

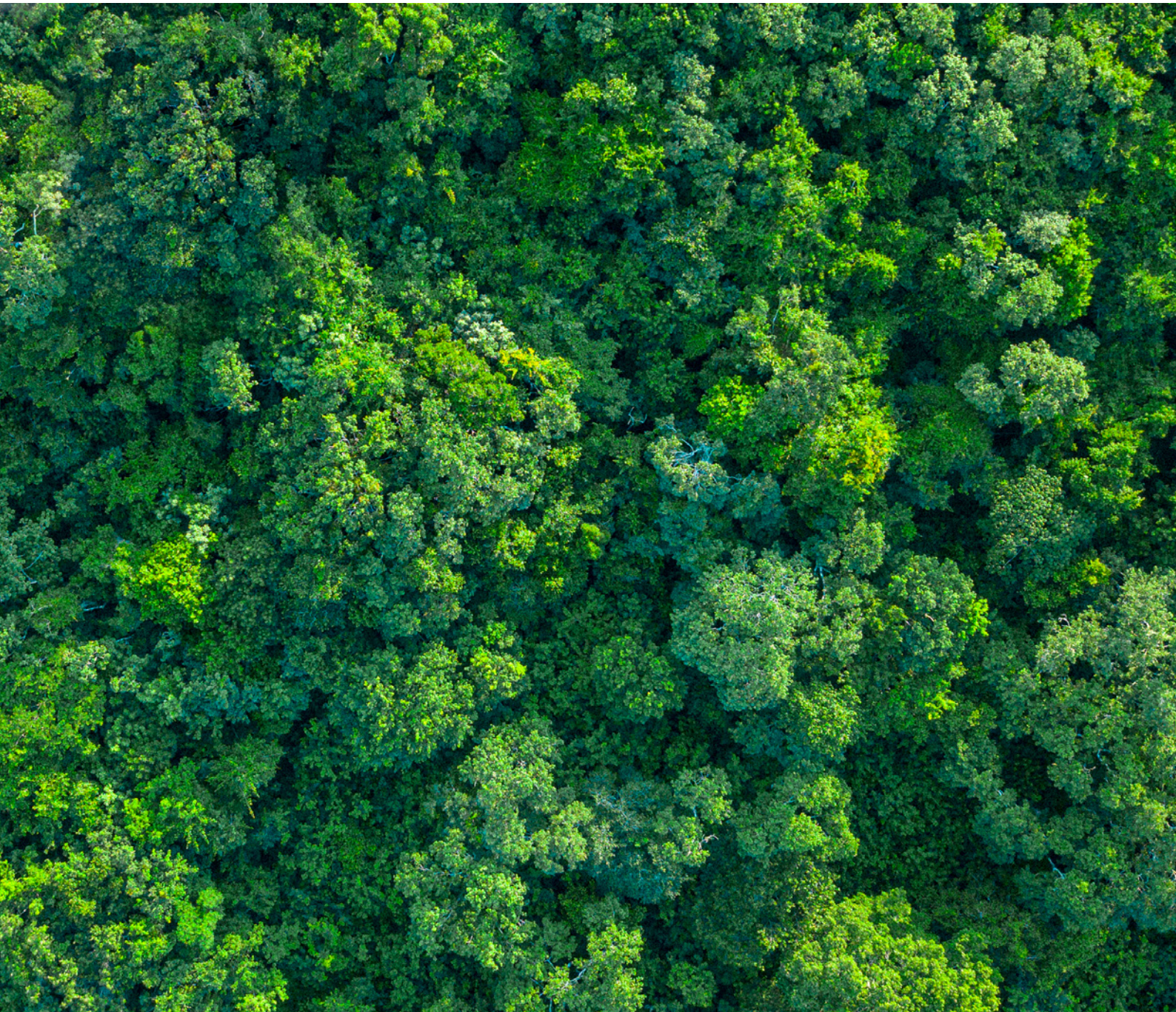


drax

Carbon
Removals

Corporate climate claims

The case for including
permanent carbon removals





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Executive Summary

The climate case for carbon dioxide removal (CDR) technologies is clear: without delivering significant annual volumes of CDR by 2050, the planet is likely to overshoot its Paris Agreement climate targets. Reducing greenhouse gas emissions is the most immediate and effective way of slowing climate change and should be the primary focus of climate activity. However, even rapid decarbonisation of the global economy is sadly, no longer a sufficient response. Each of the 230 scenarios the IPCC has modelled to limit warming to below 1.5°C include removal at scale, ranging from 6-10 gigatonnes (Gt) of CO₂ removed per year by 2050.¹ Furthermore, climate stability will require CDR to be equally durable as the emissions we produce, which can stay in our atmosphere for millennia.

If the world is to deliver the 6-10 Gt of CDR volumes needed by 2050, then action needs to start now. Scaling the CDR industry will take decades. This paper explores how we can collectively strengthen the incentives for early action on CDR, and in particular for permanent CDR, while maintaining the primary focus of climate action on decarbonisation. It specifically explores how to incorporate CDR into robust, trustworthy, and transparent climate claims for corporates, with the aim of strengthening near-term corporate use of CDR. This near-term funding will be needed to enable the innovation and scale necessary to drive down CDR costs.

There are several aspects that drive corporate decision making on climate spending. A large part is driven by doing the right thing, while profitability and shareholder returns of course remain essential components of all decision making. Corporate climate claims are a way to bring these two elements closer together: making robust climate claims with tangible public recognition can have a positive effect on business performance, including improved brand perception, employee motivation and investors' willingness to fund. At the same time adhering to robust claims help assure corporates are running their business in a responsible way for our climate.

Significant progress has been made over the past years in developing an emerging landscape of voluntary corporate claims standards. These fall into a complex landscape including standards for: 1) target setting 2) transition plans 3) achievement claims / labels 4) sustainability requirements in financial disclosure 5) climate ratings. There is an increasing sense of collaboration between players across this landscape, such as announced initiatives from SBTi, the Greenhouse Gas Protocol, ICVCM, and VCMi to provide end-to-end rules for integrity in the voluntary carbon market². Despite this increasing collaboration, across the full corporate claims landscape there remains a large gap in requiring, recognising, or even simply disclosing the use of CDR solutions alongside decarbonisation.

To help fill this gap, we have proposed five principles that we believe are missing from the corporate claims landscape today. These do not represent a full set of principles that a corporate claims standard should be built on, but rather the delta which should be incorporated across existing claim's standards:

01

Use of CDR is required from the beginning of any ambitious climate journey, alongside deep-decarbonization



02

The share of CDR which is permanent should increase over time, with clear guidance on rate of increase



03

By the net zero target year, all residual emissions must be abated through permanent carbon removals only.



04

Disclosure requirements should include details on the use of CDR, and the share of permanent CDR



05

Differentiation in levels of achievement is necessary to draw in a broader set of corporates to take action



We are seeking feedback on the climate effectiveness of these principles, and engagement on how these could best be implemented into the corporate claims landscape. We look forward to continued conversation with diverse players: CDR project developers, target setters, claims bodies, transition plan guidance bodies, financial disclosure bodies, ratings agencies, and regulators. We believe that, with a supportive collective dialogue, we can achieve our goals of promoting a sustainable growth of CDR while preserving the primacy of decarbonisation in our collective response to climate change.

