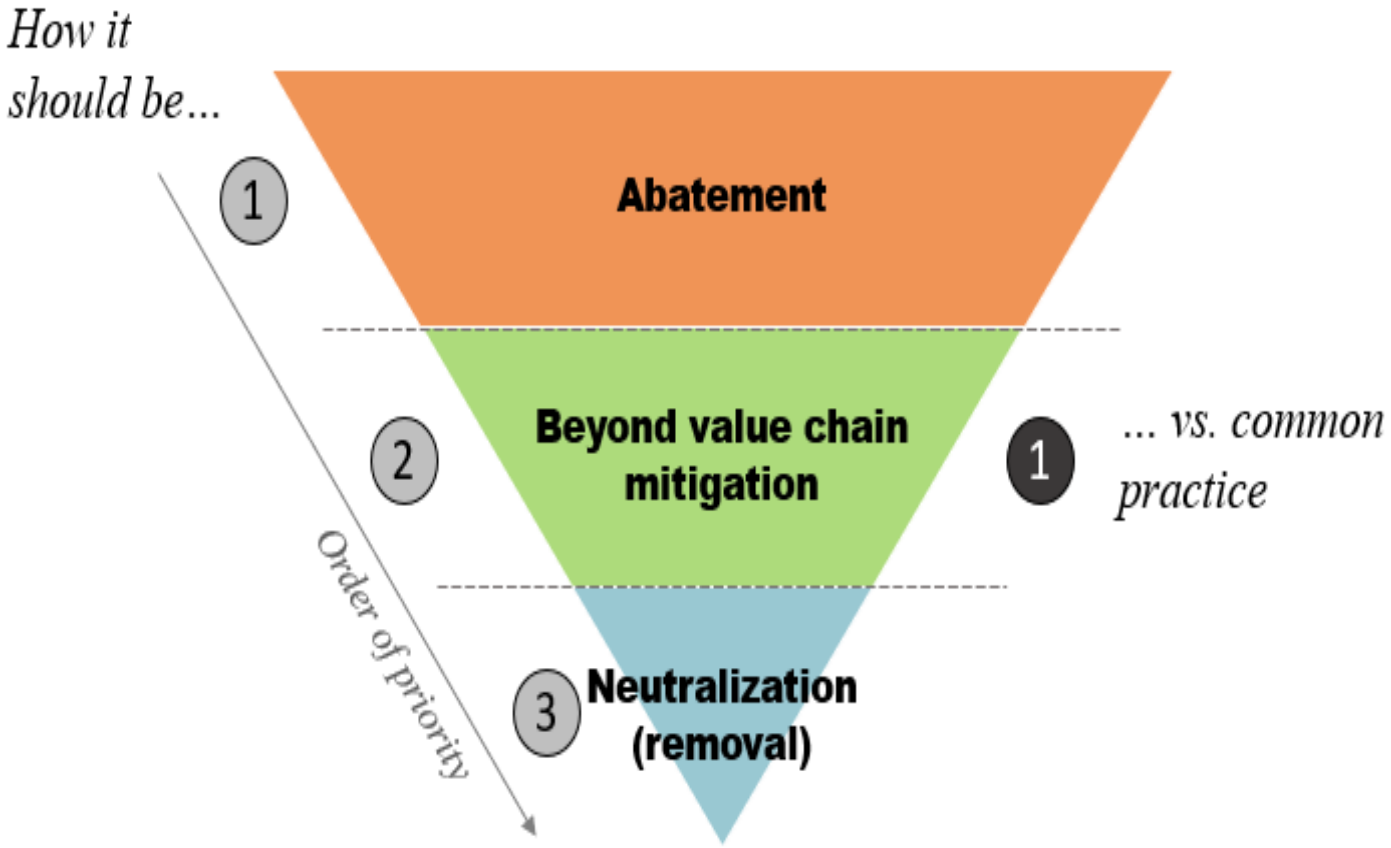
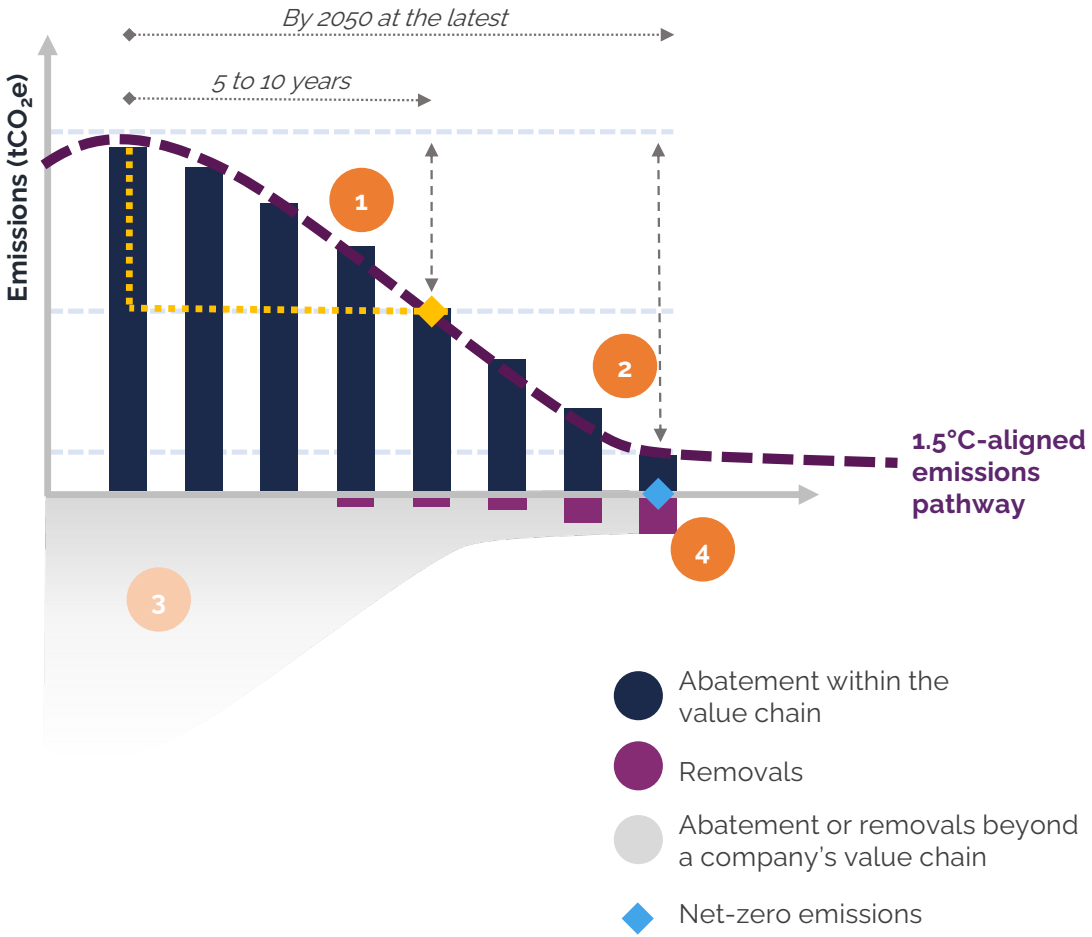


