The role of carbon credits in accelerated corporate action

May 2025

Version 1.0

Energy Transitions Commission

Scaling-Up Corporate Carbon Credits

In March 2025, SBTi published a draft revision of its Corporate Net-Zero Standard V2 (CNZS V2). The consultation period on this draft closes on June 1st, 2025.

In response, the ETC is publishing a briefing based on our 2022 Mind the Gap report generally endorsing the high-ambition corporate strategies set out by the SBTi's CNZS V2.

Building on our 2022 report, this briefing note aims to clarify the role of high-integrity carbon credits in scaling up carbon dioxide removals and achieving corporate net-zero targets.

ETC generally endorses the new SBTi Corporate Net-Zero Standard V2 and welcomes additional action on scaling carbon credits. ETC notes that corporate action here may be best based of costs of decarbonisation as a proportion of revenue, rather than absolute company size. In addition, we highlight an opportunity for SBTi to recognise companies that can achieve 'net-zero' ahead of the target year, including from today.

Building on ETC analysis (2022): Mind the Gap: How Carbon Dioxide Removals Must Complement Deep Decarbonisation to Keep 1.5°C Alive

And SBTi's draft for consultation (2025): SBTi Corporate Net-Zero Standard Version 2.0 – initial consultation draft with narrative

Acknowledgements and further resources

The Energy Transitions Commission (ETC) is a global coalition of leaders from across the energy landscape committed to achieving net-zero emissions by mid-century, in line with the Paris climate objective of limiting global warming to well below 2°C and ideally to 1.5°C.

Our Commissioners come from a range of organisations – energy producers, energy-intensive industries, technology providers, finance players and environmental NGOs – which operate across developed and developing countries and play different roles in the energy transition. This diversity of viewpoints informs our work: our analyses are developed with a systems perspective through extensive exchanges with experts and practitioners.

The ETC is chaired by Lord Adair Turner who works with the ETC team, led by Ita Kettleborough (Director), and Mike Hemsley (Deputy Director). The lead author of this briefing note is Elizabeth Lam with support from Elena Pravettoni.

The ETC team would like to thank the ETC members, member experts and the ETC's broader network of external experts for their active participation in developing the analysis underpinning this briefing note. And a special thank you to Scarlett Benson (Systemiq).

This briefing, *The role of carbon credits in accelerated corporate action*, builds on previous ETC work, including *Mind the Gap* (2022). However, the institutions with which ETC's Commissioners are affiliated have not been asked to formally endorse *The role of carbon credits in accelerated corporate action.*

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SYSTEMIQ

Executive Summary:

1) **Carbon credits are a necessary tool to finance carbon removals which are required to achieve the transition to a net-zero economy by mid-century and limit global warming to 1.5°C.** Carbon credits represent a tradable unit of carbon emission reductions or removals from one part of the economy to compensate for emissions in another part of the economy.

   Large-scale removals are required to counterbalance residual emissions that cannot be reasonably abated by 2050 to meet net-zero targets; ETC estimates around 150 $GtCO_2$ would be required by 2050. This would 10 $GtCO_2e$/year of removals by 2050 (equivalent to around 20% of global emissions today being removed), but we are off-track to achieving this, currently removing only 2 Gt $GtCO_2e$ /year.

2) **Corporate purchases of high-quality carbon removal credits should scale rapidly, as part of ambitious corporate net-zero targets.** Corporations play a key role in the carbon credits market, making up an estimated 90% or more of market activity today, with the rest from governments and philanthropy.[1]

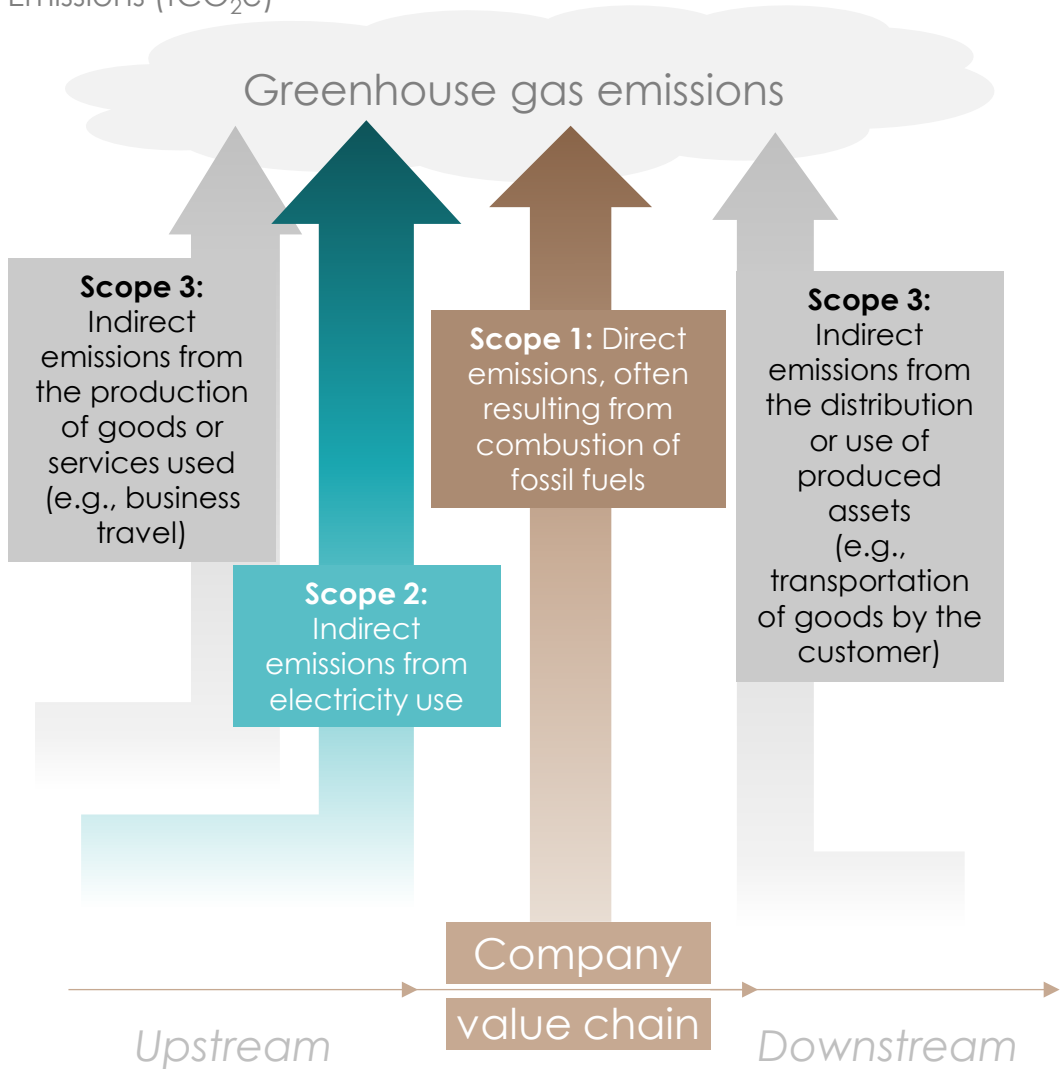
   Many leading corporates in climate action are validated by science-based net-zero targets, defined by the Science Based Targets initiative (SBTi). In March 2025, SBTi published its revised Corporate Net-Zero Standard V2 (CNZS V2) draft which proposes high-ambition guidelines for setting and achieving corporate net-zero targets. ETC generally endorses the high-ambition corporate strategies set out by the SBTi's CNZS V2. We suggest additional considerations:

   - **Corporate carbon removal action may be better based on the cost of decarbonisation a proportion of revenue** (rather than on company size and geography)
   - **Companies that address their Scope 3 targets should also be required to set near-term neutralisation targets to address Scope 3 residual emissions.** In support of also requiring near-term Scope 1 neutralisation targets to address residual emissions with carbon removals, which is an option suggested by the SBTi.
   - **Beyond net-zero pathway action to address ongoing emissions,** for example, with carbon removal or highly-additional reduction credits (e.g., funding early coal-phase out and ending deforestation in low-income countries) should be rewarded with a "gold star" equivalent for achieving net-zero today.

[1] Source: BNEF (2025), *Long-Term Carbon Credit Demand Outlook 2025*.
[2] ETC (2022), *Mind the Gap: How Carbon Dioxide Removals Must Complement Deep Decarbonisation to Keep 1.5 ℃ Alive*.

Exhibit 1

What are Scope 1, 2 and 3 emissions?

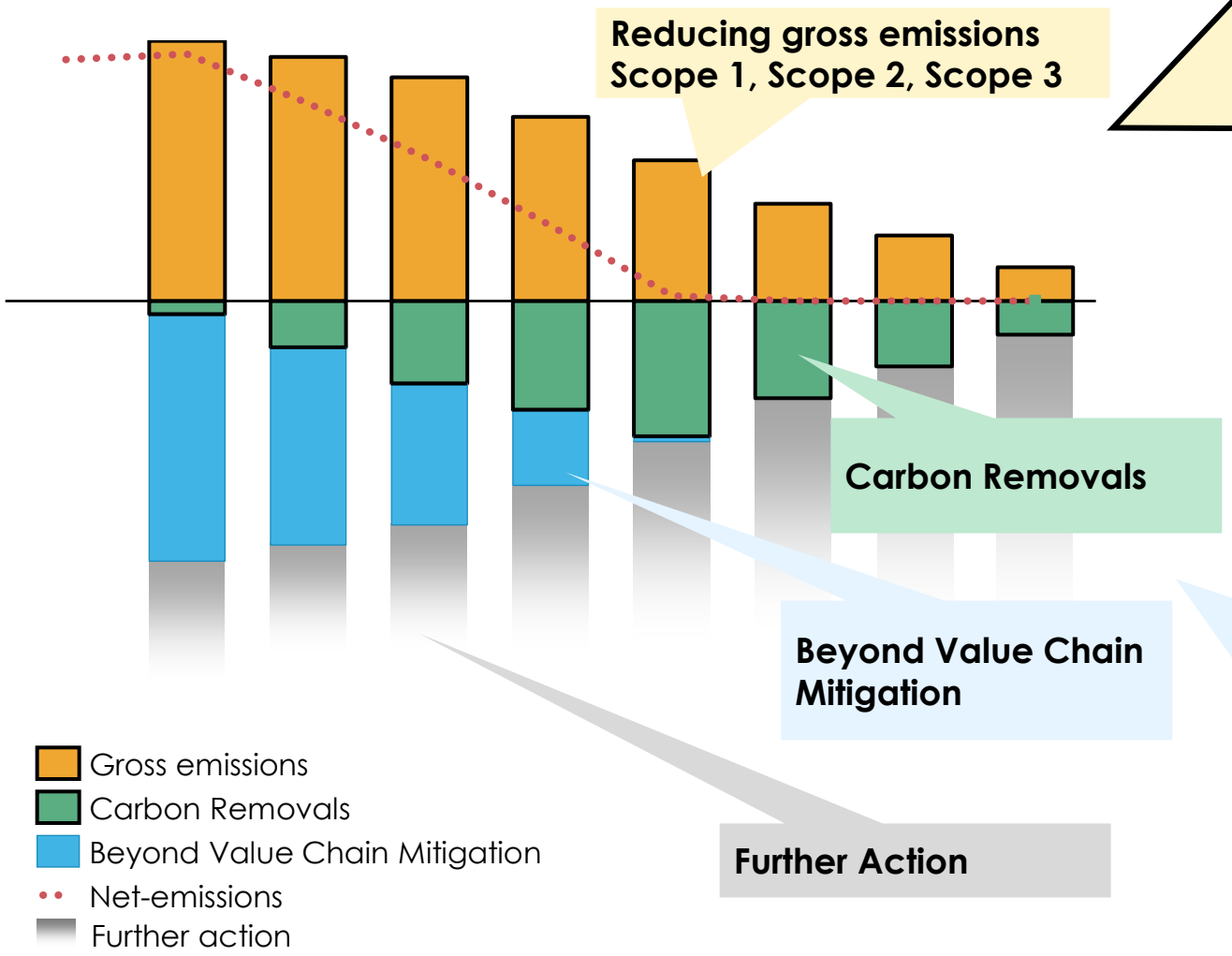


Source: Adapted from First Climate (2024), *What are Scope 1, Scope 2 and Scope 3 Emissions?*

