



Natural
Climate
Solutions
Alliance

Natural Climate Solutions and the Voluntary Carbon Market: **A Guide for C-suite Executives**





The NCS Alliance

The NCSA is a multistakeholder coalition that brings together public and private stakeholders to identify opportunities and barriers to investment into carbon credits in new and existing markets to scale up financing for natural climate solutions. The Alliance also serves as a forum for knowledge sharing and technical capacity building to ensure natural climate solutions reach their full potential in abating climate change.

LinkedIn: [linkedin.com/company/ncsalliance/](https://www.linkedin.com/company/ncsalliance/)

Website: naturalclimatesolutionsalliance.org



The SustainAbility Institute by ERM

ERM is the largest global pure play sustainability consultancy and The SustainAbility Institute is its primary platform for thought leadership. The purpose of the Institute is to define, accelerate, and scale sustainability performance by developing actionable insight for business. We provide an independent and authoritative voice to decode complexities. The Institute identifies innovative solutions to global sustainability challenges built on ERM's experience, expertise, and commitment to transformational change.

Twitter: twitter.com/Sustlnsti

LinkedIn: [linkedin.com/company/sustainabilityinstituteerm](https://www.linkedin.com/company/sustainabilityinstituteerm)

Website: sustainability.com



World Business Council for Sustainable Development (WBCSD)

WBCSD is the premier global, CEO-led community of over 200 of the world's leading sustainable businesses working collectively to accelerate the system transformations needed for a net zero, nature positive, and more equitable future.

Our member companies come from all business sectors and all major economies, representing a combined revenue of more than USD \$8.5 trillion and 19 million employees. Our global network of almost 70 national business councils gives our members unparalleled reach across the globe.

Together, we are the leading voice of business for sustainability, united by our vision of a world in which 9+ billion people are living well, within planetary boundaries, by mid-century.

Twitter: twitter.com/wbcd

LinkedIn: [linkedin.com/company/wbcd](https://www.linkedin.com/company/wbcd)

Website: www.wbcd.org



World Economic Forum

The World Economic Forum is the International Organization for Public-Private Cooperation. Our purpose is to empower global leaders to shape the future for the better. We are a trusted platform for all stakeholders of global society to integrate and aggregate their efforts to improve the state of the world.

Our activities are shaped by a unique institutional culture founded on the stakeholder theory, which asserts that an organization is accountable to all parts of society and we as an institution carefully blend and balance the best of many kinds of organizations, from both the public and private sectors, international organizations and academic institutions.

LinkedIn: www.linkedin.com/company/world-economic-forum/

Website: www.weforum.org/

This report is released in the name of the Natural Climate Solutions Alliance (NCSA). It is the result of collaborative efforts by NCSA members and its Secretariat and the SustainAbility Institute by ERM.

Drafts were reviewed by NCSA members, ensuring that the document broadly represents the majority view of NCSA members. It does not mean, however, that every member company agrees with every word.

Copyright: © WBCSD, September 2022

Acknowledgments

This Guide is the result of a collaboration between the NCS Alliance and the SustainAbility Institute by ERM.

Lead authors: Aiste Brackley (The SustainAbility Institute by ERM); Andrew Angle (The SustainAbility Institute by ERM); Carly Sibilia (ERM); Giulia Carbone (WBCSD); Justin Nelson (The SustainAbility Institute by ERM); Linden Edgell (ERM).

Additional contributors: Numerous NCSA members provided ideas, experiences and comments during the process of developing this Guide, through their participation in the NCSA Taskforce, the NCSA Technical Advisory Group and the NCSA Steering Committee. In addition, other organizations responded by providing input directly to The SustainAbility Institute by ERM. See page 40 for full list.



This publication was made possible with generous funding support from the We Mean Business Coalition