Four key elements make up the Net-Zero Standard framework

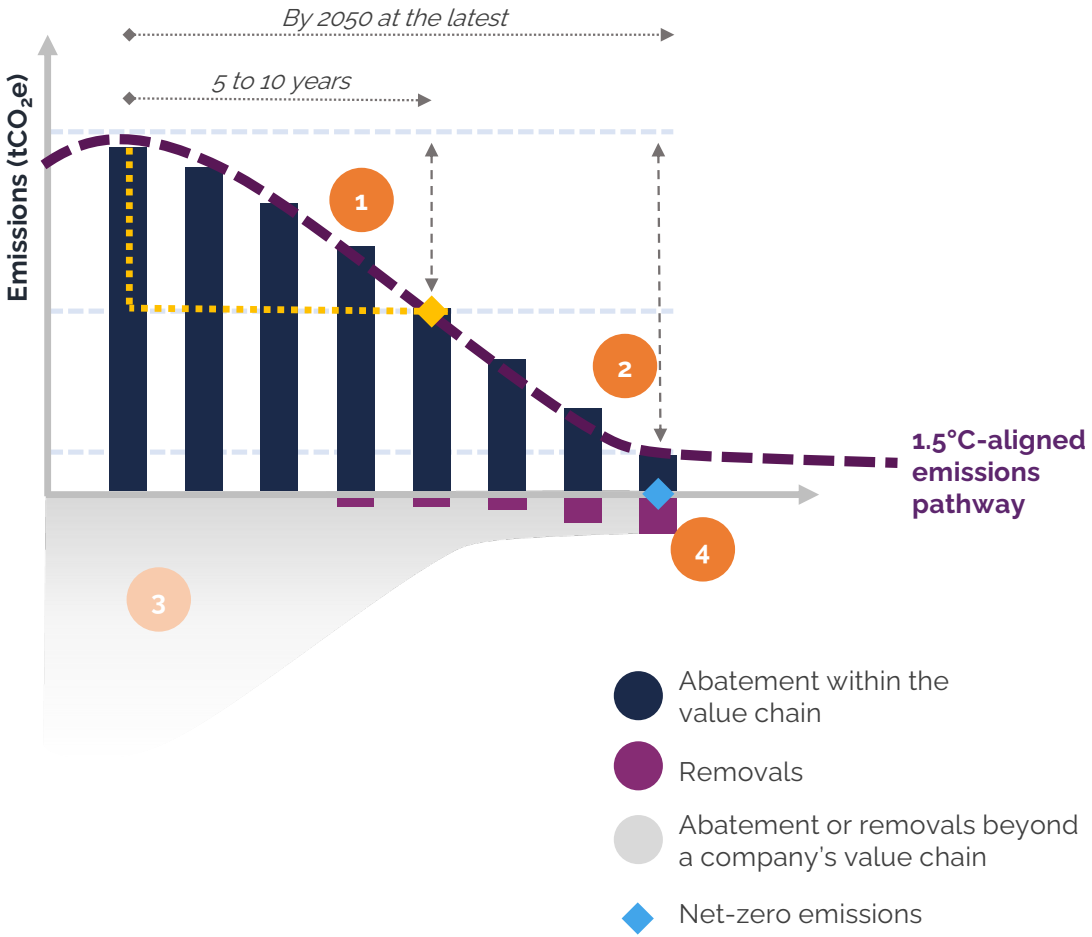


1 **To set near-term science-based targets**: 5-10 year emission reduction targets in line with 1.5°C pathways