1 <https://static1.squarespace.com/static/633458017a1ae214f3772c76/t/64d2223cab34856349188e07/1691492940765/SoCDR-1st-edition-2023-V9.pdf>

2 <https://icvcm.org/icvcm-cop28-reflections/>

Chapter 1

Existing climate claims framework

The effects of anthropogenic greenhouse gas (GHG) emissions are already being observed in our increasingly extreme climate today. However, many of the worst effects of climate change - droughts, wildfires, an increasingly severe flooding - are still to come. Humanity is not on track to address this problem: net anthropogenic emissions today are over 50% greater per annum than in 1990.³ While a great part of the world's economy has set net zero ambitions, too little progress has been made to date towards achieving them.

To get to net zero, every part of our societies needs to play their part, governments, corporations, and individuals. We need leaders to show the way. This paper focuses on enabling ambitious corporates to take the lead in driving the net zero transition.

Priority one on the global decarbonisation journey is reducing current emissions or "turning off the tap," but this is not enough. Alongside it, our planet will require carbon dioxide removal (CDR) in large scale. The IPCC states that "CDR is a necessary element to achieve net zero CO₂ and GHG emissions both globally and nationally, counterbalancing residual emissions from hard-to-transition sectors."⁴ Every single one of the 230 scenarios the IPCC has modelled to limit warming to below 1.5°C include removal at scale, ranging from 6-10 Gt of CO₂ removed per year by 2050.⁵ The state of carbon dioxide removal report suggests that there is a gap between projected near-term levels of CDR and what would be needed to meet the Paris temperature goal.⁶ Closing this CDR gap will require the growth of technology-based CDR with high durability storage. However, at current technological maturity levels, these novel methods cost significantly more than less durable CDR solutions. Such high prices for CDR are unlikely to be financially sustainable at scale, and so getting these technologies down the cost-curve will be an essential step to delivering the scale of CDR needed for net zero. Investment in innovation in the near-term will likely help to deliver such reductions in costs: some estimates suggest that cumulative spending (operational and capital) on CDR to achieve net zero will likely be \$7 to \$10 trillion by 2050.⁷ Projections based on the current trajectory for investments suggest investment will fall considerably short of these levels.⁸ Incentives to encourage near-term investment in innovation, therefore, will be important to delivering durable CDR at scale, and corporate purchases of CDR will likely be an important source for delivering this investment.

There are several aspects that drive corporate decision making for investment in climate action. A large part of decision making will of course be driven by profitability and concern for shareholder returns. A significant part is driven, though, by doing the right thing. Corporate climate claims are a way to bring these two elements closer together: by giving corporates concrete guidance on what they need to do to be a climate leader, and at the same time providing trusted public recognition for those who do. Making robust climate claims with tangible public recognition can have a positive effect on business performance: including improved brand perception, employee motivation and investors' willingness to fund.⁹ At the same time adhering to robust claims help assure corporates are running their business in a responsible way for our climate.

3 https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SPM.pdf

4 Ibid.

5 <https://static1.squarespace.com/static/633458017a1ae214f3772c76/t/64d2223cab34856349188e07/1691492940765/SoCDR-1st-edition-2023-V9.pdf>

6 Ibid.

7 <https://coalitionfornegativeemissions.org/wp-content/uploads/2021/06/The-Case-for-Negative-Emissions-Coalition-for-Negative-Emissions-report-FINAL-2021-06-30.pdf>

8 <https://static1.squarespace.com/static/633458017a1ae214f3772c76/t/64d2223cab34856349188e07/1691492940765/SoCDR-1st-edition-2023-V9.pdf>

9 <https://hbr.org/2016/10/the-comprehensive-business-case-for-sustainability>; <https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/consumers-care-about-sustainability-and-back-it-up-with-their-wallets>

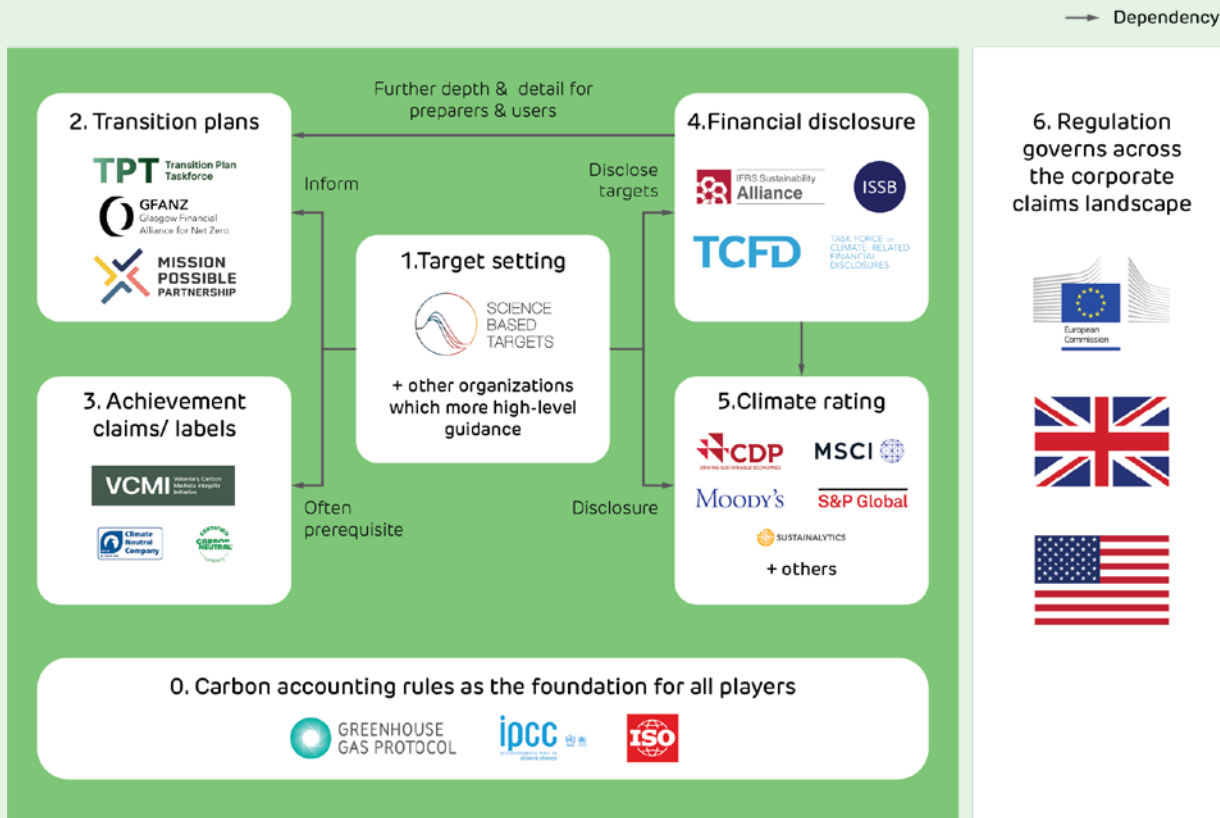
Corporate claims could, therefore, be an effective way of unlocking corporate investment in essential CDR solutions. Significant progress has been made over the past years in developing a landscape of voluntary corporate claims standards, including organisations for: 1) target setting 2) transition plans 3) achievement claims / labels 4) sustainability requirements in financial disclosure 5) climate ratings.