4

INVEST TODAY IN NATURE AND PEOPLE TO AVERT THE CLIMATE CRISIS: AN OVERVIEW

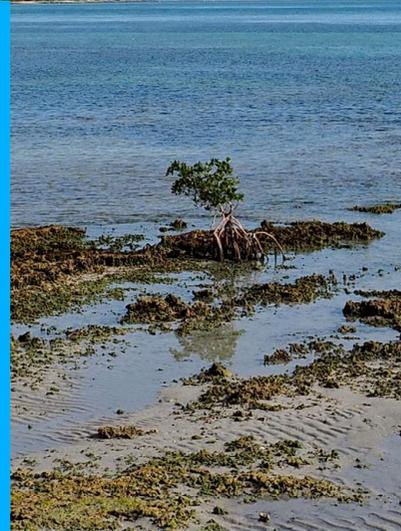
12

NATURAL CLIMATE
SOLUTIONS: THE
IMPORTANCE
OF INVESTING IN
QUALITY



18

THE ROLE OF NCS
CARBON CREDITS
IN THE CORPORATE
NET ZERO JOURNEY



24

BUILDING A
BUSINESS CASE
TO INVEST IN
HIGH-QUALITY
NCS VOLUNTARY
CARBON CREDITS



30

IMMEDIATE
ACTIONS FOR
C-SUITE EXECUTIVE
ATTENTION



32

MOBILIZING THE
DEMAND FOR
HIGH-QUALITY NCS
CARBON CREDITS



INVEST TODAY IN NATURE AND PEOPLE TO AVERT THE CLIMATE CRISIS: AN OVERVIEW



Natural
Climate
Solutions
Alliance

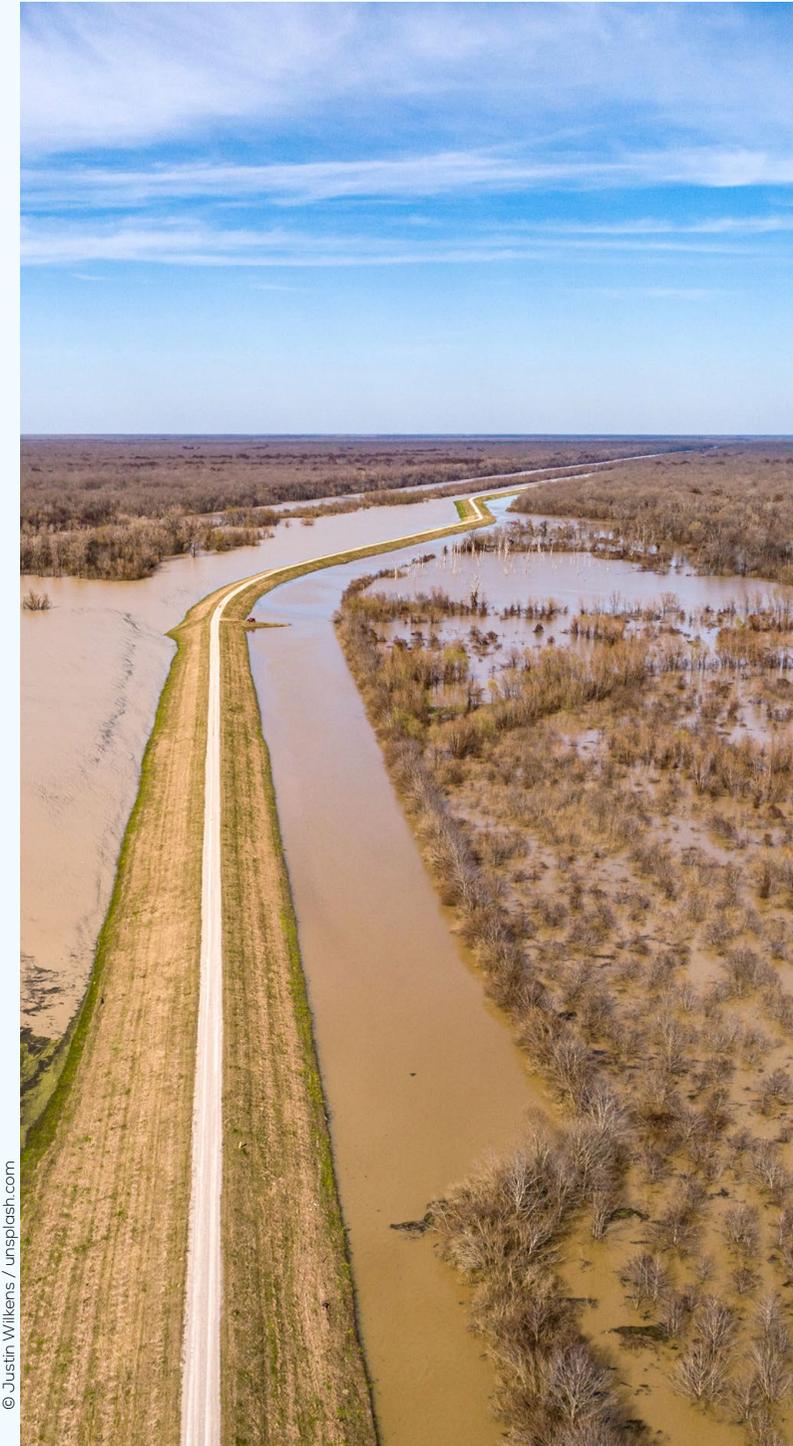
We Must Do More on Climate, Today

Climate targets are not on track. People's lives, business success and natural systems are under threat from global warming if temperatures rise by more than 1.5 degrees Celsius. But, business can counterbalance unabated emissions through purchasing high-quality Natural Climate Solutions carbon credits.

Staying on the 1.5°C pathway is critical if society is to avoid the worst of climate change. To achieve this goal, we must act now, starting by reducing global emissions by 43 percent from 2019 levels by 2030.¹ All businesses must play a role in the 1.5°C pathway through deep decarbonization of their value chain (Scope 1, 2 and 3) emissions.

However, value chain decarbonization is not enough. As the journey to net zero requires time and resources while drawing down emissions year over year, yearly emissions remain unabated.

The urgency of the climate crisis requires that businesses demonstrate leadership by counterbalancing year on year their annual unabated emissions through the purchase of high-quality Natural Climate Solutions carbon emissions reduction and removal credits.



Nature Loss Is Reaching a Critical Point

Climate change is not the only crisis we face today – nature is also at a precipice.

Seventy percent of the land-based environment and close to 66 percent of the marine environment have been significantly altered by human actions.² The biodiversity decline we are witnessing is driven by a number of factors, including climate change. And as biodiversity decreases, we lose one of the most effective defenses against climate change.³

But business commitments to nature-related actions to address this crisis are falling short: less than 20 percent of S&P 500 companies have made nature-related pledges.⁴ While the uptake of biodiversity commitments has increased in recent years, there has been limited progress made towards measurable, time-bound targets that are needed to achieve 'nature-positive' outcomes.^{5,6}

Ambitious but concrete action is now required to stave off the worst effects of climate change and biodiversity loss, and to ensure a livable future for all.

“Limiting global warming to ensure a habitable climate and protecting biodiversity are mutually supporting goals, and their achievement is essential for sustainably and equitably providing benefits to people.”

IPBES-IPCC Co-Sponsored Workshop



Natural Climate Solutions Offer Enormous Potential to Tackle Emissions, Simultaneously Providing Multiple Benefits to People and Nature

Natural Climate Solutions (NCS) are Nature-based Solutions (NbS) addressing climate change. They build on nature's capacity to remove and store carbon from the atmosphere.

Natural Climate Solutions could provide a significant contribution towards carbon removal efforts, with the potential to remove over 100 gigatons of the projected 810 gigatons of carbon dioxide (CO₂) removals required by the end of the century to stay on the below 1.5°C pathway.⁷



Nature-based Solutions are defined as actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems, which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services and resilience and biodiversity benefits.⁸

NCS can play a critical role in achieving a just transition to global net zero emissions by 2050. Companies can invest in NCS in two different ways:

1. Businesses whose **value chains include emissions** generated by forestry, agriculture or other land use activities, should **invest in NCS in their own value chain** to address their own land-based greenhouse gas (GHG) emissions.⁹
2. **Companies needing to counterbalance their annual unabated emissions should invest** – in addition to their annual decarbonization efforts to avoid and reduce their own emissions in line with a science-based* reduction pathway – **in NCS through voluntary carbon credits, which are tradable assets that represent certified GHG removals or reductions.**

**The term 'science-based' refers to those activities that use scientific methods and / or results to inform decisions. For the purposes of this paper, 'science-based' does NOT specifically refer to the Science Based Targets initiative (SBTi) unless stated otherwise.*



Biodiversity and people play a fundamental role in delivering positive, high-integrity climate mitigation impacts.

By investing in NCS, businesses can address multiple interconnected challenges, but only well designed and properly implemented NCS will deliver climate mitigation benefits, biodiversity gains and positive opportunities for local communities and Indigenous Peoples. Companies should conduct due diligence to ensure NCS activities generating carbon credits provide these additional benefits.



Natural Climate Solutions comprise three of the top five climate solutions identified by the Intergovernmental Panel on Climate Change with the greatest potential to reduce emissions: Reduced conversion of forests and other ecosystems; Carbon sequestration in agriculture; and Ecosystem restoration, afforestation, reforestation.¹⁰

Natural Climate Solutions fall into three broad categories:¹¹

- **Protect** ecosystems from impending or future degradation, reducing further CO₂ emissions and additional loss of biodiversity.