Corporate net-zero pathways are based on several key elements

Exhibit 2

A high-ambition corporate net-zero pathway



Within the Net-Zero Pathway

- **Greenhouse gas emissions (GHGs):**
  - **Scope 1:** Direct emissions, mostly resulting from combustion of fossil fuels.
  - **Scope 2:** Indirect emissions from electricity use.
  - **Scope 3:**
    - Indirect emissions from the production of purchased materials (upstream – e.g., use of steel).
    - Indirect emissions from the distribution or use of produced assets (downstream – e.g., transportation of goods to consumer).
- **Carbon removals** to offset any residual emissions (that cannot be reduced from company value chains), thereby neutralising remaining emissions on the path to achieve net-zero.

Beyond the Net-Zero Pathway

depends on the type of company and its ability to pay

- **Beyond Value Chain Mitigation (BVCM)** to address the responsibility for ongoing corporate emissions. E.g.,
  - High-integrity carbon credits (removals, or reductions via early coal phase-out or stopping deforestation).[1]
  - Investment in low-carbon tech R&D.
- **Even further action** beyond corporate pathways.

[1] The use of "reduction credits" is used interchangeably with "avoidance credits".
Source: Systemiq analysis for the ETC.

ETC generally welcomes and endorses the proposals set out in the SBTi's Corporate Net-Zero Standard V2 for setting high-ambition corporate targets

ETC's view on SBTi's consultation

1) Provisions for ambition within net-zero aligned pathway to reduce emissions

Scope 1 & 2	**Set Scope 1 and Scope 2 emissions reduction targets** to achieve net-zero as quickly as possible and compensate for any emissions overshoot on the pathway with both high-integrity carbon removals credits and a steeper pathway to net-zero targets.
	Set near- and long-term Scope 1 neutralisation targets based on a portfolio of carbon removals to address residual emissions ahead of the net-zero target year.
Scope 3	**Set scope 3 emissions reduction targets** that cover all "high-impact"* scope 3 emissions on a net-zero pathway.
	Large companies should take responsibility for all Scope 3 emissions by the target year and thereafter, either through mitigation by the value chain partner, or through neutralisation

2) Provisions for ambition beyond net-zero aligned pathway to reduce emissions

If possible, **go beyond with pathway targets by setting "beyond value chain mitigation" (BVCM) targets**, which can include use of high-quality removals credits, to counterbalance ongoing emissions.

ETC suggests companies can go further by being 'net-zero' on the pathway to 2050 as well as at the target date

Scope 3

ETC supports near- and long-term Scope 3 neutralisation targets for companies that have the ability to pay for carbon removals credits ahead of the target year. However, a company with high decarbonisation costs may drive more impact by prioritising reducing emissions within value chain, reaching 'net-zero' in target year.

Beyond the net-zero pathway

ETC supports that companies which can achieve net-zero today with BVCM should be encouraged and recognised for doing so. *ETC recommendations in "Mind the Gap" previously laid out the need for this action. Companies may also go beyond this (e.g. by purchasing removals credits to account for historical emissions).*

Source: SBTi (2025) SBTi Corporate Net-Zero Standard Version 2.0 – initial consultation draft with narrative.

*"High-impact potential emissions" are defined by SBTi as either: > 1% of total Scope 3 emissions or >10,000 tCO_2e per year; on the SBTi's list of emissions-intensive activities in any tier of the value chain; or significant categories of emissions from Tier 1 suppliers.

**"Low-impact potential emissions" are defined by SBTi as emissions that fall outside of high-impact categories e.g., low emissions intensity within value chain (%) and low traceability suppliers.

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Context: the current landscape of corporate sustainability frameworks

Voluntary corporate participation in carbon markets currently makes up an estimated 90% or more of carbon market activity. SBTi and VCMI are two leading organisations providing corporate guidance around use of voluntary carbon credits. Meanwhile, more regulated disclosure of corporate use of carbon credits is being introduced, for example, in the EU via the CSRD.

Though overall carbon market activity has stagnated in the last few years, largely due to integrity concerns around carbon credits and global political and economic disruptions, the carbon market is evolving. Regulated corporate demand (e.g., through the EU Emissions Trading Scheme) and country demand (through Article 6 of the Paris Agreement) is expected to drive increased demand for carbon credits.

Science-Based Targets Initiative (SBTi):

SBTi is recognised as a leading body for corporate net-zero target setting and driver of corporate carbon credit demand.

- Almost 7500 companies have SBTi validated targets, of which, 1400 have net-zero targets.
- In 2023, the number of companies with SBTi validated targets represented 39% of the global economy by market capitalisation.
- SBTi companies have collectively reduced emissions by 29% between 2015 and 2020
- **SBTi's CNZS V2 public consultation closes on June 1st, 2025.**

Voluntary Carbon Markets Initiative (VCMI):

VCMI focuses on how companies use carbon credits within the net-zero corporate strategies set by the SBTi.

- A number of companies have joined the Early Adopters Program and are helping to develop methods to make VCMI claims.
- **In April 2025, VCMI published its Scope 3 Action Code of Practice** (based on a consultation involving more than 600 stakeholders from 31 countries) **providing a framework to help companies reduce Scope 3 emissions, and guidance on interim use of carbon credits on their net-zero by 2050 pathway.**

EU Green Claims Directive

The directive proposed aims to set clear and enforceable standards for environmental claims made by businesses that consumers can trust.

It requires transparency and substantiated environmental claims from businesses. Information must be provided about carbon credits used, (e.g., type, quantity, permanence and compliance with recognised standards). Companies must distinguish between reductions and removals.

EU Parliament is currently negotiating this directive with the Council, which could lead to implementation by February 2026.

Corporate Sustainability Reporting Directive (CSRD):

CSRD is an EU regulatory framework aiming to standardise and improve environmental, social, and governance (ESG) reporting across all large companies and listed entities in the EU.

- It mandates comprehensive disclosure of emissions, and any carbon credits purchased, including removals from within corporate value chains or beyond.
- **The European Commission is gradually phasing this in, starting with some select large companies in 2025, then extending to listed SMEs and non-EU parent companies by 2029.**

Sources: SBTi (2024), *SBTi Monitoring Report 2023*; Senken (2024), *VCMI: A Deep Dive into the Voluntary Carbon Markets Integrity Initiative*; Senken (2024), *What Companies in the EU Need to Know about Complying with the Corporate Sustainability Reporting Directive*; Publyon (2024), EU Green Claims Directive: its impact on business operations; Ceezer (2024), *What the CSRD means for carbon credit portfolios*.

Section 1: Carbon credits are a necessary tool to finance carbon removals and achieve the transition to a net-zero economy by mid-century and limit global warming to 1.5°C

- **There are two main categories of carbon credits which can be purchased;** use of credits should predominantly represent carbon removals, not reductions.
    1. **Removals** are needed to ensure we can meet the "net" in net-zero, as some sectors cannot abate all emissions through decarbonisation technologies available today.
    2. **Reductions** must be clearly additional, and only used for limited cases (e.g., ending deforestation and coal phase out in developing countries).
- **ETC projected that significant amounts of removals would be required for a 1.5°C aligned trajectory (150 $GtCO_2$ of cumulative removals by 2050).** However, there is a gap between current demand projections and ETC scenarios.
- **Carbon removals can be met both with natural** (e.g. trees), **engineered** (e.g. Direct Air Capture (DAC)), **or hybrid solutions** (e.g. Bioenergy with Carbon Capture and Storage (BECCS), biochar). Carbon removals must have high integrity, as defined by its permanence, leakage prevention, additionality, credibility, and quantification.
- **Carbon removals may need to account for a greater share than previously estimated to remain within climate targets, due to slower process** in some decarbonisation pathways. Scaling carbon dioxide removals at pace and scale will require very strong policy support, large-scale financing and significant technological progress.

There are two main categories of carbon credits which can be purchased

CARBON CREDITS:
Represent a tradable unit of reductions in emissions of carbon dioxide (CO_2) or greenhouse gases made by a company, sector or economy to compensate for emissions made elsewhere in the economy.

REMOVAL:
Projects that remove carbon from the atmosphere, and therefore 'neutralise' emissions.

Nature-Based Solutions (NBS)
e.g., afforestation/restoration or improved management solutions (enhanced soil carbon sequestration)

Energy-based solutions
e.g., Direct air capture (DAC)

REDUCTION:[1]
Projects that indirectly reduce emissions from entering the atmosphere outside of the buyer's value-chain.

Nature-Based Solutions (NBS)
e.g., avoided deforestation and forest degradation

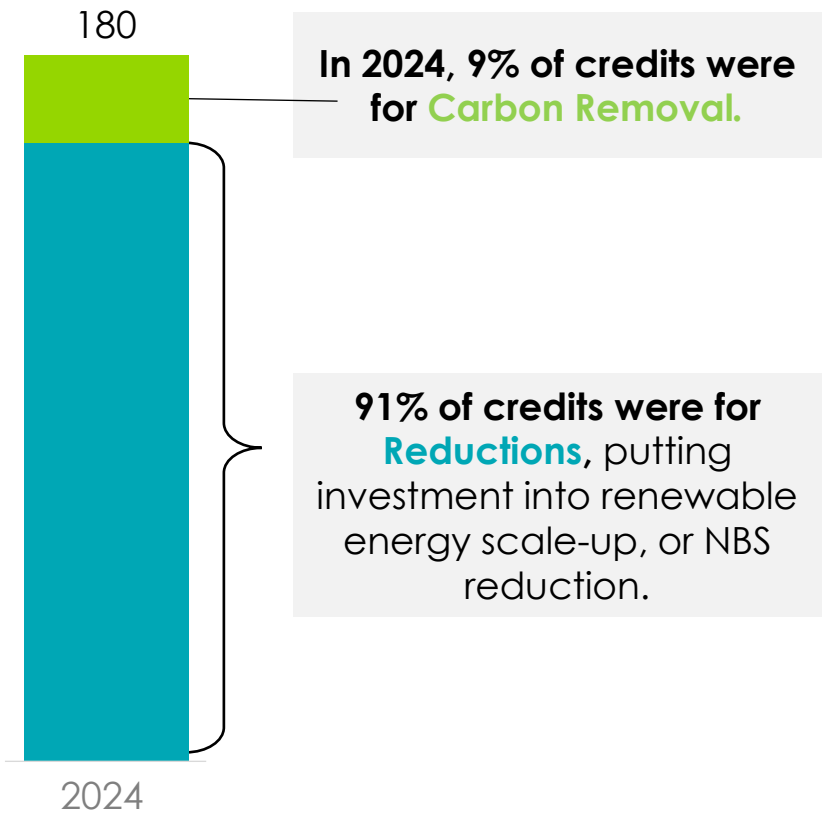
Energy-based solutions
e.g., renewable energy generation, methane capture & utilisation in low-income countries

[1] Some use a subset of reductions which include avoidance credits and reductions credits.