Furthermore, there are two overarching elements relevant to all corporate claims standards: the underlying carbon accounting frameworks, and public regulations. Claims bodies tend to follow the conventions of carbon accounting bodies, such as the Greenhouse Gas Protocol, which lay out the rules for measuring and reporting on GHG emissions. Regulators are also increasingly involved in defining acceptable climate targets and claims models for use with consumers (e.g., EU Green Claims Directive).

Figure 1 below lays out the interactions of the different players in this landscape, with further description below of the types of actors and their respective roles.

Exhibit 1

There are a broad set of climate claims corporates are measured against and which influence their climate action decision making



00.



Accounting standards

Carbon accounting rules set the foundational rules which the other corporate claims standards build upon. The most used standard is the Greenhouse Gas Protocol's Corporate Standard and Scope 3 Standard (with 92% adoption among Fortune 500). These standards are currently being updated to provide more details on carbon removal accounting. For example, the Greenhouse Gas Protocol Land Sector and Removals Guidance explains how companies should account for and report GHG emissions and removals from land management, land use change, biogenic products, carbon dioxide removal technologies, and related activities in GHG inventories.

01.



Target setting

The United Nations High-Level Expert Group (UN HLEG) on the Net Zero Emissions Commitments of Non-State Entities notes that non-state actors wishing to make net zero emissions pledges should have emissions reduction targets aligned with IPCC scenarios.¹⁰ There are initiatives that enable organisations to set science-based emissions reduction targets, aligned with the Paris Agreement, to limit global warming to 1.5°C above pre-industrial levels. The leading standard is the SBTi Net Zero Standard, which follows a framework for corporate net zero target setting in line with climate science. It requires prioritising rapid, deep emission reductions by setting near-term targets, long-term targets, and as of the final target year, neutralising residual emissions. SBTi requires net zero-compliant corporates to neutralise their final 10% of emissions with high quality permanent carbon removals, and recommends them to make beyond the value chain mitigation (BVCM) efforts during their transition to net zero. Notably, however, no concrete BVCM recognition scheme is yet in place.¹¹

By the end of 2022, 4,230 companies and financial institutions have set or committed to set science-based targets, representing over a third (34%) of the global market capitalisation. However, less than half (2,079) of these organisations have science-based targets validated by SBTi, with only 130 being net zero targets. The total intended annual scope 1 and scope 2 emissions reductions across all approved science-based targets was 76 million tonnes of CO₂e.¹² While an encouraging start, this represents only 0.2% of our current emissions (~40 GT) related to energy use.¹³

02.



Transition plans

Transition plans aim to translate a corporate's net zero commitment into specific objectives and actions that are aimed at reducing GHG emissions and thereby providing credibility and accountability to net zero commitments. They can be set at multiple levels, e.g., company-level (e.g. UK Transition Plan Taskforce, Glasgow Financial Alliance for Net Zero (GFANZ)) or sectoral-level (e.g. Mission Possible Partnership). They often take a strategic and rounded approach to define how an organisation should meet climate targets, manage climate-related risks, and contribute to the economy-wide climate transition.

The use of carbon credits is often an element in transition plans. For example, the UK's Transition Plan Taskforce helps organisations set out credible and robust climate transition plans as part of annual reporting on business strategy. It requires corporates to disclose information about how they use or plan to use carbon credits, including the type of credit, and recommends disclosure on targets for increasing GHG removals from activities such as land use, land use change, bioenergy, and carbon removal technologies.¹⁴

The Glasgow Financial Alliance for Net Zero (GFANZ) is a global coalition of leading financial institutions committed to accelerating the decarbonisation of the economy. They develop globally applicable, pan-sector recommendations and guidance for transition planning by financial institutions and define the key components of a credible net zero transition plan. They encourage financing or enabling entities and activities that develop and scale climate solutions. They also encourage firms to use carbon removal credits to neutralise residual emissions and articulate their strategy and considerations such as type and quality of credits the institution will source.¹⁵

Mission Possible Partnership works collaboratively to enact a shared vision for industrial decarbonisation in seven hard-

¹⁰ https://www.un.org/sites/un2.un.org/files/high-level_expert_group_n7b.pdf

¹¹ <https://sciencebasedtargets.org/net-zero>

¹² <https://sciencebasedtargets.org/reports/sbti-monitoring-report-2022>

¹³ <https://www.iea.org/reports/co2-emissions-in-2022>

¹⁴ <https://transitiontaskforce.net/wp-content/uploads/2023/10/TPT-Summary-Recommendations.pdf>

¹⁵ <https://vcmin integrity.org/vcmi-claims-code-of-practice/>

to-abate sectors: aluminium, cement and concrete, chemicals (ammonia) and steel; aviation, shipping, and trucking. Their sector transition strategies (STS) for action in this decade are endorsed by more than 200 leading industrial companies. Among the STS, aviation, steel and ammonia have each recognised the necessity of CDR to neutralise residual emissions and its investment needs, however they do not provide details for immediate purchase of CDR credits.

03.



Achievement claims/labels

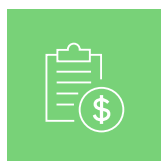
Various certificates and labels have been developed to acknowledge how companies are achieving and demonstrating progress against their net zero targets, including the credible use of carbon credits against these achievements. Such achievement labels ensure best practice, requiring transparent communication and long-term commitments rather than one-off activities. They often require demonstration that action has been taken in line with the goals of the Paris Agreement to limit global warming to 1.5°C, often with criteria on decarbonisation and differentiation based on the quality of the carbon credits used.

In June 2023, the Voluntary Carbon Markets Integrity Initiative (VCMI) launched its Claims Code of Practice (CoP) to guide companies and other non-state actor on how to credibly make voluntary use of carbon credits.¹⁶ VCMI introduced three tiers of enterprise-wide claims (silver, gold and platinum) that depend on the volume of purchased and retired carbon credits in relation to remaining emissions across scope 1, 2 and 3. VCMI requires that all achievements must fulfil its foundational criteria first before making any climate claim, notably that corporates must demonstrate that they are on track to meet Net Zero targets. This CoP is being aligned closely with pushes for high-integrity in the voluntary carbon market, through collaboration between VCMI and other high-integrity VCM bodies on an end-to-end integrity framework.¹⁷

Achievement claims like South Pole's Climate Neutral labels, Carbon Neutral Certified and Climate Neutral Certified Brands can be awarded to companies who take action to make their company, product, site, or event climate neutral.¹⁸ South Pole has recently launched a new achievement claim: 'Funding Climate Action.'¹⁹ This label provides corporates with an incentive to use carbon credits. To date, more than 300 companies have become Climate Neutral Certified according to Change Climate.²⁰

Gold Standard has also developed a new framework on climate achievement claims: Fairly Contributing to Global Net Zero framework and considerations for credible claims. This framework provides discussion, ideas, framing, and 'how to' considerations intended for organisations seeking to make credible claims concerning their climate mitigation aspiration and achievements.²¹ In this guidance, status-based claims against net zero are encouraged, which include the disclosure of CDR use for neutralisation of residual emissions.

04.



Financial disclosure

Climate-related financial disclosure is an increasingly important part of the reporting processes for corporates seeking to demonstrate their funding for climate action. It sets out a corporate's assessment of the climate-related risks, and organisations' approach to managing those risks, which normally includes a transition plan with disclosure for the use of carbon credits.