Required

Recommended

Four key elements make up the Net-Zero Standard framework



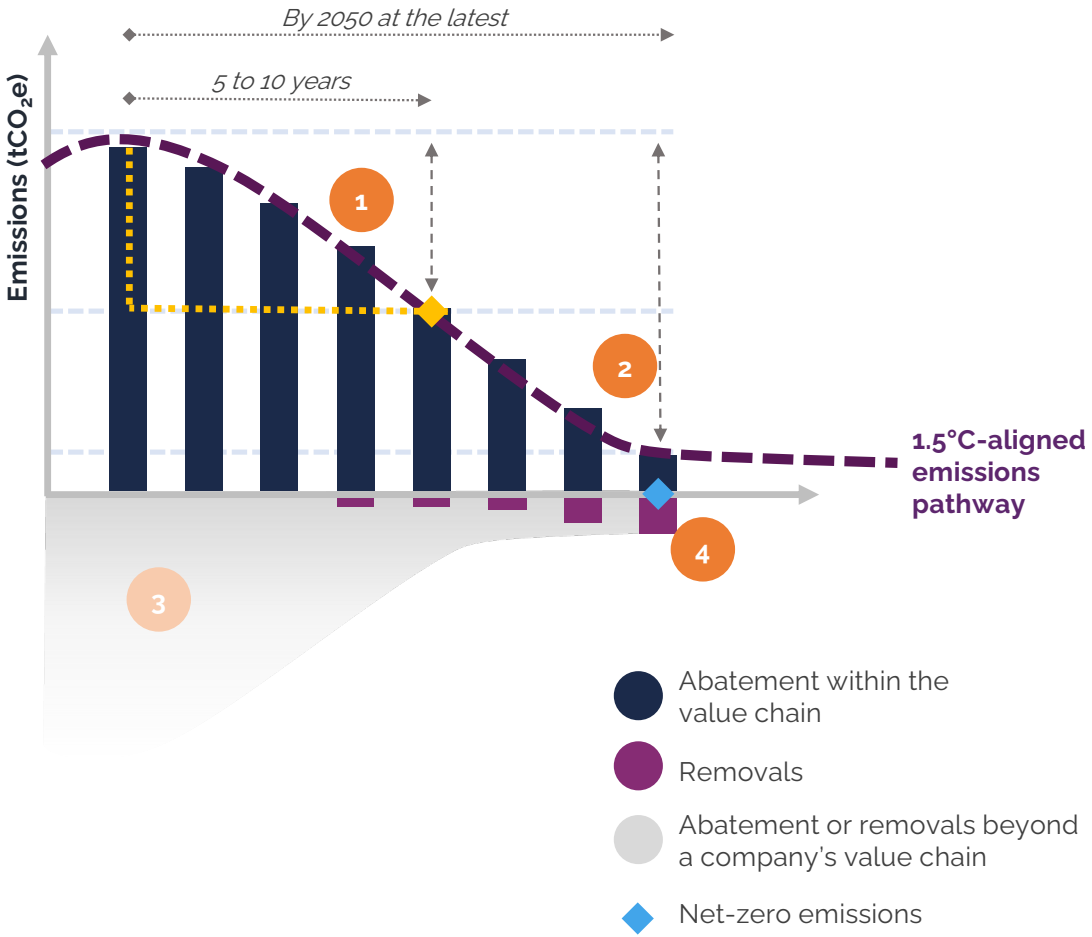
1. **To set near-term science-based targets**: 5-10 year emission reduction targets in line with 1.5°C pathways

2. **To set long-term science-based targets:** Target to reduce emissions to a residual level in line with 1.5°C scenarios by no later than 2050

Most companies will be required to reduce emissions by 90% or more before reaching net-zero.

