Understanding Corporate Climate and Nature Strategies and the Role of Tropical Forest Protection

The High Ambition Pathway to a Net Zero and Nature Positive World

Emergent

Protecting forests, beyond net zero.

Foreword

Allan Traicoff
Chief Commercial Officer, Emergent

Since joining Emergent in early 2021, I've met with hundreds of companies to discuss their climate strategies. In that time, two common themes have emerged from these conversations. First, sustainability professionals are enthusiastic for their company's climate strategy to evolve in line with emerging best practice and guidance. But, making sense of all the information is a challenge. Second, significant confusion exists on how to account for nature in strategies. The result? Many professionals are missing the opportunity to build robust climate- and nature-based sustainability strategies.

This paper attempts to support these professionals on both fronts. It provides clear and concise analysis on the landscape of evolving corporate climate and nature strategies and opportunities to work toward emerging leadership standards. It then offers guidance on how "beyond value chain mitigation" (BVCM) support for large-scale tropical forest protection, in the form of Jurisdictional REDD+, can play a valuable role in all strategies and approaches. Indeed, I hope that by the time you've finished the paper, you're convinced that a high ambition net zero and nature-positive pathway, fueled in part by JREDD credits, is one that your company should be on.

One of Emergent's main arguments to companies is that ignoring the ongoing destruction of tropical forests is bad for business and investors anywhere on the planet. The release of billions of tonnes of CO_2 each year from tropical deforestation poses a wide range of known and unknown risks, which in turn present serious threats to companies' abilities to thrive or even survive. Losing these forests will not only impact the long-term potential for companies to operate, but will also have devastating impacts for biodiversity, local communities and global health and well-being. The stark fact is that there is no way to stay on a 1.5°C pathway without all but halting deforestation by 2030.

In my discussions with sustainability professionals, I find that most are surprised when they hear just how large the annual emissions associated with tropical deforestation are - if tropical deforestation were a country it would be the third largest emitter after China and the United States. They are equally surprised when they grasp that public subsidies and civil society support alone represent a very small fraction of what's actually required to support a global transition towards conserving the remaining tropical forests.

The good news is there is a growing realization that choosing to focus only on company decarbonization trajectories, while we collectively ignore tropical forest emissions, is not a viable path for the future. Companies realize rapid change and private-sector investment are essential for achieving a scenario where businesses, their customers, and society as a whole can thrive. Indeed, the emergence of a group of private sector champions focussed on rapidly reducing their value chain emissions while also investing in nature through JREDD can play a significant role in keeping temperature increases below 1.5° C. Supporting efforts to protect tropical forests is a central component of this beyond value chain mitigation. But it is equally central to nature-specific strategies, which are increasingly common and expected, especially as investors intensify their requirements for biodiversity reporting.

I hope that you gain value from reading this paper - we could never have produced such a comprehensive, informed and up to date review without the support of our many contributors. We are enormously grateful for their insights and advice on earlier versions of this document. A full list of those who provided insights and feedback is included at the end of this document.

Please do get in touch! My team and I would love to speak to you about your climate strategies and what we're seeing and hearing in the sustainability community regarding the role of nature in addressing the climate and biodiversity crises.

There is a solution, there is a way forward. We invite you to join us on our journey to end tropical deforestation by 2030. This in turn is a vital stepping stone to helping the world reach net zero by 2050 and ensuring the future of the millions of people and the vast array of plant and animal species that call our precious tropical forests home.

About Emergent

Emergent is a U.S. non-profit that serves as an intermediary engaging between tropical forest countries and the private sector to mobilize finance to support emissions reductions in deforestation. It does this by developing and bringing-to-market practical, credible and large-scale forest protection solutions. Emergent serves as the coordinator of the LEAF Coalition. Launched during President Biden's Leaders' Summit on Climate in April 2021, LEAF is a public-private initiative designed to accelerate climate action by providing results-based finance to countries committed to protecting their tropical forests. Its participants, which include the US, UK and Norwegian governments, together with 20 global companies, have already mobilized more than $1 billion. More than 23 tropical forest jurisdictions have expressed interest in the initiative by responding to LEAF's initial call for proposals, and the first letters of intent were signed with Costa Rica, Ecuador, Ghana, Nepal, and Vietnam at COP26 in Glasgow.

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Acknowledgements: A wide range of individuals provided feedback and input during the development of this paper, including those from the Environmental Defense Fund, Forest Trends, IETA, NICFI, We Mean Business, the World Resources Institute, and representatives from a number of LEAF companies. This was not a formal review process, but we'd like to thank all those whose insights and contributions helped to shape this paper.

"If companies have tropical deforestation in their value chains, they need to eliminate it first. But a significant amount of tropical deforestation takes place outside many companies' value chains. As this report highlights, JREDD credits provide a triple win - avoiding further emissions from tropical deforestation, protecting one of the world's most important carbon sinks, and preserving critical biodiversity and other ecosystem services we rely on for the global climate and economy to function."

Elizabeth Sturcken, Managing Director, Corporate Partnerships, Environmental Defense Fund

"It's important for more companies to connect the dots between nature and climate commitments, including the synergy between jurisdictional REDD+ and efforts to get deforestation out of supply chains. They are increasingly looking for guidance on how different areas of corporate action can fit together into a cohesive net zero and nature positive strategy. The emphasis in this paper on the interlinkages between the climate and nature crises couldn't come at a more important time."

Jack Hurd, Executive Director of the Tropical Forest Alliance

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Executive Summary and Introduction

Executive Summary: Key Highlights and Outtakes for Decision Makers

The landscape of corporate claims and commitments is rapidly evolving. More companies are establishing their place in the fight against climate change as the world works to keep the goals of the Paris Agreement in reach. At the same time, more attention is being drawn to the dependence and impact of companies on nature. This is all leading to an overall increase in the number of climate and nature commitments and claims from companies.

On the climate side of things, one of the main challenges in the world of corporate climate strategies is there are so many different usages of similar terminology - such as carbon neutral, net zero, climate positive and their derivatives - with no clear or universally-agreed definitions. This has led to a significant divergence in the language that companies use, as well as what different companies actually mean when they make the same claim. This has created some confusion in the mind of the public, leading to distrust of corporate climate action.

On the nature side of things, while the use of deforestation-free commitments has been around in one form or another for some time, and many nature-related co-benefits are factored into climate plans, the status of other nature-specific claims represents an even less developed space in terms of what it means to be "nature positive" or "forest positive" as the scientific grounding for these claims races to catch up.

Overlaid on this confusing and contested landscape is an active debate about the role carbon credits should play in corporate climate and nature action. While the landscape may seem confusing and, worse, fraught with reputational risk, there is actually a range of guidance emerging from the climate and environmental communities, on both climate and nature claims, which is providing more clarity than ever before.

CLIMATE CLAIMS AND COMMITMENTS

Net Zero

The emerging standard for corporate climate action is that it should start by making a public commitment to achieve science- aligned long-term net-zero emissions no later than 2050, covering Scopes 1, 2, and 3, with interim milestones and a clear transition plan. Growing consensus among multi stakeholder initiatives and NGOs such as the Science Based Targets initiative (SBTi), however, is that this is not enough to reach our global goals and that beyond value chain mitigation using high-quality carbon credits to compensate for unabatable emissions is now both necessary and urgent. This high-ambition approach can deliver substantially more climate change mitigation than following a science-based operational reduction trajectory alone, as well as deliver a range of co-benefits for nature. It is for this reason that SBTi urges beyond value chain mitigation action now while it prepares guidance on beyond value chain mitigation for release in 2023.

Carbon Neutral

Using carbon neutral to describe an end-goal is becoming increasingly less common as science-based net zero takes root. Claiming carbon neutrality at the enterprise level can have a place in the high-ambition path to net zero as a way to describe the use of high-quality carbon credits (reductions and/or removals) to cover all unabated emissions along the science-based pathway. In other words, it is a claim that can be used in the process of the transition towards net zero. Credible carbon neutral claims for marketing brands, products or services are also a way to raise public awareness of climate responsible consumption. However, growing consensus shows that companies should rapidly transition from product-level to enterprise-level approaches, and acceptable use of product-level claims will increasingly be determined by the enterprise's compliance with strict prerequisites.

Climate Positive

Climate-positive or carbon-negative commitments, where companies are mitigating more than they emit in ambitious approaches, such as compensating for historical emissions, has the potential to position companies as climate leaders in the journey toward a net zero and nature positive world.

NATURE-SPECIFIC CLAIMS AND COMMITMENTS

There is already considerable overlap with climate strategies – and in fact many nature-related co-benefits are factored into climate strategies - as companies increasingly understand how the climate and biodiversity agendas are linked, in particular through the effort to stop tropical deforestation.

Deforestation Free

Deforestation-free commitments have been around in one form or another for some time. However, there are still a significant number of companies that are exposed to deforestation as a risk to their business either financially, operationally, reputationally, or competitively, which have not made deforestation commitments that address their entire supply chain.

Nature Positive

Many companies are thinking beyond carbon to better understand the complex and dynamic relationships their operations have with the health of natural assets and the ecosystem services they provide. This is being fuelled by a global "nature-positive" movement that is shifting the paradigm from damage limitation to exploring how economic activities could not only minimize impact, but also enhance ecosystems. Although there is not yet firm scientific grounding for what it means for a company to be "nature positive," there is ample opportunity and guidance for companies to start taking action now to improve their impact on nature. An important part of this concept is that the nature positive approach invites companies to consider beyond value chain action. Similar to the concept of beyond value chain mitigation in the climate space, this includes exploring opportunities to focus on nature-positive actions outside of their value chains in support of achieving the global goal.

JURISDICTIONAL REDD+

REDD+ stands for reducing emissions from deforestation and forest degradation, while fostering sustainable management of forests, and the conservation and enhancement of forest carbon stocks. The jurisdictional approach to REDD+ - abbreviated as JREDD - refers to a government-led, comprehensive approach to forest and land use across one or more legally defined territories. It is distinct from project-level REDD+, where forest conservation efforts are often confined to a smaller area. But, by no means is JREDD new or novel; it builds on 15 years of knowledge and learnings since the REDD+ Framework was first initiated in 2007.

Over the past two decades, support for forest protection at the jurisdictional scale has largely been left to public donors, while most corporate support has been directed through voluntary carbon markets to standalone REDD+ carbon projects. But this is starting to change, and there is a significant amount of new momentum for mobilizing both public and private finance to support Jurisdictional REDD+ (JREDD) carbon credits, which in turn is catalyzing a significant response from tropical forest nations.

Jurisdictional-scale crediting has the potential to incentivize governments to take the decisions and perform the actions that only they have the authority to implement, which can directly tackle the drivers of deforestation.

USING JREDD AS PART OF A HIGH AMBITION PATHWAY TO NET ZERO AND NATURE POSITIVE

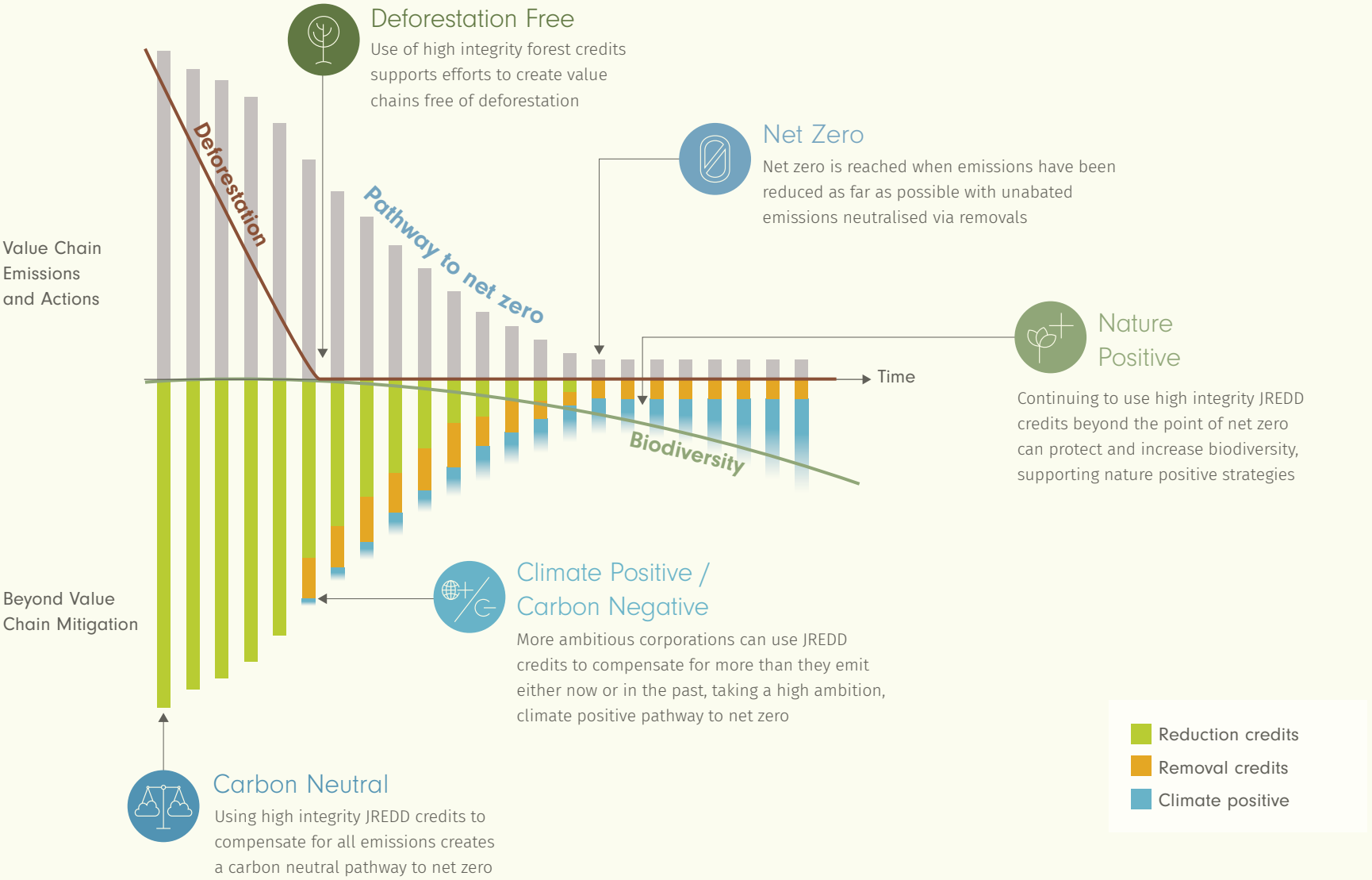
Many multi-stakeholder initiatives and NGOs such as the Tropical Forest Credit Integrity Initiative and SBTi agree that JREDD+ credits can and should play an important role in climate commitments as part of the high ambition pathway to net zero. The next decade is critical in terms of keeping the goals of the Paris Agreement in reach. JREDD credits provide a triple win - avoiding further emissions from tropical deforestation, protecting some of the world's most important carbon sinks, and preserving critical biodiversity and other ecosystem services we rely on for the global climate and economy to function.

Simply put, the world will not stay within a 1.5 degree carbon budget without companies investing beyond their value chains to protect tropical forests, and corporate support for JREDD credits is an important way for them to do this. And even as the area of corporate nature claims continues to evolve, it's clear that JREDD credits have strong synergies with nature positive aspirations and deforestation-free commitments.

Using jurisdictional REDD+ credits supports the full range of climate and nature claims discussed in this document and can play a key role in a high ambition pathway to net zero and nature positive.

High Ambition Pathway to Net Zero and Beyond

Using Jurisdictional REDD+ credits supports the full range of climate and nature claims and can play a key role in a high ambition pathway to net zero and beyond.



Introduction

The expectation that companies should play an active role in combating climate change is now firmly rooted in the minds of investors, employees and the general public. Companies are also realizing they must play a part in reversing biodiversity loss and contributing to the recovery of nature, which brings many benefits for people and the planet, and is linked to the long-term survival of their markets and their license to operate.

Companies are responding in kind. The number of climate pledges from the corporate sector has skyrocketed with more than one-third (702) of the world's largest publicly traded companies now having net-zero targets, up from one-fifth (417) in December 2020[1]. While 42% of companies in the Fortune Global 500 have now delivered a significant climate milestone or are publicly committed to do so by 2030, a much larger group - 63% - have a target by mid-century, up 22% since 2021.[2] As of October 2022, more than 3,500 businesses and financial institutions[3] are working with the Science Based Targets initiative (SBTi) to reduce their emissions in line with climate science and over 5,000[4] are part of the UN's Race To Zero campaign. Many of these commitments have nature-related components through their support for natural climate solutions, and while nature-specific targets represent a less mature area of work, it's clear that these are on the rise, with more than 1,000 companies[5] joining Business for Nature to call for more ambitious policies on nature.

One of the main challenges in the world of corporate climate strategies is there are so many different usages of similar language - such as *carbon neutral*, *net zero*, *climate positive* and their derivatives - with no clear or universally-agreed definitions. This has led to a significant divergence in the terminology that companies use, as well as what different companies actually mean when they make the same claim. This in turn creates confusion in the mind of the public, leading to distrust of corporate climate action.

While the use of deforestation-free commitments has been around in one form or another for some time, and many nature-related co-benefits are factored into climate plans, the status of other nature-specific claims represents an even less developed space in terms of what it means to be *nature positive* or *forest positive*.

Overlaid on this confusing and contested landscape is an active debate about the role carbon credits should play in corporate climate action.

Do credits count toward net-zero claims? What type of credits can be used to support certain claims? With forestry and land use projects accounting for 46% of the credits traded on the voluntary carbon market in 2021[6], there is a particular focus on nature-based solutions in this context, especially with the rise of credits generated through large-scale tropical forest protection at the level of an entire country or large sub-national jurisdiction - known as jurisdictional or JREDD (Jurisdictional Reducing Emissions from Deforestation and Degradation) credits - which are an effective way to protect these important ecosystems at scale.