The Task Force on Climate-related Financial Disclosures (TCFD), for example, recommends climate-related financial disclosures that can be applicable to organisations across sectors and jurisdictions. Following the publication of the

¹⁶ <https://vcmintegrity.org/vcmi-claims-code-of-practice/>

¹⁷ <https://vcmintegrity.org/vcmi-on-cop28>

¹⁸ <https://www.southpole.com/publications/climate-neutrality-and-renewable-electricity-labels-technical-guidance>

¹⁹ <https://www.southpole.com/funding-climate-action#proposal>

²⁰ <https://www.changeclimate.org/>

²¹ https://www.goldstandard.org/sites/default/files/fairly_contributing_to_global_net_zero_-_considerations_for_credible_claims.pdf

inaugural International Sustainability Standards Board (ISSB) Standards— International Financial Reporting Standards General Requirements for Disclosure of Sustainability-related Financial Information (IFRS S1) and Climate-related Disclosures (IFRS S2)—the Financial Stability Board has asked the IFRS Foundation to take over the monitoring of the progress on companies' climate-related disclosures from the TCFD, from 2024. In IFRS Sustainability Disclosure Standards, ISSB requires disclosure of the use of offsets to improve transparency and understanding of their use and purchase. IFRS S2 requires specifically for the planned use of carbon credits, including credit type, and whether any CDR credits will be nature-based or technology-based removals.²²

05.



Climate rating

In recent years, several credit rating agencies (e.g., S&P and Moody's), alongside new specialised agencies, have begun to provide an environmental, social and governance (ESG) assessment and scoring for corporates. Each agency has its own assessment methodology, but in general these scores note how organisations and their stakeholders are performing towards operating in line with a 1.5-degree, deforestation-free and water-secure future. Carbon credit use is typically an element of this assessment. For example, a CDP score is a snapshot of a company's environmental disclosure and performance. The assessment is based on the level of detail and comprehensiveness in a response, as well as the company's awareness of environmental issues, its management methods and progress towards environmental stewardship. Additionally, S&P Global ESG Scores are informed by in-depth company engagement via the S&P Global Corporate Sustainability Assessment (CSA), with ESG datapoints checked against public sources for every company, in addition to media and stakeholder analysis.

Many rating agencies now incorporate ESG issues into their credit considerations. For example, Moody's establishes E, S and G issuer profile scores (IPs), which assess the exposure of an issuer or transaction to E, S and G risks or benefits, and ESG credit impact score (CIS), which explains the impact of ESG considerations on the rating. The IPs are expressed on a five-point scale, which are inputs to the rating. The CIS is based on qualitative assessment of the impact of ESG considerations in the context of the issuer's other credit drivers that are material to a given rating. In this framework, current or expected "stranded assets" (i.e., assets that become unprofitable due to carbon transition risk) may indicate higher risk.

06.



Regulations

Regulations on corporate climate claims have been tightened across the world. Communication of offsetting status by corporates is often an important element of these regulations, with the aim of maintaining public trust in the robustness of all claims made.

In the UK, for example, the Competition and Markets Authority's new Green Claims Code, published in September 2021, gives guidance for any business that wishes to make environmental claims. These are claims that show how a product, service, brand, or business provides a benefit or is less harmful to the environment, through, for example, statements, symbols, emblems, logos, graphics, colours, and product brand names.

In December 2022, the US Federal Trade Commission launched a review of the 'Guides for the Use of Environmental Claims', which plans to reflect developments in consumers' perception of environmental marketing claims. The European Commission has proposed a directive on regulating so-called 'Green Claims', that lays down detailed rules on the substantiation, communication and verification of voluntary environmental claims and environmental labels used by traders that market products to EU consumers. Amongst other things, it aims to regulate climate-related claims based on offsetting GHG emissions through carbon credits generated outside the company's value chain.

²² <https://www.ifrs.org/content/dam/ifrs/project/climate-related-disclosures/issb-exposure-draft-2022-2-climate-related-disclosures.pdf>

Chapter 2

Challenges with existing standards

Corporate targets and claims bodies already play a key role in encouraging corporates to act on climate goals, and will likely continue to become more important as the urgency of climate action increases. It is therefore crucial that claims standards are designed to give the world the best possible shot at reducing the harms of climate change, including a tangible pathway for developing CDR capacity at scale while maintaining crucial momentum on decarbonisation.

However, the rules of many corporate claim standards today do not universally encourage near-term purchases of, or investment in, CDR. We have analysed the role of permanent CDR within the frameworks of the major corporate claims players, as summarised in figure 2 below. There is a significant lack of requiring, recognising or disclosing CDR as part of credible climate targets and claims today, for both highly durable and short-cycle (i.e. low durability) CDR.

Exhibit 2

■ Supportive incentives for CDR demand
 ■ Disincentives for CDR demand

	Near-term requirement		Recognition		Disclosure requirement	
	Durable CDR	Short-cycle CDR	Durable CDR	Short-cycle CDR	Durable CDR	Short-cycle CDR
1.Target setting						
2.Transition plans						
3.Achievement claims						
4.Financial disclosure						
5.Climate ratings						
6.Regulations						

01.



Target setting

SBTi allows companies to set net zero targets in which they can 'neutralise' 10% of residual emissions with permanent CDR, meaning that they should also achieve 90% emissions reductions at the point of claiming net zero achievement:

"After a company has achieved its long-term target and cut emissions by >90%, it must use permanent carbon removal and storage to counterbalance the final <10% of residual emissions that cannot be eliminated"

– SBTi Net Zero Standard

This is a positive for long-term demand for CDR, but there is no hard requirement in science-based targets (SBT) for near-term investment in scaling up neutralisation. SBTi does recognise the importance of near-term investment in CDR as a beyond value chain mitigation (BVCM) activity, of which guidance is expected to soon be released. However, there are concerns that this BVCM guidance will provide limited quantifiable incentive for organisations to buy nascent permanent CDR today, as compared to cheaper non-permanent credits. As suggested in an open letter from Carbon Plan, for example, there are concerns that "companies will solely focus on the lowest-cost beyond-value-chain-mitigation offset opportunities in the near-term and they will underinvest in permanent carbon removal technologies."²³ More broadly, climate target-setters lack clear guidance for corporates that would like to voluntarily set near-term removal targets. While setting strict rules for the long-term is good, more achievable milestones and intermediate recognition might incentivise more companies to start their net zero journey earlier.

02.



Transition plans

There has been some progress on recognition and disclosure requirements for carbon offset in transition plans, e.g. UK Transition Plan Taskforce and GFANZ encourage companies to use carbon removals and require disclosure around the uses or planned uses of carbon credits.

"...firms should articulate their strategy and considerations such as type and quality of credits the institution will source, the emissions outside the value chain that the institution intends to compensate with credits, and how credits will be used to neutralise residual emissions"

– GFANZ

However, there has not been any firm requirement for removal use in transition plans today, where removal targets are sometimes framed as recommendations. The concept of permanence has not been mentioned in existing transition plan guidance.

"...may disclose any targets for increasing GHG removals from activities such as land use, land use change, bioenergy, and carbon removal technologies as part of the GHG metrics and targets disclosure."

– UK Transition Plan Taskforce

23 <https://files.carbonplan.org/SBTi-Carbon-Removal-Letter-11-22-2022.pdf>

03.



Achievement claims/labels

Diverse sets of issues are currently arising from achievement claims bodies. Some claims require strict decarbonisation prerequisites, making it difficult for many corporates to make claims today; while some have minimal requirements for quality of carbon credits, potentially lowering public trust in the robustness of certain claims. Most claims do not have any requirement on the types of credits used.

