



The role of removals in CNZS V2.0: BVCM and CDR

Joint EWG virtual session V on 15th July

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Introduction | Our goal for today is to ensure that role of removals in the frameworks for addressing residual emissions and for taking responsibility for ongoing emissions is complementary, incentivizes the right actions, and avoids overlap.



Today's questions

... and outcomes

1. What is the purpose of the frameworks for addressing residual emissions and ongoing emissions in CNZS V2.0, and how are they distinct?

Clarify the distinct role and purpose of these frameworks within draft CNZS V2.0

2. What is the latest thinking on the framework for addressing residual emissions?

Establish a shared understanding of the CDR EWG's perspective

3. What is the latest thinking on the framework for taking responsibility for ongoing emissions?

Establish a shared understanding of the BVCM EWG's perspective

4. How can we incentivize the right actions within the standard, while mitigating risks of overlap between these frameworks?

Refine the role of removals in both frameworks

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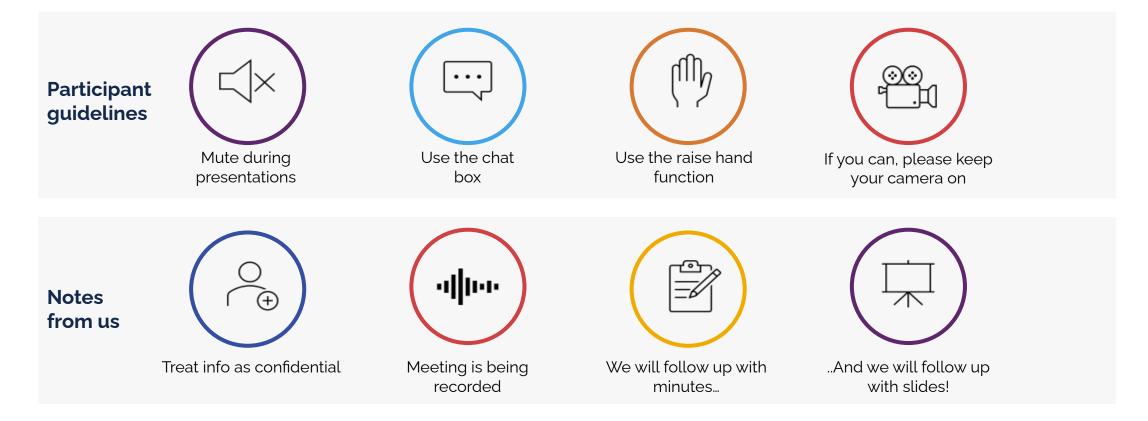


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ARE THERE ANY COI THAT THE SBTi SHOULD BE AWARE OF?

VIDEO-CONFERENCE GUIDELINES





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AGENDA

Welcome & housekeeping 10 min

Context setting: Ongoing and residual emissions in V2.0 10 mins

Pre-read recap: Residual emissions & removal targets 20 min

Pre-read recap: Ongoing emissions & BVCM 20 min

Exploring integrated recognition frameworks 90 mins

What are we trying to achieve across the three targets?

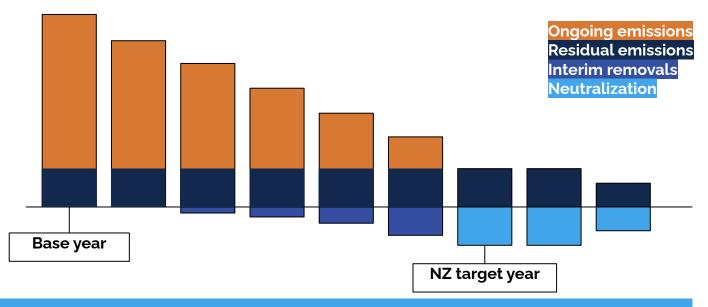


Take responsibility for ongoing emissions to curb warming and reduce temperature overshoot

- Even as companies work toward their net-zero targets, their activities result in the continued release emissions. These emissions are entering the atmosphere now and contributing to global warming and temperature overshoot.
- Given growing evidence that the 1.5°C carbon budget is already exhausted, we need companies to take responsibility for these ongoing emissions now through supplementary mitigation action.

Interim removal targets to accelerate supply of durable removals and avoid future shock

- High-durability removals are scarce and expensive, and market capacity is not scaling fast enough.
- If we wait until 2050 to require them, companies will face a cost and supply cliff.
- We want to signal and scale durable removals now, while phasing in requirements over time to ensure fairness, feasibility, and impact.



Neutralize residual emissions at net-zero target date and thereafter to achieve and sustain net-zero

- Even with ambitious abatement, most companies will have residual emissions by their net-zero target year.
- To credibly claim net-zero, these must be counterbalanced with removals from the atmosphere.
- Removals must match the atmospheric lifetime of the GHG that they are counterbalancing to ensure that the climate impact of residual emissions is fully neutralized and that the company's net-zero claim reflects a genuine and lasting contribution to global temperature stabilization.

