SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

SBTi Corporate Net-Zero Standard Expert Working Group (EWG) Meeting Minutes

EWG CDR Third Session

28 May 2025 - 14:00-16:00 CEST

Virtual

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As per clause 6 in the EWG Terms of Reference, members serve on the EWG in their individual capacity as technical experts.

“Science Based Targets initiative” and “SBTi” refer to the Science Based Targets initiative, a private company registered in England number 14960097 and registered as a UK Charity number 1205768.

Meeting participants

Expert Working Group Members

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1. Louis Uzor, Climeworks
2. Hannah Hunt, Heineken
3. Fiona MacIver-Jones, Gold Standard
4. Toby Bryce, Yale Centre for Natural Carbon Capture
5. Ryan Maloney, Apple
6. Kelly McNamara, Food System Innovations
7. Phung Thuy, PepsiCo
8. Matt Ramlow, WRI/GHG Protocol
9. Hilde Stroot, Oxfam
10. Fabiola De Simone, Carbon Market Watch
11. Injy Johnstone, Oxford Net Zero
12. Fiona Perera, Gold Standard
13. Thea Lyngseth, Environmental Coalition on Standards
14. Sifa Kinoti, Octavia Carbon
15. Mai Bui
16. Eva Massa
17. Sarita Marques
18. Silke Mooldijk
19. Robert Hoglund (Observer)
20. Stephanie Roe
21. Nicole Rottmer
22. Doreen Stabinsky (Observer)
23. Eve Tamme

SBTi

1. Piera Patrizio, Head of Research
2. Humphrey Adun, SME Research
3. Alice Farelly, BVCM subject matter expert
4. Lucine Courthaudon, AFOLU Associate
5. Clare Murray, SME, Research
6. Emma Watson, Head of Corporate Standards

Meeting agenda

Welcome and introductions	5 mins
Recap of previous session and open questions	5 mins
Updated residual emissions framework	20 mins
Why does durability of removals matter?	25 mins
Mentimeter exercise: Durability option for removal target	15 mins

What factors shall we consider when evaluating removal durability?	20 mins
Mentimeter exercise: Implementation challenges in removal targets	20 mins
Expectations for fourth session on the durability of removals	10 mins

1. Welcome & Introductions

The meeting opened with a welcome from SBTi's Head of Research, who thanked participants for their involvement.

2. Recap of the previous session and open questions

The discussion centered on some key points that the EWG agreed upon and open questions that required further clarification.

- Participants broadly agreed that Option 1 (required targets) would send the strongest market signal. There was also agreement that Option 2 was the least aligned with the SBTi principles, reflecting lower ambition and insufficient structure to incentivize credible action.
- Concerning option 2, concerns were raised across groups that excessive flexibility could dilute corporate signals and weaken CDR market development.
- A majority of the EWG recommended shifting from cumulative to annual removal targets to better align with consistency and implementation of post-net-zero targets. Participants also emphasized the need to integrate a minimum quality and permanence threshold for eligible removals to preserve integrity.
- One of the open questions identified was how to assess removal options against the 'responsibility' principle. Participants noted this would require additional sector-specific context and agreed to revisit it in future sessions.
- Additionally, the EWG acknowledged that the current removal target implies a sharp increase in removals will be required to neutralise residual emissions after 2050. This challenge requires further deliberation.

3. Update on residual emissions framework

The discussion centred on two updated approaches to setting removal targets for neutralizing residual emissions:

- Option 1: Annual growth in removal deployment toward the net-zero year, resulting in approximately 11× more cumulative removals than the existing proposal.
- Option 2: A cumulative removal volume spanning 2050 to 2065, aimed at maintaining net-zero CO_2 beyond the target year and reaching net-zero GHG, resulting in a 15× increase over the current proposal.

The EWG broadly acknowledged the scientific merit of both approaches but raised essential considerations related to complexity, feasibility, and communication of option 2.

Key reflections included:

- Support for the annual growth approach (option 1) due to its alignment with how mitigation and CDR scale over time.
- Concerns were raised about the added complexity of option 2, with some participants noting that the framework should remain clear and communicable for corporate users.
- A warning that high-volume removal requirements, especially without a net-negative obligation, might reduce incentives for deep emissions reductions.

Further clarification was requested on:

- Whether the 2050 removal obligation applies only in the net-zero year or must be sustained beyond 2050.
- The scope of “net-zero CO_2” and whether it includes non-CO_2 GHGs converted to CO_2e.
- How the two options relate to the like-for-like durability principle and whether both temporary and permanent removals could be eligible.

The purpose of the proposals was clarified as part of an ongoing effort to strengthen the framework through either a gradual transition to durable removals or a like-for-like matching approach. The implications of these new proposals and of shifting away from earlier frameworks that relied primarily on a single cumulative target for the net-zero year will be further explored by the SBTi through quantitative analysis and presented to the group in follow-up sessions.

4. Why does durability of removals matter?

The group explored the concept of durability as a central criterion for removals used to neutralize residual emissions. It was framed within the context of the carbon cycle, emphasizing the mismatch between the longevity of fossil CO_2 in the atmosphere and the shorter-term nature of some biological removal pathways. The need to match the storage duration of removals with the atmospheric lifetime of emissions was highlighted as essential to maintaining climate integrity.