Required Recommended

Four key elements make up the Net-Zero Standard framework



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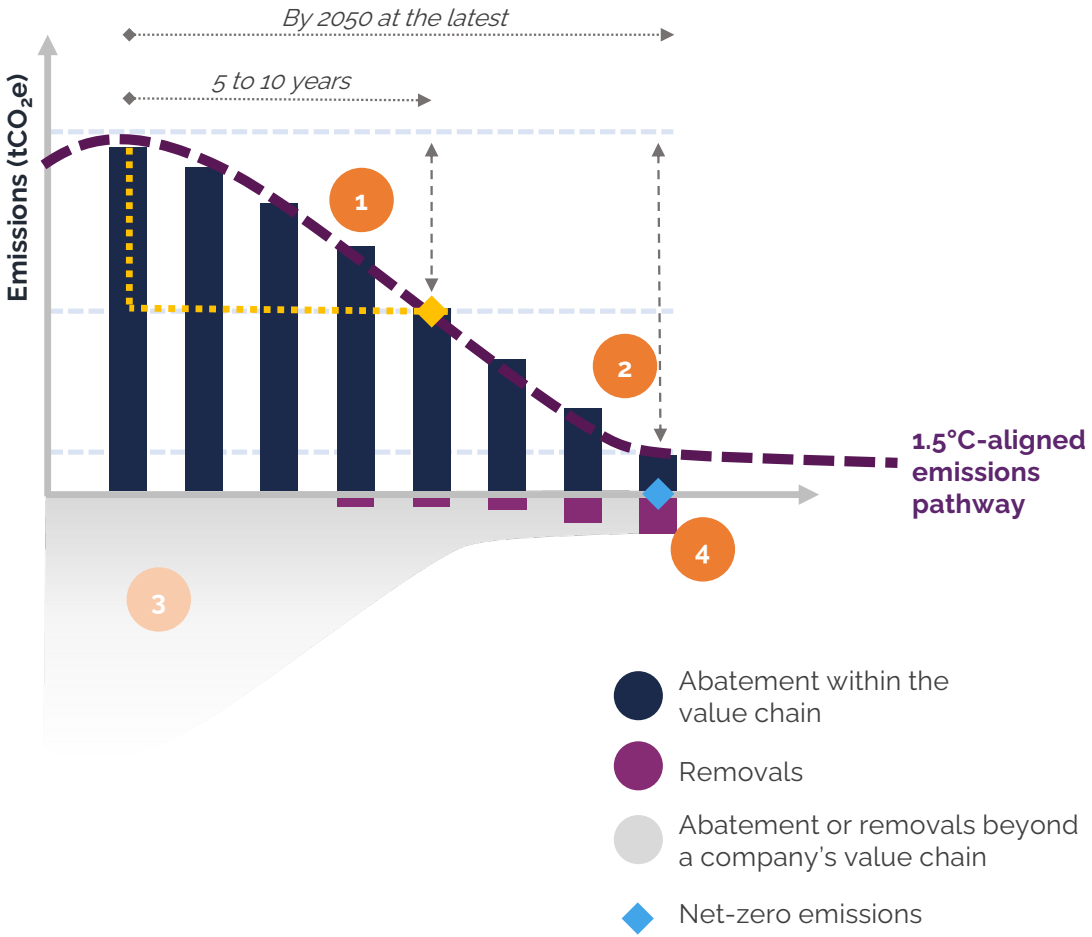
3 **Beyond value chain mitigation:** In the transformation to net-zero, companies should take action to mitigate emissions beyond their value chains. For example, purchasing high-quality, jurisdictional REDD+ credits or investing in direct air capture (DAC) and geologic storage

Required Recommended

Four key elements make up the Net-Zero Standard framework



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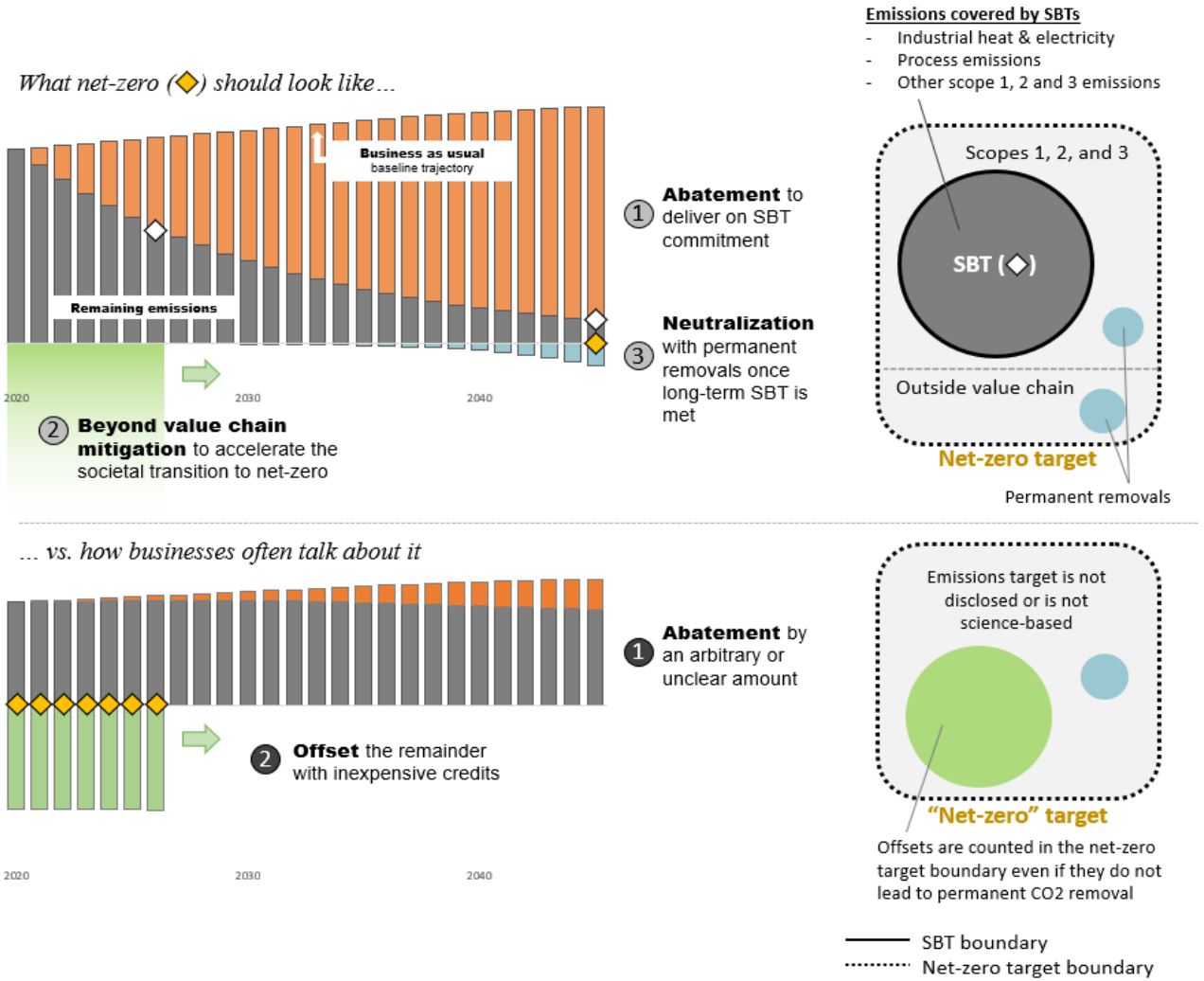
3. **Beyond value chain mitigation:** In the transition to net-zero, companies should take action to mitigate emissions beyond their value chains. For example, purchasing high-quality, jurisdictional REDD+ credits or investing in direct air capture (DAC) and geologic storage