Exhibit 3

Demand for voluntary carbon credits 2024

$MtCO_2e$

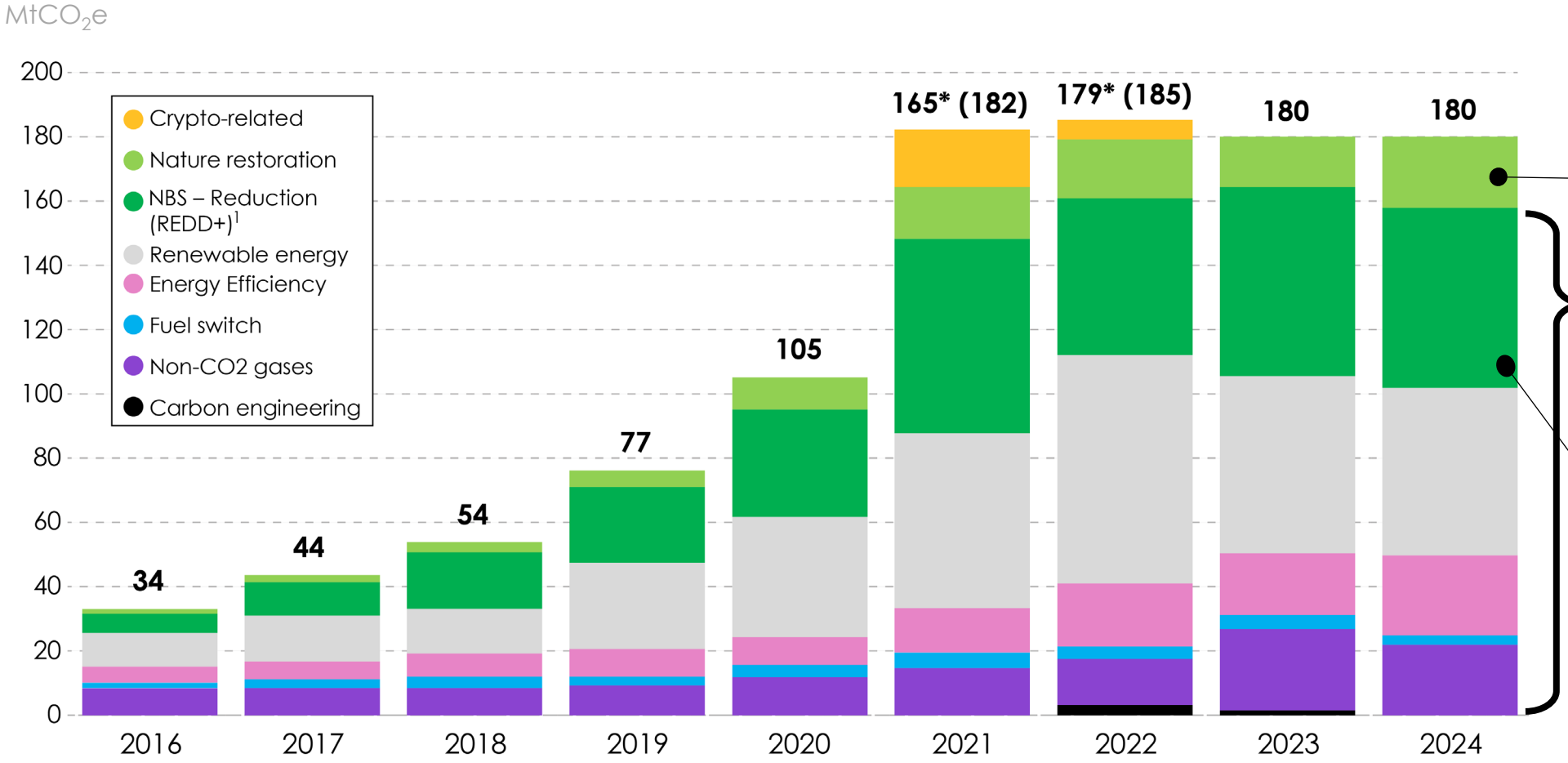


Source: MSCI (2025), *Frozen Carbon Credit Market May Thaw as 2030 Gets Closer*.

Exhibit 4

The vast majority of voluntary carbon credits purchased today are 'reduction' credits, not 'removals/neutralisation'

Demand for voluntary carbon credits 2016-2024



In 2024 9% of credits were for Carbon Removal.

The majority of credits are reduction offset credits, putting investment into renewable energy scale-up, or NBS reduction.

REDD+ refers to **avoided deforestation** as well as sustainable management of forest carbon stocks. These credits are NBS reductions.

[1] REDD+ refers to Reduced Emissions from avoided Deforestation and forest Degradation, as well as the sustainable management and enhancement of forest carbon stocks.

Source: MSCI (2025), *Frozen Carbon Credit Market May Thaw as 2030 Gets Closer*.

There are significant concerns about the integrity of carbon credits

TIME

Bogus Carbon Credits are a 'Pervasive' Problem, Scientists Warn

DIE ZEIT

Phantom Offsets and Carbon Deceit

Grist

Carbon offsets are 'riddled with fraud.' Can new voluntary guidelines fix that?

Le Monde

Brazil: Three carbon offset projects accused of being scams

The Guardian

Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows

POLITICO

Bogus carbon offsets increased emissions

The role of Reduction credits should be limited due to concerns about integrity and additionality; Removals should be prioritised

Reduction Credits

Trade in carbon reduction (or avoidance) credits can help to finance emissions reductions faster elsewhere, when countries and companies face high costs to reduce their own emissions.

- **Major concerns have been raised about additionality of reduction credits sold in some markets**, suggesting their use should be limited:
  - Credits might support progress (e.g., towards renewable energy) that may have occurred in any case and are therefore not additional.
  - Project credits, such as those for avoided deforestation, have been calculated and sold against baselines that overrepresent the actual threat to forests – leading to lack of additional, as well as integrity issues.
- **Some specific high-integrity reductions can play a useful role in addition to ambitious internal emissions reductions**. (e.g., early coal phase-out and ending deforestation) where crucial emissions reductions will only occur if supported by a financial flow from developed to developing countries.

Removals Credits

Removals credits are also required for a different purpose: closing the gap to net-zero by mid-century and fully offsetting residual gross emissions.

- **Removals credits can help fund many categories of removals which will only occur if someone pays for them**, for example, direct air capture and storage or reforestation projects.
- **Removals solutions vary in cost and permanence**; a portfolio of high-integrity solutions should be deployed on the route to net-zero.

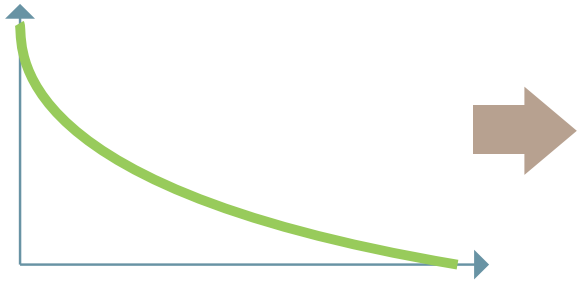
Source: ETC (2022), *Mind the Gap: How Carbon Dioxide Removals Must Complement Deep Decarbonisation to Keep 1.5℃ Alive*.

Exhibit 5

Carbon removals are crucial for staying within the carbon budgets for a 1.5°C pathway

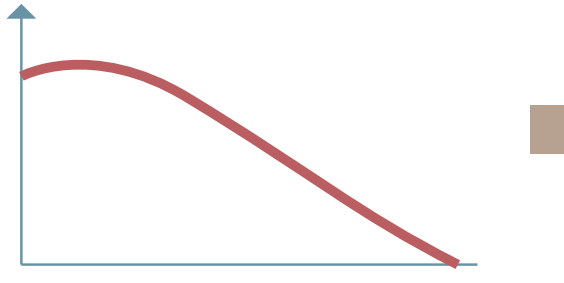
CDR is needed in addition to deep and rapid decarbonisation

The 1.5°C aligned carbon budget emissions trajectory looks a bit like this:



~500 Gt CO_2 (2020-2050)

But even ambitious decarbonisation scenarios look a bit like this:



~570-725 Gt CO_2 (2020-2050)

The carbon budget 'overshoot gap' – the amount of CDR needed to stay within the 1.5 C carbon budget – looks like this:

~70-225 Gt CO_2 (2020-2050)

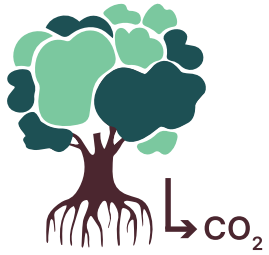
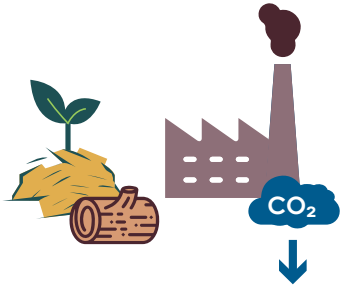
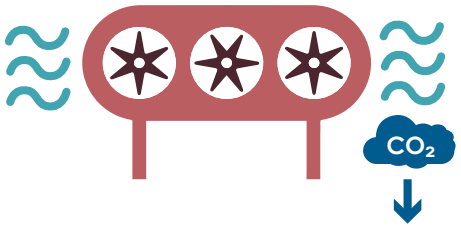
ETC Carbon Dioxide Removals scenario :

- **Total cumulative removals reaching up to 150 $GtCO_2$ over the period of 2020 to 2050**.
- Nature-based solutions providing almost all the pre-2030 removals, and most removals up to 2040.
- But with BECCS and DACCS growing rapidly in the 2030s and 2040s, and with removals via DACCS reaching 2–3 $GtCO_2$ per annum by 2050

Note: The 500 Gt CO_2 carbon budget was estimated at the beginning of 2020. The budget has since significantly reduced, increasing the need for removals.
Source: ETC (2022), *Mind the Gap: How Carbon Dioxide Removals Must Complement Deep Decarbonisation to Keep 1.5℃ Alive*.