How are they fundamentally distinct?



	Dosponsibility for engains	Responsibility for residual emissions		
	Responsibility for ongoing emissions	Interim removal targets	Neutralization of residual emissions at and after NZ target date	
Different climate objectives	Reduce temperature overshoot from cumulative ongoing emissions	Prepare the system to meet future removal needs and avoid shocks	Ensure net-zero claims are physically valid by counterbalancing residuals	
Different temporal roles	Applies continuously before NZ year	Pre-NZ year only (phased ramp-up)	From NZ year onward (ongoing requirement)	
Different logics of responsibility	Accountability for near-term climate impact: taking action on unabated emissions to reduce overshoot	System preparedness: supply must scale in advance Accountability: demonstrating commitment to future neutralization	Physical integrity: must remove what remains to halt further warming	
Different contributions to systems change Supports near-term scaling of a broad mix of mitigation outcomes		Sends investment signal for high-durability removals; manages future risk	Locks in long-term demand for permanent removals and stabilizes global mitigation trajectory	



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Illustration of the complexity: Variables for design of interim removal targets



1	2	3	4	5	6	7
How is it incentivized?	Who is covered?	When would it kick in?	What scopes are covered?	How would it scale over time?	What mitigation outcomes are eligible?	What durability requirements would be in place?
 A. Targets are required A. Targets are recognized (optional) 	A. All companies A. Category A companies	A. From todayA. From 2030A. From 2035A. From 2040	A. Scope 1 onlyA. Scope 1 and 2 onlyA. Scope 1-3	 A. Linear annual ramp-up to full residual coverage at NZ target date A. Cumulative removals in pre-NZ target period = 100% of residuals at NZ target year 	A. Removals only A. Removals and/or accelerated value chain abatement	 A. Like-for-like (atmospheric lifetime) A. Like-for-like (carbon cycle domain) A. Economic equivalence A. Gradual transition at the activity level A. Gradual transition at the portfolio level

Based on these 7 variables there are almost 1000 potential target design options just for the interim removals piece... the options we are about to present are therefore not mutually exclusive and collectively exhaustive...

Three consultation topics discussed in the V2.0 draft



Explored with removals EWG members

Integrating removals in lead up to net-zero year

Whether and how residual emissions are addressed in the standard before the net-zero year



How minimum required durability of removals is determined in the lead up to net-zero and in the neutralization year



Three options for consultation

- Interim removal targets required
- 2 Interim removal targets optional, with opportunity to receive additional recognition
- Pathway to proactively address project residual emissions with either additional scope 1 emission reduction or removals

Two options for consultation¹

The **like-for-like** approach, in which minimum durability of removals is matched to the atmospheric lifetime of residual GHGs

The **gradual transition** approach, in which share of novel removals with geologic storage increases over time

Quality/integrity criteria and standards

What criteria or certifications will be required for removals to be applied towards residual emissions or interim removal targets



Criteria open for consultation

Quality criteria (e.g. additionality, monitoring, permanence, unique issuance and claiming, validation and verification) and specific standards and/or certification frameworks to include as requirements for removals are open for consultation

EWG discussion on how each option aligns with SBTi principles



SBTi principles

Ambition

The option supports achieving net-zero in line with a 1.5°C goal

Responsible

The option acknowledges sector-specific abatement potential and access to removals

Robust

The option promotes flexibility to account for uncertainty in emissions and technology, including the risk that some solutions may not materialize, remain costly, or prove too risky

Actionable

The option acknowledges that companies with high expected residuals may operate on low margins and may face barriers to invest in removals

Rigorous

The option aligns removals with science, complements deep abatement, and avoids incentivizing delays in net-zero investment.

Removal design options

Option 1

Removals are **required** to address residual emissions.