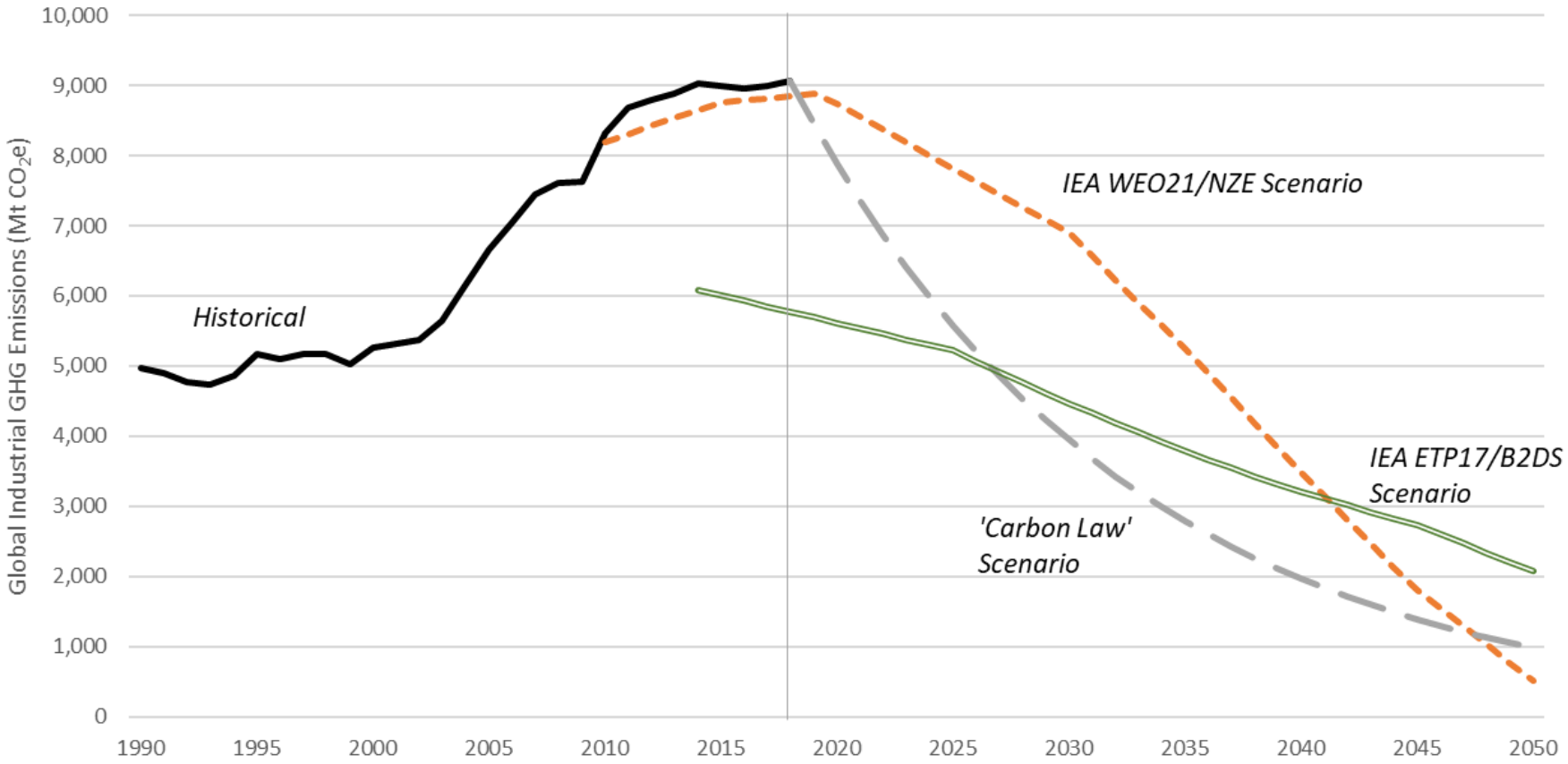
4. **Neutralization of residual emissions:** GHGs released into the atmosphere when the company has achieved their long-term SBT must be counterbalanced through the permanent removal and storage of carbon from the atmosphere