The relationship between corporate investment in jurisdictional credits and how these relate to nature-specific claims and commitments is even less well defined, and is deserving of further exploration.

Against this backdrop, and in an effort to provide more clarity and confidence around the use of jurisdictional credits in corporate climate and nature claims and commitments, this paper seeks to answer two overarching questions.

1. First, what does the current landscape of corporate climate and nature strategies look like, and where is consensus emerging for the appropriate and robust use of claims and commitments?

2. And second, what role can and should high quality JREDD credits play within these claims and commitments?

To achieve this, Emergent carried out a detailed analysis of published advice and views from a wide range of stakeholders within civil society and the climate community. This report highlights that range of views but also demonstrates where consensus is developing.

What we hope to demonstrate first is that while this might appear to be a highly contested landscape that is fraught with reputational challenges, there is actually strong consensus emerging among the leading climate and environmental initiatives on the appropriate use of claims and commitments. And second that high-quality JREDD credits can and should be used with any credible climate or nature strategy.

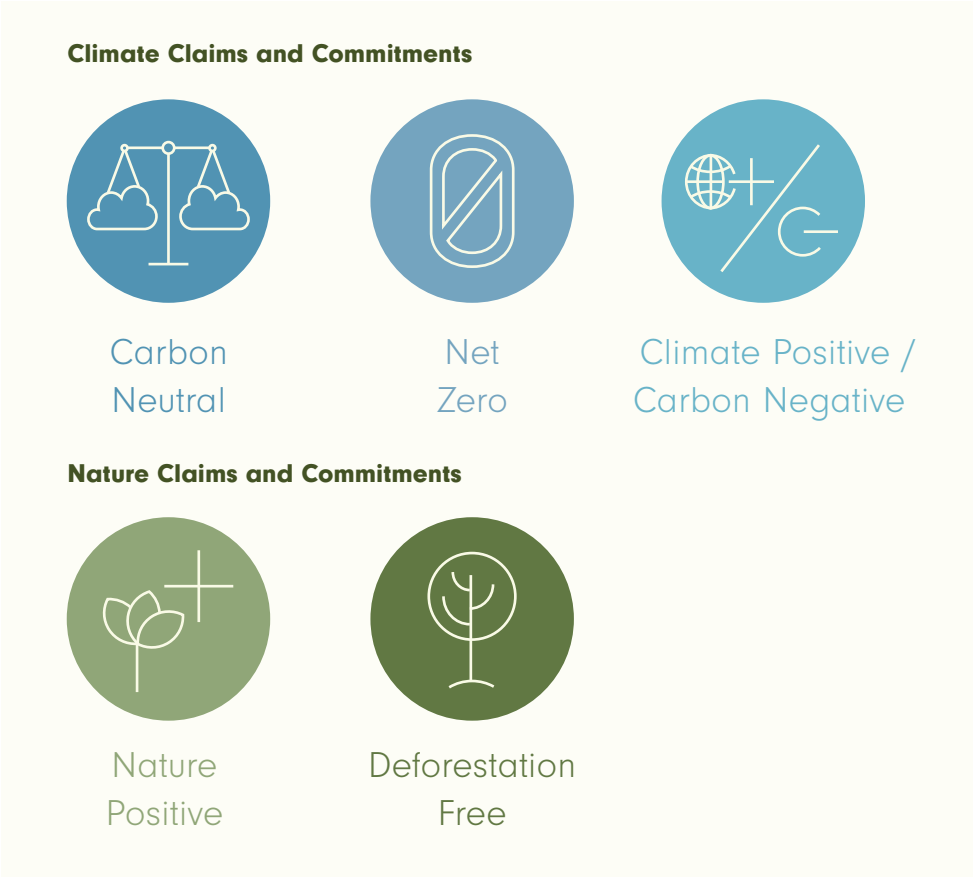
Section 2:

Corporate Climate and Nature Strategies and Claims - Landscape Analysis

This section provides a landscape analysis of corporate claims. It introduces the most common climate claims and commitments - **carbon neutral**, **net zero** and **climate positive** - and nature claims and commitments - **nature positive** and **deforestation free** - providing an overview of the different ways these terms are currently used.

It is worth noting that this presents a somewhat artificial split between climate and nature claims, which of course in practice are often deeply interlinked. In the arena of corporate action, the deforestation agenda has provided a strong bridge between climate and nature priorities; and there is growing awareness that the climate and nature crises must be solved together or there is a risk of solving neither.

For the climate section, this paper's analysis of climate claims is informed by many of the leading initiatives in the space, although many still have much work in progress. These organizations and multi-stakeholder initiatives are currently offering guidance to companies on setting robust, science-based climate pledges, and on the role that carbon credits can and should play in these efforts. Between them, they explore what integrity means both on the supply side - the integrity of the credits themselves - and on the demand side - integrity in terms of how companies use the credits to achieve climate goals.[a]



a Initiatives, guidance documents and organizations include but are not limited to the Carbon Credit Quality Initiative, the Integrity Council for the Voluntary Carbon Market, the International Standards Organization, the NCS Alliance, the Oxford Offsetting Principles, the Tropical Forests Credit Integrity guide, the Science Based Targets initiative, the UN Race to Zero, the Voluntary Carbon Market Integrity initiative, the World Resources Institute and WWF.

Climate Claims

Carbon Neutral

Net Zero

Climate Positive / Carbon Negative

Carbon Neutral

OVERVIEW

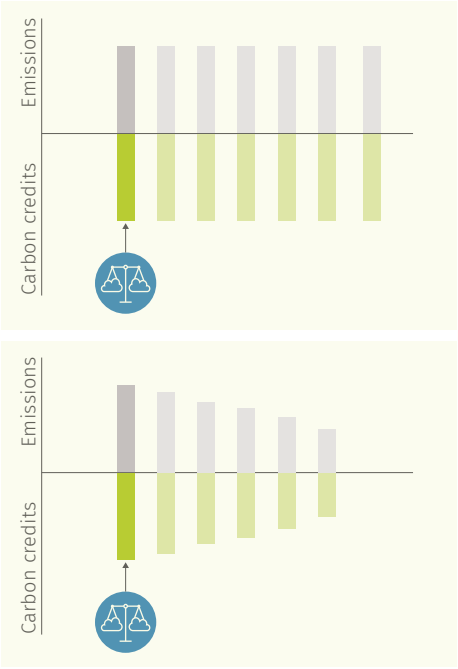
In the world of climate action, "carbon neutral" is both one of the oldest and most common terms, and one of the most inconsistently used. In the broadest sense, carbon neutral status is achieved by balancing the amount of CO_2e (carbon dioxide equivalent) that is emitted with an equivalent amount of CO_2e that is either removed from the atmosphere or prevented from entering the atmosphere. However, the term is contested and lacks a clear, internationally recognized definition, particularly within the realm of corporate climate action.[b]

For the Intergovernmental Panel on Climate Change (IPCC), carbon neutral means a 'condition where anthropogenic CO_2e emissions are balanced by CO_2e removals'.[7] According to this definition, carbon neutral and net zero are near synonyms (see "net zero" section on page 24). Yet corporations and other participants in carbon markets have for years been defining this term differently. In many cases, it is defined by companies as purchasing a corresponding amount of carbon credits to match one's carbon footprint.

The lack of a clear, internationally-recognized definition and the resulting confusion can open up companies to accusations of greenwashing.[c] The primary concern is that offsetting one's carbon footprint - and claiming carbon neutrality as a result - reduces pressure to decarbonize, essentially letting companies off the hook for taking action within their own operations and supply chains.

USES OF CARBON NEUTRAL CLAIMS

Carbon Neutral Now



There are at least two ways companies can be carbon neutral now, one where emissions are staying level or increasing and one where they are decreasing over time. In both cases, carbon neutrality is claimed now, but it shows the lack of standardization around the term "carbon neutrality" in relation to corporate mitigation strategies, as well as the reasons for criticisms that are often leveled against carbon neutral claims.

In one of the most common usages of carbon neutral, a company claims carbon neutrality on its current emissions through the purchase of an equivalent amount of carbon credits. Google is an example of this, claiming carbon neutrality since 2007 due to carbon credit purchases and reduced emissions, and aiming to be carbon free (see page 21) by 2030.[8]

For those that claim to be carbon neutral now, there are a number of protocols that lay out the steps that need to be taken in order to make

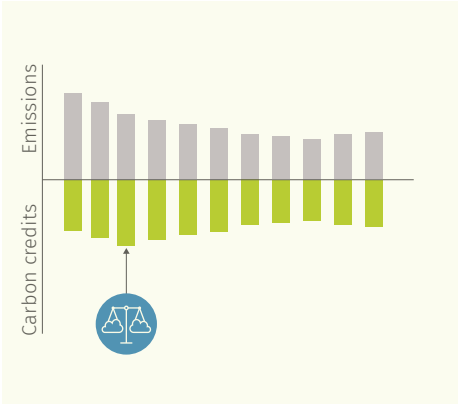
b Note that in some places, like France, the term is regulated.
c Greenwashing is defined by the Cambridge Dictionary as behavior or activities that make people believe that a company is doing more to protect the environment than it really is.

clear and credible claims about climate programs within the rapidly developing landscape of voluntary climate action.[d] At a high level, the core requirements of these protocols are similar and involve *defining* what is covered in the carbon footprint, *measuring* emissions, *setting targets* to reduce emissions and counterbalancing remaining emissions, and *communicating and reporting*.

While there are important differences in the details, including in how verification works, these broad steps are fairly consistent between protocols. The level of ambition for the target-setting stage is generally not specified.

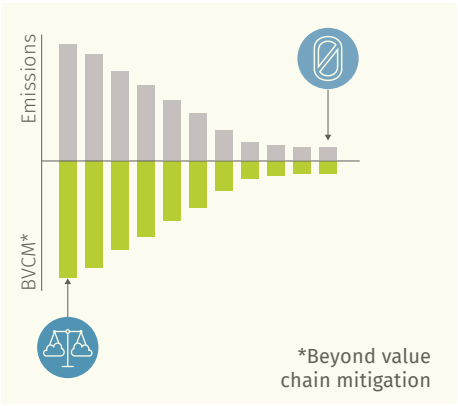
The most widely used and well-known protocol for emissions accounting is the Greenhouse Gas Protocol, established by the World Resources Institute and the World Business Council for Sustainable Development, which has comprehensive global standardized frameworks to measure and manage GHG emissions from private and public sector operations, value chains and mitigation actions.

Carbon Neutral in the Future



In another usage, carbon neutral is a future target - a commitment rather than a claim. This can represent high ambition if carbon credits are only used to counterbalance remaining emissions, after internal emissions have been reduced, as is the case with Apple. The company claims that its corporate operations (their term for scope 1 and 2 emissions) are carbon neutral, but has set a forward-looking commitment to achieve carbon neutrality for Scope 1, 2 and 3 by 2030.[9] This usage has parallels with net zero targets, which will be introduced in the next section. However, if a company sets a target for carbon neutrality in the future, using carbon credits without reducing internal emissions in line with science-based targets, this would not be considered best practice as it does not align with a science-based net-zero pathway.

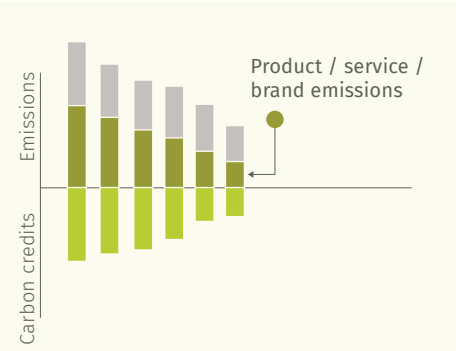
Carbon Neutral as a Staging Post to Net Zero



It is becoming more common to see companies use carbon neutrality as a stepping stone on the journey to net zero and beyond (see more on net zero on page 24). Microsoft is a good example of this. It has claimed carbon neutrality since 2012, but now has a net-zero and carbon negative commitment by 2030 and then a commitment to remove all the carbon the company has emitted either directly or by electrical consumption since it was founded in 1975. HP is another example of this with a goal to be net zero by 2040, its supplies business achieving carbon neutrality by 2030, and many lower-tier goals, for example, eliminating 75% of single-use plastic packaging by 2025, compared to 2018. Specific products are carbon neutral such as HP Managed Print Services and HP-branded paper is 100% deforestation free (see the nature section on page 38 for more on this).

d Three prominent protocols include the CarbonNeutral Protocol, PAS 2060 and the Climate Neutral Certified Standards (CNCS).

Carbon Neutral Brand, Product or Service



There is also an important distinction between claiming carbon neutrality at the enterprise level, and claiming carbon neutrality for a specific brand, product or service, or even branch of a company's operations. This is often an entry route for many companies and can be successful in explaining and promoting climate credentials as the public's engagement with a company is usually through its products or brands, whereas organizational claims are often more relevant business to business. For example, Owens Corning does not claim to be carbon neutral as an enterprise, but has a carbon neutral product line - Paroc Natura Lana - a stone wool insulation.[10]

Lifecycle Emissions: Including Scope 3

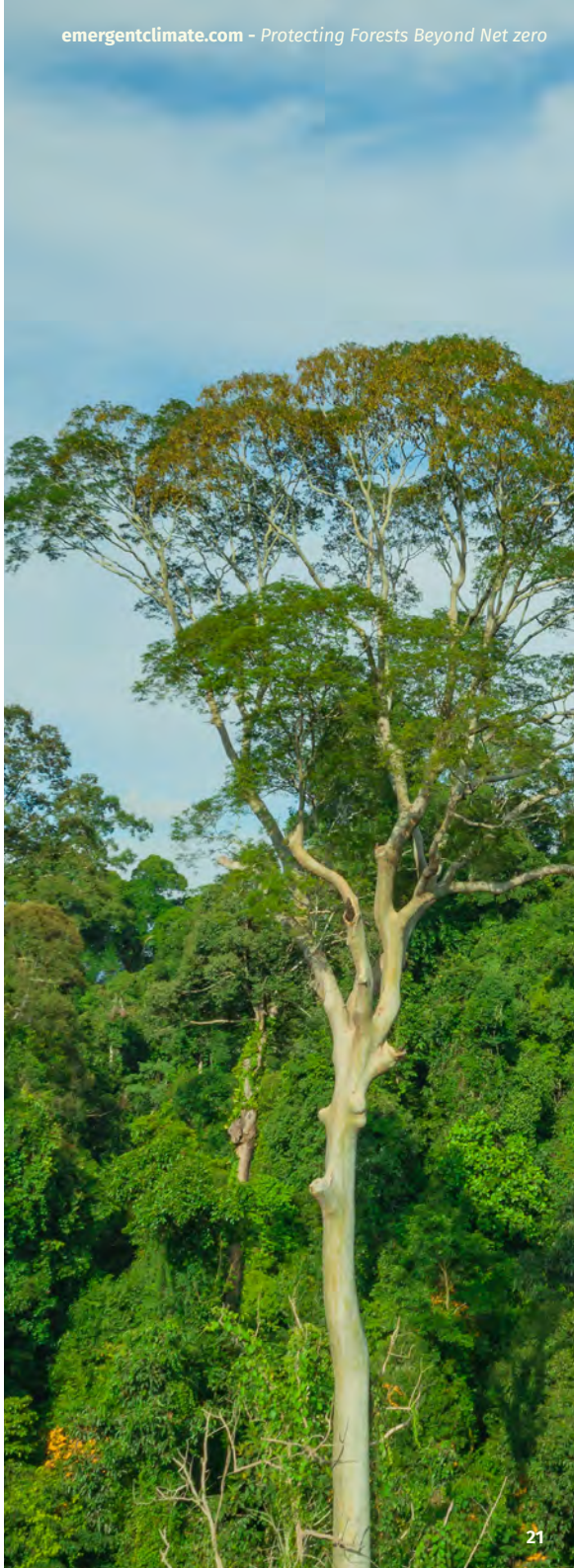
Many carbon-neutral claims and commitments cover not just the operational emissions of a company or product (scopes 1 and 2), but the entire lifecycle of a product or the full impact of the company's operations (scope 3). Companies in the Fortune Global 500 that are carbon neutral or have a target to be so by 2030 are almost twice as likely to disclose annual Scope 3 emissions (81%) than companies that don't have a 2030 carbon neutral target (48%).[11] However, Scope 3 can be difficult to define, measure and account for (see below) and there is also inconsistency in terms of how Scope 3 emissions are included in carbon-neutral claims.[12]

For example, Sky became CarbonNeutral®[13] in 2006 and each year counterbalances its location-based scope 1 and 2 emissions, but only selected scope 3 emissions. It intends to become net zero by 2030 across its whole value chain, combining carbon neutral and net zero in a way that is becoming an emerging trend. Maple Leaf claims it is carbon neutral for all its scope 1 and 2 emissions and a portion of its scope 3 emissions, using another term "Carbon Zero" for product ranges that have also offset all scope 3 emissions.[14]

Addressing all Three Scopes Through Carbon Accounting

RELATED TERMS

- **Climate neutral** was coined as an attempt to clarify the move away from a focus on just carbon dioxide, in order to specify a wider focus on all greenhouse gas emissions. This term has not had much pick up in the corporate world, and even at the country level where it was originally introduced within the UN framework[15], it is not widespread. However, the distinction between a carbon-only focus versus an all-GHG focus is an important one, and while best practice is for carbon-neutral targets to account for all GHG emissions, there is still inconsistent application on this front.
- **Carbon free** is used to describe electricity generation that either does not use fossil fuels or does not emit carbon. Google, for example, has set a carbon-free target.[16]
- **Zero carbon** can be used to mean that no carbon emissions are being produced from a product or service, but is also a term commonly applied to buildings and modes of transportation that are carbon neutral. For a building that's zero carbon certified by the International Living Future Institute, for example, it must acquire renewable energy to match its consumption and counterbalance any additional CO_2e emissions resulting from its construction. Intertek's CarbonZero certification, as another example, enables companies to market qualifying carbon-neutral products and services.
- **Carbon negative** is often used to describe a state beyond carbon neutral, where a company offsets or counterbalances more than its footprint. It is used interchangeably with climate positive - for more detail see the section covering climate positive and carbon negative on page 35.
- **Other terms:** CO_2 Zero, Zero CO_2, Zero Carbon Emissions, Effectively Zero CO_2 Emissions, Zero Emissions, Zero GHG Emissions, Virtually Zero GHG Emissions, Substantially Zero GHG Emissions, Emission-free Delivery.[17]



SUMMARY

Credible carbon-neutral claims for marketing brands, products or services are a way to raise public awareness of climate responsible consumption. However, the urgency of the climate crisis means companies must rapidly transition from product-level to enterprise-level approaches, and acceptable use of product-level claims will increasingly be determined by the enterprise's compliance with prerequisites, as outlined in recent guidance from the Voluntary Carbon Market Integrity Initiative (VCMI).[18]

At the enterprise level, using carbon neutral to describe an end-goal is increasingly less common as science-based net zero takes root. Claiming carbon neutrality at the enterprise level can have a pla**c**e in the high-ambition path to net zero as a way to describe the use of high-quality carbon credits (reductions and/or removals) to cover all unabated emissions along a science-based pathway. In other words, it is a claim that can be used in the process of the transition toward net zero. However, because there are different meanings that can be attributed to the term carbon neutral, as described above, some, such as the Science Based Targets initiative (SBTi), argue that it may not be the most effective claim for leading companies to differentiate their climate mitigation actions from companies that are not decarbonizing in line with science.[19]

CARBON NEUTRAL - OVERVIEW OF CORPORATE APPROACHES

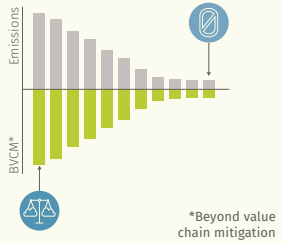
Carbon neutral now

Company uses carbon credits to counterbalance current emissions, but emissions stay level, grow, or are reduced, but not in line with a science-based net-zero trajectory.