Exhibit 6

There are several types of carbon removals solutions, with varying considerations, including around ensuring integrity

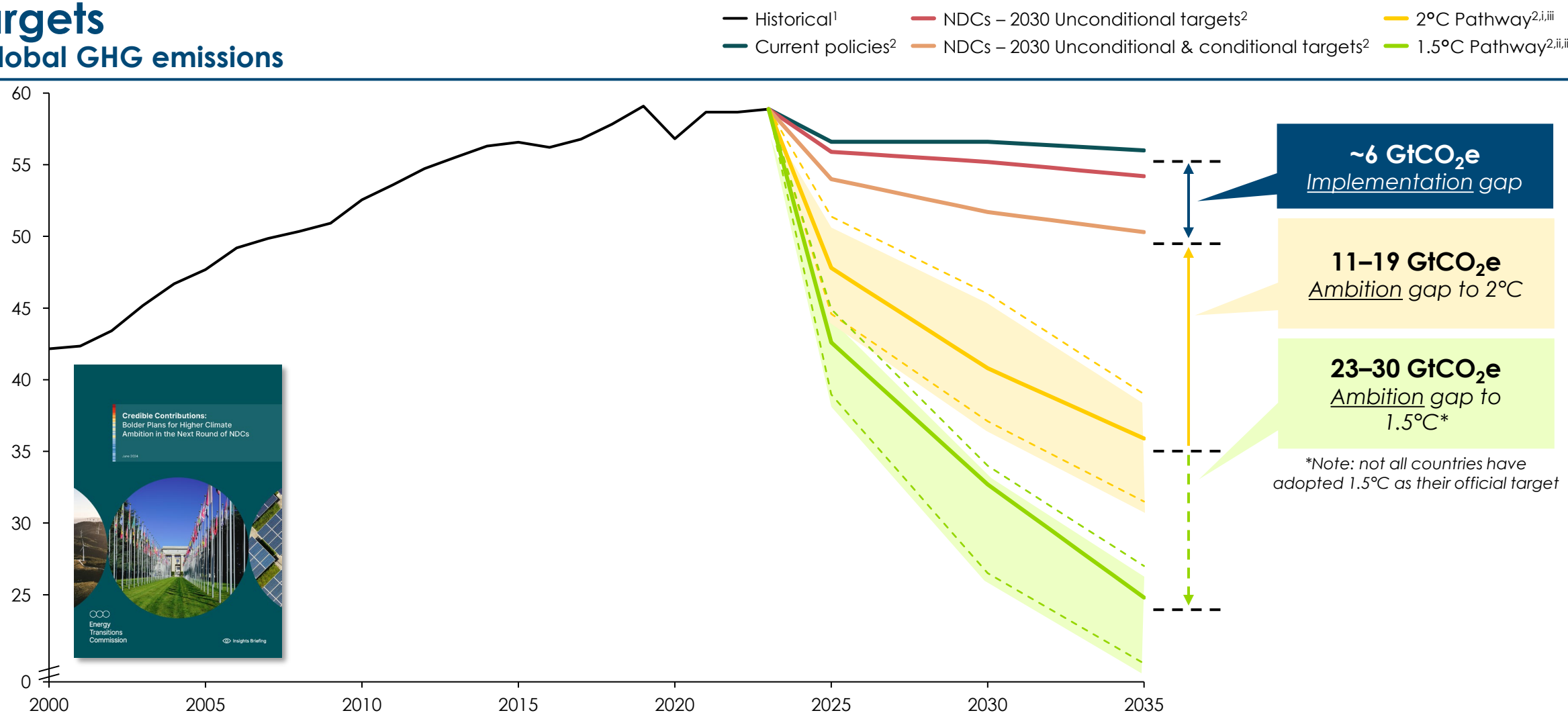
	NATURAL CLIMATE SOLUTIONS		HYBRID/BIOMASS WITH CARBON REMOVAL STORAGE		ENGINEERED SOLTUIONS
					
	‘RESTORE’	‘MANAGE’	BIOCHAR	BECCS	DACCS
WHAT?	Restore natural ecosystems (e.g., forests, peatlands)	Better manage current use of land	Burn biomass in absence of oxygen to slow decomposition	Produce energy from biomass then capture CO2 produced	Capture CO2 direct from air and store underground
RISKS	Permanence: carbon stored in biosphere is short-term	Permanence: carbon stored in biosphere is short-term	Feedstock: biomass feedstock not sourced sustainably	Feedstock: biomass feedstock not sourced sustainably	Moral hazard: clean power insufficiently available
CO-BENEFITS*	 Biodiversity; clean water; community economic return	 Biodiversity; clean water; community economic return; soil health	 Clean water; soil health	 Fossil free energy	 Skilled jobs

Source: ETC (2022), *Mind the Gap: How Carbon Dioxide Removals Must Complement Deep Decarbonisation to Keep 1.5 ℃ Alive - Infographic*.

Exhibit 7

Current global trajectory is far from reaching a 1.5°C pathway; carbon removals may therefore need to play an even bigger role to reach climate targets

Global GHG emissions



Notes: [i] Based on IPCC Working Group III Sixth Assessment Report scenario class c1 (limit warming to 1.5°C (>50%) with no or limited overshoot). [ii] Based on IPCC Working Group III Sixth Assessment Report scenario class c3 (limit warming to 2°C (>67%)). [iii] Range corresponds to range between tenth and ninetieth percentile, central line corresponds to median.

Sources: ETC (2024), Credible Contributions: Bolder Plans for Higher Climate Ambition in the Next Round of NDCs. Systemiq analysis for the ETC based on [1] IPCC (2022), *Metadata Browser: Data for Figure SPM.5 - Summary for Policymakers of the WGIII Contribution to the IPCC AR6*, [2] UNEP (2023), *Emissions Gap Report: Broken Record.*

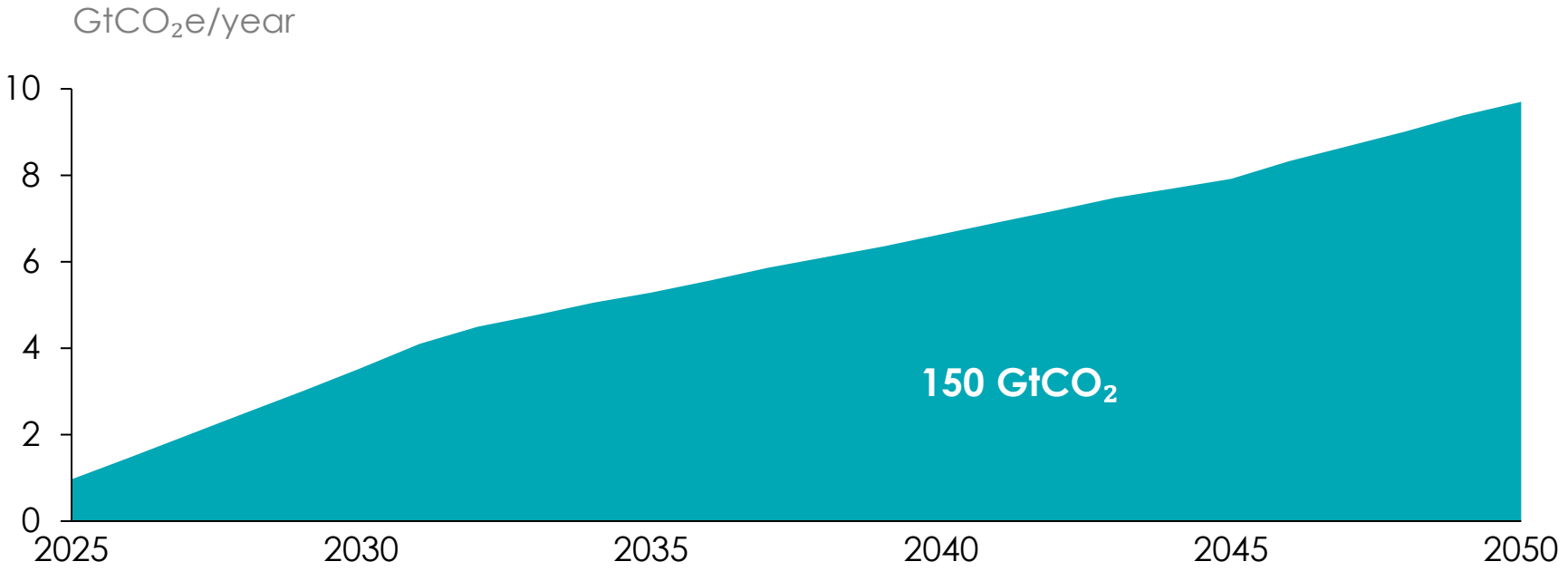
Section 2: Corporate purchases of high-quality carbon removal credits should scale rapidly, as part of ambitious corporate net-zero targets

- Government spend on carbon credits is currently limited due to available funding, but operalisation of international carbon markets (Article 6 of the Paris Agreement) is expected to increase demand for carbon credits. Philanthropy also supports carbon removals projects (e.g., afforestation, investment in DAC) however funds are becoming more stretched and diverted towards other uses.
- **Scaling carbon credits therefore significantly relies on corporate purchases**.
- The SBTi's CNZS V2 draft proposes new corporate guidance for consultation. ETC generally endorses the following priority actions, **including an expanded role for carbon credits**:
  - **Within the net-zero pathway, companies should:**
    - Set Scope 1 and Scope 2 emissions reduction targets aiming to achieve net-zero as quickly as possible.
    - Set near-term Scope 1 neutralisation targets to address residual emissions ahead of the net-zero target year. Net-zero Scope 2 targets should not include any residual emissions.
    - Set Scope 3 emissions reduction targets that cover all "high-impact" Scope 3 emissions on a net-zero pathway.
    - Companies that have low costs of decarbonisation could also gain recognition for neutralising residual/"low-impact" Scope 3 emissions to achieve a net-zero target that covers 100% of Scope 3 emissions.
  - **Companies with a low cost of decarbonising their own value chain (as a proportion of revenue), can also go beyond the net-zero pathway:**
    - By setting "beyond value chain mitigation" (BVCM) targets, which can include use of high-quality removals credits to offset ongoing emissions.