Option 2

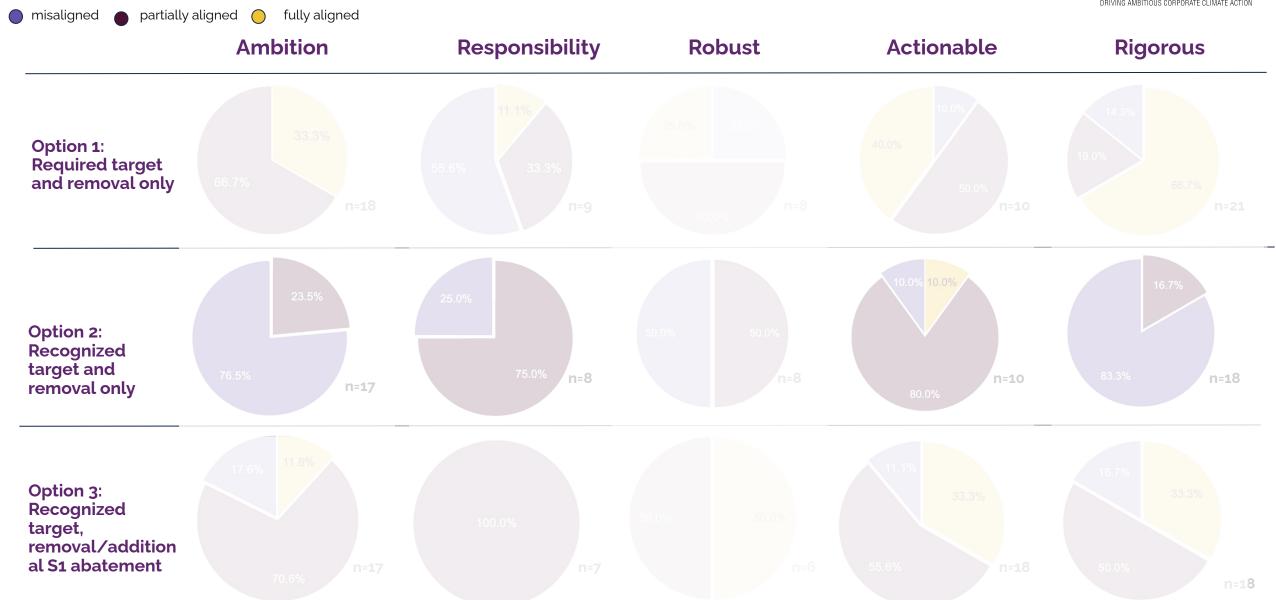
Removals are **recognized** in addressing residual emissions

Option 3

Removals or S1 additional abatement are **required** to address residual emissions

None of the options are fully aligned with the SBTi principles, and key trade offs exists between targets ambition and actionability

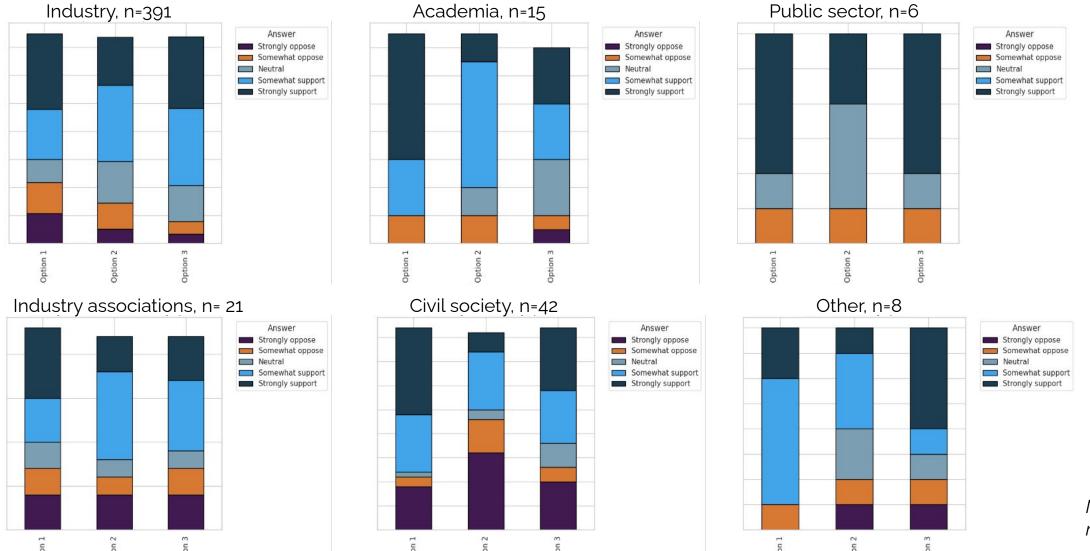




Stakeholder support for proposed options

Options represent differing levels of removals integration





Number of response, n

Assessing the risks and barriers associated with implementing removal targets





We quantified the near-term (2030-2035) economic feasibility of implementing interim removal targets, where cost projections are less prone to uncertainty. Key research questions included:

- How feasible is for companies to absorb the cost of near-term durable removals, considering sectoral differences in emissions intensity, and profitability?
- How these costs align with firms' existing financial profiles

We consider different CO₂ storage durability thresholds, ranging from 100 to 1000 years, and then calculate the average market price of removal credits for each durability threshold, based on cost data found in publicly available marketplaces.



We included a high level discussion on non-economic barriers that might constrain companies from implementing removal targets in the near term, including:

- Companies willingness to pay for removals
- The status of the voluntary removal market and the near term availability of high quality removal credits

How much will removal targets cost to SBTi companies in the near term?