Required Recommended

SBTi is standardizing net zero for companies



The industrial path to net zero is uncertain



Source: Climate Watch (WRI), IEA (2017), IEA (2021), Rockstrom (2017).

Industrial Sector Direct Emissions Budgets (2020-2050)

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	2020-2050 CO_2 Budget (Gt CO_2)	2030 Annual CO_2 Emissions (Gt CO_2)	2050 Annual CO_2 Emissions (Gt CO_2)	2019-2050 Reduction
Industry	104 (CL) - 135 (LED) - 154 (WEO21/NZE)	3.9 (CL)– 6.9 (NZE)	0.52 (NZE) – 0.99 (CL)	88 (CL)-94% (NZE)
Iron and Steel	19 (OECM) - 31 (LED*) - 41 (WEO21/NZE) 56 (S12, MPP)	1.3 (CL) – 1.8 (NZE) 2.3 (S12, MPP)	0.22 (NZE) – 0.32 (CL) 0.34 (S12, MPP)	91% (NZE)
Cement	9 (OECM) - 42 (WEO21/NZE)	1.3 (CL) - 1.9 (NZE)	0.13 (NZE) – 0.32 (CL)	95% (NZE)
Chemicals	15 (CL) - 25 (WEO21/NZE)	0.58 (CL) - 1.2 (NZE)	0.066 (NZE) – 0.15 (CL)	94% (NZE)

Source: LED = Grubler et al. (2018), WEO21/NZE = IEA (2021), Rockstrom (2017), MPP (note that the MPP numbers include scope 1 and 2 emissions), OECM = OECM (2021)
LED* = value judged to be consistent with the Low Energy Demand (LED) scenario based on the material demand assessment in Grubler et al. (2018) Supplementary Table 19

SBTs are only part of the solution

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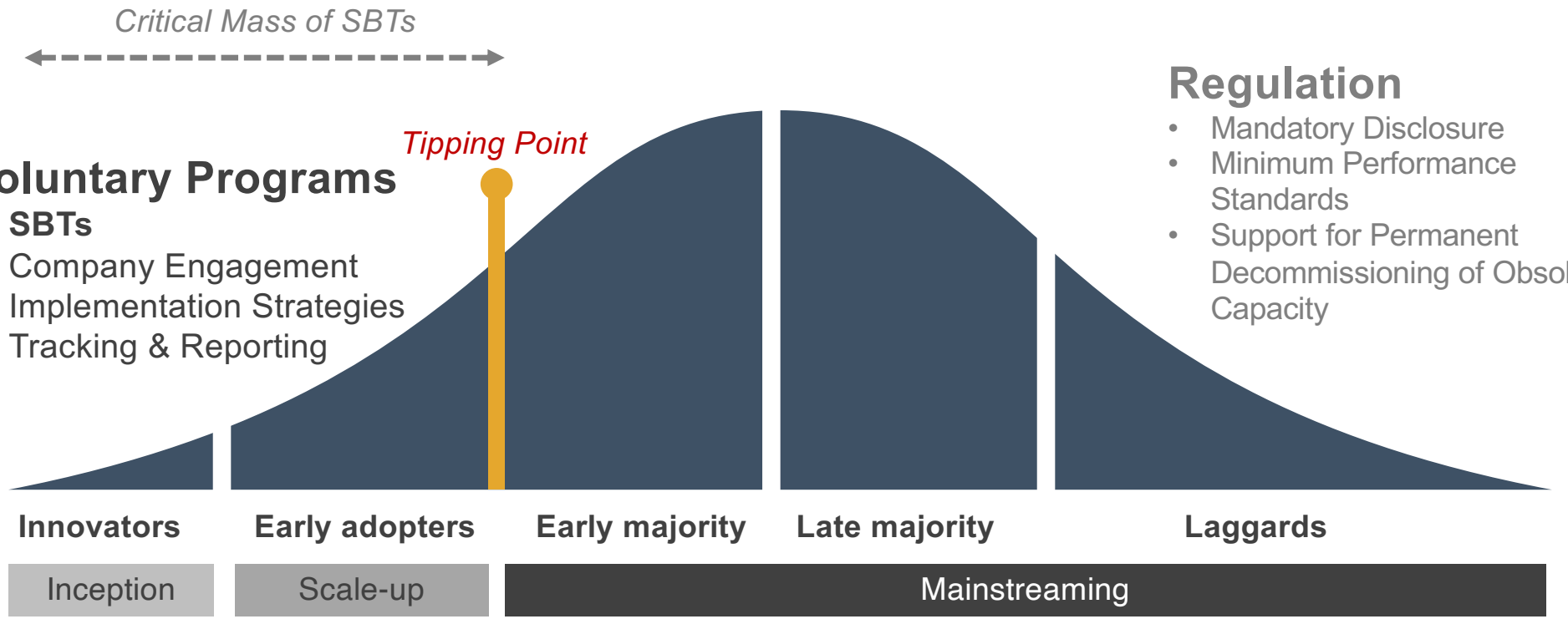