One such example, VCMI, sets strict foundational criteria for companies to be eligible for their claims, which includes meeting near term SBTi targets. Corporates wishing to make claims consistent with the VCMI claims CoP requires a corporate to demonstrate that they:

"1. Maintain and publicly disclose an annual greenhouse gas emissions inventory

2. Set and publicly disclose validated science-based near-term emissions reduction targets, and publicly commit to reaching net zero emissions no later than 2050

3. Demonstrate that the company is on-track towards meeting a near-term emissions reduction target and minimising cumulative emissions over the target period

4. Demonstrate that the company's public policy advocacy supports the goals of the Paris Agreement and does not represent a barrier to ambitious climate regulation"

– VCMI Claims Code of Practice

This means companies who have not met their decarbonisation targets fully cannot be recognised in this scheme. This strict decarbonisation prerequisite sets a high bar for any corporate looking to make VCMI climate claims, one which few corporates may be able to clear. While we should celebrate companies that do achieve a 1.5 degree aligned decarbonization path, such an approach may disincentivise the companies from participating that have meaningful decarbonization progress, but not fully there yet. In a world where there are only "perfect" and "imperfect" the vast majority of companies may be discouraged to participate. It is of course highly important to retain a high bar on decarbonization under any system, however proving some recognition to the companies which are taking meaningful action, albeit not fully at a 1.5 degree pathway, can draw in more corporates to participate and hence create more climate impact.

Most claims guidance today tends to address the quality of carbon credit rather than the types, for example removal compared to reduction credits. Although VCMI recognises the importance of early investment in CDR projects, for example, it does not make a distinction between durable CDR and other, low durability credit types when validating corporate achievement claims. In most cases, even high-quality reduction credits are likely to be cheaper than highly durable CDR credits. Thus, the lack of CDR requirements in VCMI claims may weaken the incentive for companies to purchase more durable CDR.

04.



Financial disclosure

Progress has been made among financial disclosure frameworks to recognise and disclose the use of durable CDR. Although most existing financial disclosure frameworks, including TCFD, are not requiring companies to disclose carbon credit related details, IFRS Sustainability Disclosure Standards do require disclosure of detailed information on GHG emissions targets, including additional information about the planned use of carbon credits to achieve a company's net GHG emissions targets. In particular, a compliant financial corporate should disclose:

"...which third-party scheme(s) will verify or certify the type of carbon credit, including whether the underlying offset will be nature-based or based on technological carbon removals, and whether the underlying offset is achieved through carbon reduction or removal; and any other factors necessary for users of general-purpose financial reports to understand the credibility and integrity of the carbon credits the entity plans to use (for example, assumptions regarding the permanence of the carbon offset)."

– IFRS S2

This standard will be effective from Jan 2024. Further clarity on durable CDR use may be developed in future frameworks.

05.



Climate rating

The use of high-quality CDR in a carbon credit portfolio may have a positive impact on company's climate ratings. Based on the CDP criteria, for example, disclosing details on CDR credits may help improve companies' climate scores. Moody's also warned against use offsets to make climate claims "in ways that are not consistent with science, or that overstate the scaling potential of offsets, face reputational and litigation risks."²⁴

However, it remains unclear how ratings agencies take different carbon credit portfolios into risk considerations. For example, there is no apparent advantage for companies to use high durability CDR compared with other types of credits, including reduction credits, according to CDP criteria. Without clear communication that using durable CDR could improve their climate rating, companies are likely to prefer lower-cost and lower-durability credits for their portfolios.

06.



Regulations

Regulations around green claims are recognising and imposing disclosure requirements around the detailed use of carbon offsets, including more guidance on the use of CDR, for example:

"Be sure claims don't omit or hide information: ...they should include accurate information about whether (and the degree to which) they are actively reducing the carbon emissions created in the production of their products or delivery of their services or are offsetting emissions with carbon removal..."

– UK Green Claims Code

²⁴ <https://www.investmentexecutive.com/news/research-and-markets/no-free-lunch-from-carbon-offsets-moodys/>

Regulators can support the deployment of permanent CDR through setting appropriate rules on climate claims. Companies should be allowed to make green claims based on high-integrity CDR, provided these claims are transparent and do not interfere with absolute emissions reduction efforts and targets. This will encourage investment in the nascent CDR market and support the EU's negative emissions target.

Regulatory bodies could also help clarify the differences between carbon credit types, including explaining the difference between durable CDR and other types of credits. A stronger distinction between different types credit types could help buyers to recognise the different properties of credits, and could incentivise buyers to purchase more durable CDR. Improving buyers' understanding of durable CDR compared to other credits is important, given that durable CDR credits tend to be more expensive than other credit types.



Chapter 3

Principles for an ideal system

We propose five principles that could be integrated across the corporate claims landscape to improve the incentive for a sustainable growth in high durability CDR capacity. These do not represent a full set of principles that a corporate claims standard should be built on, but rather the delta which should be incorporated across existing claim's standards:

Exhibit 3

01

Use of CDR is required from the beginning of any ambitious climate journey, alongside deep-decarbonization



02

The share of CDR which is perma-nent should increase over time, with clear guidance on rate of increase



03

By the net zero target year, all residual emissions must be abated through perma-nent carbon removals only.



04

Disclosure requirements should include details on the use of CDR, and the share of perma-nent CDR



05

Differentiation in levels of achievement is necessary to draw in a broader set of corporates to take action



Details for these principles and how to implement them across players can be found below. For each principle, we discuss what it means, why this is good for the climate, good examples of this principle in effect today, and how actors could work together to implement this principle in practice.

Principle 1 – Use of CDR is required from the beginning of any ambitious climate journey, alongside deep-decarbonization

As discussed above, SBTi requires corporates to use permanent removals to neutralise their residual emissions by the net zero target date. However, for permanent removal solutions to develop at scale, the growth journey needs to begin now. Research suggests that the deployment of novel CDR over the next decade, its formative phase, is likely to be consequential in determining whether CDR will be available at scale and in time to reach net zero CO₂ emissions consistent with the Paris Agreement's temperature goal.²⁵ Companies should specifically consider the use of durable CDR, without deterring decarbonisation progress, from the beginning of any ambitious climate journey.