- **Sustainably manage** natural and modified ecosystems through regenerative agriculture and improved forest management practices, also contributing to the recovery of biodiversity. These solutions are categorized both as emission reductions and carbon removals, depending on the specific activity.
- **Restore** ecosystems that have been degraded or previously converted. These solutions are categorized as carbon removals as the growth of new natural systems results in sequestration that may not have otherwise occurred, along with additional biodiversity benefits.

All categories also may benefit adaptation and reduce vulnerability to climate change.

Given their role in climate mitigation and addressing the loss of biodiversity, **all categories of NCS are needed**. Investments in the protection of existing carbon stocks to further reduce emissions deliver much needed and immediate benefits. These should then be complemented with investments in improved ecosystem management and restoration – leading to carbon removal – which generally take longer to generate positive climate and biodiversity outcomes.¹²



Investing in NCS Voluntary Carbon Credits Offers Multiple Advantages to Business

Investing in NCS voluntary carbon credits will help businesses solidify their position as climate leaders.

By investing in NCS voluntary carbon credits, businesses are reducing long-term risks to their operations associated with climate change and the loss of biodiversity, while simultaneously unlocking new commercial opportunities.

Investment in NCS voluntary carbon credits may also offer additional benefits such as stronger relationships with stakeholders, including shareholders and customers, and greater employee satisfaction by demonstrating the business' commitment to the climate and environment.¹³

Companies can also capitalize on other advantages of NCS such as their relative affordability compared to other carbon removal strategies.¹⁴

"The use of high-quality carbon credits by companies and other private nonstate actors (NSAs) – above and beyond their decarbonization efforts – is a method to accelerate climate change mitigation and drive additional finance into low- and middle-income countries, which will likely suffer the greatest climate harms."

Rachel Kyte, Steering Committee Co-Chair of the Voluntary Carbon Markets Integrity Initiative (VCMI)

Read more

**BUILDING
A BUSINESS
CASE TO
MITIGATE
EMISSIONS WITH
THE HELP OF
NCS CARBON
CREDITS**



Take Action Now

In the face of climate and nature emergencies, businesses can either act and adapt to build an impactful legacy or risk failure.

While deep decarbonization of their value chains (Scope 1, 2 and 3) should be the main priority for companies, to have the best chance at limiting global warming to 1.5°C and reversing biodiversity loss they must also invest in high-quality NCS voluntary carbon credits to counterbalance any unabated emissions year on year.

Investing in NCS voluntary carbon credits can help bridge the current global gap in emission reductions efforts and contribute to halting and reversing the loss of biodiversity while simultaneously supporting local communities and Indigenous Peoples.

A portfolio of high-quality NCS voluntary carbon credits, combining emission reductions and removal credits, may strengthen the company's reputation with respect to climate, biodiversity and human rights, with the potential to deliver commercial benefits.¹⁵

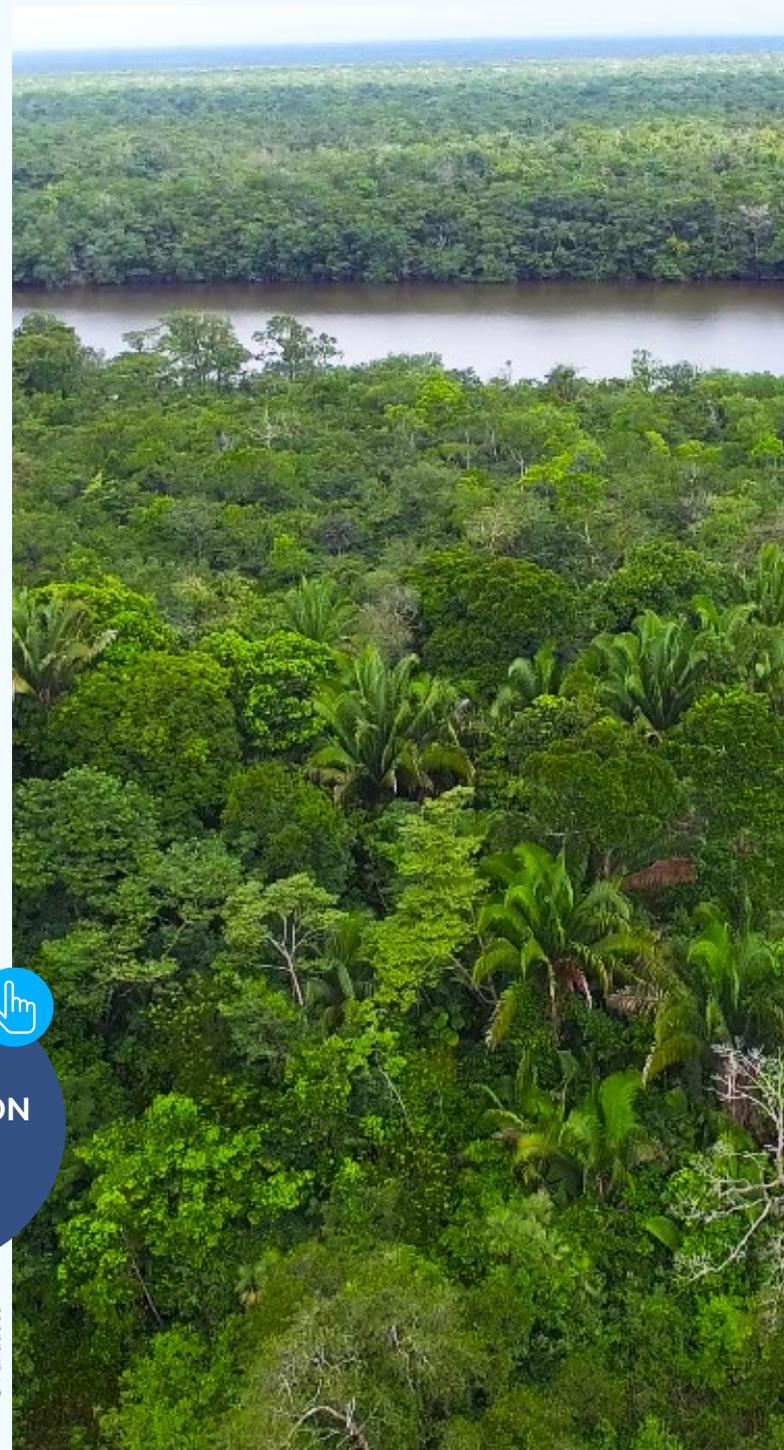
The way forward is clear; NCS voluntary carbon credits:

- Offer enormous potential to reduce global emissions while delivering benefits to nature and society, and;¹⁶
- Are a vital component of any ambitious corporate net zero mitigation strategy, adding to the science-based absolute emissions reductions within a company's value chain.