Key points included:

- A distinction was made between the fast and slow carbon cycles. Human emissions, particularly from fossil fuels, exceed the Earth's natural capacity to reabsorb CO_2, underscoring the need for long-term storage solutions.
- The fungibility of removal and emissions depend on both the source of the emission and the type and durability of the removal. Fossil emissions are nearly permanent, whereas biological removals may be temporary, making durability a proxy for environmental equivalence and accountability.
- While temporary removals present challenges to environmental integrity, research suggests that, under appropriate accounting frameworks (e.g., with buffers or reversal adjustments), temporary storage can achieve comparable mitigation outcomes. This was linked to previous discussions on like-for-like matching in SBTI Scope 3 guidance.

Two durability frameworks were introduced:

- Like-for-Like Approach: Aligns the removal type with the atmospheric lifetime of the emission source. For example, fossil CO_2 must be neutralized with removals of similarly long duration.
- Gradual Transition: Allows a progressive increase in the share of permanent removals, reaching 100% by 2050, while recognizing the role of lower-durability solutions in the near term.

A clarification was made around the "100% permanent by 2050" statement in the presentation, which some participants found inconsistent with pre-read materials. It was explained that this figure stems from integrated assessment models (IAMs) that aggregate removal types without disaggregating by emission source. These models may overrepresent land-based removals for residual fossil emissions due to a lack of specificity.

Further concerns were raised that a strict emphasis on novel (technological) removals could disincentivize investment in nature-based solutions, despite their continued role in IPCC scenarios beyond 2050. It was clarified that the current discussion on durability specifically applies to residual emissions, and a separate dialogue is planned to address removals for ongoing emissions.

5. Mentimeter poll and reflections on durability frameworks

The poll asked, "Which option do you think the SBTi should implement for the interim removal target?" The response indicated that 62% leaned toward the like-for-like approach, while 38% preferred the gradual transition approach. Participants acknowledged the scientific alignment of the like-for-like approach but raised critical reflections on implementation.

Key themes included:

- Interpretation of like-for-like: Clarified that it does not preclude the use of conventional CDR, though disaggregating fossil vs. biogenic residuals remains challenging due to data limitations.
- Interim targets and investment concerns: Some participants questioned the value of investing in temporary removals if permanent CDR is ultimately required, suggesting that early alignment with long-term durability expectations is necessary.
- Durability of nature-based solutions: Views differed on the use of terms like “permanence,” with suggestions to instead consider risk-based or high-durability frameworks. Concerns were raised about bias toward tech-based solutions.
- Risk and reversals: Participants emphasized the need to assess removals based on reversal risk rather than just storage duration. A call was made for a framework that accounts for monitoring and contingency measures.
- Pragmatism and near-term climate goals: Several members stressed the importance of scalable near-term action, especially given current cost constraints on technological removals. There was concern that overemphasizing long-term permanence could delay urgent climate progress.

6. Implementation challenges of scaling removals

The session concluded with a discussion of key implementation barriers to scaling carbon dioxide removal (CDR), focusing on both technical and systemic constraints.

Five priority challenges were identified:

- Social acceptance: Public support is essential, especially given the likelihood of public financing. Nature-based solutions (e.g., afforestation) tend to have broader acceptance than engineered removals.
- MRV protocols: Measurement, reporting, and verification (MRV) systems are more developed for technological removals (e.g., geological storage) than for nature-based solutions, where uncertainties remain, particularly for soil carbon.
- Cost of removals: Several concerns were raised:
    - Temporary removals may have underestimated lifecycle costs due to maintenance and reversal risk.
    - Current market prices for land-based removals may not adequately compensate local communities.

    - Overreliance on low-cost, short-term removals could disincentivize abatement of short-lived climate pollutants.

- Market fragmentation: Participants noted overlapping or inconsistent guidance across initiatives (e.g., SPTI vs. ICVCM), which could erode market confidence and stall investment in removals. Calls were made to coordinate with existing standards to streamline implementation.
- Infrastructure and readiness: Novel CDR options face challenges due to:
    - Long lead times and capital-intensive infrastructure (e.g., CO_2 transport and storage).
    - A mismatch between the required permanence of storage and the current readiness of technologies.

Further discussion focused on

- The importance of risk-based frameworks over rigid duration-based categories.
- Ensuring policy flexibility to allow companies to tailor removal strategies to their contexts.
- There is need to integrate reversal accounting and monitoring mechanisms, especially for nature-based projects.

It was agreed that the next session would focus more directly on reversal risk and explore how to manage temporal and spatial scales in carbon removal strategies.

7. Mentimeter poll and reflections on implementation gaps

The second mentimeter poll asked the question, 'Do all these challenges influence whether an SBTi company achieves its removal milestones?' Which one of these challenges stands out? Are we missing any?. The participants highlighted that economic feasibility and MRV stand out as the most influential factors in scaling high-durability removals. Other implementation gaps mentioned in the poll include enabling policy environment, alignment between GHG protocol and the SBTi FLAG guidance.

8. Next Steps

The next session will further unpack the implementation challenges, opportunities and risk associated with implementing removal targets for the SBTi companies, including potential management strategies of the reversal risks for temporary removals.

- Some EWG participants had proposed to share some information on how the Greenhouse Gas Protocol addresses reporting reversals and its ongoing storage monitoring framework in a future meeting.

- Presentation of quantitative cases to illustrate removal volumes under the different durability frameworks.