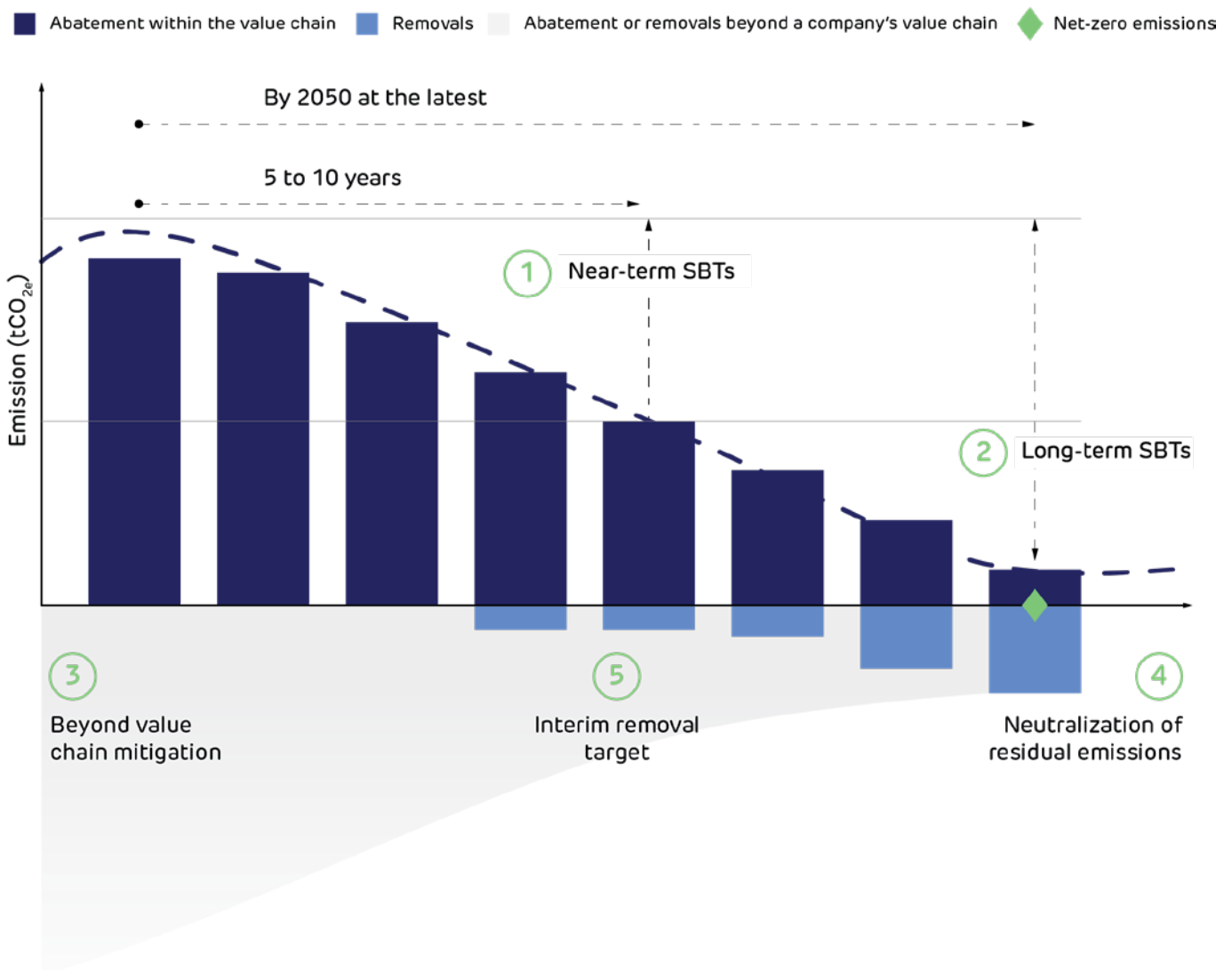
²⁵ <https://www.sciencedirect.com/science/article/abs/pii/S254243512300449X>

Principle 2 – The share of CDR which is permanent should increase over time, with clear guidance on rate of increase

For most companies, CDR purchase decisions are likely affected by their net zero targets. ISO Net Zero guidelines, for example, state that “All organizations should determine: ...separate targets for emissions reductions and removals, clarifying if actions are taken inside or outside the value chain.” and that “The organization should invest early in high-quality, long-term removals if it anticipates a need to rely on these to achieve net zero by its target date”. As suggested by CarbonPlan’s open letter, for example, target-setters should consider requiring corporates “to have interim carbon removal commitments ahead of their Net Zero target date.”²⁶ Note this interim removal target would be in addition to, and not instead of, companies’ decarbonisation targets, and illustrated as number 5 in the chart below.

Interim removal target based on SBTi’s illustration for Net Zero standard²⁷

Exhibit 4



26 <https://files.carbonplan.org/SBTi-Carbon-Removal-Letter-11-22-2022.pdf>

27 <https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf>

The *Oxford Principles for Net Zero Aligned Carbon Offsetting* state that, after reducing own emissions, organisations should shift to carbon removal offsetting and long-lived storage.²⁸ Most carbon credits available today are emission reductions and short-cycle CDR solutions. However, durable carbon removal is what we need ultimately as they store carbon permanently, with a very low risk of re-release. They could help counteract ongoing emissions after net zero is achieved, as well as create the possibility of net removal. Organisations should commit to gradually increase the percentage of permanent carbon removal offsets they procure, as suggested by the Oxford Principles, with a view to exclusively sourcing durable CDR by mid-century.

ISO Net Zero guidelines suggest that “The organization should establish a transition plan for emissions reductions and removals as part of its transition to a net zero operational model. The plan should prioritize reducing GHG emissions and increasing removals...” The Long-term Strategy of the United States developed removals pathways to achieve net zero by 2050, in which projected CDR increase to approximately 0.25 GtCO₂e in 2040 and approximately 0.5 GtCO₂e in 2050.²⁹

Following the requirement of interim removal targets, science-based removal pathways and guidance could be developed by transition plan bodies to help organisations shift towards permanent removals and achieve their removal targets. This guidance could help to deliver a robust approach to calculating targets for CDR, in a way that effectively guides purchases from pioneering CDR buyers. Achievement claims should develop schemes based on removal progress, in addition to decarbonisation, to award companies which are on the right offsetting trajectory. The share of permanent removal should also be published through financial disclosure and recognised by climate rating agencies as an indicator of climate performance.

Principle 3 – By the net zero target year, all residual emissions must be abated through permanent carbon removals only

Net zero refers to a state by which the greenhouse gases going into the atmosphere are reduced as close to zero as possible and any residual emissions are balanced by permanent CDR. Permanent CDR is the only way to maintain a sustainable net zero position where the atmospheric CO₂ concentration is stable, since estimates suggest that emitted CO₂ can remain in the atmosphere for up to 1,000 years. By the net zero target year, 100% of companies’ residual emissions should be neutralised by permanent removals only.

SBTi recognises in their net zero standard that, a company can only claim to have delivered net zero once decarbonisation targets have been met and all residual emissions have been neutralised with permanent removals.³⁰ However, SBTi could clarify further what it means to be permanent, for example as suggested by CarbonPlan, “Define permanent carbon removal for an SBTi Net Zero target as >1,000 years, while maintaining standards for being additional, scalable, verifiable, sustainable, and safe.”

Organisations should follow the SBTi guidance to make net zero targets and develop transition plans accordingly. ISO Net Zero guidelines suggest that “The organization’s plans for transition to net zero should include how the organization will: ... o) exclusively use removals (including removal-based offsets) to counterbalance residual emissions at net zero; p) ensure that removals used to counterbalance residual emissions are sufficiently long-term to maintain the net zero balance; ...” Other organisations should also consider making 100% permanent CDR for residual emissions a requirement for net zero in their standards, including transition plans, achievement claims and climate ratings.

Principle 4 – Disclosure requirements should include details on the use of CDR, and the share of permanent CDR

Public trust in carbon credit portfolios depends heavily on transparency. The environmental and socioeconomic impacts of carbon credits are not equal, for example through impacts on land use, water quality, biodiversity, or on local economic factors such as jobs and productivity. The different profiles and impacts of different credit types should be communicated clearly to companies and customers for them to make informed purchasing decisions. Financial disclosure

28 <https://www.smithschool.ox.ac.uk/sites/default/files/2022-01/Oxford-Offsetting-Principles-2020.pdf>

29 <https://unfccc.int/documents/308100>

30 <https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf>

on details for credit used also help strengthen trust in offset portfolio by providing transparency on projects being funded. Corporate claims standards should hence require specific levels of disclosure on use of CDR and in particular permanent CDR.