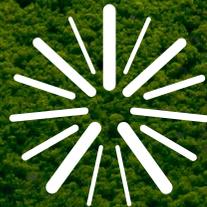
Read more



TAKE ACTION NOW



Businesses in all sectors, regardless of size, should invest immediately in high-quality NCS carbon credits through the voluntary carbon market to counterbalance their unabated value chain emissions, thus contributing to global climate mitigation and biodiversity recovery targets.



Natural
Climate
Solutions
Alliance

NATURAL CLIMATE SOLUTIONS: THE IMPORTANCE OF INVESTING IN QUALITY

Natural Climate Solutions offer the opportunity to tackle climate change and biodiversity loss while also providing multiple socio-economic benefits to local communities and society at large. However, these positive impacts can only be realized if projects are both well-designed and appropriately implemented.



Natural
Climate
Solutions
Alliance

Companies should only invest in high-quality NCS projects and programs that go beyond the delivery of carbon credits by providing measurable benefits to nature and people.

NCS address multiple societal challenges – but only if they are designed and executed to a high standard.

High-quality Natural Climate Solutions effectively address the permanence, additionality leakage, double-counting, robust quantification and verification of the NCS climate mitigation activities implemented,^a and **go above and beyond the delivery of carbon credits** by:

- Resulting in a gain to biodiversity and ecosystem integrity.¹⁷
- Providing substantive social and economic benefits for local communities and Indigenous Peoples.
- Providing climate risk protection by improving the resiliency and adaptive capacity of landscapes.

Companies should carry out due diligence before investing in NCS projects and programs to ensure that Indigenous Peoples and Local Communities' rights, resources and perspectives are adequately respected and safeguarded; and that the projects and programs deliver biodiversity and social gains, which will, however, vary based on the type of NCS activity implemented.



Natural Climate Solutions help mitigate climate change through actions that protect against nature loss, improve nature management and restore degraded native cover.

This infographic is adapted from *We need both natural and energy solutions to stabilize our climate*: <https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.14612>.

^a There isn't a common standard for carbon integrity at this time, although many initiatives are underway. For example, the Integrity Council for the Voluntary Carbon Market (IC-VCM) is developing Core Carbon Principles (CCPs) and an Assessment Framework (AF) and plans to assess carbon-crediting programs and methodology types on their alignment with the CCPs. <https://icvcm.org/>

"We believe that Natural Climate Solutions have a key role to play in addressing the two major environmental crises: biodiversity loss and climate change. In order to increase investments in NCS, robust frameworks should be developed to ensure high-quality carbon credits from projects that enhance nature, generate climate value and benefit communities in a holistic way that also provides credibility and certainty to investors."

Emilio Tejedor, Head of Environment and Quality, Iberdrola

"Businesses around the world are mobilizing in the race to net zero. Collectively, there is a lot of work to do to reduce our overall emissions and that must be the first goal. However, some emissions are currently unavoidable and will continue to be for some time. Achieving net zero is made more possible with a credible voluntary carbon market. The development of the IC VCM's Core Carbon Principles will help give confidence to buyers that we hope will stimulate finance towards nature-based solutions."

Annette Nazareth, Co-Chair, Integrity Council for the Voluntary Carbon Market (IC-VCM)



© Wildlife Works

Examples of Nature-Positive and Socio-Economic Benefits associated with Natural Climate Solutions

Nature-positive Benefits	Socio-economic Benefits	Climate Benefits Beyond GHG Mitigation ¹⁸
<ul style="list-style-type: none"> • Halt and reverse environmental degradation. • Preserve and enhance local, regional and global biodiversity. • Protect and enhance ecosystem services (e.g., improved water quality, reduced soil erosion, increase in pollinators). • Prevent extinction of rare and endangered species. 	<ul style="list-style-type: none"> • Support local communities and Indigenous Peoples. • Improve quality of life through access to clean natural resources. • Create and sustain jobs. • Achieve health outcomes by improving air quality, offering buffers from extreme weather and cooling local air temperatures. • Improve human health and wellbeing by increasing green spaces. 	<ul style="list-style-type: none"> • Warming or cooling from change in natural vegetation, affecting surface albedo (reflection of sunlight), windspeed, or the emission of aerosols and volatile organic compounds. • Cooling effects of evapotranspiration. • Reduced vulnerability to climate-related disasters through NbS-based adaptation and resilience (e.g., mangrove restoration to prevent sea surges).

In addition to offering multiple benefits to nature and people, high-quality NCS carbon credits are one of the largest readily available solutions for carbon removal.¹⁹ Technological solutions such as carbon capture and storage methods will likely play an important role in carbon removal, but these technologies are not yet affordable at scale. Natural climate solutions are readily available and should be utilized while technology-based solutions are scaled.

Markets are evolving from individual NCS projects to jurisdictional-scale approaches where interventions are much larger in scale, benefit from contribution by governments and use baselines developed at the scale of an accounting area defined by a country or large subnational political/administrative unit. To get to the scale of impact needed, jurisdictional-scale NCS programs will be an important part of an effective NCS strategy. Companies should consider including in their portfolio an increasing share of credits from jurisdictional-scale programs including nested projects, once available.²⁰



"The benefits of NCS such as the social opportunities associated with involving local communities in restoring biodiversity and enhancing ecosystem services help make them a particularly attractive solution for companies looking to connect climate change, biodiversity and social performance."

Andrew Grigg, Global Program Manager Biodiversity, Alcoa

"When pursuing NCS projects, companies should evaluate their co-benefits to the community and the environment. If you are only focusing on carbon, you might not consider NCS and would miss out on the multiple other advantages that NCS provide in addition to emissions mitigation."

Aiste Brackley, Associate Director, the SustainAbility Institute by ERM

NCS Lighthouses: projects with impact

To elevate the successful human, environmental and climate stories behind NCS around the globe, the [Natural Climate Solutions Alliance \(NCSA\)](#) highlights NCS examples focused on mitigating environmental and social risks and generating positive environmental impacts and socio-economic benefits. These are the [NCS Lighthouses](#).