Exhibit 8

ETC estimates that carbon removals must reach 10 $GtCO_2$/year by 2050 on a 1.5°C-aligned pathway

Carbon removals requirements to 2050 on a 1.5°C aligned pathway



Accelerated corporate action – and the introduction of near-term removals - could help to further scale Carbon Removal deployment

ETC Carbon Dioxide Removals scenario :

- Total cumulative removals reaching up to 150 $GtCO_2$ over the period of 2025 to 2050.[1]
- Nature-based solutions providing almost all the pre-2030 removals, and most removals up to 2040.
- But with BECCS and DACCS growing rapidly in the 2030s and 2040s, and with removals via DACCS reaching 2–3 $GtCO_2$ per annum by 2050

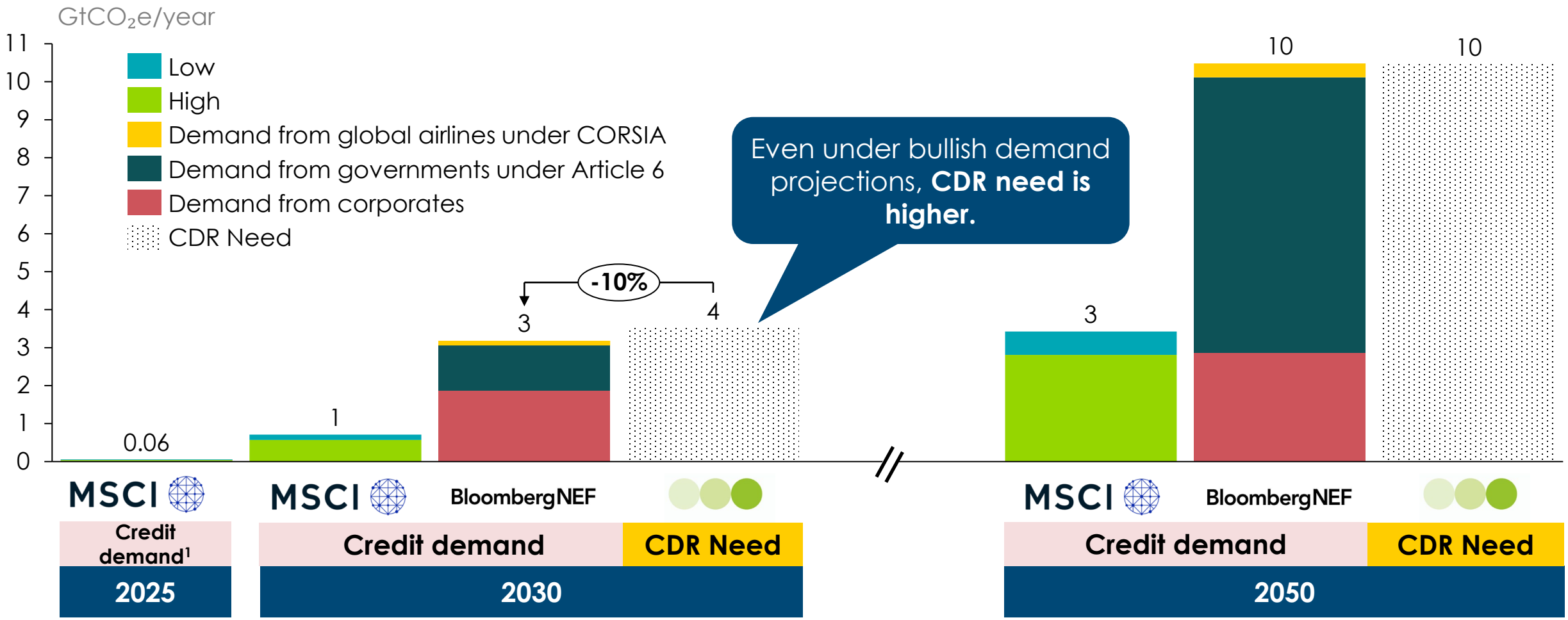
[1] This amount has been revised slightly downwards from the 165 GtCO2 of cumulative removals originally included in the Mind the Gap report, to account for some carbon utilisation from CO2 that is captured via DACC.

Source: ETC (2023), Fossil Fuels in Transition: Committing to the phase-down of all fossil fuels.

Exhibit 9

Carbon credit demand projections see substantial shortfall compared to ETC need

Demand projections for carbon market vs. ETC CDR pathway



Source: BNEF (2025), *Long-Term Carbon Credit Demand Outlook 2025*. Corporate demand is BNEF's 'price elastic' scenario; MSCI Carbon Markets (2025), *Frozen Carbon Credit Market May Thaw as 2030 Gets Closer*.

Notes: *MSCI credit volume calculated by multiplying projected market size ($) by ETC average cost of carbon removal in each year ($/tCO$_2$). CORSIA*= Carbon Offsetting and Reduction Scheme for International Aviation is a global market-based measure developed by the International Civil Aviation Organization (ICAO) to address carbon emissions from international flights.

Current levels of funding for carbon credits are limited from governments and philanthropy compared with corporates

Governments can purchase carbon removals both internationally and domestically. Article 6 of the Paris Agreement allows countries to trade carbon credits towards their domestic targets, such as nationally determined contributions (NDCs). The global carbon market, operational since 2024, still needs refinement and monitoring to scale effectively. BNEF estimates that Article 6 demand could reach 1.2 $GtCO_2e$ by 2030 and 7.2 $GtCO_2e$ by 2050, with regions like the European Union being net importers of carbon credits. However, the growth in demand requires a high-integrity carbon credit supply, which is currently under scrutiny due to greenwashing accusations.

Philanthropy helps to fund carbon removals projects and carbon credit supply, for example, through reforesting (e.g., Trees for Life in Scotland) or re-wilding projects (e.g., Durrell's Rewild Carbon project in the Atlantic Forest in Brazil) or investing in emerging technologies such as Direct Air Capture (DAC). In 2023, philanthropic funding for carbon removal reached $175 million per year, according to ClimateWorks. However, philanthropic money is being increasingly diverted to plug aid gaps and is unlikely to reach the scale required to fund necessary carbon removals globally.

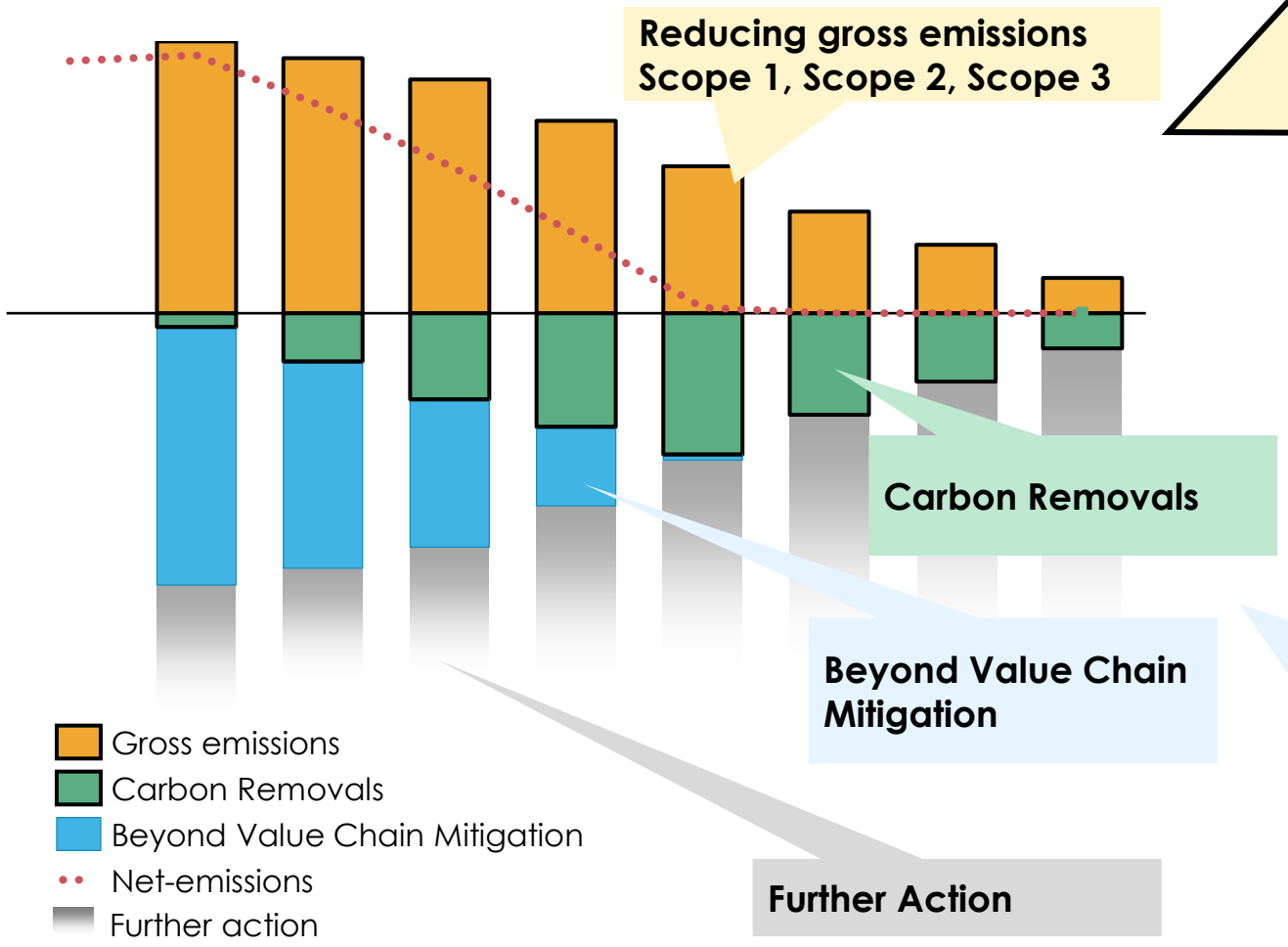
Corporate action currently makes up an estimated 90% or more of carbon market activity.[1] Carbon credits paid by corporates could remain a key solution if demand is inelastic to cost (BNEF estimates it could reach 7 $GtCO_2e$ in 2050) in which case, demand for these credits is going to be a key issue, alongside rising government demand. However, BNEF expect demand may remain highly elastic as it is today – sensitive to price and reputational risk. In which case their base-case estimates reaching 1.9 $GtCO_2e$ in 2030 and 2.9 $GtCO_2e$ in 2050.

[1] Source: BNEF (2025), *Long-Term Carbon Credit Demand Outlook 2025*.

Exhibit 10

Corporate net-zero pathways are based on several key elements

A high-ambition corporate net-zero pathway



Source: Systemiq analysis for the ETC.

Within the Net-Zero Pathway

- **Greenhouse gas emissions (GHGs):**
  - **Scope 1:** Direct emissions, mostly resulting from combustion of fossil fuels.
  - **Scope 2:** Indirect emissions from electricity use.
  - **Scope 3:**
    - Indirect emissions from the production of purchased materials (upstream – e.g., use of steel).
    - Indirect emissions from the distribution or use of produced assets (downstream – e.g., transportation of goods to consumer).
- **Carbon removals** to offset any residual emissions (that cannot be reduced from company value chains), thereby neutralising remaining emissions on the path to achieve net-zero.

Beyond the Net-Zero Pathway

depends on the type of company and its ability to pay

- **Beyond Value Chain Mitigation (BVCM)** to offset ongoing corporate emissions. E.g.,
  - High-integrity carbon credits (removals, or reductions from early coal phase-out or stopping deforestation).
  - Investment in low-carbon tech R&D.
- **Even further action** beyond corporate pathways.