Principle 5 – Differentiation in levels of achievement is necessary to draw in a broader set of corporates to take action

Achievement claims that set the bar too high for many corporates to make credible claims against may risk disincentivising climate action.

While we should celebrate companies that do achieve a 1.5 degree aligned decarbonization path, a binary “perfect” and “non-perfect” approach may disincentivise companies from participating that are close but not fully 1.5 degree aligned. This may already be the case today, with only 0.2% of the worlds emissions validated under SBTi target.

It is of course highly important to retain a high bar on decarbonization under any system, however proving some recognition to the companies which are taking meaningful action, albeit not fully at a 1.5-degree pathway, could draw in more corporates to participate in ambitious climate action.

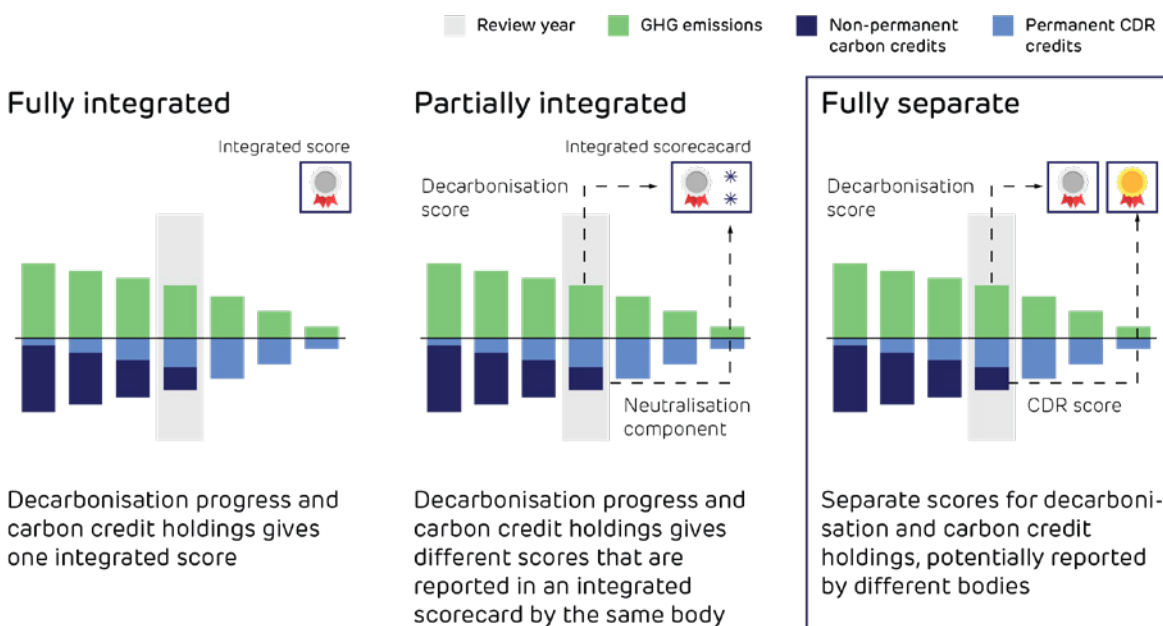
Concretely companies’ decarbonization achievements could be recognised through a few bands of achievement levels (i.e., gold, silver, bronze). Getting these bands right would be critical, with significant work needed to develop relevant pathways and metrics. This could for example be done by building off the SBTi target completion measure.³¹ These metrics could be integrated into existing claims models, to recognise the achievements of both companies with 100% completion rate, and those who have high but not 100% completion.

Potential achievement claims models to incorporate permanent CDR

This whitepaper has considered three potential models that would incorporate durable CDR into corporate climate achievement claims. Each of these provides different ‘levels’ of recognition based on decarbonisation progress, while they differ in the way in which a CDR ‘score’ would be integrated into the achievement claim. Figure 5 summarises the three models considered:

Exhibit 5

Archetypes for how future achievement claims could be obtained



31 <https://sciencebasedtargets.org/reports/sbti-monitoring-report-2022/progress-data-dashboard?year=2022#progressdash22>

This paper does not draw a strong conclusion on which achievement claims model is most appropriate, and we invite further debate and feedback from industry players (including achievement bodies) on how best to shape these proposals moving forward.

In a **fully integrated** claims model, corporates would receive one unified achievement label reflecting their progress against both decarbonisation and neutralisation goals. One way of designing an integrated score would be to set prerequisite conditions around carbon credit portfolios, with levels of achievement then defined by decarbonisation progress. A neutralisation prerequisite, for example, could be to require a carbon credit portfolio to follow good practice (e.g. follow the permanence trajectory defined by the Oxford Offsetting Principles), while levels of achievement (e.g. bronze, silver, gold) could be set using a company's achievement against decarbonisation targets. This model could:

- Retain the importance of decarbonisation for defining the level of achievement claims
- Recognise milestone achievements towards decarbonisation targets
- Embed the importance of high integrity carbon credits in credit portfolios
- Integrate mechanisms to increase the share of durable CDR within a carbon credit portfolio

This model would likely lead to greater near-term CDR demand from a broad range of companies who want to make climate claims. However, requiring both decarbonisation and offset achievements at the same time may potentially set the bar too high for many companies to make claims. Additionally, there would be limited incentive for corporates who may want to go 'above and beyond' the minimum requirements for durable CDR purchases.

The **partially integrated** claims model would give corporates a two-part achievement label with scores representing: 1) achievement against decarbonisation targets; and 2) the level of alignment of a carbon credit portfolio with the Oxford Offsetting Principles. This model would allow corporates to make robust claims today about their progress towards both decarbonisation and neutralisation goals, using the same validated achievement label. The achievement claims body could structure the claim label in a way that maintains the importance of decarbonisation over the carbon credit claim, but still gives structure in recognition of near-term CDR purchases. This model would also give formal recognition to those corporates wanting to go 'above and beyond' in buying larger volumes of durable CDR. The major drawback of this model, however, is that it creates a complex 'two-score' labelling, that may confuse messaging on climate claims and potentially risk distracting from decarbonisation.

The last is a **fully separate** claims model, where claims for decarbonisation can be made entirely separately from removals, and removals claims could likewise be made without reference to decarbonisation. A separate achievement claim would have to be developed for CDR purchases under this approach. While this model would give formal recognition for pioneering purchases of CDR, the major risk is that a separate CDR claims label could potentially confuse end consumers, and encourage some corporates to focus on achieving CDR labels rather than decarbonisation labels. This is a substantial risk that could undermine the primacy of decarbonisation, and should it should be considered very cautiously if this model is to be further explored.