	Katingan Mentaya Project	Mai Ndombe REDD+	Conservation Coast	Luangwa Community Forests Project	Rimba Raya	Sumatra Merang Peatland Project
Region	Central Kalimantan, Republic of Indonesia	Mai Ndombe Province, Democratic Republic of the Congo	Caribbean Coastline, Izabel Region, Guatemala	Eastern Province to Lusaka Province, Zambia	Central Kalimantan province, Indonesia	South Sumatra Province, Indonesia
Project Type	REDD, ARR, WRC	REDD+, A/R, IFM	REDD+	REDD+	REDD+	ARR, WRC
Carbon Program	VCS + CCB	VCS + CCB	VCS + CCB*	VCS + CCB	VCS + CCB* + SDVista*	VCS + CCB*
Area	149,800 ha	300,000 ha	62,700 ha (expanding to 128,448 ha)	1,037,000 ha	65,000 ha	23,000 ha
Ecosystem	Tropical Peatland	Tropical Rainforest	Tropical Rainforest	Riparian Forest	Peat Swamp Forest	Peatland Forest
Mt CO₂e reduced or removed / yr	7.5	5.6	0.73	1.7	3.5	1.3
Biodiversity Benefits	Protection of endangered species, including the Bornean Orangutan and Sunda pangolin	Return of previously eradicated species, including elephants, leopards, and buffalo, as well as the recovery of critical Bonobos populations	Protection of the Mesoamerican Biological Corridor, which is vital habitat for 120 migratory birds	Protects over 565 million trees from deforestation and conserves a major wildlife corridor	Protects habitat for endangered species, including the Bornean orangutan	Protection of a high conversion priority region, including the Merang biodiversity corridor
Social Benefits	Improves wellbeing and develops sustainable sources of income for 34 local communities	Direct payments to 28 villages in the project area	Project activities support 487 jobs, 24% of which are held by women	Activities support 217,000 community beneficiaries across 12 Chiefdoms	Employs 200 people, providing medical services to village members	Supports community development initiatives, including 100 jobs created

*Components of this project are still under verification.
 A/R = Afforestation/Reforestation
 ARR = Afforestation, Reforestation and Revegetation
 CCB = Climate, Community and Biodiversity Standards
 ha = hectares

IFM = Improved Forest Management
 Mt CO₂e = million tonnes of carbon dioxide equivalent
 REDD = Reducing emissions from deforestation and forest degradation
 SDVista = Sustainable Development Verified Impact Standard

VCS = Verified Carbon Standard
 WRC = Wetlands Restoration and Conservation
 1 tonne CO₂e = 1 credit

THE ROLE OF NCS CARBON CREDITS IN THE CORPORATE NET ZERO JOURNEY

NCS voluntary carbon credits should play an important role in the transition to net zero. They can be used to counterbalance annual unabated emissions in the short- and long-term, neutralize emissions remaining after achieving net zero and counterbalance historic emissions.



Natural
Climate
Solutions
Alliance

Businesses should take a high ambition pathway and go beyond their net zero goals

The high ambition pathway calls for:

1. Purchasing and retiring high-quality NCS voluntary reduction and removal credits during the transition to net zero to counterbalance unabated value chain emissions. These credits should not be used in lieu of or delay the emissions reductions necessary to meet long-term science-based targets for Scopes 1, 2 and 3.
2. Going beyond net zero by purchasing and retiring high-quality NCS voluntary carbon credits to counterbalance historical emissions and contributing towards climate recovery.

“Bayer has set the target to achieve net zero GHG emissions including our entire value chain by 2050 or sooner and signed the Business Ambition for 1.5°C. We are on a path to become climate neutral by 2030 in our own operations by significantly reducing our own emissions, increasing the use of renewable energy sources and by compensating through the purchase of high-quality NCS credits to mitigate our residual and hard-to-abate emissions.”

**Dirk Backhaus, Head of Product Supply
Bayer, Crop Science**

Achieving Net Zero with Natural Climate Solutions

Natural Climate Solutions (NCS) contribute to Net Zero goals by counterbalancing unabated emissions, addressing historical emissions and reducing and neutralizing value chain emissions.

On the Transition to Net Zero

Net Zero Emissions

Net Zero and Beyond

High ambition pathway



Counterbalance any unabated emissions year on year through the purchase and retirement of high-quality NCS voluntary carbon credits (emission reductions and removals).



Go beyond net zero to climate negativity by purchasing and retiring high-quality NCS voluntary carbon credits; this could also contribute to addressing historical emissions.