Carbon neutral in the future

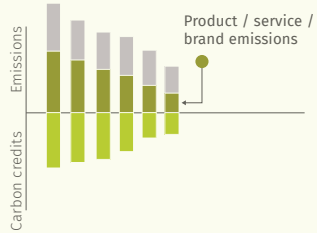
Company aims to use carbon credits to counterbalance emissions at a future state, but that future state isn't in line with a science-based trajectory.

Carbon neutral as a staging post to net zero



Part of high ambition pathway to net zero (see page 29).

Carbon-neutral brand, product or service



Company creates a carbon-neutral brand, product or service, while reducing direct emissions for that product and for the company as a whole to be committed to science based net zero.

Perceptions of activity by the climate community and civil society

This does not conform with best practices if there are no operational emissions reductions that are aligned with a science-based net-zero strategy.

The company's trajectory is not aligned with a science-based net-zero pathway and does not conform to best practices.

Direct emissions are being reduced in a credible way and unabated emissions along the pathway are counterbalanced with beyond value chain mitigation (BVCM), which represents support for additional actions outside the company's value chain, and helps the world transition to net zero and contributes to broader systems change.

This can be an effective way to introduce carbon neutrality and beyond value chain mitigation to customers and internal stakeholders, so long as the broader enterprise is committed to science-based net zero.

Net Zero

OVERVIEW

The use of the term net zero is rapidly growing in the corporate climate space. At the global level, the IPCC provides a clear definition of **net zero**: net-zero emissions are reached when anthropogenic (i.e., human-caused) emissions of greenhouse gases (GHG) to the atmosphere are balanced by anthropogenic removals over a specified period.[20]

At a corporate level, this is less clear cut and can mean different things for different industries. For most companies, net zero is an end state whereby they have reduced their own operational (scope 1 & 2) and value chain (scope 3) GHG emissions as much as possible. Any unabated emissions are then counterbalanced by carbon credits. Typically, an end date is announced by when this target should be reached (e.g. 2040, 2050, etc.). The journey or plan a company must embark on or execute in order to reach the end state of net zero is often called the "pathway to net zero". It is expected to include a detailed account of how emissions reductions will be achieved within a company's own value chain with a transition plan that includes interim milestones for when they should be achieved by.

DEBATE OVER THE "NET" OF NET ZERO

38 percent of Fortune 500 companies have net-zero targets, up 50 percent since 2021. But with this growth comes increasing scrutiny from civil society, a growing amount of greenwashing litigation[21], and even a special taskforce on the net-zero emissions commitments of nonstate entities organized by the UN Secretary General[22].

One of the biggest questions around net-zero targets is what the "net" represents. The term can obscure a lot of important differences in how companies plan to limit their contributions to climate change. For example, 91 percent of country targets, 79 percent of city targets, 78 percent of regional targets, and 48 percent of listed company targets fail to specify if carbon credits will be used in their net-zero plans.[23]

While there is new and emerging guidance,[24] there are no regulated standards that govern which activities actually count towards net zero. As Vox reports, "In principle, the idea of net zero offers countries and companies flexibility in meeting climate goals. But in practice, critics say that net-zero pledges delay meaningful reductions in greenhouse gasses and provide cover to those unwilling to take immediate steps to limit emissions."[25]

In other words, there are significant concerns that net-zero targets can help delay necessary action to reduce emissions, and like carbon neutral claims, often draw accusations of greenwashing from civil society groups.[26] Even among companies that have committed to operational emissions reductions, concerns are still raised that the "net" part of net zero will help high emitters bypass the obligation to get rid of their tail-end emissions, which are disproportionately more expensive to abate.[27] Questions remain regarding how quickly companies should be expected to decarbonize their value chains in light of the availability and cost of abatement technologies.[28]

The actual shapes of Paris-aligned emissions reduction trajectories remain uncertain, especially for companies in sectors for which guidance is not yet available. In other words, how much must absolute emissions be abated at each point in the trajectory prior to the legitimate use of carbon credits to compensate or neutralize those that remain?

Another concern that is often raised is how individual net-zero pledges add up. There are only so many options out there for balancing emissions. If too many companies and governments try to counterbalance their way to net-zero emissions without making their own reductions, there won't be enough carbon-absorbing tactics to go around without a heavy reliance on technologies that are currently nascent, expensive and still largely theoretical at scale. There are only so many forests to protect, and only so much land on which to plant trees.

While this may seem like a heavily contested space fraught with serious reputational risks for companies, the good news is that there is increasing clarity on the appropriate usage of net zero that seeks to address these concerns, and which is designed to earn the support of the environmental and climate communities.[e] Below we look at science-based targets and how the SBTi is using its Net-Zero Standard to advise companies on their climate strategies.

e Such as the SBTi Net-Zero standard

Science-Based Targets

Science-based targets are related but distinct from net zero. They are internal or within-value-chain greenhouse gas reduction goals set by businesses. They are defined as "science-based" when they align with the scale of emissions reductions required to keep global temperature increases well-below 2°C, or in line with 1.5°C, compared to pre-industrial temperatures.

The relationship between science-based targets and net-zero targets is complex and there are many permutations in practice. Some companies have net-zero targets with science-based targets, some have net-zero targets without science-based targets, and some have science-based targets without net-zero aspirations.

SBTi

The Science-Based Targets initiative (SBTi) is one of the leading efforts that is seeking to introduce clarity and consistency in the space. Led by CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF), SBTi enables organizations to set science-based emissions reduction targets.

As of October 2022, more than 3,500 companies[29] in 50 sectors are working with the SBTi to set science-based targets. These can either be near-term targets for the next 5-10 years that are aligned with 1.5°C or "well-below-2°C" goals (although the latter is being phased out), and/or long-term targets that indicate the degree of emissions reductions companies need to ultimately reach in order to achieve net zero under the SBTi Net-Zero Standard.

The Net-Zero Standard is the world's first framework for corporate net-zero target setting in line with climate science. It includes the guidance, criteria, and recommendations companies need to set science-based net-zero targets consistent with limiting global temperature rise to 1.5°C. Currently, companies in all sectors (apart from fossil fuels) can set science-based targets that are aligned with the SBTi criteria. For some sectors or industries, separate sector-specific methodologies, frameworks and requirements have been developed.

The principle at the heart of the SBTi Net-Zero Standard is the "mitigation hierarchy." Under the mitigation hierarchy companies should set science-based targets, both near and long-term, to address their value chain emissions and implement strategies to achieve these targets as a first order priority. SBTi does not allow the use of carbon credits as part of a company's science-based net-zero pathway (described below), but rather strongly recommends companies invest in high-quality credits as a form of **beyond value chain mitigation**.[f]

Companies can have their science-based targets validated by SBTi, but they can also set their own "science-aligned" targets without assessment or validation from SBTi, which can add confusion.

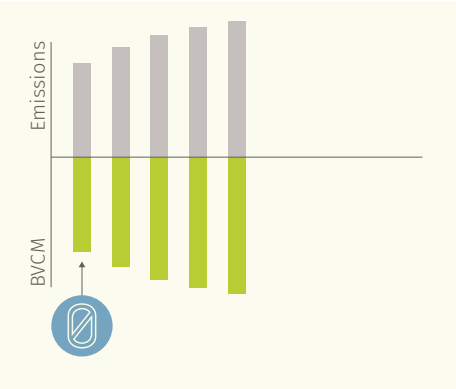
RELATED INITIATIVES

There are a number of related initiatives that help companies understand and put forward their net-zero commitments. These include Business Ambition for 1.5°C - Our Only Future, The Climate Pledge, Exponential Roadmap Initiative and Planet Mark, among a range of others.

f From SBTi's "What is beyond value chain mitigation?" paper: "The climate and ecological crises require bold and decisive action from companies. Decarbonizing a company's value chain in line with science and reaching net-zero emissions by mid-century, is increasingly becoming the minimum societal expectation on companies. Businesses can play a critical role in accelerating the net-zero transition and in addressing the ecological crisis beyond their value chains. "Beyond value chain mitigation" refers to mitigation action or investments that fall outside of a company's value chain. This includes activities that avoid or reduce greenhouse gas emissions, and those that remove and store greenhouse gases from the atmosphere. Examples include purchasing high quality, jurisdictional REDD+ carbon credits that support countries in raising the ambition on and, in the long-term, achieving their nationally determined contributions, or investing in CDR technologies such as direct air capture (DAC) with geological carbon storage."

USES OF NET ZERO

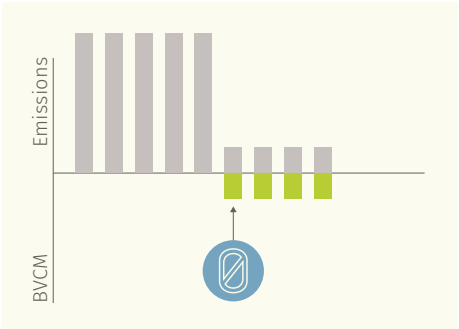
Net Zero Now



When it comes to real-world usage of the term “net zero”, it is sometimes used interchangeably with carbon neutral (see page 17), which can cause confusion and open up companies to accusations of greenwashing. This is because the higher ambition term “net zero” is increasingly agreed to be a commitment, not a claim, and should not be used to describe a less ambitious plan.

An example of some of the backlash and confusion around this usage came when Mark Carney, an advisor to U.K. Prime Minister Boris Johnson ahead of COP26 and vice chair at Brookfield Asset Management Inc., described his firm’s portfolio as “net zero” due to its large investment in renewables. However, critics pointed out that his firm also had investments in coal and other fossil fuels. They argued that Brookfield’s investments in renewables weren’t producing additional avoided emissions since Carney’s firm had an incentive to own them and thus weren’t adequately canceling out the emissions of their other investments.

Net-Zero Claim with Insufficient Detail

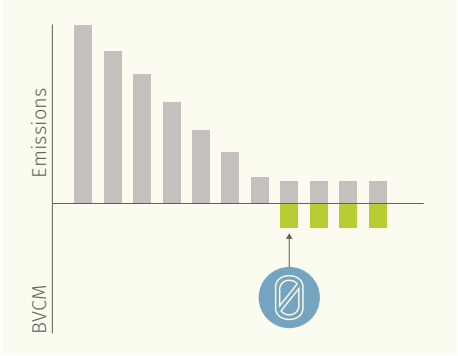


Many companies have set net-zero targets for 2050, but far fewer have outlined a detailed plan for near-term actions that will put them on a viable pathway.[30] A New Climate Institute report found the world’s biggest companies were on track to cut their emissions by only 23% on average by 2030.[31] That falls far short of the figure of nearly halving emissions in the next decade that the world’s leading climate scientists say is necessary to avoid the most damaging effects of the climate emergency. Another report from Net Zero Tracker says 65% (456/702) of corporate targets do not yet meet minimum procedural reporting standards and major credibility gaps remain in global national, regional, city and corporate targets.[32]

Added to this, many of the guidelines available are not clear on the role for carbon credits on a pathway to net zero, or even sometimes for when net zero is reached. This is discussed in more detail below.

While the majority of companies still fall into the category of not including sufficient details in their net-zero plans, with less than 5% currently adhering to Net Zero Tracker’s Leadership Criteria,[33] more companies are moving toward science-based net zero, a trend that will continue to increase as scrutiny increases and corporate guidance becomes clearer.

Science-Based Net Zero

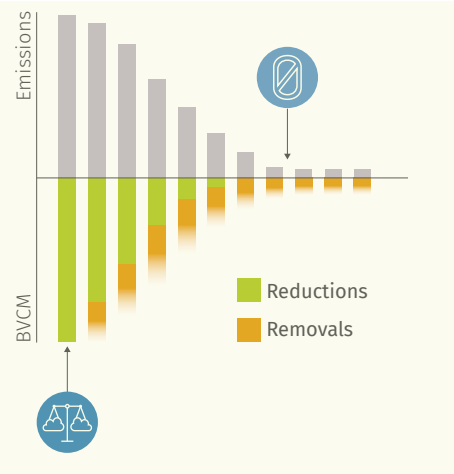


This usage focuses on within-value-chain greenhouse gas reduction goals set by businesses, which are "science-based" because they align with the scale of emissions reductions required to achieve global net zero. This usage only includes the use of removal credits at the end of the journey to neutralize any limited emissions that cannot yet be eliminated at that point.

With the recent launch of the SBTi Corporate Net-Zero Standard, there are two ways to describe science-based targets: near-term and long-term. Near-term science-based targets are what most companies refer to as just science-based targets today. They outline what companies will do now, and over the next 5-10 years, to reduce emissions in line with Paris-aligned mitigation pathways.[g] Long-term science-based targets convey the destination of a company's decarbonization journey. These targets indicate the degree of emissions reductions companies need to ultimately reach in order to achieve net zero under the Standard's criteria. Most companies will need to reduce emissions by at least 90% to reach science-based net zero. These targets must be achieved no later than 2050 (or 2040 for the power sector).

g Near-term targets must follow a 1.5°C pathway to align with the Net-Zero Standard. 1.5°C-aligned targets are now the most common choice for companies, representing 75% of all submissions to the SBTi in 2021. The SBTi is phasing out the well-below-2°C option for all near-term science-based targets and will now only accept 1.5°C-aligned targets.

High-Ambition Net Zero



Using high-quality credits to compensate along the way - as part of beyond value chain mitigation - provides a high-ambition pathway to net zero and beyond, while also delivering a range of co-benefits for people and biodiversity.

With its publication of the Net-Zero Standard, SBTi does not allow the use of carbon credits as part of a company's science-based net-zero pathway (described on page 26), but rather strongly recommends companies to invest in high-quality credits as a form of beyond value chain mitigation. Increasingly, civil society is expecting this type of mitigation, seeing it as necessary and not optional.

According to SBTi, "The Standard also explicitly states that 'companies should go further and invest in mitigation outside their value chains now to contribute towards reaching societal net-zero'. This means that while absolute emissions reductions must be prioritized, companies must also invest in BVCM to help the global economy align with 1.5°C and net-zero."[34]

This approach can deliver substantially more climate change mitigation than following a science-based operational reduction trajectory alone and is, in fact, necessary for ensuring global science-based climate goals can be achieved.[35] It creates the important opportunity to increase collective climate ambition through investment in high quality, supplemental climate change mitigation across the globe – while companies work to decarbonize their operations and supply chains.

The Voluntary Carbon Market Integrity Initiative (VCMI) is currently road testing its Provisional Claims Code of Practice, which seeks to provide guidance on how carbon credits can be voluntarily used and claimed by businesses as part of high ambition net zero decarbonization strategies.[36]

Compensating even a portion of scope 1-3 emissions along a decarbonization pathway could, in aggregate across companies committed to a science-based target, generate billions of dollars of financing for emissions reduction or removal projects.[h] The distinction between these two types of credits is explored on the next page.

HIGH-QUALITY CARBON CREDITS

There is currently a very active discussion on what constitutes a "high quality" carbon credit. Issues related to carbon credit integrity include additionality, mitigation activity information, no double counting, permanence, program governance, registry, robust independent 3rd party validation and verification, robust quantification of emissions reductions and removals, sustainable development impact and safeguards, and transition towards net-zero emissions.[37, i]

h The amount of BVCM compensation expected of companies is the subject of active discussion. We Mean Business has called on every company to invest in high quality nature-based solutions to address at least 10% of their unabated emissions. VCMI's Provisional Code of Practice says that VCMI Gold requires a company to be on track to achieve its next interim target and have covered all remaining emissions through the use of high-quality carbon credits; and VCMI Silver requires a company to be on track to achieve its next interim target and have covered at least 20 percent of its remaining emissions through the use of high-quality carbon credits.

i Existing guidance documents and multi-stakeholder initiatives that address the quality of carbon credits include the Carbon Credit Quality Initiative, the Integrity Council for the Voluntary Carbon Market, the NCS Alliance, the Oxford Offsetting Principles, the Tropical Forest Integrity guide, the World Resources Institute and WWF.