Exhibit 11

Multiple strategies have been set out for corporate net-zero pathways

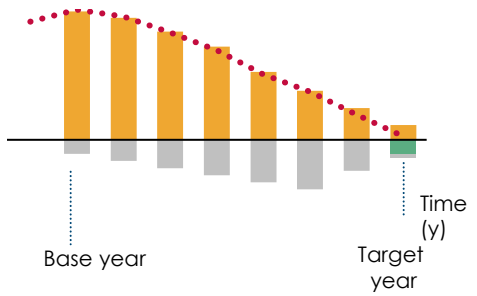
Corporate net-zero strategy pathways

tCO_2e

Gross emissions
Removals 'Neutralisation'
Reduction or Removals Offsets (expected)
Reduction or Removals Offsets (encouraged)
Net-emissions[1]

STBi NZCS v1

Emissions abatement in line with science

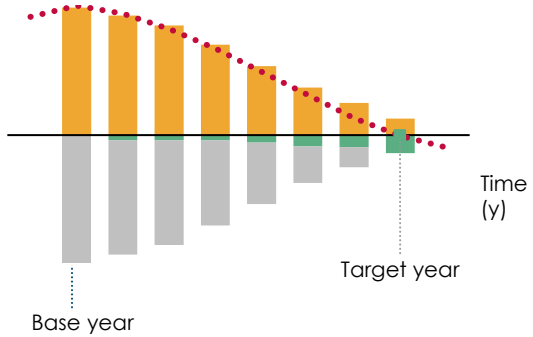


Firms curtail GHG emissions at a pace and scale consistent with 1.5°C emission pathways– for most sectors, this means reaching zero positive emissions.

Any remaining emissions after 1.5°C reductions should be neutralised. BVCM is also recommended.

SBTi NZCS V2

Emissions abatement in line with science. With proposed near-term removals requirements and optional BVCM.



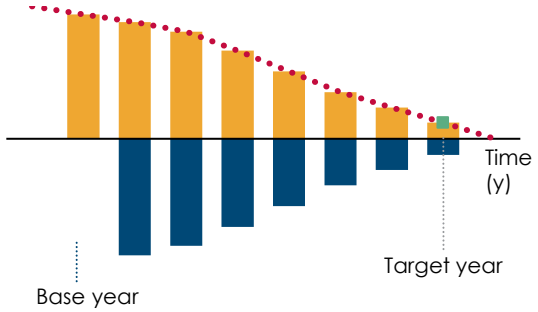
While reducing emissions at a pace and scale consistent with 1.5°C, remove CO_2e now (nature-based removal) or as soon as possible (through technology-based removal).

Neutralise residual Scope 1 emissions by purchase of removals credits ahead of target date. And optionally, be recognised for further action with BVCM.

VCMI

Platinum Claim

Accelerating corporate engagement with voluntary carbon markets



First, set near term reduction targets and demonstrate progress towards them.

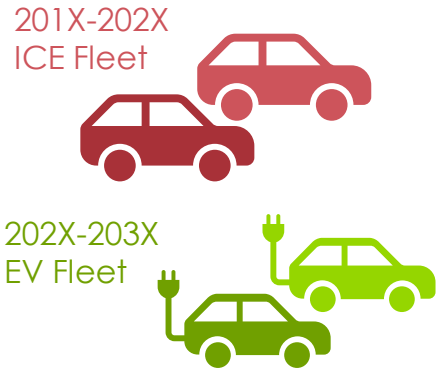
Then, select a claim (silver, gold platinum) and retire CCP-approved credits (reduction or removals) equal to a % of remaining emissions. Platinum covers 100%.

[1] Net emissions as defined by IPCC (remaining emissions neutralised with removals)
Source: Adapted from WEF Alliance Carbon Removal; SBTi Net Zero paper 2020; BCG Analysis

It is recognised that addressing Scope 3 emissions is challenging

Each company's indirect emissions are someone else's direct emissions. Traceability can be challenging in global supply chains with multiple levels of suppliers/distributors. Also, year-on-year Scope 3 emissions fluctuate based on company's activity, and when viewed in isolation, can conceal actions aligned with long-term emission reduction strategies.

For example: If in 202X, a company replaces its fleet of internal combustion engine vehicles (ICE) with electric vehicles (EV), it will have higher Scope 3 emissions in 202X, but this decision will have lasting emissions reductions effects.



However, making companies accountable for their scope 3 emissions has potential to make the most significant impact towards reducing emissions.

SBTi's NZCS V2 Scope 3 Proposal (2025):

Places greater emphasis on targeting the most emission-intensive activities and greatest influence potential within company value chains.

- **"High-impact potential emissions"** are defined as either:
  - > 1% of total Scope 3 emissions or >10,000 tCO_2e per year
  - on the SBTi's list of emissions-intensive activities in any tier of the value chain
  - Significant categories of emissions from Tier 1 suppliers
- **"Low-impact potential emissions"** are emissions that fall outside of high-impact categories e.g., low emissions intensity within value chain (%) and low traceability suppliers.

- **Proposes greater target setting optionality:** encouraging companies to set transition metric/alignment targets, and optionally absolute emissions or emission intensity targets.
- **Allows greater flexibility for achieving and measuring progress**, including interventions at the activity-pool level (e.g., supply sheds) when direct traceability is not feasible. It also recognises the use of "indirect mitigation" approaches (e.g., book-and-claim commodity certificates) where persistent barriers prevent mitigation at the source.

VCMI's Scope 3 Action Code of Practice (2025):

The Scope 3 Action Code of Practice proposes an interim use of carbon credits on the pathway to achieving scope 3 emissions reductions targets. VCMI outlines the following guardrails to embed integrity and ensure that it cannot be used to greenwash:

- **Companies must first qualify by demonstrating progress** towards ambitious Scope 1 and Scope 2 targets on the pathway to reaching net-zero emissions by no later than 2050.
- It must publicly disclose barriers to reducing Scope 3 emissions and actions taken to remove current and remaining barriers.
- **It must calculate the emissions gap**: the difference between the company's Scope 3 emissios in the most recent reporting year and where they need to be on their near-term science-aligned target.
- **Companies are required to retire high-quality carbon credits in an equal amount to at least their entire scope 3 emissions gap;** however this must be no more than 25% of the company's Scope 3 trajectory emissions.

Source: SBTi (2025) SBTi Corporate Net-Zero Standard Version 2.0 – initial consultation draft with narrative; VCMI (2025) *Claims Code of Practice*.

ETC generally welcomes and endorses the proposals set out in the SBTi's Corporate Net-Zero Standard V2 for setting high-ambition corporate targets

ETC's view on SBTi's consultation

1) Provisions for ambition <u>within</u> net-zero aligned pathway to reduce emissions

Scope 1 & 2	**Set Scope 1 and Scope 2 emissions reduction targets** to achieve net-zero as quickly as possible and compensate for any emissions overshoot on the pathway with both high-integrity carbon removals credits and a steeper pathway to net-zero targets.
	Set near- and long-term Scope 1 neutralisation targets based on a portfolio of carbon removals to address residual emissions ahead of the net-zero target year.
Scope 3	**Set scope 3 emissions reduction targets** that cover all "high-impact"* scope 3 emissions on a net-zero pathway.
	Large companies should take responsibility for all Scope 3 emissions by the target year and thereafter, either through mitigation by the value chain partner, or through neutralisation

2) Provisions for ambition <u>beyond</u> net-zero aligned pathway to reduce emissions

If possible, **go beyond with pathway targets by setting "beyond value chain mitigation" (BVCM) targets**, which can include use of high-quality removals credits, to counterbalance ongoing emissions.

ETC suggests companies can go further by being 'net-zero' on the pathway to 2050 as well as at the target date

Scope 3

ETC supports near- and long-term Scope 3 neutralisation targets for companies that have the ability to pay for carbon removals credits ahead of the target year. However, a company with high decarbonisation costs may drive more impact by prioritising reducing emissions within value chain, reaching 'net-zero' in target year.

Beyond the net-zero pathway

ETC supports that companies which can achieve net-zero today with BVCM should be encouraged and recognised for doing so. *ETC recommendations in "Mind the Gap" previously laid out the need for this action. Companies may also go beyond this (e.g. by purchasing removals credits to account for historical emissions).*

Source: SBTi (2025) SBTi Corporate Net-Zero Standard Version 2.0 – initial consultation draft with narrative.

*"High-impact potential emissions" are defined by SBTi as either: > 1% of total Scope 3 emissions or >10,000 tCO_2e per year; on the SBTi's list of emissions-intensive activities in any tier of the value chain; or significant categories of emissions from Tier 1 suppliers.

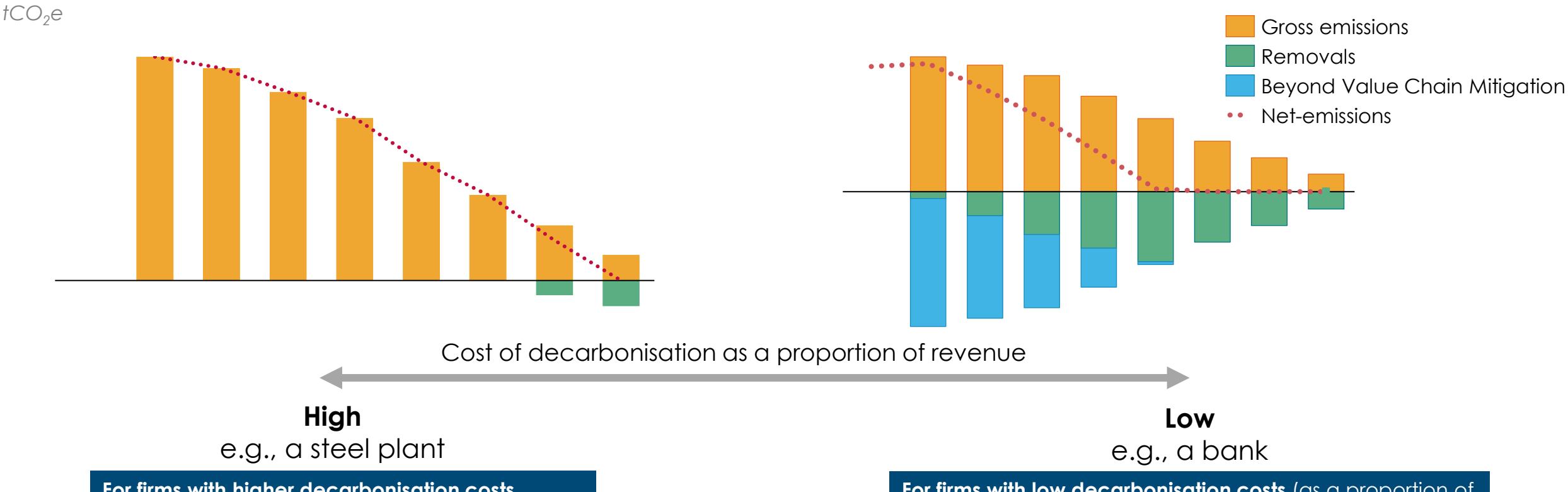
**"Low-impact potential emissions" are defined by SBTi as emissions that fall outside of high-impact categories e.g., low emissions intensity within value chain (%) and low traceability suppliers.

Exhibit 12

What should a responsible company do? There could be a continuum of action

A company's decarbonisation pathway could be based on the cost of decarbonisation as a proportion of revenue. A company with high decarbonisation costs could better use money to reduce emissions within its own value chain than purchasing credits for reductions elsewhere in the economy. The ETC set out this distinction in *Mind the Gap* (2022).

Decarbonisation Pathways to Net-Zero



For firms with higher decarbonisation costs money may be better spent on decarbonising own operations, rather than investing in carbon credits to compensate emissions.