Net Zero journey

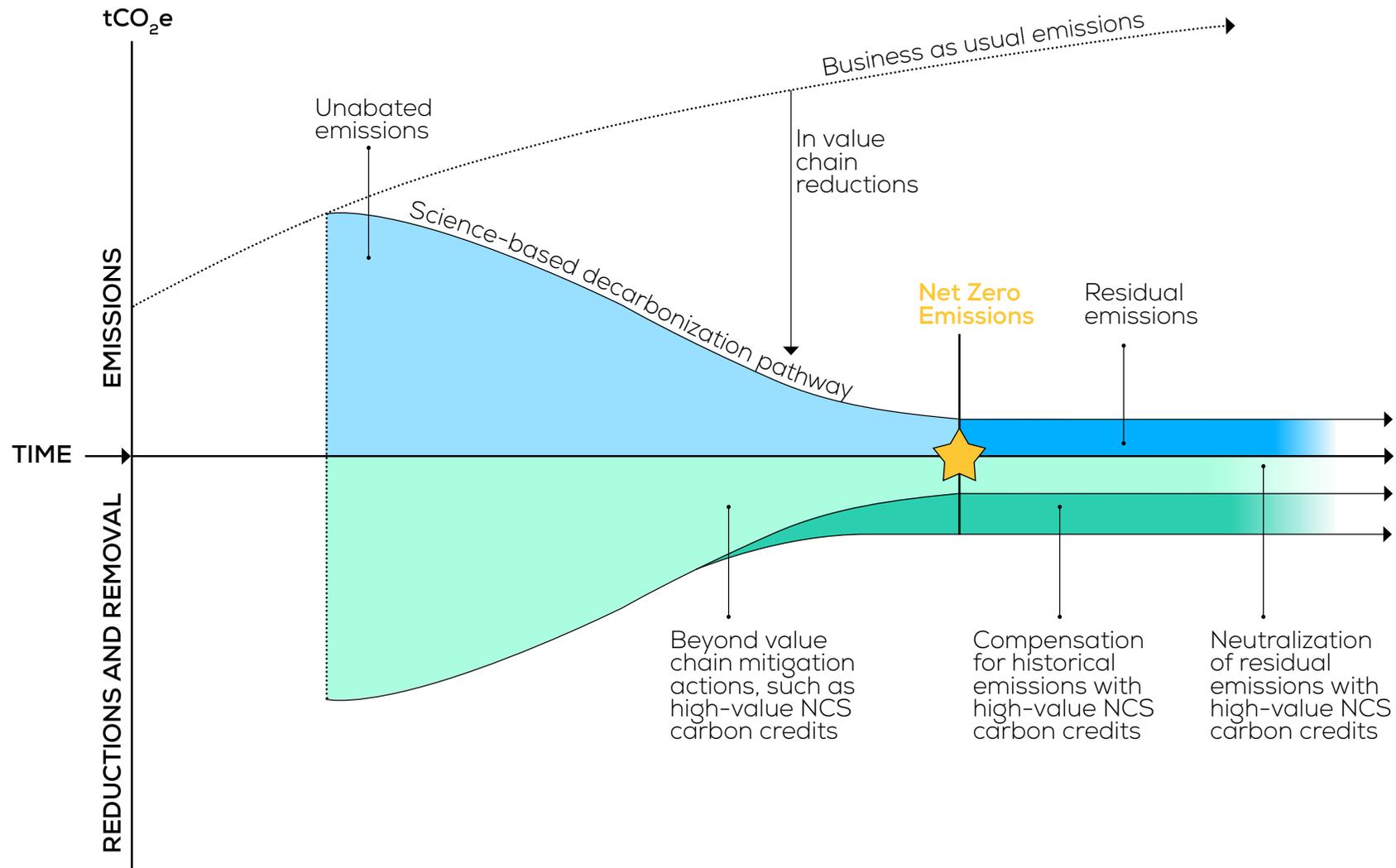


Reduce value chain emissions (Scope 1, 2, and 3), consistent with near-term science-based targets. NCS should be deployed as in value chain reduction and removal solutions for land-based emissions.



Achieve net zero value chain emissions consistent with a long-term science-based target. High-quality NCS voluntary carbon credits should be used to neutralize unavoidable residual emissions that remain after fully decarbonizing Scope 1, 2 and 3 emissions.

The role of NCS voluntary carbon credits in a net zero journey



NCS voluntary carbon credits play a critical role by providing beyond value chain mitigation opportunities before achieving net zero by compensating for historical emissions and neutralizing residual emissions once net zero is achieved.

Examples of businesses in action

Several leading companies are already taking action and investing in NCS carbon credits. These investments take on different characteristics and methods, but all demonstrate the attributes required to be considered high-quality NCS projects.



© Aleksandr Kendenkov / gettyimages.com

BAYER²¹

NET ZERO COMMITMENT	Net zero along entire value chain by 2050 or sooner.
INVESTMENT	€50-200 million for offsetting projects to 2030.
METHOD	Forest conservation and restoration projects.
DETAILS	<p>Bayer's net zero plan integrates NCS with additional emissions-related targets and strategies. Their Scope 1 and 2 (3.8mt CO₂e) emissions reduction plan will consider the following:</p> <ul style="list-style-type: none"> • Internal Carbon Price of 100€/tonne. • €500 million CapEx for emissions reductions activities. • €50-200 million for offsetting projects to 2030. • Compensation projects with connection to the business: Agriculture or Forest (AFOLU projects).

MCKINSEY & COMPANY²²

NET ZERO COMMITMENT	Net zero climate impact by 2030.
INVESTMENT	Ongoing
METHOD	Forest protection and reforestation projects.
DETAILS	<p>McKinsey & Company is taking climate action across three areas: decarbonizing operations, investing in natural climate solutions, and accelerating progress through partnerships.</p> <p>Through partnerships, McKinsey aims to help scale the solutions the world collectively needs. Examples include:</p> <ul style="list-style-type: none"> • NCS Investment Accelerator • Blue Nature Alliance • LEAF Coalition • Enduring Earth Initiative

NETFLIX ²³	
NET ZERO COMMITMENT	Net zero operations by the end of 2022, with a 45 percent reduction in internal emissions below 2019 levels by 2030.
INVESTMENT	1.5 million credits purchased in 2021 from 17 projects. ²⁴
METHOD	Ecosystem conservation and restoration projects.
DETAILS	<p>Netflix's approach to reducing and eliminating their greenhouse gas emissions will use NCS projects through their "Net Zero + Nature" plan. This plan follows the three steps below:</p> <ul style="list-style-type: none"> • Reduce internal emissions on a 1.5°C pathway through reductions strategies to reach net zero. • Retain nature's existing carbon storage through ecosystem protection and conservation to address emissions Netflix or their suppliers cannot avoid. • Remove carbon from the atmosphere by restoring and regenerating natural ecosystems to go beyond the value chain.

UNILEVER ²⁵	
NET ZERO COMMITMENT	Net zero internal operations by 2030, net zero value chain by 2039.
INVESTMENT	€1 billion investment in Climate and Nature fund by 2030, with portion going towards investment in climate action, including natural climate solutions (forest protection and regeneration).
METHOD	Natural and technological carbon sequestration projects.
DETAILS	<p>Unilever's approach to net zero follows the mitigation hierarchy, using NCS to remove residual emissions:</p> <ul style="list-style-type: none"> • In the 2020s and 2030s, Unilever's primary focus will be emissions reduction across their value chain, consistent with the 1.5-degree ambition of the Paris Agreement. • Unilever will not seek to meet their emissions reduction targets through the practice of purchasing and retiring carbon credits, known as offsetting. Any use of carbon credits will be in addition to making progress towards Unilever's emissions reduction targets, not a means of achieving them. • By 2039, and from then onwards, Unilever will ensure that any residual emissions are balanced with carbon removals to achieve and maintain their net zero emissions target.

BUILDING A BUSINESS CASE TO INVEST IN HIGH-QUALITY NCS VOLUNTARY CARBON CREDITS

There are compelling reasons for companies to invest in high-quality NCS voluntary carbon credits given their contribution to climate mitigation, nature conservation and socio-economic development.



Natural
Climate
Solutions
Alliance

Without Action, Climate Change and Nature Degradation Will Pose Significant Risks to Business

Unless appropriately addressed, climate change will lead to significant material economic risks that will directly impact company operations. Reducing nature loss is also critically important for maintaining a thriving economy.

Climate change could reduce global gross domestic product (GDP) by 11-14 percent (or over USD \$11 trillion based on 2020 global GDP estimates) by 2050 if temperatures were to rise by up to 2.6°C by mid-century.²⁶