Chapter 4

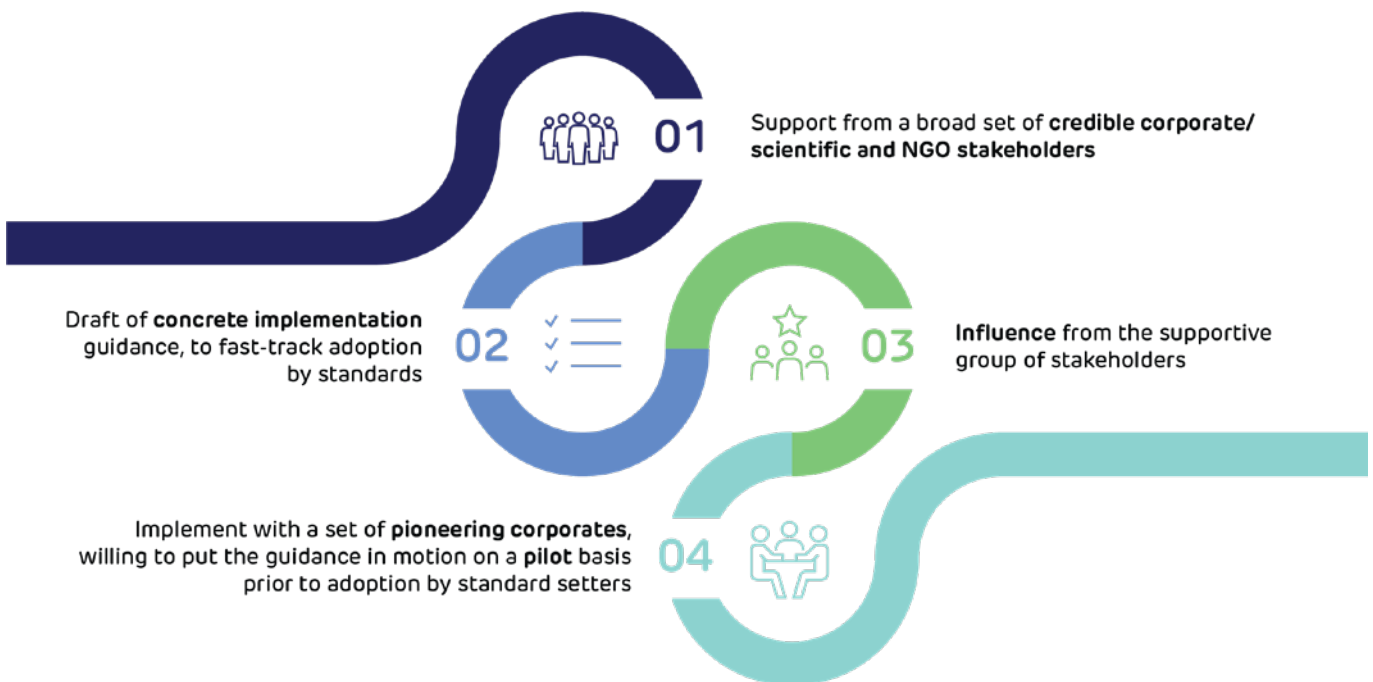
Roadmap to industry adoption

This paper adds to an ongoing conversation on growing the scale of permanent CDR solutions while maintaining the essential focus on near-term decarbonisation goals. We invite feedback on the challenges, principles and solutions we have described above. We look forward to working with players across the corporate claims landscape to explore how our recommendations could be further developed and, ultimately, implemented.

We see four key steps to developing and implementing the principles above:

Exhibit 6

Roadmap to industry adoption



01. Support from a broad set of credible corporate/scientific and NGO stakeholders

As a first step, we aim to test the five principles with a broad range of stakeholders: including BECCS developers, other CDR players, buyers, experts and academics, and notable advisors and influencers in the CDR space. This will help obtain valuable feedback to refine this paper as well as understand how these principles could integrate with ongoing industry initiatives.

02. Draft of concrete implementation guidance, to fast-track adoption

We anticipate working with a coalition of CDR industry players to explore options for implementing the five principles above. In particular, we would initially prioritise working with interested bodies to develop the following two guidance documents:




- a. **Technical guidance on setting interim removal targets.** This guidance should support corporates who want to voluntarily define and set their near-term removal targets, while not disincentivising decarbonisation. This guidance would give technical notes on calculating flightpaths for gradually scaling investment in CDR. A coalition of interested players would likely develop this guidance in collaboration with academics, technical consultancies, and CDR developers. The guidance should be based on the latest science and credible climate scenarios.
- b. **Recommendations for revised achievement claims models.** A coalition could continue to explore and develop achievement claims models introduced above. This group could develop workable models for claims bodies to consider implementing in their achievement frameworks. The aim of this group would be to open opportunities for more companies to make achievement claims based on their interim progress on climate targets, including on CDR uptake. Science-based recommendations should then be developed to refine the preferred model options and inform the achievement criteria and associated decarbonisation pathways. Such recommendations may be built on existing claims models such as VCMI, or guidance documents such as those developed by Gold Standard.³²

Other helpful documents that could be developed include transition plan guidance to build pathways to achieve removal targets, and guidance on incorporating carbon credits into impact and risk assessment. We are seeking feedback from stakeholders on the actions that a CDR industry group should prioritise for technical development.

03. Influence from the supportive groups of stakeholders

We would aim to work with a number of respected and influential stakeholder groups to help build awareness and support for the recognition of permanent removals across the claims landscape. These bodies can amplify the impact of the principles introduced above. Such influential groups can help communicate these principles to the public and the relevant bodies through, for example, open letters, research papers, multilateral engagements, technical guides. Securing support from influential institutions would be key to amplify the impact of implementing our five principles. Below is an indicative list of priority organisations we seek engagement from, with potential actions they could take:

Exhibit 7

Potential influencers	Potential actions
        	<ul style="list-style-type: none"> • Open letters exploring potential approaches for CDR near-term target setting • Engagement with target-setters over integration of CDR into targets or beyond value chain mitigation guidance • Sponsor research reports on technical approaches to CDR flight-paths to scale and the role of target setting • Explore claims models for recognizing high permanence CDR purchases that retain the urgency of decarbonisation • Continued research on near-term investment needs for permanent CDR, to reduce costs and increase capacity • Participation in working groups and pilot studies to test new approaches in reality

³² https://www.goldstandard.org/sites/default/files/fairly_contributing_to_global_net_zero_-_considerations_for_credible_claims.pdf

04. A set of pioneering corporates, willing to put the guidance in motion on a pilot basis prior to adoption by standard setters

Developing guidance and influential statements can help to position these principles effectively, but learning by doing can be an even more influential approach to embedding change. A group of pioneering corporates could, for example, carry out pilots for implementing any guidance developed. Those corporates would likely aim to be considered sustainability leaders in their industries, and their examples could provide valuable insights for their peers on how these principles can be applied.



Key definitions

Avoidance credit - type of carbon credit that is generated by a project or activity that avoids greenhouse gas emissions that would have otherwise been emitted

Carbon credit - tradable permit or certificate that represents the reduction or removal of one metric ton of carbon dioxide or its equivalent in other greenhouse gases, which can be bought and sold on carbon markets

CDR - or **carbon dioxide removal**, human activities capturing CO₂ from the atmosphere and storing it durably in geological, land or ocean reservoirs, or in products

Durability - the likely duration of carbon stored, adjusted by the risk of reversal

Net zero emissions - balance of residual carbon dioxide emissions with the same amount of permanent carbon dioxide removal

Offsetting - process of compensating for greenhouse gas emissions by financing or generating carbon credits through projects or activities that reduce or remove carbon dioxide from the atmosphere

Reduction credit - type of carbon credit that is generated by a project or activity that reduces carbon dioxide or other greenhouse gases from the atmosphere

Removal credit - type of carbon credit that is generated by a project or activity that removes carbon dioxide or other greenhouse gases from the atmosphere and can be used to offset emissions