Questions for Further Research

- MRV metrics. Monitoring, reporting, and verification is needed to provide accountability and transparency around companies' performance after setting targets. The SBTi is adding an MRV function to its target setting platform that is expected to be deployed in early 2023.What MRV metrics should support the next generation of industrial sector net-zero targets?
- Defining green. The EU Taxonomy has provided a reference for classifying technologies that can help industrial companies, financial institutions, and other stakeholders to evaluate existing and forward options. However, as financial institutions seek to implement net-zero commitments in their investment and lending portfolios, there's a need for additional resources to define climate-aligned technologies in a range of industrial subsectors and geographies.
- Mapping beyond value chain mitigation and neutralization options for net-zero industrial companies. In addition to quantifying residual emissions across a broad range of industrial subsectors, elaborating on permanent removal technologies and institutional mechanisms could help to create more standardized approaches commensurate with robust emissions reductions. Which industrial processes and technologies are most conducive to scaled up GHG emissions removals?

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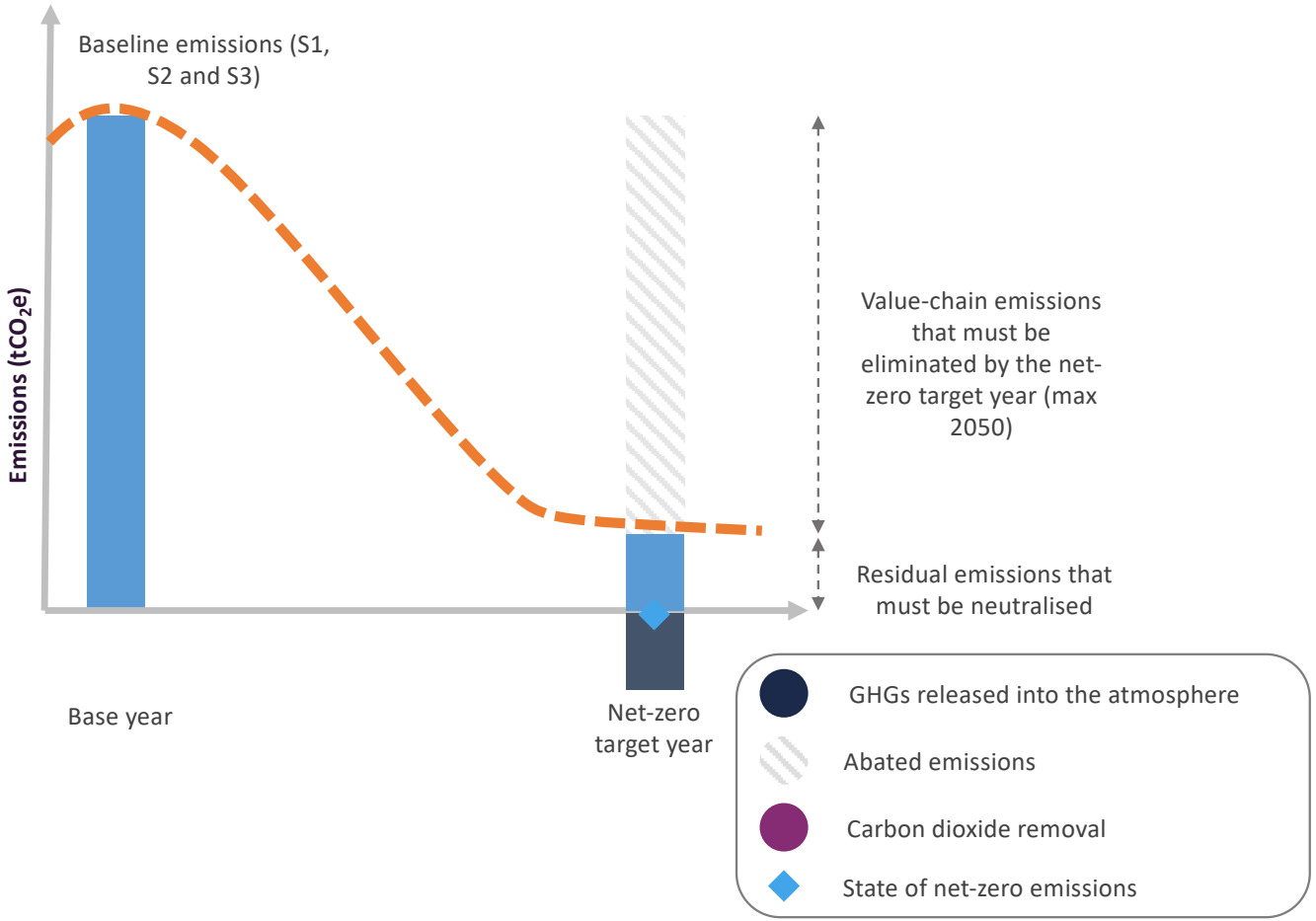
When can a company claim that it has reached a state of net-zero emissions?