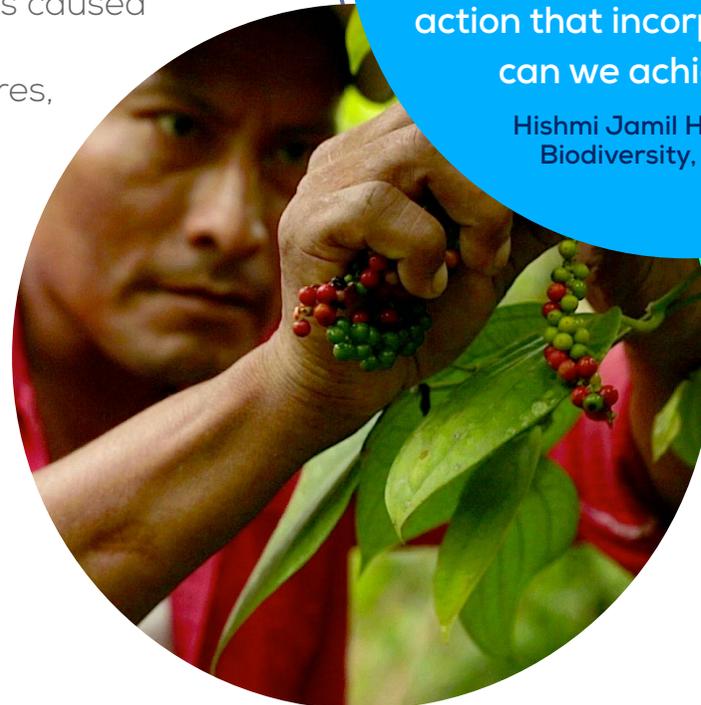
Fifty percent of global GDP is moderately to highly dependent on natural capital and ecosystem services. By 2030, biodiversity loss could reduce global GDP by 2.3 percent annually and by over 10 percent in some developing countries.^{27, 28}

Upwards of USD \$500 billion worth of annual global food production relies on pollination from natural pollinators such as bees and flies.²⁹ Biodiversity loss threatens these pollinator populations, and in turn, puts food and the global agriculture sector at risk.

Workplace disruptions caused by extreme weather events, such as wildfires, hurricanes and heat waves, which are often further exacerbated by nature loss, could lead to more than USD \$2 trillion in global productivity losses by 2030.³⁰

“There is more and more momentum and urgency around climate change from the new COP26 commitments to the most recent IPCC report. Companies now realize that only if they take substantial action that incorporates nature can we achieve 1.5°C.”

**Hishmi Jamil Husain, Head
Biodiversity, Tata Steel**



By Investing in High-Quality NCS Voluntary Carbon Credits, Companies Will Respond to Stakeholder Demands

By investing in high-quality NCS voluntary carbon credits, companies will address material and physical risks and improve their relations with major stakeholders that are demanding leadership from companies on climate.

Civil Society and Consumers

- The Science Based Targets initiative's (SBTi) Net-Zero Standard calls on companies to go beyond their science-based targets by pursuing investments that drive mitigation outside their value chains.³¹
- Race to Zero, a United Nations (UN)-backed campaign to inspire non-state actors to achieve net zero by 2050, calls on members to reduce their own emissions and neutralize any residual emissions that remain and contribute toward global net zero with beyond value chain and territorial mitigation through the purchase and retirement of high-quality carbon credits.³²
- In the CDP Climate Change questionnaire's C11 Carbon pricing module, companies can gain points for creating or purchasing carbon credits that are used for compliance or voluntary offsetting purposes.³³
- Target 8 in the first draft of the Convention on Biological Diversity's Post-2020 Global Biodiversity Framework calls on society to increase the financial resources it dedicates to protecting biodiversity.³⁴
- According to research conducted by GlobeScan for IKEA, three quarters of people across 32 countries want to see companies take significant action to combat climate change.³⁵
- 83% of consumers think companies should be actively shaping Environmental, Social, and Governance (ESG) best practices.³⁶

Governments

- The European Climate Law mandates European Union (EU)-wide net zero emissions by 2050 and negative emissions thereafter through the use of carbon sinks, including NCS and technological solutions.³⁷
- The Japanese Ministry of Economy, Trade and Industry announced the concept of GX League, comprised of 440 supporting companies committing to lead an economic and social transformation towards environmentally friendly practices. Additionally, it has released a Carbon Credit Report clarifying the roles of different types of carbon credits.³⁸
- In Singapore, the existing carbon tax will be increased five-fold to S\$25 per tonne in 2024, and further increased to S\$45 in 2026 and 2027. By 2030, the carbon tax will be increased to S\$80. Companies have the option of using high-quality international carbon credits to offset up to 5% of taxable emissions from 2024.³⁹

Investors

- Global investors representing USD \$14 trillion in assets called on companies to disclose net zero transition plans and provide a method through which investors can vote annually on progress against them.⁴⁰
- Demand for ESG-related investments is growing. It is estimated that ESG assets will reach over USD \$50 trillion globally by 2025, up from USD \$38 trillion in 2021. Companies with effective net zero strategies and NCS implementation may be more attractive to these ESG-aligned investors and the expanding amounts of capital available.⁴¹
- Investor groups are increasingly collaborating to encourage and demand climate action. The Climate Action 100+ has over 700 member investors responsible for over USD \$68 trillion in assets under management, and collectively engages with companies on improving climate change governance, cutting emissions, and strengthening climate-related financial disclosures.⁴²

Investing in NCS Provides Multiple Commercial Benefits to Companies

A variety of both internal and external factors contribute to the benefits gained through investment in high-quality NCS voluntary carbon credits.

Attracting and retaining talent

- Companies pursuing NCS voluntary carbon credits and disclosing their plans are more likely to attract talent given the growing importance employees place on sustainability and ethical corporate conduct. For example, two-thirds of job seekers below the age of 34 consider sustainability to be a top priority when selecting a company to work for.⁴³
- Investing in NCS voluntary carbon credits can also help retain talent by fostering a stronger corporate culture, increasing credibility and responding to greenwashing. Employees are able to see firsthand the actions through which their company plans to achieve its climate commitments.

Driving differentiation and competitive advantage through leadership and tangible actions

- Actions to protect nature and reduce emissions are tangible and send a signal about the company's ambition. Companies can more easily connect their NCS-related actions to climate, social and biodiversity impacts than they could for other mitigative actions.
- The retirement of NCS voluntary carbon credits offers companies the opportunity to make claims following credible standards and differentiate themselves as ambitious actors in the climate and nature space.⁴⁴

"At ERM we are focused on reducing our Scope 1, 2 and 3 emissions and also acknowledge the importance of counterbalancing our remaining emissions on the way to net zero. We have joined the NCS Alliance and signed up to the NCS Investment Accelerator as we believe we must address climate, nature and livelihood challenges within our overall decarbonization strategy."

Linden Edgell, Global Sustainability Director, ERM

Securing high-quality carbon credit supply

- By investing early in NCS voluntary carbon credit generating projects and programs, companies may be able to better develop their internal capacity related to nature and climate issues. Additionally, this will help reduce future transition risks related to the implementation of carbon pricing mechanisms and associated disclosure requirements.

Strengthening local governance

- In many parts of the world, a major underlying cause of nature loss is poor public sector governance.⁴⁵ NCS voluntary carbon credits have a central role to play in addressing this issue because they help encourage good governance by placing a value on nature. By supporting NCS voluntary carbon credits, companies can help create a more favorable overall business environment and better governance.
- Investments in NCS projects and programs can help build an understanding and appreciation for nature's services and emphasize the need for strong governance and associated resourcing. This activity can help direct important financing to local communities and governance structures for implementing climate positive activities.