We quantified the near-term economic feasibility of the removal targets, for a non-exhaustive SBTi companies across heavy industries (aviation, cement, shipping) and light industries (food and beverage)

How the durability threshold affects the cost of delivering the removal target?

Like for like vs gradual transition



- The like-for-like approach is 35% more costly than a gradual transition approach, because of the near term need for expensive permanent removals
- The costs associated with like-for-like approach is sensitive to the basket of GHG emissions in a company's inventory
- For the gradual transition approach we assumed a minimum durability of 100 years, lowering this threshold further could reduce the cost companies will face in the near term

How a company's residual emissions profile affects the cost of meeting its removal target?

Emission intensity and ability to pay



- Hard to abate companies will be required to purchase high volume of removals given their high residual emissions levels.
 - The total volume of removals that a cement company will be required to purchase is 18 to 38 times greater than that of a food and beverage company.
 - Setting these targets would cost up to 6% of the cement company annual profit
- These companies might be operating on low margins, hence their ability to pay might be limited

How the removal scaling design affects the cost of delivering the removal target

Cumulative vs linear scaling



- Adopting a linear scaling is the most expensive option for all companies, owing to the greater volume of removals required,
- Under a gradual transition approach, the cement company would spend approximately four times more than when assuming a cumulative scaling

How these findings contrast with a company willingness to pay for removals?



The findings from a recent SBTi survey might provide some insights

SBTi companies are already buying removal credits:



56% of respondent companies with targets validated by the SBTi self reported to voluntarily purchase carbon credits, and **50% of these credits are removals**. However, amongst SBTi companies already purchasing high durable removal credits, only 1% are operating in hard-to-abate sectors

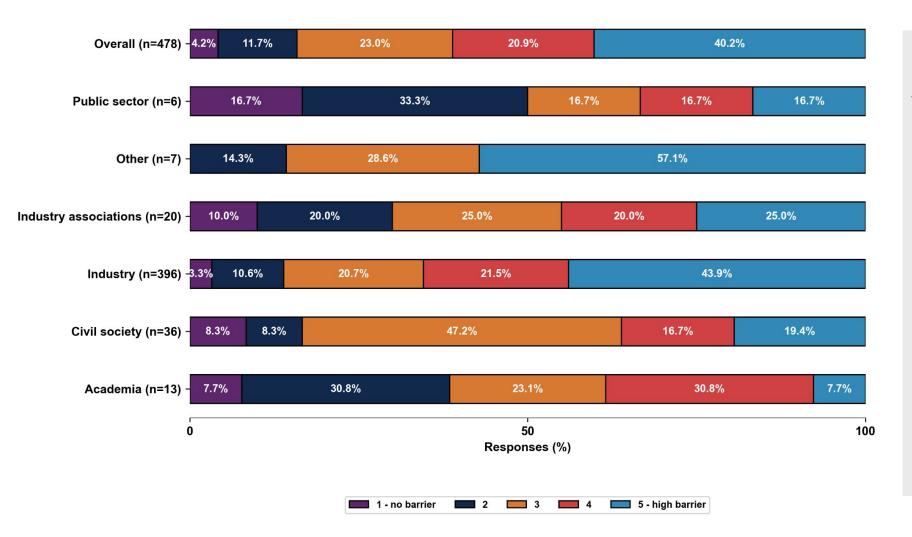
The average corporate annual spending on carbon credits is low



Participating companies self-reported an average annual spending on carbon credits of about **USD 5.4 million**. Taking this figure as a reference budget, only companies with relatively low residual emissions at their net-zero target year (e.g., archetypal food and beverage company) would be able to fulfill their removal targets

Requiring removal targets is perceived as a high barrier to entry by 60% of PC respondents





The majority of industrial stakeholders (65%) perceive removal targets as a significant barrier to entry. Key factors include:

- Financial and cost implications
- Availability of high quality removals
- Sector specific impacts
- Accounting and reporting challenges

EWG discussions focused on the risk & opps of the requirement framework. What does a recognition framework look like?



Addressing the impact of residual emissions

Incentive structure



Requirement

Removals

Additional S1 abatement

What mitigation outcome



Requiring targets, either through opt 1 or 3, does not fully aligned with all SBTi principles



Durability

Companies will face important economic barriers when implementing removal targets depending on their residual emission profiles

A gradual transition approach might mitigate implementation barriers such cost, availability of supply, but guardrails need to be defined

The removal target covers scope 1 Coverage emissions and applies to all companies Recognition

Removals

climate objective?



Principles

Design options

misaligned with most of SBTi principles.

Which design option would support scaling CDR in line with removal targets

A recognition framework for interim

removals between 2030-2050 is



In what milestone year should removal targets be required?