For firms with low decarbonisation costs (as a proportion of revenue) **or with high Scope 2 and 3 emissions**, high impact strategies should focus on emissions removals alongside decarbonising own operations.

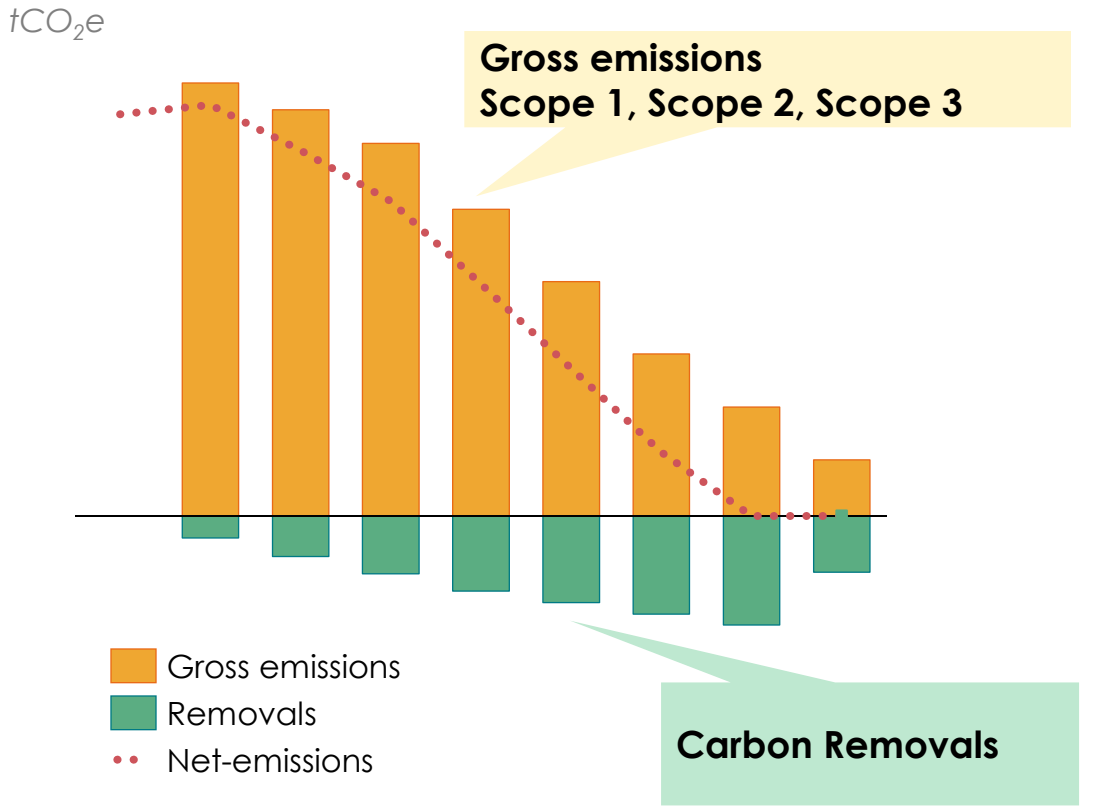
Source: ETC (2022), *Mind the Gap: How Carbon Dioxide Removals Must Complement Deep Decarbonisation to Keep 1.5℃ Alive*.

Ambitious corporate net-zero pathways should focus on reducing within value chain emissions as much as possible & neutralising residual emissions by 2050

Scope 1 & 2	**Set Scope 1 and Scope 2 emissions reduction targets** aiming to achieve net-zero as quickly as possible.	Covers 100% of scope 2 emissions
	Set near-term Scope 1 neutralisation targets to address some residual emissions ahead of the net-zero target year.	Covers 100% of scope 1 emissions
Scope 3	**Set scope 3 emissions reduction targets** that cover all "high-impact"* scope 3 emissions on a net-zero pathway.	Covers 100% of scope 3 emissions
	Large companies should take responsibility for all Scope 3 emissions by the target year and thereafter, through mitigation by value chain partner or neutralisation.	
	ETC builds on this, supporting near- and long-term Scope 3 neutralisation targets for companies that can pay for carbon removals credits ahead of the target year.	

Exhibit 13

A high-ambition corporate net-zero strategy



Source: Systemiq analysis for the ETC.

*"**High-impact potential emissions**" are defined as either: > 1% of total Scope 3 emissions or >10,000 tCO_2e per year; on the SBTi's list of emissions-intensive activities in any tier of the value chain; or significant categories of emissions from Tier 1 suppliers.
"residual scope 3 emissions**" are emissions that fall outside of the "high-impact potential emissions" categories.

Scope 1 reductions and the role of credits

Set Scope 1 emissions reduction targets aiming to achieve net-zero as quickly as possible.

- However, if companies fall short on near-term reduction targets, they should
  - Compensate shortfall via equivalent removals
  - Adjust target pathway to continue to meet target date.

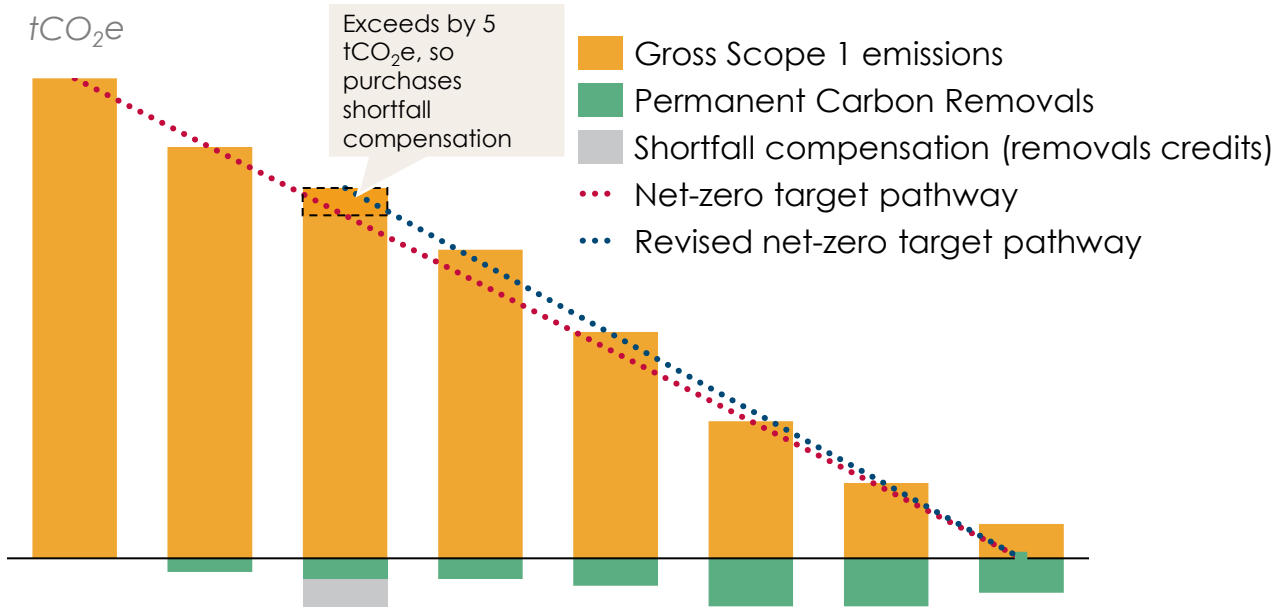
Set near-term Scope 1 neutralisation targets to address residual emissions ahead of the net-zero target year.

- Companies should be recognised for setting near-term neutralisation targets to help finance and scale removals over time to address residual scope 1 emissions by 2050.
- For companies with no expected residual Scope 1 emissions, they should be encouraged to participate in beyond value chain mitigation if possible.

Source: SBTi (2025), *Documentation of target setting methods*.

Exhibit 14

Illustrative example: Scope 1 reductions



Source: Systemiq analysis for the ETC.

Illustrative example: A passenger car manufacturing company called Electric Motors sets its Scope 1 net-zero target by 2050. Its base year is 2015, and it reviews its near-term targets every 5 years.

- In 2025, it exceeds its near-term target by 5 tCO_2e. To remain on-target to achieving net-zero by 2050 and account for excess emissions on original target pathway, it purchases high-integrity carbon removals credits equivalent to emission overshoot in 2025 and adjusts their net-zero pathway slope.
- Meanwhile, it also purchases carbon removal credits towards neutralising their residual emissions by 2050.

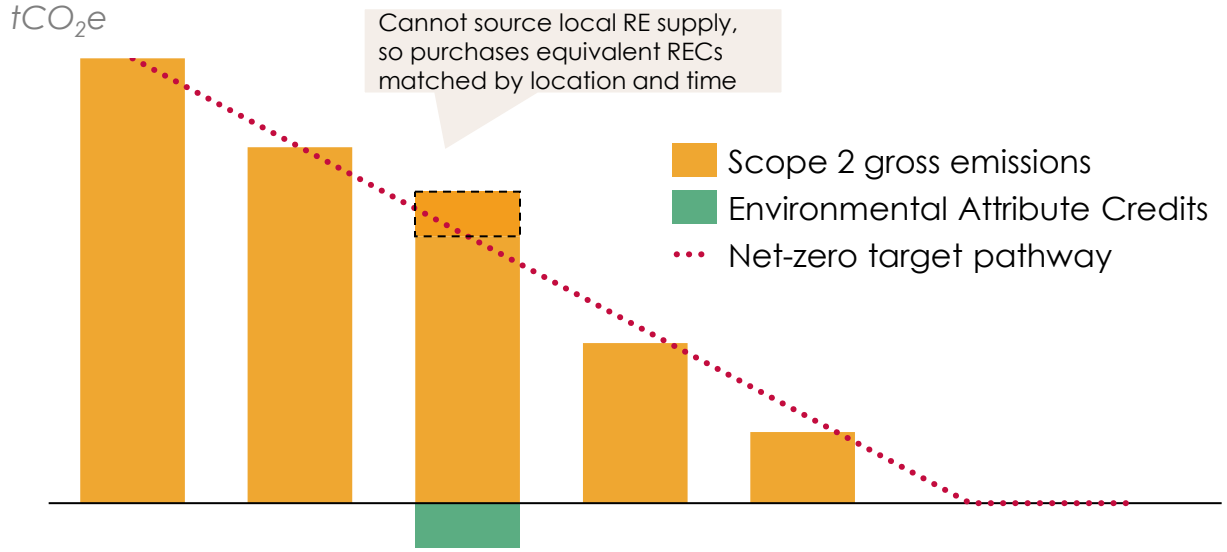
Scope 2 reductions and the role of credits

Set Scope 2 emissions reduction targets aiming to achieve net-zero as quickly as possible.