Reductions Versus Removals

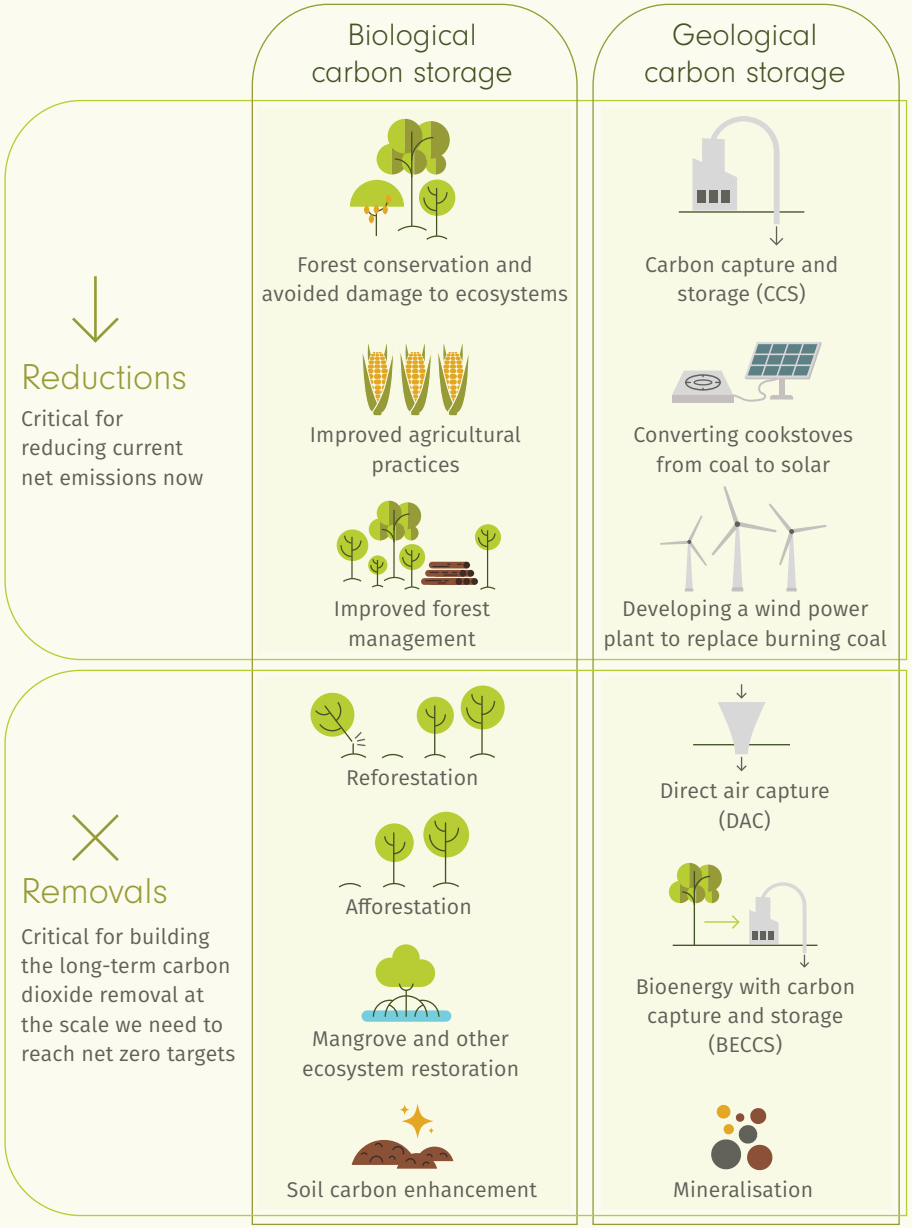
Carbon credits can be generated from two types of activities, GHG reductions and removals. A removal credit represents a tonne[j] of CO_2e that has been removed from the atmosphere. Removals are critical for building the long-term removal capacity (the global carbon sink) needed to reach net-zero targets. A reduction credit represents a tonne of CO_2e that has been prevented from entering the atmosphere. When used to counterbalance or offset, it is important to note that a new tonne of carbon is still in the air. Reductions are critical for limiting the increase in atmospheric GHG concentrations - but do not affect current GHG concentration levels.

The UN's Intergovernmental Panel on Climate Change (IPCC) acknowledges that carbon removals will become a vital tool for reducing carbon concentrations in the atmosphere, but stresses that only massive reductions in emissions will give humanity a fighting chance of keeping global warming to 1.5°C or below.[38]

Carbon credits can be generated from a broad range of activities, such as converting cookstoves to solar or developing a wind power plant to replace burning coal. In 2021, carbon credits generated from natural climate solutions (NCS) represented 61% of the carbon credit market.[39] These include actions that protect, restore or sustainably manage natural ecosystems, including and especially tropical forests. NCS credits can be either reduction credits, in the case of forest protection efforts, or removal credits, in the case of reforestation projects.

j Accepted practice internationally is to use metric tonnes, rather than US tons, to measure CO_2e.

Reductions and Removals



NET-ZERO TARGETS AND SCOPE 3 EMISSIONS

Robust science-based net-zero targets must address Scope 3 emissions in some fashion. For example, of companies that have set science-based targets, approximately 90%[40] of them address scope 3 reductions, albeit often in quite different ways. However, 2022 research by Net Zero Tracker found that only 38% of the companies surveyed accounted for Scope 3 emissions, and that "even when Scope 3 emissions are reported, they're not necessarily validated by third parties and underreporting could be significant."[41]

There is still a need for the development of clearer guidance on quantifying, accounting and target setting for Scope 3 emissions across all sectors. The table on the next page outlines what some of the leading initiatives say about Scope 3, as of October 2022.

Organization	Scope 3 Guidance
ISO	The organization should include Scope 3 emissions in interim targets if they are 40 percent or more of total Scope 1-3 emissions, or are central to its activities. Scope 3 emissions targets should be consistent with Scope 1 and Scope 2 interim and long-term targets. It should set a minimum 90 percent long-term target for reduction and removal of Scope 3 emissions (e.g. net zero by 2050) and ensure that interim Scope 3 emissions reduction targets include a minimum of 67 percent of total Scope 3 emissions.
VCMI	Companies must follow SBTi guidance for setting the target boundary and emissions coverage. Under VCMI's draft code ranking, companies must also meet additional requirements to achieve: Gold: company must be on track to achieve its next interim target for Scope 1, 2, and 3 through emissions reductions within its value chain and have covered 100 percent remaining unabated emissions through the purchase and retirement of high-quality carbon credits. Silver: as with Gold but only 20 percent of remaining unabated emissions are covered. Bronze: company must be on track to achieve its next interim target for Scopes 1 and 2 through emissions reductions within its value chain; reduce its Scope 3 emissions through a combination of emissions reductions within its value chain and purchase and retirement of carbon credits (up to a maximum of 50 percent of its Scope 3 footprint) to the level required for its interim target; and have covered at least 20 percent of all remaining unabated emissions through the purchase and retirement of high-quality carbon credits.
SBTi	Near-term science-based targets must cover at least 95% of company-wide scope 1 and 2 emissions. For companies with scope 3 emissions that are at least 40% of total emissions (scope 1, 2, and 3 emissions), at least 67% of scope 3 emissions must also be covered. Long-term SBTs must cover at least 95% of company-wide scope 1 and 2 emissions and 90% of scope 3 emissions.
Race to Zero	Targets must cover all greenhouse gas emissions, including Scope 3 for businesses and investors where they are material to total emissions and where data availability allows them to be measured sufficiently.
The Oxford Principles for Net Zero Aligned Carbon Offsetting	Companies should disclose Scope 3 emissions, which are characterized as all other indirect emissions not included in Scope 2 that occur in the value chain, including both upstream and downstream emissions (e.g. emissions associated with the use of products or services sold or used by an organization).
Climate Action 100+	The long-, medium- and short-term greenhouse gas reduction targets must cover at least 95 percent of total scope 1 and 2 emissions. Targets must also cover the most relevant scope 3 emissions categories for the company's sector, and the company must publish the methodology used to establish any scope 3 target.
GHG Protocol	Companies shall account for all scope 3 emissions and disclose and justify any exclusions. Companies shall also account for emissions from each scope 3 category. Additionally, companies must account for scope 3 emissions of CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6, if they are emitted in the value chain.

SUMMARY

Emerging best practice for corporate climate action is to make a public commitment to achieve science-aligned long-term net-zero emissions no later than 2050, covering Scopes 1, 2, and 3 (see table on page 32). This commitment should include setting and making public interim emissions reduction targets, and providing detailed information on the plans and strategies adopted to achieve these targets.

Where do carbon credits fit?

Ultimately, global net zero requires cutting emissions as much as possible and then balancing any remaining emissions with removals. Some have interpreted this to mean that companies should de-prioritze investment in emissions reduction credits over removals credits on the journey to this destination. However, this interpretation is incorrect as according to SBTi guidance (and others), removals are to be used closer to the point of net zero, which is 2035-50 for most companies. In the meantime, the science is clear,[42] emissions reductions are needed now and that's where the short-term focus for companies should be. Focusing solely on end-of-pathway removals also misses the critical importance of beyond value chain mitigation.

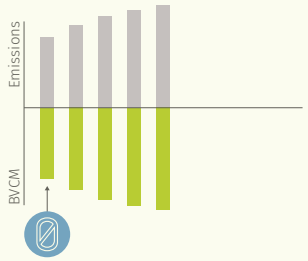
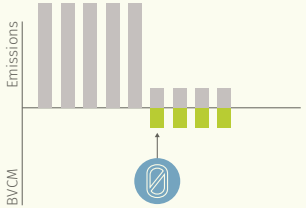
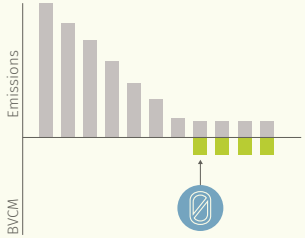
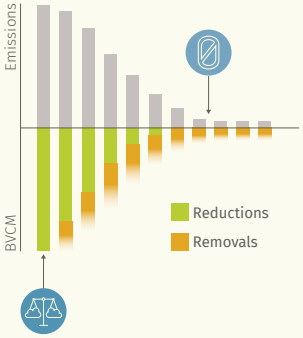
SBTi agrees with this position, saying "It is important to understand that BVCM includes but is not limited to carbon removals. While permanent removals are necessary to neutralize unabated emissions at the net-zero end date (e.g. 2040, 2050), investments in reducing and avoiding emissions are critical right now."[43]

In fact, this approach can deliver substantially more climate change mitigation than following a science-based internal reduction trajectory alone and is, in fact, necessary for ensuring global science-based climate goals can be achieved.[44] Using high-quality carbon credits to compensate along the way - as part of beyond value chain mitigation - provides a high-ambition pathway to net zero and beyond, while also delivering a range of co-benefits for people and biodiversity.

Using high-quality carbon credits is acknowledged by guidance from organizations including the SBTi, which states: "Companies should go beyond their near- and long-term science-based targets to further mitigate climate change by undertaking actions or making investments that support climate mitigation outside of their value chains, especially those that generate additional co-benefits for people and nature."[45,k]

k SBTi will publish a BVCM guidance paper in 2023.

NET ZERO - OVERVIEW OF CORPORATE APPROACHES

Net zero now	Net-zero claim without interim milestones	Science-based net zero / without BVCM	High ambition net-zero pathway
			
Using net zero as a synonym for climate neutral to make net zero claims today.	Net zero with no science-based pathway, interim targets or transition plan.	Science-Based Target initiative net zero without beyond value chain mitigation.	High ambition pathway to net zero including beyond value chain mitigation.

Perceptions of activity by the climate community and civil society

This usage does not conform with best practices if there are not science-based operational emissions reductions.	The company's net-zero trajectory is not aligned with a science-based 1.5 degree pathway, and does not include credible interim milestones or transition plans.	This is a credible pathway to net zero, but does not contribute to the global transition to net zero at a level that is increasingly expected of companies.	Operational emissions are being reduced in a credible way and unabated emissions along the pathway are counterbalanced with beyond value chain mitigation, helping the world transition to net zero and contributing to broader systems change.

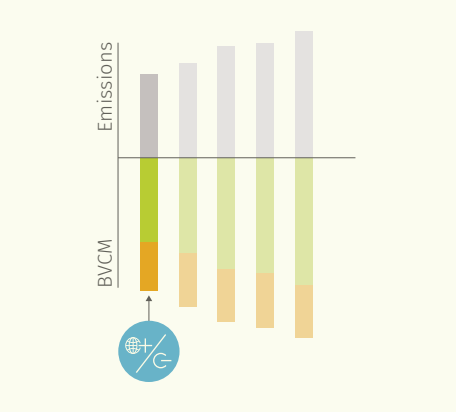
Climate Positive and Carbon Negative

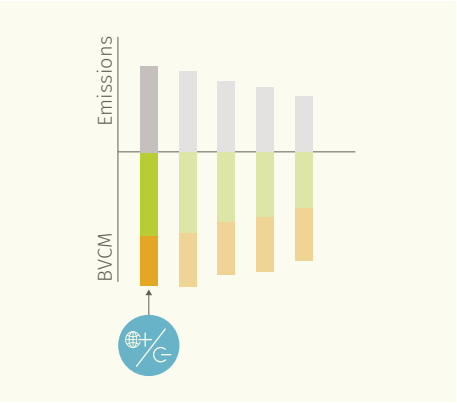
OVERVIEW

A third archetype of corporate climate claims and targets is “climate positive” or “carbon negative.” Broadly defined, a climate-positive company removes more greenhouse gases from the atmosphere than it releases (the phrase “carbon negative” is often used interchangeably with climate positive). This requires going beyond achieving carbon neutrality or reaching net zero.

USES OF CLIMATE POSITIVE

Climate-Positive Now





Climate positive is perhaps the most loosely defined term in an already hugely inconsistent landscape. For some companies, climate positive means counterbalancing more than they emit, but as in the above illustration and like the carbon-neutral now example, that does not necessarily mean that direct emissions are reducing.

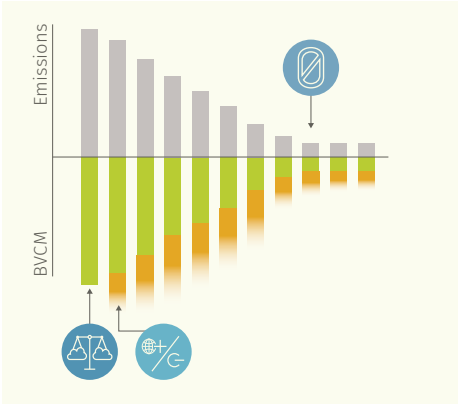
Bain Capital has recently announced they will go carbon negative in 2022 for Scope 1, 2 and 3 emissions with the support of nature-based projects to remove more than 100% of emissions. They also commit to meeting this goal every year going forward.[46] Ikea has committed to becoming climate positive by 2030 “by reducing more greenhouse gas emissions than the IKEA value chain emits, while still growing the IKEA business.”[47]

As in the examples above, some companies have been very vague in their classification of what “more” means in the context of avoiding or removing more carbon than you emit, but some have very specific benchmarks. Max markets climate positive hamburgers by counterbalancing 110% of all product emissions,[48] and Ethique claims to be climate positive by counterbalancing 120% of its CO_2e emissions.[49]

Climate Positive with Historical Emissions

For some companies, climate positive means taking some further action that they consider "above and beyond" their efforts to reduce and offset their emissions. This can sometimes mean that climate positive includes a target to compensate for historical emissions, across all scopes, going back to their founding.[l] The most notable example is Microsoft, which aims to be carbon negative, and by 2050 to remove from the environment all the carbon the company has emitted either directly or by electrical consumption since it was founded in 1975.[50]

Climate Positive on a High Ambition Pathway



For other companies, it might mean compensating for more than their emissions along a high ambition pathway to net zero. As with carbon neutral, carbon negative or climate positive claims, as opposed to future targets, could be seen as another claim on the journey to net zero.

SUMMARY

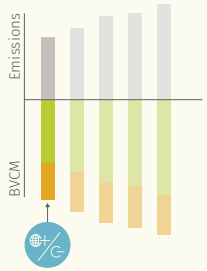
Climate positive claims that are similar to carbon neutral claims should be treated as an initial and slightly enhanced step toward science-based net zero. For those that define climate positive in the frame of carbon neutral, many of the concerns raised by civil society are similar to those raised about carbon neutral. The questions and concerns about greenwashing are the same, whether a company counterbalances 100% or 110% of its footprint without a long-term science-based net-zero commitment.

Climate positive commitments, on the other hand, can define the space beyond net zero and position companies as climate leaders. For those that are pioneering a more ambitious frame for the term, responses from civil society are more positive. The concept of compensating for historic emissions through the purchase of carbon credits is generally well received, for example, even among those who are strong critics of voluntary carbon markets.[51] Climate positive could also be defined as taking beyond value chain mitigation that covers more than 100% of unabated emissions through the use of high-quality carbon credits.

l For climate positive with historical emissions to be credible, it is important to be transparent about scope of emissions covered (scope 1 and 2, or also scope 3) and how historical emissions have been calculated (data, assumptions).