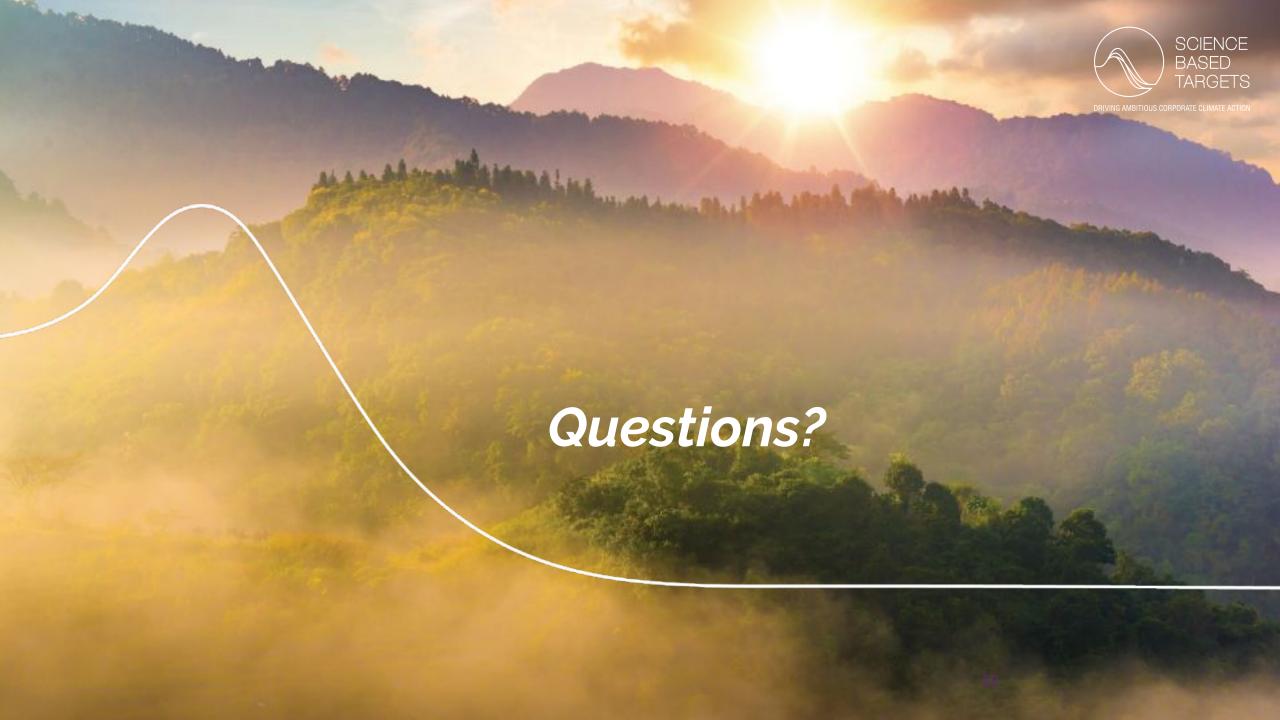
How do we incentivize the right actions when removals are optional mitigation outcomes in BVCM and removal target?

Key inferences from EWG





Session V





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Draft CNZS V2.o proposes to recognize companies for taking responsibility for their ongoing emissions....

FROM

Recommendation for companies to address ongoing emissions by mitigation of emissions beyond their value chain

TO

Option for companies to obtain additional recognition for beyond value chain mitigation if they meet necessary criteria



What needs to be defined to validate and recognize companies taking responsibility for their ongoing emissions?



1

What counts?

Companies shall take action to address their ongoing emissions through eligible BVCM measures.



Open points to discuss with EWG

- Target setting method (e.g. money-for-ton)
- Eligible activities, outcomes and mechanisms for support
- Quality criteria for high-integrity outcomes
- Timing of contributions

How much?

Companies shall contribute sufficiently to BVCM measures to be eligible for recognition for addressing ongoing emissions.



Open points to discuss with EWG

- % of ongoing emissions (and potentially also historic emissions) to be addressed
- Definition and/or disclosure of carbon pricing

3

Who is eligible?

Companies shall meet specific criteria to be eligible for recognition for addressing ongoing emissions.



Open points to discuss with EWG

Required level of performance against scope 1, scope 2 and scope 3 science-based targets

4

What do they need to demonstrate?

Companies shall transparently report their actions to address ongoing emissions through BVCM measures.



Open points to discuss with EWG

Reporting requirements to demonstrate high-integrity BVCM activities

Explored with BVCM EWG

Cross-cutting points to discuss with EWG

What **credible, transparent claims** can companies make about BVCM that incentivize action on ongoing emissions - without misleading or conflating with emission reductions?