- **Companies should reduce 100% their Scope 2 emissions by latest 2040, by transitioning to zero-carbon energy and reducing use of fossil fuels.**
- **If companies face challenges sourcing zero-carbon electricity locally, there may be a role for use of time-limited renewable energy credits (RECs), or at last resort, carbon removals credits, to compensate for the shortfall.**
  - If companies cannot source zero-carbon electricity (often due to regulatory constraints for grid), they can source zero-carbon electricity from other grids for a limited period.
  - If companies face challenges using renewable energy within own value chain, well-designed Environmental Attribute Certificates (including RECs and Guarantees of Origin) could have a role. Any purchase must be from projects geographically matched to the company's operations and time-matched to the use of power, to ensure additionality.
  - As a last resort, carbon removals credits could play an interim role to address any emissions overshoot on the net-zero pathway, if sourcing high-quality geographic or time-matched RECs is not possible.

Exhibit 15

Illustrative example: Scope 2 reductions



Source: Systemiq analysis for the ETC.

Illustrative example: Passenger car manufacturing company, Electric Motors, set a Scope 2 target of net-zero by 2040.

- In 2025, it sources some electricity for its offices and factories from local renewable sources.
- However, most of the company's value chain is located sparsely populated areas that cannot guarantee direct supply of electricity from renewable sources. Therefore, Electric Motors chooses to purchase renewable energy credits towards new wind and solar energy projects in the country of operation. It uses these credit certificates towards it Scope 2 emissions reductions in 2025. By 2030, Electric Motors can directly source renewable electricity through its connected grid, so it no longer purchases certificates.

Scope 3 reductions and the role of credits

- **Companies should identify 100% of their scope 3 emissions and categorise them to focus on meaningful action by**:
  - "High-impact potential emissions" defined as either from Tier 1 suppliers with high traceability, > 5% of total Scope 3 emissions, > 1% of total Scope 3 emissions or >10,000 tCO_2e and on the SBTi's list of activities in any tier of the value chain.
  - "Low-impact potential emissions" e.g., low emissions intensity within value chain (%) and low traceability suppliers.

Set scope 3 emissions reduction targets that cover all "high-impact" scope 3 emissions on a net-zero pathway.

- In cases where Scope 3 emissions cannot be directly mitigated (e.g. HTA), there could be a role for time-limited energy and commodity EACs. E.g., companies may address their Scope 3 emissions from corporate travel by purchasing Sustainable Aviation Fuel (SAF) certificates, though they may not be able to guarantee SAF is used in the flights they book.

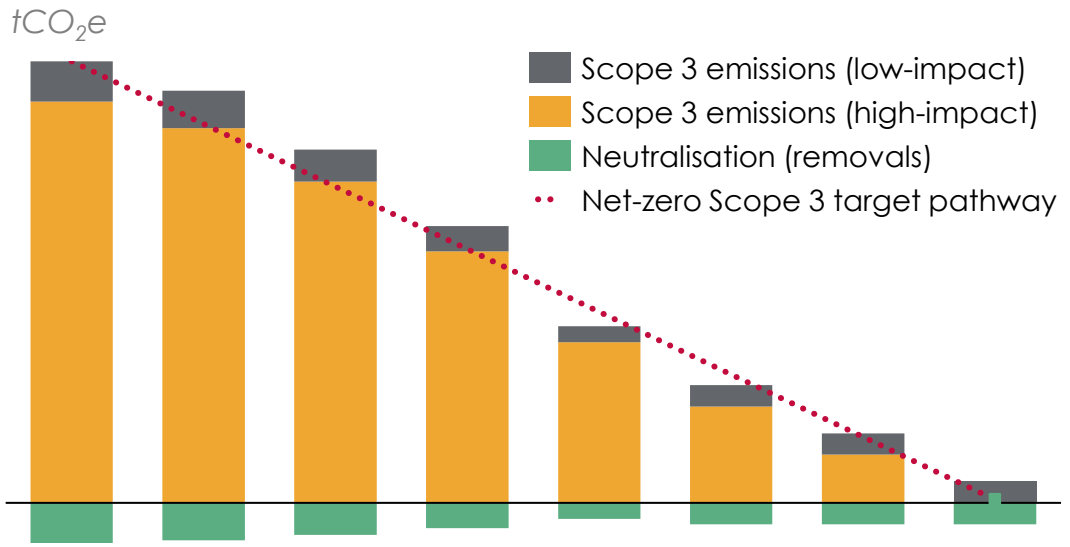
Gain recognition for ensuring that all Scope 3 emissions are neutralised either by the value chain partner responsible for the emissions or by providing support to enable this.

- Companies with "low-impact" residual Scope 3 emissions could address these by increasing traceability within their supply chains and reducing these emissions directly, or by offsetting the emissions with high-integrity removals credits by the target year and beyond.

Exhibit 16

ETC's view on SBTi's consultation

Illustrative example: Scope 3 reductions



Source: Systemiq analysis for the ETC.

Illustrative example: Passenger car manufacturer, Electric Motors, sources materials and parts from many suppliers.

- Within its net-zero Scope 3 target, it prioritises reducing "high-impact" emissions which includes harder-to-abate sectors such as steel and aluminium production, plastics and mining critical materials for its batteries. It holds a direct relationship with many of these suppliers.

- However, its wires are assembled by a supplier who sources materials (including copper, plastics, specialty metals) from many other suppliers. These contribute only a fraction of a percentage to overall Scope 3 emissions, so it classifies these as "low-impact" emissions and chooses to offset these with carbon removals credits.

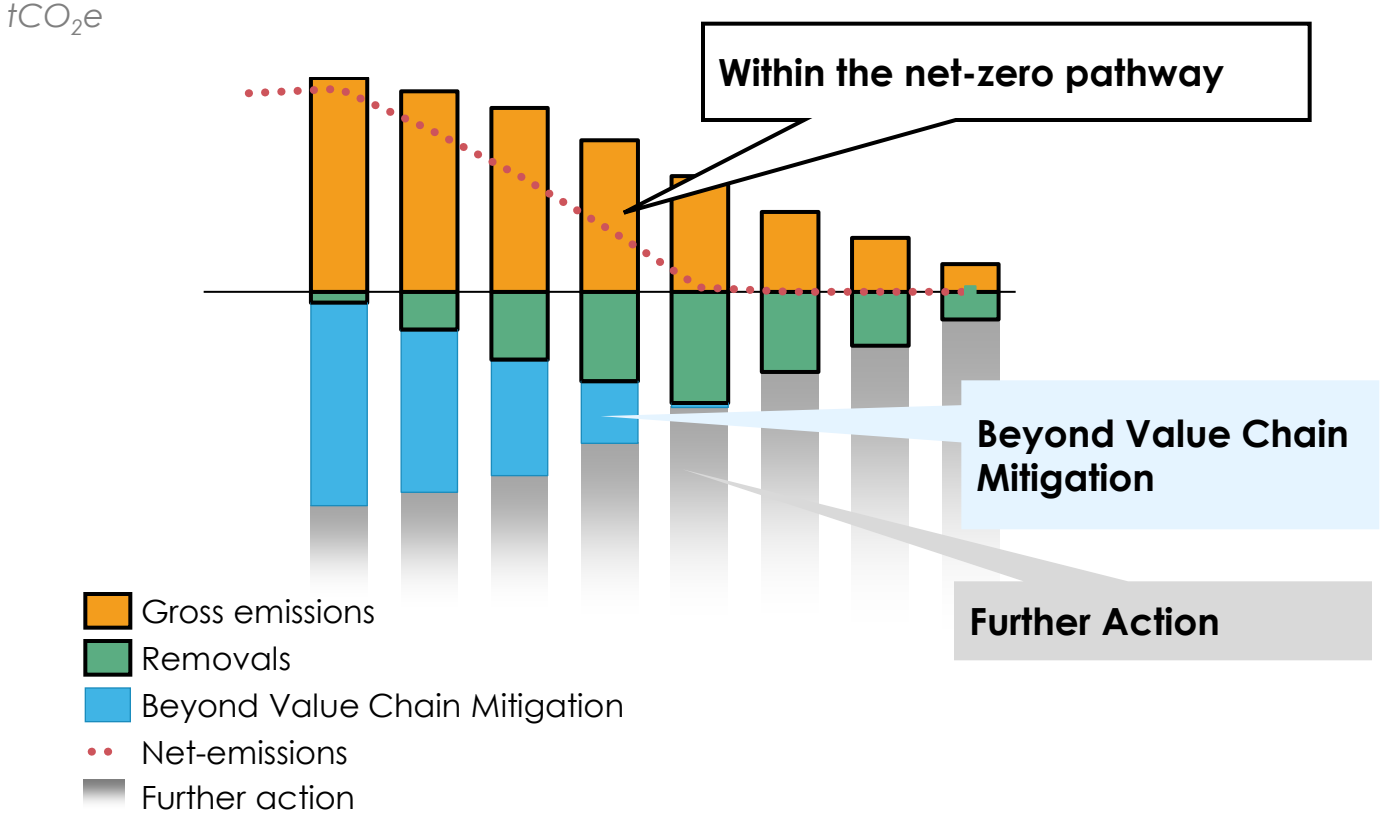
Beyond corporate net-zero pathways, corporates with the ability to pay can take further action to be 'net-zero' today

If possible, go beyond pathway Scope 1, 2 and 3 targets by setting "beyond value chain mitigation" (BVCM) targets, which can include use of high-quality removals credits, to offset ongoing emissions.

- **Companies can go above and beyond their net-zero corporate targets by addressing ongoing emissions** by providing additional finance to climate action beyond their own value chains e.g.,
  - funding carbon removals;
  - funding clean technology innovation;
  - funding restoration or conservation projects.
- **This can allow companies to be 'net-zero' today**, and not just at their target date
- **Recognition for BVCM efforts alongside reductions and neutralisation of value chain emissions** can give corporates reputational benefits as a leader in action towards reducing GHG emissions.
- **VCMI's Platinum Claim is similar,** requiring companies to account for 100% of its ongoing emissions with BVCM to achieve recognition.

Exhibit 17

A high-ambition corporate net-zero strategy



Recognition of corporation action outside of net-zero pathway (BVCM) was not previously included in SBTi's CNZS V1.2. V2 proposes companies should gain additional recognition as an incentive for this effort.

Source: Systemiq analysis for the ETC.

Carbon credits are a necessary tool for scaling carbon removals in the transition to net-zero.

However, current levels of funding and high-integrity supply are insufficient. Scaling carbon removals relies on corporate and government commitment to decarbonisation goals.

- Large-scale removals are required to offset residual emissions that cannot be reasonably abated by 2050 to meet net-zero targets; ETC estimates around 150 $GtCO_2$ would be required by 2050. The world is currently off-track to achieving this; and the need for removals could be even greater to stay with climate targets, as the decarbonisation trajectories for a 1.5°C scenario are currently off track.
- Therefore, corporate purchases of high-quality carbon removal credits should scale rapidly, as part of ambitious corporate net-zero targets. The spectrum of action of corporates should depend on the cost of value chain decarbonisation as a proportion of revenue to prioritise impact:
  - Companies with high decarbonisation costs (e.g. steel producers) may be more impactful delivering emissions reductions within their own value chains than spending money on carbon removals credits.
  - Companies with low decarbonisation costs (e.g. banks) could incorporate carbon removals credits early within ambitious net-zero emissions plans alongside action to reduce emissions within their value chain. Wherever possible, companies should also choose to fund removals and/or highly-additional reductions beyond their own net-zero pathways to address ongoing emissions.