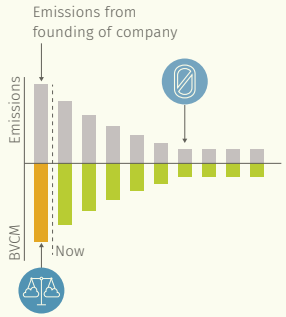
CLIMATE POSITIVE - OVERVIEW OF CORPORATE APPROACHES

Climate positive now



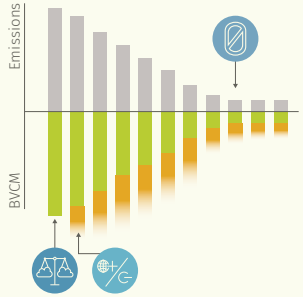
Counterbalance more than company's emissions footprint but emissions stay the same, increase over time, or are not reduced in line with a science-based pathway.

Climate positive with historical emissions



Counterbalance current and past emissions - usually since the company existed.

Climate positive on a high ambition pathway



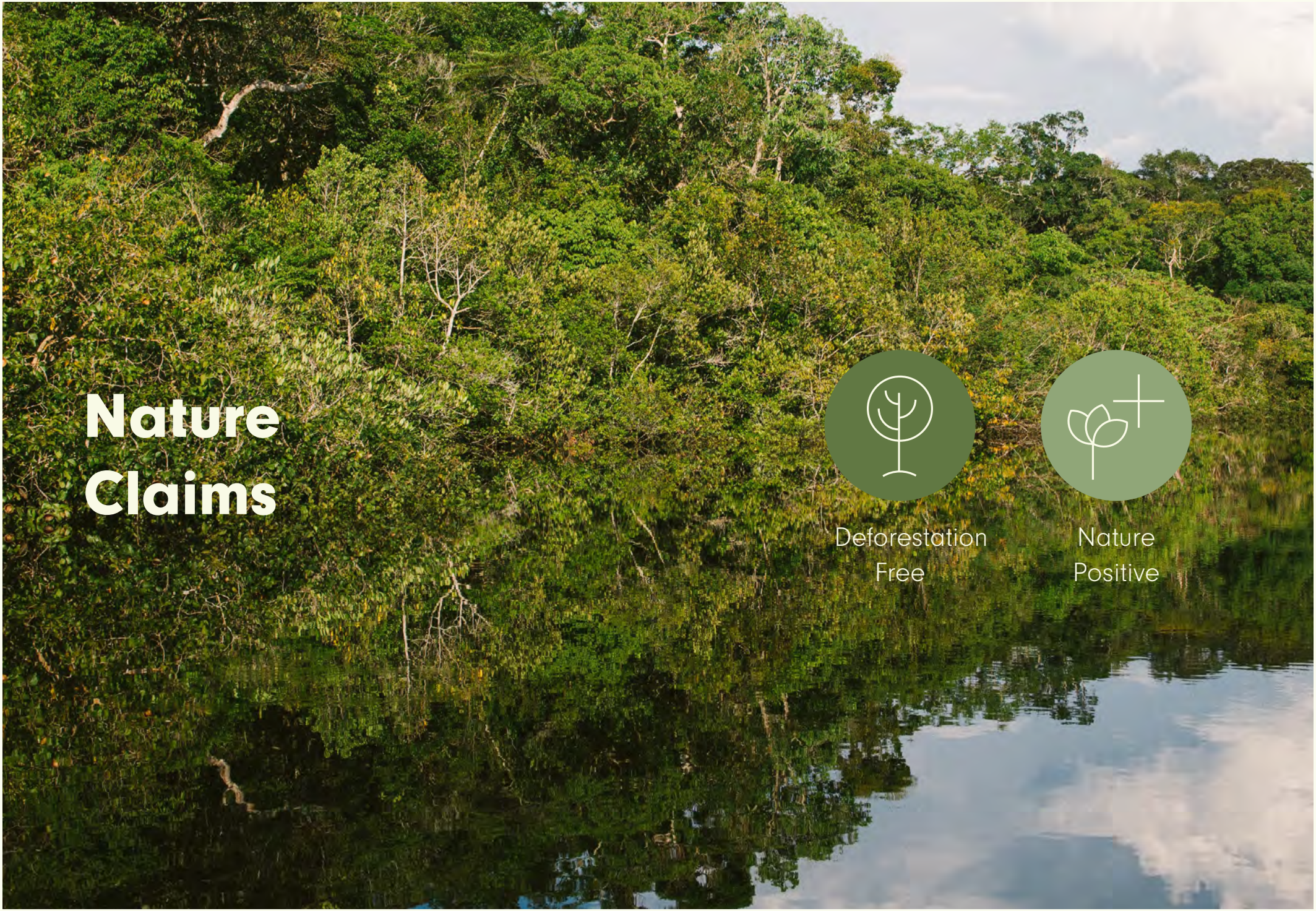
Counterbalance more than company's emissions footprint using beyond value chain mitigation on a high ambition pathway to net zero.

Perceptions of activity by the climate community and civil society

This does not conform with best practices because there is no alignment with a science-based pathway.

This can be an effective way to create a climate positive result using beyond value chain mitigation, particularly if it is built upon a high ambition pathway to net zero, as in the example graph above.

Direct emissions are being reduced in a credible way and unabated emissions along the pathway are more than counterbalanced with beyond value chain mitigation.


Nature
Claims
Deforestation
Free
Nature
Positive

Deforestation Free

OVERVIEW

Deforestation-free claims and targets have been popular for many years as companies look to address this major issue within their supply chains and operations.

While these voluntary goals have been set by a number of companies and governments since the mid-2010s, global deforestation has continued to occur at an unsustainable rate and most have already missed their initial 2020 targets made through the New York Declaration on Forests.[52] To address this issue, governments including the European Union, United Kingdom, United States, and other national and sub-national jurisdictions are working to pass legislation that would reduce deforestation at home and abroad.[53, m]

Despite being around for some time, there are still a significant number of companies that are exposed to deforestation that have not made deforestation commitments that address their entire supply chain. Global Canopy's 2022 Forest 500 Assessment found that nearly three out of four (72%) of the 350 most influential companies linked to deforestation in their supply chains and investments do not have a deforestation commitment for all of the forest-risk commodities in their supply chains, and that one-third (117/350) of companies have no deforestation commitments at all.[54]

USES OF DEFORESTATION FREE

Deforestation specific corporate claims normally fall into three different publicly promoted approaches:

Deforestation free – meaning no forest areas, and other vital natural habitats like peatlands and grasslands, are cleared or severely degraded within the supply chain of a specific product or company[55]

Deforestation and conversion free – which expands on the deforestation definition to include other important ecosystems like the severe degradation of grasslands or the introduction of management practices that result in substantial and sustained change in the ecosystem's former species composition, structure, or function[56]

Net-zero deforestation – meaning while some deforestation may have occurred, an equal or greater area of forest is replanted elsewhere.

m For example, the European Commission's Environment, Public Health and Food Safety Committee adopted a set of these new rules that will require companies to verify that their goods sold in the EU have not been produced on deforested or degraded land in July 2022. Deforestation, as the EU defines it, is the permanent destruction of forests and woodlands and conversion to non-forest uses – and forest degradation – the loss of the forests' capacity to provide their essential goods and services. By including a ban on forest degradation being associated with goods sold in the EU, the regulation addresses emissions, and loss of biodiversity and resilience, but also makes the problem of definition what is a forest less critical. The regulation states that the goods must not directly contribute to deforestation, but also that the goods production was not enabled by recent deforestation.

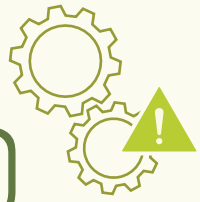
Unilever's goal is to have a deforestation-free supply chain by 2023.[57] Nestle aims to achieve 100 percent deforestation-free meat, palm oil, pulp and paper, soya and sugar primary supply chains by 2022, and by 2025 for coffee and cocoa.[58] UBS is committed to zero deforestation for itself and its clients.[59] Additionally, the Louis Dreyfus Company has set a target of 2025 for eliminating deforestation and conversion of native vegetation deemed to be of high conservation value for agricultural purposes from all its supply chains.[60] L'Oreal was an early adopter of a 2020 zero deforestation goal in 2014.[61]

There are a number of organizations set up to support and monitor this process. Notable among them is Global Canopy's Forest 500, which identifies the 350 companies and 150 financial institutions with the greatest exposure to tropical deforestation risk and annually assesses them on the strength and implementation of their deforestation and human rights commitments. The graphic to the right highlights some of the key findings. WWF also supports corporations with deforestation- and conversion-free strategy guidance.[62] Setting internal zero deforestation goals now and establishing procedures for accomplishing them can aid in gaining a competitive advantage over slower competitors, especially if the targets are specific and measurable, which many current deforestation commitments are not.

Forest500's assessments of the 350 companies with the greatest exposure to deforestation risk found:

92 recognised deforestation as a risk to their business either financially, operationally, reputationally, or competitively.

59 acknowledged that deforestation posed a reputational risk.



50 recognised that their operations would be at risk if deforestation continues.

30 saw deforestation as a direct financial risk.

Nature Positive

OVERVIEW

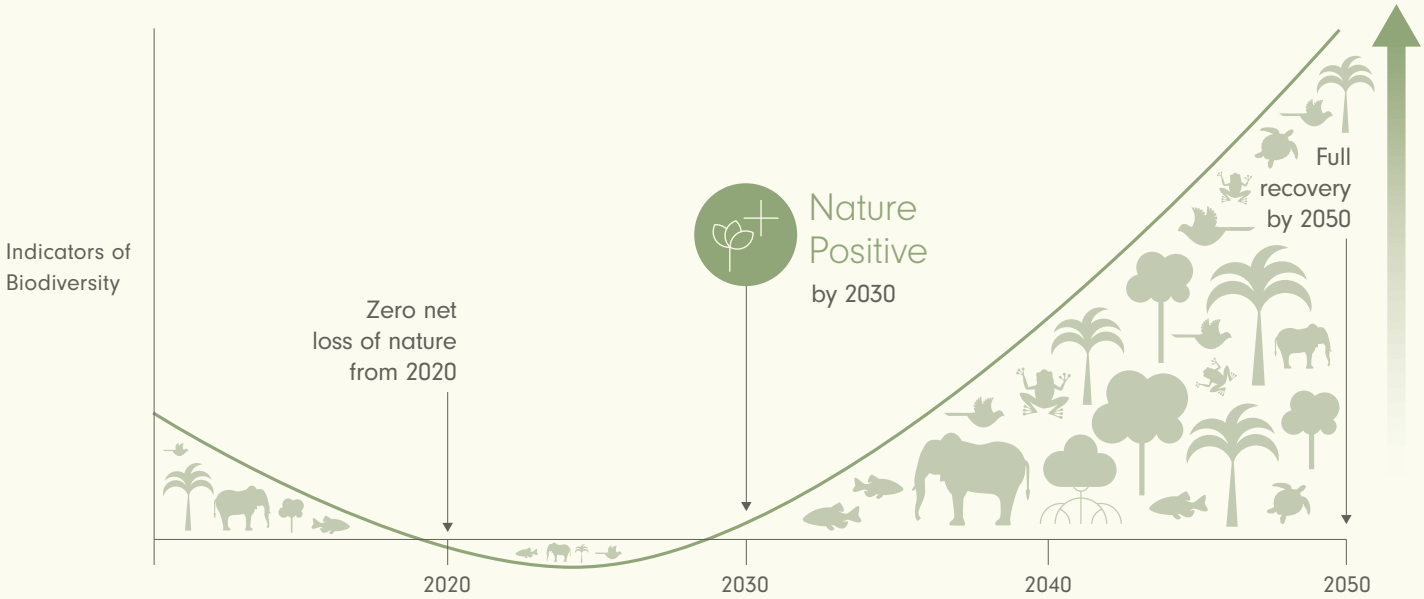
Many companies are thinking beyond carbon to better understand the complex and dynamic relationships their operations have with the health of natural assets and the ecosystem services they provide. This is being fuelled by a global "nature-positive" movement[n] that is shifting the paradigm from damage limitation to exploring how economic activities could not only minimize impact, but also enhance ecosystems.

The nature-positive movement is underpinned by the Global Goal for Nature - which complements the global net-zero target - that aims to halt and reverse nature loss (measured from a baseline of 2020) through increasing the health, abundance, diversity and resilience of species, populations and ecosystems so that by 2030 nature is visibly and measurably on the path of recovery.[63] According to the Global Goal, by 2050, nature must recover so that thriving ecosystems and nature-based solutions continue to support future generations, the diversity of life and play a critical role in halting runaway climate change.[o]

Nature Positive for Companies

But what are the implications for companies? Given the novelty of the space, there is not yet clear guidance on whether "nature positive" is a claim or commitment that can be used to describe a company's individual actions or targets, or whether these efforts should be described as being aligned with the global goal of nature positive.[64]

Global Goal for Nature: Nature Positive by 2030



n In 2021, the G7 announced that "our world must not only become net zero, but also nature positive, for the benefit of both people and the planet." In addition, 88 heads of state have signed the Leaders Pledge for Nature to reverse loss of biodiversity by 2030. It is also a goal supported by 126 Nobel Laureates in the Our Planet, Our Future statement. More than 700 businesses have called for nations to reverse loss of nature as soon as possible.

o Ongoing negotiations through the UN Convention on Biological Diversity (CBD) for a New Global Framework for Managing Nature Through 2030 will likely contribute to understanding of how to address nature loss in the coming decade.

Corporate understanding of nature is still nascent, and concrete action is held back by a lack of standardized definitions, standardized metrics and standardized approaches. For example, nature and biodiversity, two interlinked but separate concepts, are often used interchangeably, but this is likely to evolve as guidance develops. Guidance in this area is lacking compared with climate in part because there is no common unit for measuring nature, as there is for climate impact (tonnes CO2e).

As a result, companies are in the early stages of committing to a broad set of nature-related goals. A high-level review of the Fortune Global 500 companies by McKinsey & Company found that most companies have climate-related targets (83 percent) or at least acknowledge climate change (an additional 15 percent), but across other dimensions of nature, targets and acknowledgements are far lower. For instance, although 51 percent of companies acknowledge biodiversity loss in some way, only 5 percent have set quantified targets in addition to acknowledgement.[65] In terms of claiming nature positive, recent guidance from Business for Nature[66] advises companies to consider carefully what they can, and cannot, legitimately claim, not calling an entire company or entity nature positive, but instead sharing specific actions on how it is contributing to a nature positive world.

For companies that want to think within a nature-positive frame - aligned with their net-zero commitments - the emerging consensus around the underlying steps they should take is coming into clearer focus. As in the climate space, the idea of setting science based targets for nature is taking root. In this case, science-based targets are "measurable, actionable, and time-bound objectives, based on the best available science, that allow actors to align with Earth's limits and societal sustainability goals."[67]

There are various examples of companies using nature positive from different sectors. Holcim has announced a strategy to become nature positive by restoring and preserving biodiversity and water, while bringing more nature into cities. It is based on rehabilitation plans and measured by a science-based methodology developed in partnership with the International Union for Conservation of Nature (IUCN).[68] Sonae has committed to setting science-based targets for nature and moving towards a nature-positive path, through actions that include the restoration of critical ecosystems and prevention of forest conversion; supporting the transition towards more sustainable agriculture; contributing to healthy oceans; and promoting planet-compatible consumption standards through actions focused on information and awareness in waste reduction.[69] Gucci's nature-positive approach is based on a commitment to protect forests and biodiversity, safeguard and restore mangroves from deforestation, invest in regenerative agriculture within Gucci's supply chain, and incentivize farmers to shift to regenerative practices more broadly through carbon farming.[70]

SBTN

The Science Based Targets Network (SBTN) aims to set the standard for ambitious measurable corporate action on nature, which includes, and builds upon, climate action. SBTN is a collaboration of more than 50 global environmental non-profits, international agencies and mission-driven entities that aims to equip companies and cities with the guidance, tools and methods they need to operate within Earth's limits while also meeting society's needs.

The initiative is closely aligned with SBTi, but seeks to expand the scope of science-based targets from tackling only climate change to tackling both the loss of nature and climate change. It has produced initial guidance for businesses, which includes a core set of indicators and a materiality matrix for different sectors but is working on a full set of technical guidance that will be released in the first quarter of 2023. The first draft of freshwater SBTs is under consultation as of October 2022 with others to come on land, biodiversity, ocean and climate.