The SBTi research team has developed a science-based approach for determining the level of ambition for addressing ongoing emissions...

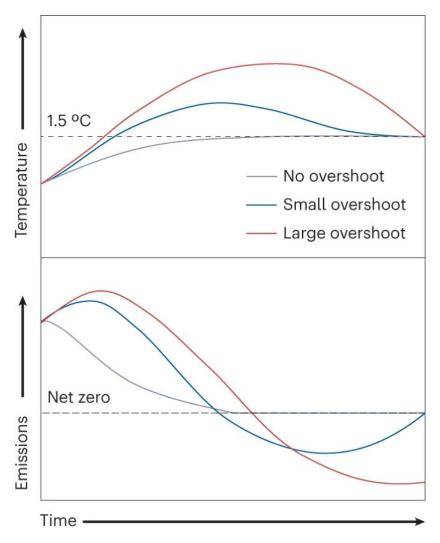


Problem 1: Even the most ambitious net-zero pathways involve overshoot

Our cross-sector pathway targets net-zero emissions by 2050, in line with the most ambitious scenarios from the IPCC. However, even these pathways involve a median peak temperature overshoot of ~0.1-0.3°C above 1.5°C around mid-century. In these scenarios, carbon removals after 2050 are critical to bring temperatures back down toward 1.5°C in the second half of the century.

Problem 2: The carbon budget may already be exceeded

Most IPCC pathways were developed based on emissions trajectories as of 2020. They do not fully account for higher-than-expected global emissions between 2020 and 2024. Emerging evidence suggests that the remaining carbon budget for 1.5°C may already be exhausted, which implies that even these "most ambitious" scenarios may underestimate the degree of required course correction.



Implication: Delayed removals are necessary, but not sufficient

Post-2050 removals are necessary to address overshoot, but opportunities still exist to reduce or avoid overshoot altogether. Advancing removals and/or accelerating reductions before 2050 can help reshape the temperature trajectory and reduce risks associated with overshoot duration and magnitude.

Responsibility for Ongoing Emissions: A proactive role for companies

While companies are not directly responsible for the global overshoot, they can contribute meaningfully to addressing it by taking responsibility for ongoing emissions through **delivering emissions reductions** and removal beyond the value chain.

We have developed the Ongoing Emissions
Responsibility Ratio to establish responsibility. The
median ratio across scenarios is 0.4, meaning that for
every 1 tCO2e of ongoing emissions, a company is
responsible for at least 0.4 tCO2e of measurable
mitigation outcomes – over and above its value chain
emissions reductions.

The Ongoing Emissions Responsibility Ratio has implications in terms of defining 'what counts' and economic feasibility that need to be considered..







- Because the ratio is grounded in the concept of addressing temperature overshoot, the scope of 'what counts' is inherently limited to focus exclusively on measurable, additional, timely, and durable mitigation outcomes that reduce the cumulative atmospheric concentration of greenhouse gases.
- This approach excludes a broader set of transformational actions that may be indirect, enabling, or longer-term in nature i.e. 'BVCM Goal 2'.
- There is a compelling argument that there should be a mechanism within the SBTi framework that enables and encourages these forms of high-impact, future-oriented climate finance.