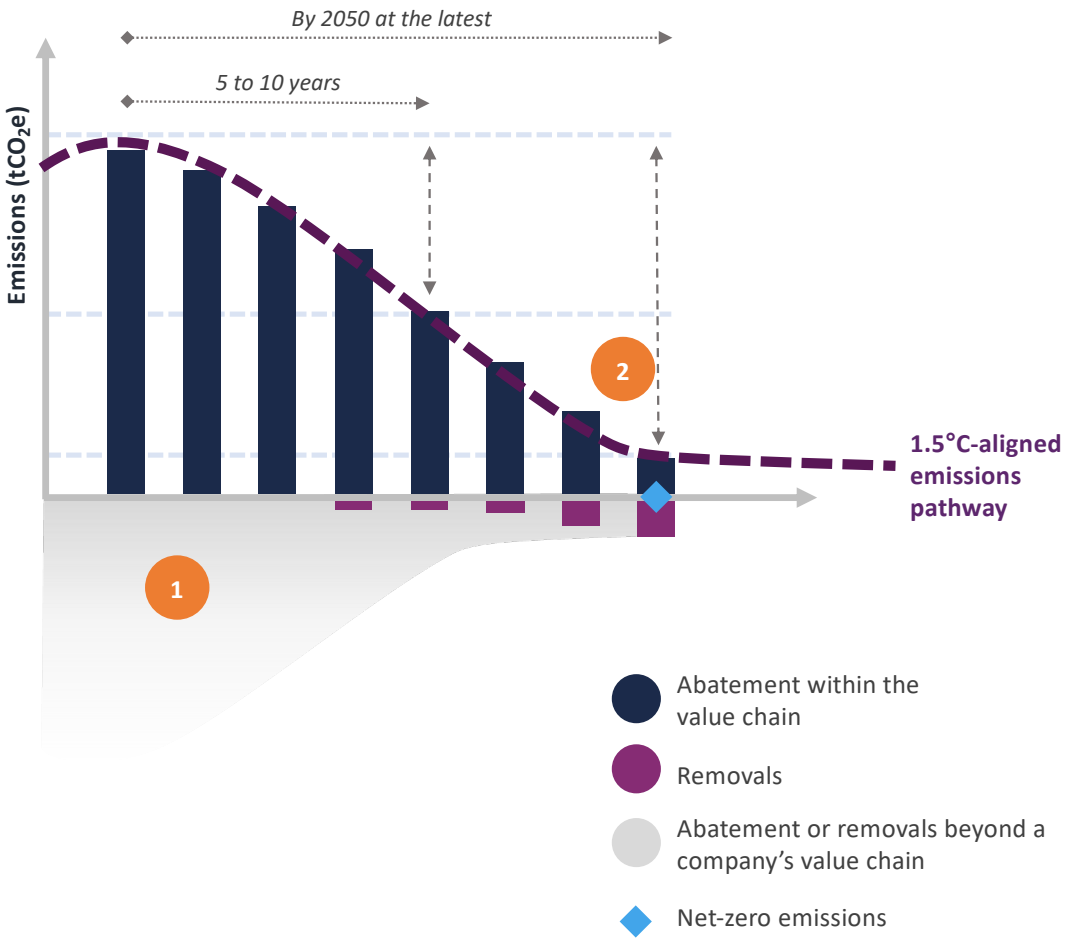
Reaching a state of net-zero emissions for a company involves achieving a state in which the company continues to create value to society and to shareholders without causing the accumulation of GHG in the atmosphere.

According to the SBTi Net-Zero Standard, a state of net-zero is reached when the following two conditions are met:

1. **Condition 1 – Science-based abatement:** Scope 1, 2 and 3 emissions have been reduced to zero or to a residual level that is consistent with reaching net-zero emissions at the global or sector level in eligible 1.5°C scenarios or sector pathways;

2. **Condition 2 – Neutralization:** The company neutralizes any residual GHGs released into the atmosphere at the net-zero target date and thereafter

What role do carbon credits play in the SBTi net-zero standard?



Purchasing high-quality carbon credits in addition to reducing emissions along a science-based trajectory can play a critical role in accelerating the transition to net-zero emissions at the global level. Generally speaking, carbon credits can play two roles in science-based net-zero strategies:

1 **In the transition to net-zero (i.e., now onwards)**
Companies can purchase carbon credits while they transition towards a state of net-zero emissions (i.e., in addition to science-based abatement of value chain emissions) to support society to achieve net-zero emissions by 2050

2 **At net-zero**
Companies with **residual emissions** within their value chain are expected to neutralize those emissions with an equivalent amount of carbon dioxide removals at their net-zero target date, and these removals can be sourced from carbon credits.