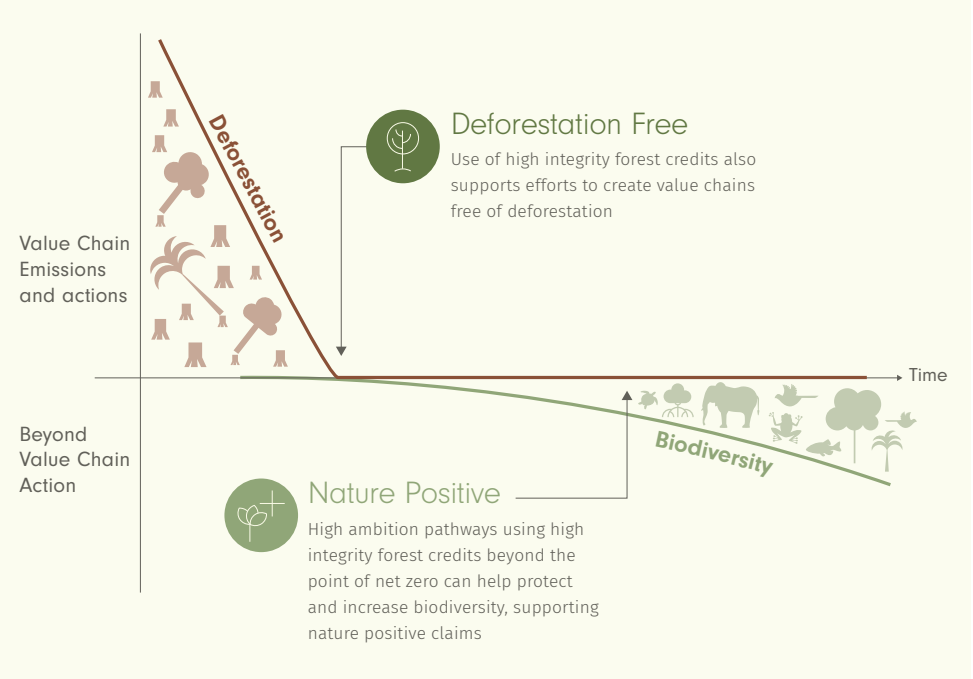
SUMMARY

Many of the organizations and multi-stakeholder initiatives providing guidance in this space focus on similar core elements for corporate action. Much of this work is currently under development and hasn't yet passed the stage of general guidance. This is mostly broad-spectrum and calls on companies to understand their impacts and dependencies on nature, measure and set targets, lead the way with others, and prepare to disclose material nature-related information, guided by the Taskforce on Nature-related Financial Disclosure (TNFD)'s Nature-Related Risk & Opportunity Management and Disclosure Framework.[p]

There are a number of action frameworks for companies to draw from, including the Natural Capital Protocol, the Science Based Targets Network's Initial Guidance for Business, Business For Nature's steps to becoming nature positive, and Taskforce on Nature-related Financial Disclosures (TNFD) framework. The WBCSD has also prepared a practitioner's guide that draws together many of the key components of these initiatives. A recent discussion paper on nature positive by Business for Nature[71] calls for businesses and financial institutions to prioritize mitigating their negative impacts while they also pursue restoration, as well as requiring them to take shared accountability and collaborate with others towards the collective nature positive goal, acknowledging that business and finance don't operate in a silo.

An important consideration is the concept of "net gain", the idea that overall and on balance, there will be more nature after 2030 than there is in 2020. 'Net' recognizes that human activities will continue to impact negatively on nature, but that this needs to be appropriately compensated for.[72] Although, similar to climate, the definition of "net" nature positive clearly states companies and countries cannot simply offset their destruction of nature in one place and with more restoration elsewhere.

Another important concept is that nature positive invites companies to consider beyond value chain action. Similar to the concept of beyond value chain mitigation in the climate space, this includes exploring opportunities to support nature-positive actions outside of their value chains in support of achieving the global goal. While nature positive guidance is not yet very advanced or specific, there is ample opportunity and guidance for companies to start taking action now to improve their impact on nature.



p The framework aims to enable organizations to report and act on evolving nature-related risks. This framework's guidance enables companies to begin to disclose accurate information about their impact on nature and biodiversity, which is seen as the first step for most guidance on aligning on a nature positive pathway. TNFD currently has a beta version of the framework available for user testing and consultation on their website. Companies interested in setting nature positive targets should look to provide input and eventually adopt this framework as part of their efforts to meet the "Disclose & Report" element.

OTHER NATURE CLAIMS

- **Forest positive:** Many companies that deal with the forest, food and land sectors in their supply chains have adopted forest-positive goals that set targets for increasing the net size and health of global forests.[106] These goals often also focus on the empowerment of Indigenous Peoples and Local Communities that depend on forests and have been harmed by the spread of global deforestation, especially in the tropics. While these goals often do focus on broader outcomes than just ensuring a company's deforestation footprint is offset by a net-positive increase in hectares of forests, they often lack the broader set of goals that nature-positive targets require and do not call for advancing nature positive beyond a company's footprint. The Consumer Goods Forum (CGF)'s Forest Positive Coalition of Action is led by 21 consumer goods retailers and manufacturers with a shared commitment of becoming forest-positive businesses by removing deforestation, forest degradation and conversion from key commodity supply chains, positively impacting the world's forests. Others call for forest-positive supply chains where companies are not only buying from suppliers who aren't deforesting, but are also actively protecting standing forests in those supply chains.[107] IKEA's commitment to forest positive for 2030 is built on three pillars: advocacy for responsible forest management; halting deforestation and reforesting degraded landscapes; and innovation for wood use.[108] HP has partnered with WWF to set a goal of ensuring paper printed with an HP product or service will help restore, protect, and improve the health of forests by 2030 through HP's Forest Positive Framework.[109]

- **Resource positive:** Being resource positive is similar to being climate positive as both concepts adopt business processes that remove more greenhouse gasses from the atmosphere than emitted. However, being resource positive is often defined as taking a more comprehensive approach in that it doesn't only promise to remove carbon from the atmosphere, but can also be defined as having other environmentally beneficial outcomes such as providing more freshwater than a company uses. This term is still not well-defined, but so far has been used to claim goals of using natural resources more sustainably, potentially with a net nature-positive benefit, and storing more greenhouse gases than emitted. It can differ from nature positive in that it is not necessarily focused on having an overall nature-positive outcome and does not call for advancing nature positive beyond a company's footprint. Starbucks is the most well-known resource-positive advocate, committing in 2020 to reach the target by 2030 and covering carbon, water and waste.[110]

- **Regenerative:** These corporate goals are focused on providing renewable and fully circular products and solutions that help reduce climate impact and support biodiversity restoration. Regenerative practices recognize how natural systems are currently impacted and apply techniques to restore systems to improved productivity. These strategies can fit within nature-positive goals because they set goals for establishing systems where the natural world can thrive and provide what is needed for future generations. These goals often rely upon specific performance targets or milestones, but largely lack an overarching target such as "100 percent regenerative" that one might see in commitments related to deforestation or resource positivity due to their novelty in corporate practices.

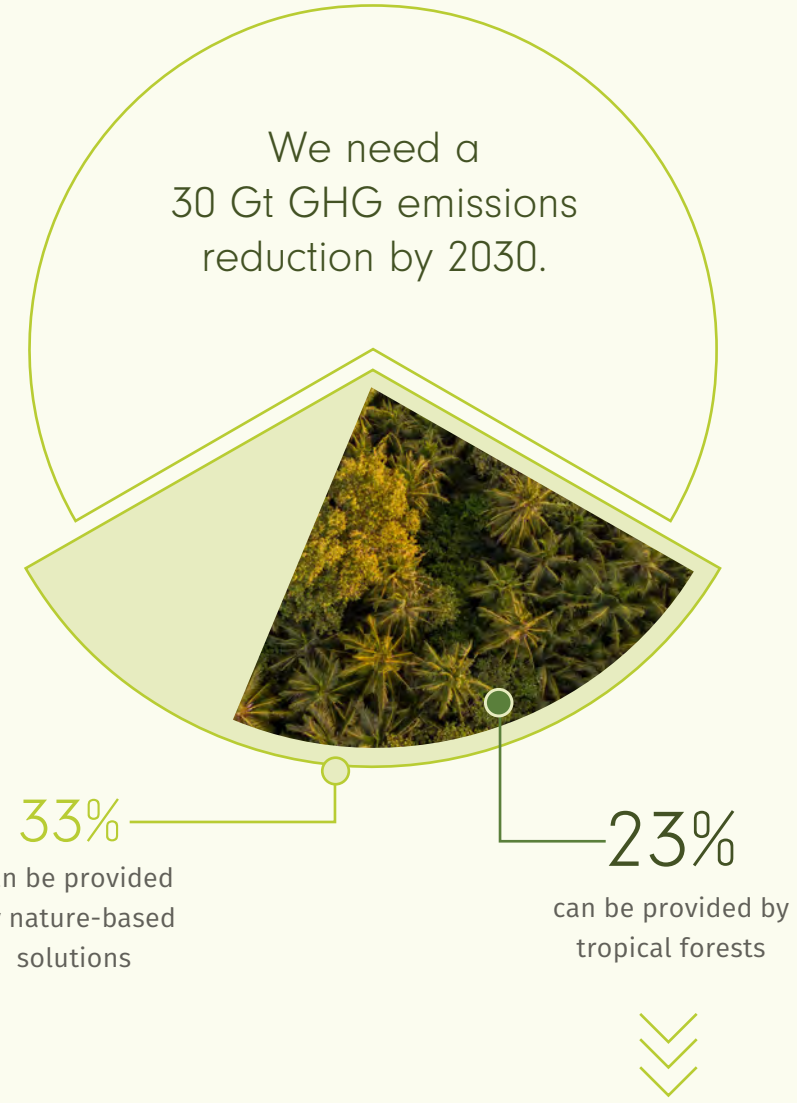
Section 3:

How Tropical Forest Protection Can Support Corporate Climate and Nature Strategies

Why Nature, and in Particular, Why Tropical Forests?

Global climate goals can't be achieved in the limited time we have available without tackling nature loss, because the earth's natural ecosystems absorb roughly half of anthropogenic CO_2e emissions.[73] The world needs natural climate solutions – conservation, restoration and improved land management actions that increase carbon storage or avoid greenhouse gas emissions in landscapes and wetlands across the globe – to provide roughly a third of the necessary mitigation for global climate targets through 2030.[74] And businesses need natural climate solutions to mitigate climate impacts that are already being felt on their bottom lines[75] and will intensify in years to come.

But nature offers much more than this. It underpins prosperity and well-being by providing economic value and security, supporting human development and equality, and increasing our resilience to the adverse effects of climate change. There is mounting evidence that the world is losing natural ecosystems at a rate never before seen in human history, putting the global economy at risk[76], and undermining human health and well-being, societal resilience, and progress towards the Sustainable Development Goals.



We cannot get to global net zero without protecting existing tropical forests.[75]

Tropical Forests

Among the broader category of natural climate solutions, reducing tropical deforestation is a priority for combating climate change because of both the sheer volume of carbon sequestered within these forests, as well as the rapid rate at which they are being lost.

Tropical forests are extraordinary. Accounting for nearly half of forest area globally[78], they store more carbon than any other terrestrial ecosystem: 295 gigatonnes of carbon, equivalent to 33 years of the world's 2021 energy-related CO_2 emissions.[79] In addition, we are losing them twice as fast as other forest types.[80] The world lost nearly 4 million hectares of primary tropical forest in 2021, an area roughly the size of Switzerland.[81]

Beyond their role in storing carbon, tropical forests hold 80% of the world's documented terrestrial species, drive numerous earth systems, such as rainfall patterns, and directly support hundreds of millions of people by providing shelter, livelihoods, water, food and fuel security.[82,83,84] 350 million people who live within or close to forests depend on them for their subsistence[85], deriving as much as 22 percent of their income from forest sources.[86]

The IPCC's Special Report on Global Warming of 1.5°C showed that if we do not protect tropical forests so that they absorb more CO_2 than they emit within the next decade, then remaining within 1.5°C of warming is out of reach.[87]

The Importance of Protecting Tropical Forests

Conservation Hierarchy: Protection, then Restoration

Recently, there has been much focus on tree planting as a way to meet climate commitments.[88] This has a significant role to play in reaching long-term goals, but leading environmental organizations stress that protecting remaining intact ecosystems, especially tropical forests, is the top near-term priority of all the nature-based solutions in society's pathway to net zero.[89] Failure to protect these ecosystems within the next ten years would make it virtually impossible to stay within the global carbon budget.[90]

A holistic approach is needed; prioritizing the protection of existing mature forests to address immediate emissions, while promoting regeneration, restoration and planting for important climate mitigation benefits, and for non-carbon benefits over the longer term.[91]

The Business Case for Protecting Tropical Forests

Ending deforestation is an economic imperative for global business. Companies with a high impact or dependency on nature are facing increasing risks, including changes in consumer preferences as well as physical risks to supply chains. A study by the US non-profit CDP on 500 reporting companies with a high dependency on forests showed $53.1 billion in risks – such as increased severity of extreme weather and shifts in consumer preferences – associated with deforestation.[92] But the risk extends not only to companies with significant exposure to forests in their value chain. Research by the World Economic Forum (WEF) found that $44 trillion of economic value generation – more than half of the world's total GDP – is moderately or highly dependent on nature and its services and is therefore exposed to nature loss.[93]

Reducing tropical deforestation is the largest near-term natural climate solution and one of the only cost-effective, gigatonne-scale opportunities to reduce emissions over the coming decade. Inclusion of emission reductions from forest protection can help to bring down the cost of transition to a net-zero global economy, as investment in maintaining natural carbon sinks is less expensive than technical solutions, such as direct air capture technologies that currently range between $250-$600 per tonne.[94]

Companies will not only find the economic advantages of emissions reductions from stopping deforestation attractive in the short term, but they will see inflationary economic disadvantages associated with accelerated global deforestation over the long-term – arresting deforestation is intrinsically linked to the future health of companies' bottom lines.

Jurisdictional REDD+

REDD+ stands for reducing emissions from deforestation and forest degradation, while fostering sustainable management of forests, and the conservation and enhancement of forest carbon stocks. The jurisdictional approach to REDD+ - abbreviated as JREDD - refers to a government-led, comprehensive approach to forest and land use across one or more legally defined territories. It is distinct from project-level REDD+, where forest conservation efforts are often confined to a smaller area.

While much early REDD+ experimentation and implementation focused on individual projects in specific areas, the framework negotiated under the United Nations Framework Convention on Climate Change defines the implementation, finance, and accounting for forest-related emissions reductions and removals as taking place at the level of national and subnational "jurisdictions" (such as states and provinces).

Over the past two decades, support for forest protection at the jurisdictional scale has largely been left to public donors, while, as noted, most corporate support has been directed through voluntary carbon markets to standalone carbon projects. But this is starting to change, and there is a significant amount of new momentum for mobilizing both public and private finance to support JREDD, which in turn is catalyzing a significant response from tropical forest nations.[95]

Project-based forest protection activities can have important impacts when delivered properly - especially in high-risk deforestation hotspots - but they do not come close to matching the scale needed to address the deforestation and climate crises. Further, many actions needed to stop deforestation – such as enforcement and regulatory reform – can only be taken with the cooperation and direct participation of the public sector.

Although there are other mechanisms for financing the results achieved through JREDD, the generation of carbon credits for the voluntary carbon market is seen by many as the most promising way to deliver finance at the scale needed to reduce deforestation.

THE BENEFITS OF THE JURISDICTIONAL APPROACH

Governance and Scale

Jurisdictional-scale crediting has the potential to incentivize governments to take the decisions and perform the actions that only they have the authority to implement, which can directly tackle the drivers of deforestation. JREDD can create scenarios where:

- Land tenure is regulated, protected areas are established and managed, and the rights of local and Indigenous Peoples on their lands are recognized and upheld.[q]
- Illegal deforestation – the source of most tropical deforestation[96] – is combated by better enforcing and strengthening existing laws as well as creating new ones.
- Incentives connected to deforestation are minimized in tax and subsidy systems and replaced with incentive programs to encourage forest protection

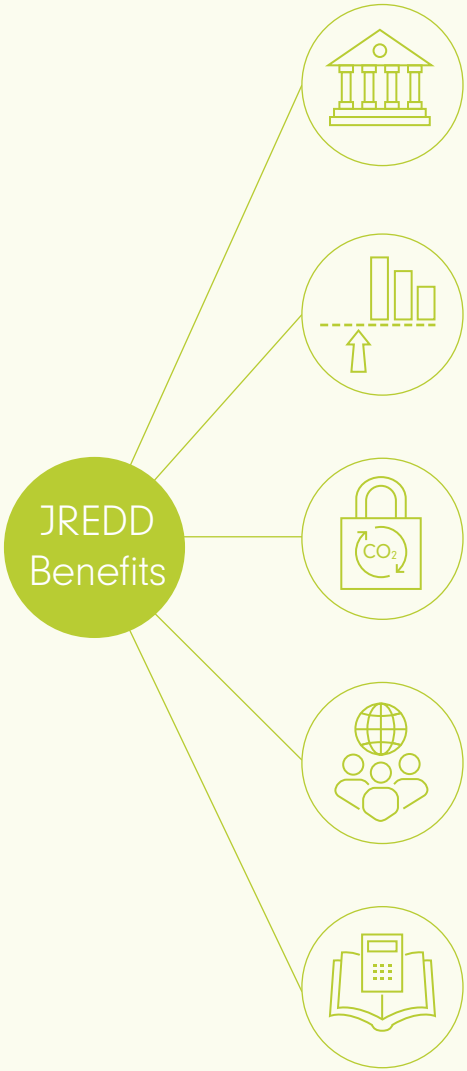
Environmental and Social Integrity

The scale of JREDD programs is also an important determinant of the environmental integrity of carbon credits[97], with larger-scale programs better positioned to mitigate risks of leakage, non-additionality, permanence and other issues, compared to smaller, disconnected projects.[98]

q It is vital to shore up tenure rights and good governance, and support forest communities at the front lines of the fight against deforestation. Jurisdictional approaches have the potential to drive broad-reaching policy changes that can benefit Indigenous Peoples and local communities and address the underlying incentives behind deforestation. Policy changes can include improved land tenure rights to allow better protection of forests. Economic development programs, such as agricultural extension to enhance smallholder farmer productivity or investment in value-added industries have the dual impact of improving livelihoods and providing economic alternatives to deforestation. That said, work remains to be done to ensure that jurisdictional REDD+ programs in fact benefit local communities. In a 2021 study of the 31 countries holding 70% of the world's tropical forests, 28 do not explicitly recognize community rights to carbon on lands owned by or designated for communities – limiting the ability of local communities to realize the benefits of their forest protection efforts, and only five have clear benefit-sharing mechanisms.

Benefits of the Jurisdicational Approach

The jurisdictional approach is a fundamentally improved approach to ending deforestation where government-led programs protect entire countries or provinces. Recent research shows that crediting at such a large scale best ensures quality compared to project-based approaches. Carbon credits through JREDD programs can also support countries in reaching and raising ambitions on their Nationally Determined Contributions (NDCs) as part of the Paris Agreement.