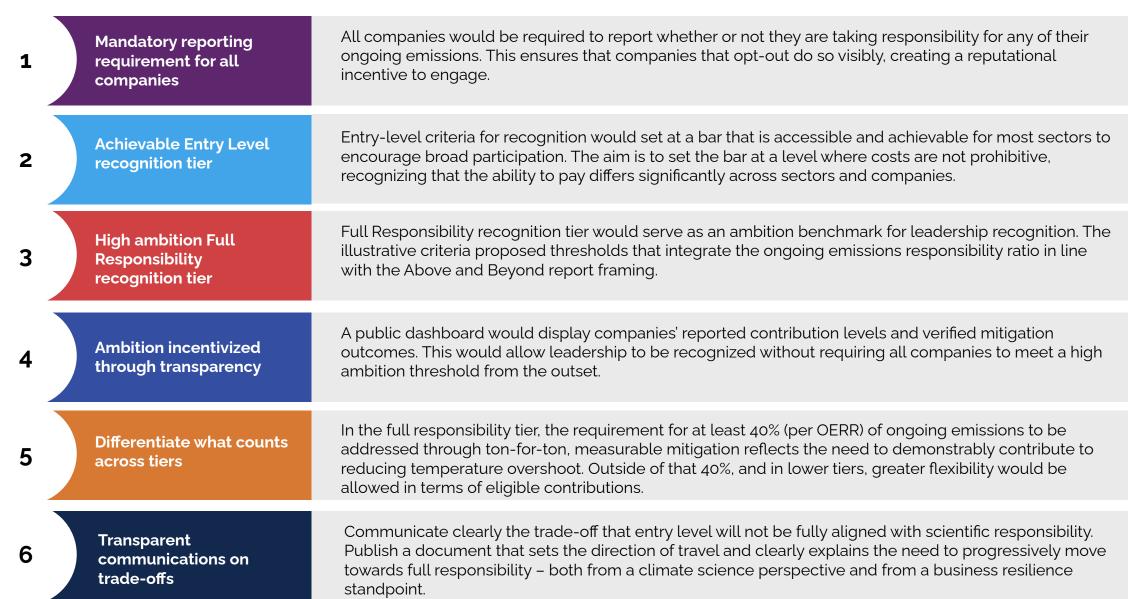
Economic feasibility



- To explore the economic feasibility of taking responsibility for ongoing emissions in line with the Ongoing Emissions Responsibility Ratio (OERR), we conducted a preliminary cost analysis comparing the estimated cost of several OERR implementation models against current carbon credit spending levels for a range of sectors:
 - The analysis showed **current carbon credit expenditure of all sectors is below the estimated costs of any of the OERR implementation models**.
 - For example, carbon credit spending in the software sector would need to increase by 20% to 80%, depending on the level of coverage—from the Scope 1 OERR only scenario to the full OERR model. For the oil and gas sector, the required increase ranges from 92% to 99%.
- ► There is a risk that the high cost associated with OERR aligned responsibility could limit uptake.

Based on these considerations and insights from discussions the BVCM EWG, we developed a tiered recognition proposal....





BVCM EWG survey results reveal emerging consensus on the concept of tiered recognition while views on the specific recognition thresholds were mixed...



Areas of emerging consensus...

Transparency & Accountability

Consensus on mandatory public disclosure for all companies and using transparency to create a "race to the top".

100%: support mandatory public reporting on opt-in/out.

100%: support dashboards and public transparency to foster ambition.

Low-bar Entry Level recognition

Majority support the concept of a low-bar entry recognition (70%).

20% oppose, preferring BVCM to remain high ambition.

Full Responsibility recognition tier as a high-ambition tier

Strong majority (89%) support the introduction of a "Full Responsibility" recognition tier as a high-ambition benchmark.

Entry Level recognition threshold

No clear consensus.

70% oppose the proposed Entry Level recognition threshold.

Preference for a more ambitious threshold, but mixed views on preferred approach: 30% favor scenario 2; 40% propose alternatives.

Full Responsibility recognition threshold

No clear consensus.

30%: Prefer the proposed Full Responsibility recognition threshold.

20%: Prefer scenario 4.

30% Disagree with all proposed options.

Differentiating what counts between tiers

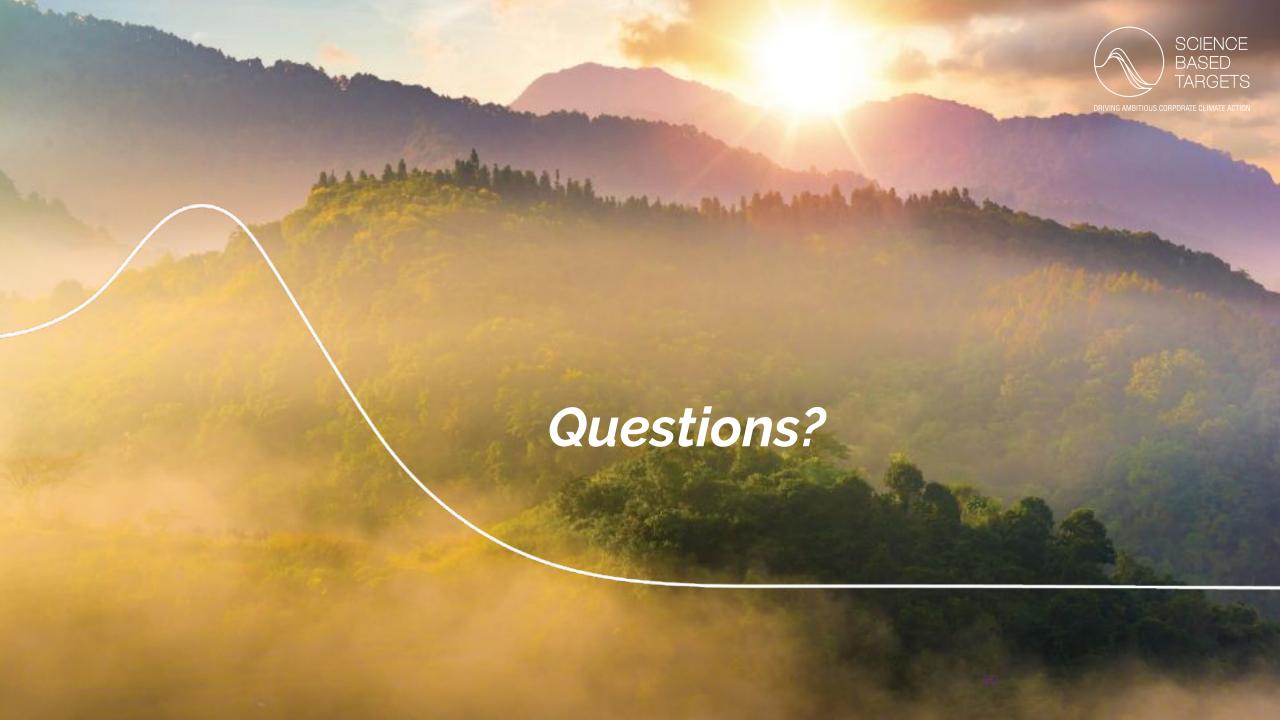
Respondents are divided on the proposal to differentiate what counts as eligible contributions between recognition tiers:

40% supporting differentiation

40% oppose it.

further work...

Areas requiring





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Since there is a potential overlap (depending on how we design the targets) there are risks which need to be managed

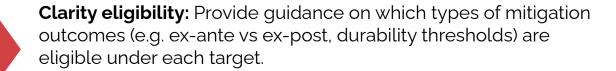


 Double claiming of removals: Risk that companies claim a single removal outcome for responsibility for ongoing emissions AND responsibility for residual emissions, undermining integrity and misleading stakeholders.



1. Unclear allocation against responsibility frameworks:

Companies may be uncertain about which removal activities qualify where. And if an activity is eligible under >1, they may be confused about where best to count it.



1. Confusion about what claims can be made: Without clear narrative guardrails, companies might make misleading claims (e.g. "net-zero now" via ongoing emissions responsibility).

Differentiate claim types: Establish distinct and complementary claims language for ongoing emissions responsibility, interim removal targets, and net-zero (and communicate examples).

targets and ongoing emissions responsibility targets are optional, and one is more demanding (e.g. requires higher durability), companies may disproportionately choose the easier pathway which risks undermining demand for high-durability removals, slowing market development and narrowing the mitigation portfolio.

Thoughtful design of targets: Ensure each target incentivizes distinct, complementary mitigation roles to avoid unintended substitution. Provide clear guidance and claims architecture that encourages companies to pursue both, supporting a balanced mitigation portfolio.

Assuming both interim removal targets and ongoing emission responsibility targets are <u>optional</u>, what "good options" exist to incentivize the right actions?

ex post

higher durability

to kick in in future



Design option	Durability of removals	Ex ante / Ex post removals	Risks	Guardrails
a) Distinct targets - overlap in eligibility	OER: all removalsIRT: all removals	OER: ex post and ex anteIRT: ex post	 Risk of double claiming against different responsibility frameworks No clarity about which target to count a removal towards 	 Define exclusive allocation rules Clear eligibility guidance Distinct claims architecture
b) Distinct targets - eligible removal types PARTIALLY split out	OER: Low durable removalsIRT: High durable removals	OER: ex post and ex anteIRT: ex post and ex ante?	Companies choose only to do OER and therefore no investment in higher durability solutions	Create incentives for companies to do both targets (e.g., potentially with lower entry level tiers across both)
c) Distinct targets - eligible removal types FULLY split out	OER: no removalsIRT: all removals	OER: n/aIRT: ex post and ex ante	Companies choose only to do OER and therefore no investment in removals	Create incentives for companies to do both targets (e.g., potentially with lower entry level tiers across both)
d) Merged into a single target framework	One target: all removals	One target: ex ante and ex post	Companies will look to deliver target as cost effectively as possible, potentially preventing spend on removals which are more expensive	 Minimum removal volume/ spend requirement with durability criteria Transparent tracking of contributions Claim framing tied to both goals.
e) Phased approach - signal mandatory target	Optional OER target to 2050: all removalsMandatory future target:	 OER: ex post and ex ante Mandatory future target: ex post 	Companies do cheaper avoidance/ reduction activities in early years, failing to scale CDR supply.	 Communicate mandatory removals criteria today to give companies time to prepare and signal supply constraints to

to scale CDR supply

encourage them to start to invest early

Group discussion

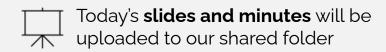
- → Which of the design options do you prefer, and why?
- → What challenges do you perceive with these options, and what guardrails could be used to manage these?
- → Are there other design options we should consider?

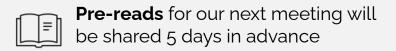


What to expect between now and our next meetings on 5th August [BVCM] and 6th August [CDR]...



Please respond to the invite for the in-person meetings, scheduled for 9th-11th September in London!





Any questions? You can reach us at:

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