Social Safeguards

> Social integrity is better ensured because governments, unlike standalone projects, are required to follow rigorous social safeguards and verification systems as dictated by a central body (UNFCCC).

Baseline

> Emissions reductions are quantified relative to a historical baseline across an entire jurisdiction, which minimizes risks of overestimating emissions reduction impacts.

Endorsement of JREDD

The International Civil Aviation Organization (ICAO) has approved two jurisdictional REDD+ standards - including ART-TREES, profiled on the next page, and Verra JNR - for use under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) an important endorsement of jurisdictional REDD+ from a UN body.

JREDD has also been endorsed by SBTi, the World Economic Forum, and the Tropical Forest Credit Integrity Initiative, among others.

Leakage

> Leakage is directly managed since jurisdictional-scale accounting includes all the emissions in the jurisdiction.

> Jurisdictional programs have tools to better address the underlying drivers of deforestation, which can help to prevent leakage.

Permanence

> The large scale of programs pools risks across wider areas, decreasing the chance of reversals.

> Emissions reductions are achieved by governments implementing long-term systemic measures, locking in socioeconomic changes.

Double Counting

> National- or subnational-scale accounting aligns with the Paris Agreement: UNFCCC has clearly signaled that REDD+ accounting must be at national or subnational levels.

ART
Architecture for REDD+ Transactions

ART/TREES

The Architecture for REDD+ Transactions (ART) is a global initiative that seeks to incentivize governments to reduce emissions from deforestation and forest degradation (REDD), as well as restore forests and protect intact forests (+).

ART's standard for measurement, monitoring, reporting and verification, The REDD+ Environmental Excellence Standard, known as TREES, is based on a decade of learning and evolution of REDD+.

Under TREES, countries and eligible subnational jurisdictions can generate verified emissions reduction and removal credits by meeting precise and comprehensive requirements for:

- accounting and crediting
- monitoring, reporting and independent verification
- mitigation of leakage and reversal risks
- avoidance of double counting
- assurance of robust environmental and social safeguards
- and the transparent issuance of serialized units on a public registry

ART and TREES have been designed to help accelerate progress toward national scale accounting and implementation to achieve emissions reductions and removals at scale and to achieve Paris Agreement goals. TREES builds on early action pilot programs and is consistent with UNFCCC decisions including the Paris Agreement, the Warsaw Framework and the Cancún Safeguards.

TREES is one of two jurisdictional REDD+ standards approved for use in the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), the carbon offset and carbon reduction system for international flights. This decision is an important endorsement from a UN body of jurisdictional REDD+ and the integrity of TREES. As of October 2022, ART is the only jurisdictional REDD+ crediting program approved by ICAO to supply post 2020 credits based on ART's rigorous rules to avoid double counting under the Paris Agreement.

The Role of JREDD in Climate Claims

Carbon Neutral

The purchase of carbon credits is the most common way to counterbalance emissions under carbon neutrality, and all formal carbon-neutral protocols – as well as civil society[99] – require that credits used to achieve carbon neutrality be verified and of high social and environmental integrity.

To date, the majority of the carbon credits issued through the voluntary carbon market have been reduction credits. These stop additional GHG being emitted (through deforestation, degradation, etc) and because of this, it is broadly accepted that reduction credits are acceptable for carbon neutral claims, and this is further reinforced by the Voluntary Carbon Market Integrity inititiative (VCMI).[100]

However, a concern is that companies use carbon credits that are of insufficiently high quality to ensure a real reduction in emissions to the atmosphere. Ensuring what is referred to as "supply-side environmental integrity" is critical for allaying these concerns. Many of these supply-side risks can be addressed by a rapid transition from project-based crediting to jurisdictional-scale crediting, ultimately at the national scale (see above). Companies can use their demand for credits to help stop and reverse the loss of tropical forests and accelerate the development of a high-quality pipeline of credits and outcomes at scale.

Net Zero

While beyond value chain mitigation is important for achieving global climate goals, the science is also clear that for the world to reach net zero, tropical deforestation will need to be significantly reduced. If companies have tropical deforestation in their value chains, they need to eliminate it first.

A report from the UN-backed Race to Zero found that without much greater action, over 90% of major forest, land and agriculture companies that have committed to net-zero risk missing their targets because of a lack of progress on tropical deforestation.[101] But a significant amount of tropical deforestation takes place outside many companies' value chains. Because of this, even if all companies achieve individual deforestation free targets, this will not necessarily lead to the end of tropical deforestation, which in turn would jeopardize net zero for the planet.

Therefore, it is recommended that companies prioritize tropical forests as part of their beyond value chain mitigation, especially in the near term, because of the urgent priority to end tropical deforestation. In terms of which NBS credits to purchase, there is an emerging consensus around the important role JREDD credits can and should play, given the many benefits they deliver.[102]

The only corporate net-zero standard so far is that of SBTi, and under this standard, SBTi encourages companies to take beyond-value-chain mitigation, especially through jurisdictional REDD+, in addition to the actions needed to achieve their net-zero targets.

While some have misinterpreted SBTi guidance to suggest that tropical forests credits should not be used to support net-zero ambitions, SBTi itself is unequivocal: 'Under the recommendations of SBTi Net-Zero Standard, companies should go beyond their near- and long-term science-based targets to further mitigate climate change by undertaking actions or making investments that support climate mitigation outside of their value chains, especially those that generate additional co-benefits for people and nature... Examples include purchasing high quality, jurisdictional REDD+ carbon credits'.[103]

Climate Positive

Climate positive involves the use of carbon credits to neutralize more than current emissions and sometimes historic emissions as well. For the use of credits towards current emissions, like with carbon-neutral claims, generally any high-quality credit can be used to offset current emissions and this of course includes JREDD.

As for use of credits for historic emissions, there currently are no rigorous, widely accepted standards for climate positive, or answers to whether removals or reductions or both can be used towards climate positive. As long as emissions reductions are completely additional, which can be ensured by using a high-integrity standard, an emissions reduction has the same effect on the atmosphere as a removal. This can be reasonably argued if companies are reaching their own net zero before global net zero, and especially before deforestation has been stopped globally. One of the most urgent mitigation actions is to protect standing tropical forests, which must take priority over removals, whether nature- or tech-based.

The purchase of JREDD credits *after* a company has achieved its science-based net-zero target can form part of a climate positive strategy, providing additional support for the achievement of global net zero as well as contributing to global nature positive.

The Role of JREDD in Nature Claims

Deforestation Free

As companies work to meet deforestation- and conversion-free targets, there are many synergies with jurisdictional REDD+. The jurisdictional approach to forest carbon crediting complements and supports efforts by companies that are striving to reduce deforestation in their supply chains, and vice versa.

Simply put, companies know they have to aim for transformational change at a landscape/jurisdictional scale for their deforestation-free commitments to be impactful. Supply chain efforts alone are insufficient. JREDD is a way to contribute to landscape-level transformation as a complement to supply chain-level activities. They are both needed, and they are mutually reinforcing.[104]

These companies will benefit from a supportive policy environment, government-led efforts to reduce deforestation and third-party verification of the results of these efforts. By investing in JREDD, companies help incentivize governments to help them meet their deforestation-free commitments, pulling on the unique levers that are only available to governments. If a company's supply chain is in a jurisdiction that is implementing a jurisdictional REDD+ program, then it likely already meets a high bar in terms of transparency and accountability. Improved governance will also result in a more stable, transparent, and predictable business environment.

Companies can support jurisdictional approaches to REDD+ by increasing stakeholder engagement in jurisdictional efforts, by working with producers and/or suppliers (e.g., growers) and providing technical or financial assistance to increase production while decreasing deforestation. For example, agribusiness companies could fund JREDD credits in the jurisdictions from which they source commodities, as part of their effort to ensure deforestation-free supply chains.[105] This is aligned with an insetting[r] approach.

r Insetting is interventions by a company in or along their value chain that are designed to generate GHG emissions reductions or carbon removals, and at the same time create positive impacts for communities, landscapes and ecosystems

Nature Positive

While specific frameworks or guidance for company-level nature-positive claims do not yet exist, all definitions and conversations around nature positive agree wholeheartedly that protection of forests – especially tropical forests – must be included under any nature-positive vision. The JREDD advancement of nature positive is threefold:

1. It rewards results-based payments for tropical forest protection, a key aspect of nature positive.
2. It focuses on bringing about systemic changes to reverse the economic trajectories of countries towards sustainable development and away from deforestation and extractive activities. This systemic-change approach aligns with the vision that many actors have of nature positive as necessarily involving a transition for ecological, social, and economic systems.
3. It is particularly relevant and appropriate for companies with operations and value chains in that jurisdiction, but use of JREDD credits towards nature positive could be appropriate for use by a broader range of companies as well.

Ultimately, robust guidance around use of carbon credits – whether they are generated from JREDD or other NBS activities – towards nature-positive claims does not exist. This means there is ample opportunity for leadership in articulating how high-quality JREDD carbon credits could contribute to nature positive action and increase companies' ambition.

Section 4:
Conclusion

The landscape of corporate claims and commitments is rapidly evolving. While the landscape may seem confusing and, worse, fraught with reputational risk, there is actually a range of guidance emerging from the climate and environmental communities that is providing more clarity than ever before.

In terms of climate claims and commitments:

- The emerging standard for corporate climate action is making a public commitment to achieve science-aligned long-term net-zero emissions no later than 2050, covering Scopes 1, 2, and 3, with interim milestones and a clear transition plan. In addition, using high-quality carbon credits to compensate for unabated Scope 1 and 2 emissions and a growing portion of Scope 3 emissions along the way to science-based net zero provides a high-ambition pathway - through beyond value chain mitigation - while also delivering a range of co-benefits for nature. This high-ambition approach is emerging as best practice, including endorsement from SBTi, because it can deliver substantially more climate change mitigation than following a science-based operational reduction trajectory alone and is, in fact, necessary for ensuring global science-based climate goals can be achieved.
- Using carbon neutral to describe an end-goal is increasingly less common as science-based net zero takes root. Claiming carbon neutrality at the enterprise level can have a place in the high-ambition path to net zero as a way to describe the use of high-quality carbon credits (reductions and/or removals) to cover all unabated emissions along the science-based pathway. Credible carbon neutral claims for marketing brands, products or services are a way to raise public awareness of climate responsible consumption. However, the urgency of the climate crisis means companies should rapidly transition from product-level to enterprise-level approaches, and acceptable use of product-level claims will increasingly be determined by the enterprise's compliance with strict prerequisites.
- Climate-positive commitments can define the space beyond net zero and have the potential to position companies as true climate leaders in the journey toward a net zero and nature positive world.

Within this context, jurisdictional REDD+ credits can and should play an important role. The next decade is critical in terms of keeping the goals of the Paris Agreement in reach. JREDD credits provide a triple win - avoiding further emissions from tropical deforestation, protecting some of the world's most important carbon sinks, and preserving critical biodiversity and other ecosystem services we rely on for the global climate and economy to function. Simply put, the world will not stay within a 1.5 degree carbon budget without companies investing beyond their value chains to protect tropical forests, and corporate support for JREDD credits is an important way for them to do this. Companies can use their demand for these credits to help stop and reverse the loss of tropical forests and accelerate the development of a high-quality pipeline of credits and outcomes at scale.

In terms of nature-specific commitments and claims:

There is already considerable overlap with climate claims, as companies increasingly understand how the climate and biodiversity agendas are linked, in particular through the effort to stop tropical deforestation.

While the use of deforestation-free commitments have been around in one form or another for some time, and many nature-related co-benefits are factored into climate plans, the status of other nature-specific claims represents a less developed space in terms of what it means to be "nature positive" or "forest positive", although guidance is rapidly emerging for how companies can begin to support nature positive action.

As this area continues to evolve, it's clear that JREDD credits have strong synergies with nature positive aspirations and deforestation-free commitments.

High Ambition Pathway to Net Zero and Beyond

Using Jurisdictional REDD+ credits supports the full range of climate and nature claims and can play a key role in a high ambition pathway to net zero and beyond.

LEAF Coalition

Taking Action -
The LEAF Coalition

One way to take action is through participation in the LEAF Coalition. Launched during Leaders' Summit on Climate in April 2021, this is a public-private initiative to accelerate climate action by providing results-based finance to countries committed to protecting their tropical forests.

LEAF has already created one of the biggest demand signals - more than $1 billion announced at COP26 in 2021 - for emissions reductions generated through large-scale forest protection efforts at the national or sub-national level. With support to date from three donor governments (Norway, UK and US) and over 20 global corporations from a range of sectors and industries, LEAF is expected to become one of the largest ever public-private efforts to end deforestation.

The LEAF approach brings a number of innovations. These include:

- A public-private coalition approach to go further faster on nature-based climate action.
- Ensuring the highest environmental and social integrity of REDD+ results by only purchasing credits issued by ART as verified to meet requirements of its TREES Standard for jurisdictional REDD+ emission reductions and removals.
- Stringent demand-side criteria for LEAF corporate participants, including the need to publicly commit to science-based targets, set 2050 net-zero targets across scope 1, 2 and 3, and join the UN Race to Zero.
- Clear rules that require purchasers to publicly disclose how credits are used and that limit the resale of credits.
- Floor price guarantee supported by sovereign participants.

The LEAF Coalition is an avenue for companies to support additional and urgently needed climate action in tropical forest countries. LEAF provides a solution for them to meet their climate and nature commitments with high-integrity, future-proof emissions reductions, complementing ambitious internal action. Companies that meet LEAF's stringent buyer criteria of committing to deep science-based emissions reductions within their value chains and a mid-century net-zero target are invited to participate in LEAF and shape the systemic change necessary to end deforestation and protect vitally important intact forests.

Contact leafcompanies@emergentclimate.com to join our coalition of climate leaders
www.leafcoalition.org

Endnotes

1 "Net Zero Stocktake 2022," Net Zero Tracker, 12 June 2022, https://zerotracker.net/analysis/net-zero-stocktake-2022/

2 "If Not Now When: How are companies stepping up with the urgency required to deliver climate impact," Climate Impact Partners and Imperial College Business School, accessed 5 October 2022, https://ifnotnowwhen.climateimpact.com

3 "Companies taking action," SBTi, accessed 21 September 2022, https://sciencebasedtargets.org/companies-taking-action

4 "Race to Zero Campaign," UNFCCC, accessed 21 September 2022, https://unfccc.int/climate-action/race-to-zero-campaign

5 https://www.businessfornature.org/

6 "Ecosystem Marketplace's State of the Voluntary Carbon Markets 2022 Q3," Ecosystem Marketplace, 2 August 2022, https://www.ecosystemmarketplace.com/articles/the-art-of-integrity-state-of-the-voluntary-carbon-markets-q3-2022/

7 "Special Report: Global Warming of 1.5°C," IPCC, accessed 21 September 2022, https://www.ipcc.ch/sr15/chapter/glossary/

8 "Environmental Report 2021," Google, December 2021, https://www.gstatic.com/gumdrop/sustainability/google-2021-environmental-report.pdf

9 "Environmental Progress Report 2021," Apple, https://www.apple.com/environment/pdf/Apple_Environmental_Progress_Report_2021.pdf

10 https://www.paroc.com/campaigns/paroc-natura

11 "If Not Now When: How are companies stepping up with the urgency required to deliver climate impact," Climate Impact Partners and Imperial College Business School, accessed 5 October 2022, https://ifnotnowwhen.climateimpact.com/

12 "Briefing: Net Zero for corporates," Carbon Trust, accessed 21 September 2022, https://www.carbontrust.com/resources/briefing-net-zero-for-corporates

13 "Sky," Carbon Neutral Protocol, accessed 21 September 2022, https://www.carbonneutral.com/examples/sky

14 "We're a Carbon Neutral Company," Maple Leaf Foods, accessed 28 September 2022, https://www.mapleleaffoods.com/our-commitments/environment/carbon-neutral/

15 "Climate Neutral Now," UN Climate Change, accessed 21 September 2022, https://unfccc.int/climate-action/climate-neutral-now

16 Environmental Report 2022," Google, June 2022, https://www.gstatic.com/gumdrop/sustainability/google-2022-environmental-report.pdf

17 Future Demand, Supply and Prices for Voluntary Carbon Credits – Keeping the Balance," Trove Research, 01 June 2021, https://trove-research.com/wp-content/uploads/2021/06/Trove-Research-Carbon-Credit-Demand-Supply-and-Prices-1-June-2021.pdf

18 "Provisional Claims Code of Practice," VCMI, 7 June 2022, https://vcmintegrity.org/wp-content/uploads/2022/06/VCMI-Provisional-Claims-Code-of-Practice.pdf

19 "Net-Zero Jargon Buster - a guide to common terms," SBTi, 24 November 2021, https://sciencebasedtargets.org/blog/net-zero-jargon-buster-a-guide-to-common-terms

20 "Special Report: Global Warming of 1.5°C," IPCC, accessed 21 September 2022, https://www.ipcc.ch/sr15/chapter/glossary/

21 Joana Setzer and Catherine Higham, "Global trends in climate change litigation: 2022 snapshot," 30 June 2022, https://www.lse.ac.uk/granthaminstitute/publication/global-trends-in-climate-change-litigation-2022/

22 "Expert Group on the Net-Zero Emissions Commitments of Non-State Entities," UN, 31 March 2022 https://www.un.org/en/climatechange/high-level-expert-group

23 Thomas Hale, "The carbon offset market is falling short. Here's how to fix it," Financial Times, 4 May 2022, https://www.ft.com/content/32b1a051-7de6-4594-b31b-753e78aefde1?shareType=nongift

24 "High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities," UN, 31 March 2022, https://www.un.org/en/climatechange/high-level-expert-group

25 Umair Ifran, "Are "net-zero" climate targets just hot air?," Vox, 29 October 2021, https://www.vox.com/22737140/un-cop26-climate-change-net-zero-emissions-carbon-offsets

26 Molly Taf, "Banks Signed a 'Net Zero' Pledge, Then Shoveled Cash at Fossil Fuels," Gizmodo, 31 March 2022, https://gizmodo.com/world-s-biggest-banks-signed-a-net-zero-pledge-lol-1848732034

27 Rahul Tongia, "Net zero carbon pledges have good intentions. But they are not enough," Brookings, 25 October 2022, https://www.brookings.edu/blog/planetpolicy/2021/10/25/net-zero-carbon-pledges-have-good-intentions-but-they-are-not-enough/

28 Frances Seymour and Paige Langer, "Consideration of Nature-Based Solutions as Offsets in Corporate Climate Change Mitigation Strategies," WRI, February 2021, https://www.wri.org/research/consideration-nature-based-solutions-offsets-corporate-climate-change-mitigation

29 "Companies taking action," SBTi, accessed 21 September 2022, https://sciencebasedtargets.org/companies-taking-action

30 Joe Lo, "Science Based Targets initiative accused of providing a 'platform for greenwashing'," Climate Home News, 6 February 2022, https://www.climatechangenews.com/2022/02/06/science-based-targets-initiative-accused-providing-platform-greenwashing/

31 "Major companies largely fail net zero climate pledge test," New Climate Institute, 7 February 2022, https://newclimate.org/news/press-release-corporate-climate-responsibility-monitor-2022

32 Net Zero Stocktake 2022," Net Zero Tracker, 12 June 2022, https://zerotracker.net/analysis/net-zero-stocktake-2022/

33 Net Zero Stocktake 2022," Net Zero Tracker, 12 June 2022, https://zerotracker.net/analysis/net-zero-stocktake-2022/

34 "Net-Zero: Urgent Beyond Value Chain Mitigation Is Essential," SBTi, 13 September 2022, https://sciencebasedtargets.org/blog/net-zero-urgent-beyond-value-chain-mitigation-is-essential

35 "Beyond Value Chain Mitigation FAQ," SBTi, October 2021, https://sciencebasedtargets.org/resources/files/Beyond-Value-Chain-Mitigation-FAQ.pdf

36 "Provisional Claims Code of Practice," VCMI, 7 June 2022, https://vcmintegrity.org/wp-content/uploads/2022/06/VCMI-Provisional-Claims-Code-of-Practice.pdf

37 "What makes a high-quality carbon credit?," EDF, Oko-Institut, and WWF, June 2020, https://files.worldwildlife.org/wwfcmsprod/files/Publication/file/54su0gjupo_What_Makes_a_High_quality_Carbon_Credit.pdf?_ga=2.83464214.1611971251.1663187118-1745178150.1663187118

38 "Carbon removals are no substitute for deep emissions reductions, warns IPCC," Carbon market Watch, 5 May 2022, https://carbonmarketwatch.org/2022/05/05/carbon-removals-are-no-substitute-for-deep-emissions-reductions-warns-ipcc/

39 "Voluntary Carbon Markets Top $1 Billion in 2021 with Newly Reported Trades," Ecosystem Marketplace, 10 November 2021, https://www.ecosystemmarketplace.com/articles/voluntary-carbon-markets-top-1-billion-in-2021-with-newly-reported-trades-special-ecosystem-marketplace-cop26-bulletin

40 Nicole Labutong and Vincent Hoenhttps, "How can companies address their scope 3 greenhouse gas emissions?," SBTi, 25 May 2018, https://sciencebasedtargets.org/blog/how-can-companies-address-their-scope-3-greenhouse-gas-emissions

41 Net Zero Stocktake 2022," Net Zero Tracker, 12 June 2022, https://zerotracker.net/analysis/net-zero-stocktake-2022

42 Susan Cook-Patton et al, "Protect, manage and then restore lands for climate mitigation," Nature, 18 November 2021, https://www.nature.com/articles/s41558-021-01198-0

43 "Net-Zero: Urgent Beyond Value Chain Mitigation Is Essential," SBTi, 13 September 2022, https://sciencebasedtargets.org/blog/net-zero-urgent-beyond-value-chain-mitigation-is-essential

44 "Beyond Value Chain Mitigation FAQ," SBTi, October 2021, https://sciencebasedtargets.org/resources/files/Beyond-Value-Chain-Mitigation-FAQ.pdf

45 "Beyond Value Chain Mitigation FAQ," SBTi, October 2021, https://sciencebasedtargets.org/resources/files/Beyond-Value-Chain-Mitigation-FAQ.pdf

46 "Pushing beyond net zero: Bain & Company is going carbon net negative," Bain, 14 April 2022, https://www.bain.com/about/media-center/press-releases/2022/pushing-beyond-net-zero-bain--company-is-going-carbon-net-negative/

47 "What does being climate positive mean for IKEA?," IKEA, accessed 22 September 2022, https://about.ikea.com/en/sustainability/becoming-climate-positive/what-is-climate-positive

48 "Climate Positive Burgers," Max Burgers, accessed 22 September 2022, https://www.maxburgers.com/climate-positive/climate-positive/

49 "Climate Positive," Ethique, accessed 22 September 2022, https://ethique.com/pages/climate-positive

50 "Microsoft will be carbon negative by 2030," Microsoft, 16 January 2020, https://blogs.microsoft.com/blog/2020/01/16/microsoft-will-be-carbon-negative-by-2030/

51 George Monbiot, "Carbon offsetting is not warding off environmental collapse – it's accelerating it," The Guardian, 26 January 2022, https://www.theguardian.com/commentisfree/2022/jan/26/carbon-offsetting-environmental-collapse-carbon-land-grab

52 Catrin Einhorn and Chris Buckley, "Global Leaders Pledge to End Deforestation by 2030," New York Times, 10 November 2021, https://www.nytimes.com/2021/11/02/climate/cop26-deforestation.html

53 John Cannon, Consumer countries mull best approach to end deforestation abroad," Mongabay, 17 June 2022, https://news.mongabay.com/2022/06/consumer-countries-mull-best-approach-to-end-deforestation-abroad/

54 "Forest 500," Global Canopy, accessed 28 September 2022, https://forest500.globalcanopy.org/

55 Sarah Lake and Elizabeth Baer, "What Does it Really Mean When a Company Commits to "Zero Deforestation"?," 4 May 2015, https://www.wri.org/insights/what-does-it-really-mean-when-company-commits-zero-deforestation. It also should be noted that some within the corporate sustainability and forestry world believe there should be a fourth deforestation-free claim ' Zero-Illegal Deforestation'. While few if any companies actually make Zero-Illegal Deforestation claims, many corporate policies that claim to be deforestation free, deforestation and conversion free, and achieving net-zero deforestation do define forests, forest loss or degradation and other factor in ways that do allow further deforestation as long as it is not illegal. Because of this all corporate deforestation claims and goals should be thoroughly reviewed by experts to ensure the listed policies meet the true intention of the three deforestation-free claims listed in this paper.

56 "DCF Implementation Toolkit User Guide," WWF, 16 March 2021, https://www.worldwildlife.org/publications/dcf-implementation-toolkit-user-guide

57 "Sustainable and deforestation-free palm oil," Unilever, accessed 29 September 2022, https://www.unilever.com/planet-and-society/protect-and-regenerate-nature/sustainable-palm-oil/

58 "Deforestation-free supply chains," Nestle, accessed 6 October 2022, https://www.nestle.com/sustainability/nature-environment/forest-positive/deforestation-supply-chains

59 "Zero deforestation worldwide," UBS, 16 April 2019, https://www.ubs.com/global/en/ubs-society/our-stories/2019/zero-deforestation.html

60 "LDC Commits to Zero Deforestation & Native Vegetation Conversion in Its Supply Chains by End 2025," LDC, 9 February 2022, https://www.ldc.com/press-releases/ldc-commits-to-zero-deforestation-native-vegetation-conversion-in-its-supply-chains-by-end-2025/

61 "Stepping up ambition to conserve the world's forest," L'Oreal, accessed 28 September 2022, https://www.loreal.com/en/articles/sharing-beauty-with-all/achieving-zero-deforestation/

62 "Deforestation- and Conversion-Free Supply Chains & Governance," WWF, accessed 22 September 2022, https://forestsolutions.panda.org/approach/deforestation-and-conversion-free-supply-chains-and-governance

63 Harvey Lock et al, "A Nature-Positive World: The Global Goal for Nature"

64 Prue Addison et al., "Are corporate biodiversity commitments consistent with delivering 'nature-positive' outcomes? A review of 'nature-positive' definitions, company progress and challenges." https://osf.io/preprints/socarxiv/rq6z2/

65 https://www.mckinsey.com/capabilities/sustainability/our-insights/where-the-worlds-largest-companies-stand-on-nature

66 Dr. Oliver Balch, Eva Zabey and Michael Ofosuhene-Wise, "How business and finance can contribute to a nature positive future now", Business for Nature et al, October 2022, https://www.businessfornature.org/news/nature-positive-discussion-paper

67 "What are SBTs?" Science Based Targets Network, accessed 29 September 2022, https://sciencebasedtargetsnetwork.org/how-it-works/what-are-sbts/

68 "Holcim launches nature-positive strategy with measurable 2030 biodiversity and water targets," Holcim 3 September 2021, holcim.com/media/media-releases/holcim-launches-nature-positive-strategy

69 "We are nature & biodiversity protestors," Sonae, accessed 28 September 2022, https://sustentabilidade.sonae.pt/we-are-nature-biodiversity/

70 "Presenting Gucci's Nature-Positive Climate Strategy," Gucci, 26 January 2021, https://equilibrium.gucci.com/natural-climate-solutions-portfolio-projects

71 Dr. Oliver Balch, Eva Zabey and Michael Ofosuhene-Wise, "How business and finance can contribute to a nature positive future now", Business for Nature et al, October 2022, https://www.businessfornature.org/news/nature-positive-discussion-paper

72 E. J. Milner-Gulland, "Don't dilute the term Nature Positive," Nature, 8 August 2022, https://www.nature.com/articles/s41559-022-01845-5.pdf?origin=ppub

73 "Natural Pathways to Climate Mitigation," Nature4Climate, accessed 22 September 2022, https://nature4climate.org/science/n4c-pathways/

74 "Natural Climate Solutions Resource Center," TNC, accessed 22 September 2022, https://www.nature.org/en-us/what-we-do/our-priorities/tackle-climate-change/climate-change-stories/natural-climate-solutions-science/#:~:text=In%202017%2C%20research%20led%20by,%C2%B0C%E2%80%9430%20percent%20more

75 "Exploring Natural Capital Opportunities, Risks and Exposure," Encore, accessed 22 September 2022, https://encore.naturalcapital.finance/

76 "Half of World's GDP Moderately or Highly Dependent on Nature, Says New Report," WEF, 19 January 2020, https://www.weforum.org/press/2020/01/half-of-world-s-gdp-moderately-or-highly-dependent-on-nature-says-new-report/

77 David Gibbs, Nancy Harris and Frances Seymour, "By the Numbers: The Value of Tropical Forests in the Climate Change Equation," WRI, 4 October 2022, https://www.wri.org/insights/numbers-value-tropical-forests-climate-change-equation

78 FAO 2020, "Global Forest Resources Assessment 2020," FAO, 18 November 2020, http://www.fao.org/forest-resources-assessment/2020/en/

79 "Global Energy Review 2021," IEA, April 2021, https://www.iea.org/reports/global-energy-review-2021/co2-emissions

80 "Why large-scale forest protection must urgently be part of corporate climate mitigation strategies," Emergent, July 2021, https://www.emergentclimate.com/wp-content/uploads/2021/07/Jurisdictional-White-Paper-1.pdf

81 "Forest Pulse: The Latest on the World's Forests," WRI, January 2022, https://research.wri.org/gfr/latest-analysis-deforestation-trends

82 "Tropical Forests," WWF, accessed 24 September 2022, https://wwf.panda.org/discover/our_focus/forests_practice/importance_forests/tropical_rainforest/

83 Allie Goldstein et al, "Protecting irrecoverable carbon in Earth's ecosystems," Nature, 31 March 2020, https://www.nature.com/articles/s41558-020-0738-8

84 "Forests Provide Vital Resources to 1.3B people," The World Bank, 16 March 2016, https://www.worldbank.org/en/news/infographic/2016/03/16/forests-provide-vital-resources-to-13b-people

85 "Forests and Terrestrial Ecosystems (Landscapes)," The World Bank, accessed 24 September 2022, https://www.worldbank.org/en/topic/forests

86 Paul Velded et al, "Forest environmental incomes and the rural poor," PCLG, 2007, https://www.povertyandconservation.info/en/forest-environmental-incomes-and-rural-poor

87 "Special Report: Global Warming of 1.5°C," IPCC, 8 October 2018, https://www.ipcc.ch/sr15/

88 Zach St. George, "Can Planting a Trillion New Trees Save the World?," New York Times, 13 July 2022, https://www.nytimes.com/2022/07/13/magazine/planting-trees-climate-change.html

89 Susan Cook-Patton et al, "Protect, manage and then restore lands for climate mitigation," Nature, 18 November 2021, https://www.nature.com/articles/s41558-021-01198-0; Frances Seymour and David Gibbs, "Forests in the IPCC Special Report on Land Use: 7 Things to Know," WRI, 8 August 2019, https://www.wri.org/insights/forests-ipcc-special-report-land-use-7-things-know

90 Sarah Kaplan, "The world will burn through its 'carbon budget' in 11 years without big emissions cuts, scientists say," Washington Post, 3 November 2021, https://www.washingtonpost.com/climate-environment/2021/11/03/global-carbon-budget-cop26/

91 Susan Cook-Patton et al, "Protect, manage and then restore lands for climate mitigation," Nature, 18 November 2021, https://www.nature.com/articles/s41558-021-01198-0

92 "The collective effort to end deforestation: A pathway for companies to raise their ambition; Global Forests Report 2020," CDP, March 2021, https://www.cdp.net/en/research/global-reports/global-forests-report-2020

93 "Half of World's GDP Moderately or Highly Dependent on Nature, Says New Report," WEF, 19 January 2020, https://www.weforum.org/press/2020/01/half-of-world-s-gdp-moderately-or-highly-dependent-on-nature-says-new-report/

94 Katie Lebling et al, "6 Things to Know About Direct Air Capture," WRI, 2 May 2022, https://www.wri.org/insights/direct-air-capture-resource-considerations-and-costs-carbon-removal#:~:text=The%20range%20of%20costs%20for,less%20than%20%2450%2Ftonne.

95 "LEAF Coalition Mobilizes $1 Billion for Tropical Forest Conservation," Emergent, 01 November 2021, https://www.emergentclimate.com/leaf-mobilizes-1-billion-for-forest-protection

96 Cassie Dummett et al, "Illicit Harvest, Complicit Goods," Forest Trends, 18 May 2021, https://www.forest-trends.org/publications/illicit-harvest-complicit-goods/

97 Stephan Schwartzman et al, "Environmental integrity of emissions reductions depends on scale and systemic changes, not sector of origin," IOP Science, 13 August 2021, https://iopscience.iop.org/article/10.1088/1748-9326/ac18e8

98 Why large-scale forest protection must urgently be part of corporate climate mitigation strategies," Emergent, July 2021, https://www.emergentclimate.com/wp-content/uploads/2021/07/Jurisdictional-White-Paper-1.pdf

99 James Lloyd, "Finding Common Ground in the Debate around Voluntary Carbon Markets," Medium, 18 March 2022, https://medium.com/nature4climate/finding-common-ground-in-the-debate-around-voluntary-carbon-markets-311eef6b2933

100 "Provisional Claims Code of Practice," VCMI, 7 June 2022, https://vcmintegrity.org/wp-content/uploads/2022/06/VCMI-Provisional-Claims-Code-of-Practice.pdf

101 "Why Net Zero Needs Zero Deforestation Now," UN Race To Zero, June 2022, https://climatechampions.unfccc.int/wp-content/uploads/2022/06/Why-net-zero-needs-zero-deforestation-now-June-2022.pdf

102 Tropical Forest Credit Integrity Guide for Companies," EDF et al, May 2022, https://tfciguide.org/wp-content/uploads/2022/07/TFCI-Guide-English.pdf

103 "Beyond Value Chain Mitigation FAQ," SBTi, October 2021, https://sciencebasedtargets.org/resources/files/Beyond-Value-Chain-Mitigation-FAQ.pdf

104 "Forest Positive," Consumer Goods Forum, accessed on 24 September 2022, https://www.theconsumergoodsforum.com/environmental-sustainability/forest-positive

105 Rupert Edwards, "Toward a Financial Architecture to Protect Tropical Forests: The Case of Brazil," Forest Trends, January 2018, https://www.forest-trends.org/wp-content/uploads/2018/02/doc_5728.pdf

106 Martha Stevenson and Kerry Cesareo, "Creating a Forest Positive Future," WWF, 10 October 2017, https://www.worldwildlife.org/blogs/sustainability-works/posts/creating-a-forest-positive-future

107 Charlotte Opal, "'Deforestation-free' isn't working: It's time to go forest positive (commentary)," Mongabay, 5 October 2020, https://news.mongabay.com/2020/10/deforestation-free-isnt-working-its-time-to-go-forest-positive-commentary/

108 "What does being climate positive mean for IKEA?," IKEA, accessed 22 September 2022, https://about.ikea.com/en/sustainability/becoming-climate-positive/what-is-climate-positive

109 "HP Sustainable Impact Report 2021," HP, January 2022, https://www8.hp.com/h20195/v2/GetPDF.aspx/c08228880.pdf#page=81

110 "A message from Starbucks ceo Kevin Johnson: Starbucks new sustainability commitment," Starbucks, 21 January 2020, https://stories.starbucks.com/stories/2020/message-from-starbucks-ceo-kevin-johnson-starbucks-new-sustainability-commitment/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