"A claim of carbon neutrality is not the be-all and end-all, and may not even be necessary or appropriate to the company or brand. Success should be determined not by the ability to make a carbon neutral claim, but instead by how the investment benefits the climate, nature and the wider community, and how the communication of these benefits can drive consumer preference."

Hannah Hislop, Global Sustainability Senior Manager, Unilever



IMMEDIATE ACTIONS FOR C-SUITE EXECUTIVE ATTENTION

All businesses and their leaders should follow the steps below to build a credible climate strategy using NCS voluntary carbon credits.



Natural
Climate
Solutions
Alliance



Have a strategy that is consistent with the Paris Agreement and follow the mitigation hierarchy.

Corporates should use NCS credits in the context of applying the GHG mitigation hierarchy to reduce Scope 1, 2 and 3 emissions in support of sector decarbonization at a rate consistent with achieving the goals of the Paris Agreement, and undertaking other actions such as low carbon policy advocacy, scaling renewables and investing in low carbon technologies.



Develop and publish a company plan to address all value chain emissions.

The plan should outline specific actions and levers to address Scope 1, 2 and 3 emissions in line with the mitigation hierarchy, including an explanation of NCS use for remaining emissions.



Start within your own supply chain first.

For some companies, forests, agriculture or land use are part of their business – in this instance NCS should be used first within the value chain to avoid and reduce emissions and improve resilience of agricultural land to global warming impacts (e.g., no deforestation commitments).



Advocate for climate policy.

Effective corporate strategies recognize the importance of policy advocacy, in order to drive and encourage local, national and international policies that both support and strengthen investments in NCS among other climate mitigation solutions.



Commit to long-term purchase agreements.

Committing to future purchase secures investment and enables longer-term project development on landscape level and high impact projects.



Invest in high-quality NCS credits.

Investments in NCS projects and programs should maximize climate, social and nature benefits and minimize any negative social or environmental consequences.



Report transparently and secure 3rd party verification.

Independent verification and reporting should be used to validate the quantity and quality of gross emissions/NCS credits retired.

MOBILIZING THE DEMAND FOR HIGH-QUALITY NCS CARBON CREDITS

Sending a strong demand signal for high-quality NCS voluntary carbon credits will help improve the quality of existing NCS projects and programs and demonstrate the need for their continued growth. The NCS Alliance helps mobilize this demand through collaboration, cooperation and innovation.



Natural
Climate
Solutions
Alliance

Addressing the Nature-Climate Finance Gap

Beyond the multiple benefits they provide to companies, NCS voluntary carbon credits play an important role in filling the climate finance gap.

Investments of USD \$8.1 trillion by 2050 – and annual investments of USD \$536 billion by that year – are necessary to address the interlinked issues of climate change, biodiversity decline and land degradation. Only USD \$133 billion per year is invested in Nature-based Solutions today, 86 percent of which comes from public funding, which demonstrates a substantial finance gap.⁴⁶

By investing in NCS voluntary carbon credits, companies can help address this major finance gap and contribute solutions that will help to tackle the climate and nature degradation crises.



© Guatemalan Conservation Coast Project

Sending a Strong Demand Signal

A demand signal for high-quality NCS voluntary carbon credits is critical to mobilizing company investment in these credits, especially from hard-to-abate sectors.

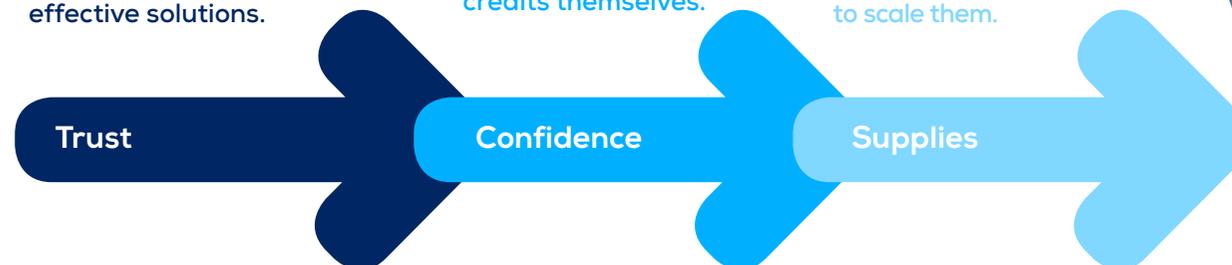
In 2021, the voluntary carbon market (through which NCS-generated carbon credits are traded) nearly quadrupled to nearly USD \$2 billion compared to 2020's USD \$520 million. In all, the total volume of credits traded in 2021 was over 500 million. Forestry and Land Use-related credits, which include many NCS projects and programs, accounted for 67 percent of the value of transactions (USD \$1.33 billion) and 46 percent of the volume (228 million MtCO₂e).⁴⁷

Growing the NCS Demand

Sending a demand signal for high-quality NCS credits helps demonstrate higher trust among companies in NCS as credible and effective solutions.

The growing demand signal will give other companies more confidence to purchase NCS credits themselves.

More and more companies purchasing NCS credits helps increase supplies, overcoming the "chicken and egg" problem where small supplies discouraged the necessary investments to scale them.



Despite this achievement, the amount of NCS-generated carbon credits is still quite small compared to their mitigation potential estimated by IPCC.⁴⁸ Although NCS' entire mitigation potential is unlikely to be funded through the voluntary carbon market, sending a strong demand signal from companies and increasing NCS credit supply will be key to capitalizing on the full potential of NCS.

"It's important to send a demand signal because it is critical in scaling investments at the right level and for the right type, both in jurisdictional programs and in high-quality projects. By making transparent the criteria leading companies follow, what credits they're using, and what demand their commitments will drive, the NCS Alliance can play a key role in helping suppliers understand what to develop and buyers how to engage with NCS."

Jop Weterings, Expert Associate
Partner, McKinsey Sustainability



© Alfian Widiantono

Join the Natural Climate Solutions Alliance to Help Mobilize Demand for High-Quality Projects and Programs

[The Natural Climate Solutions Alliance \(NCS Alliance\)](#) convenes businesses, NGOs and solution providers with the goal of sending a strong demand signal for high-quality NCS projects and programs.

The NCS Alliance focuses on identifying opportunities for and barriers to investment in the NCS voluntary carbon market. It also serves as a forum for knowledge sharing and technical capacity building to ensure NCS reach their full climate mitigation potential.

The NCS Alliance established the [NCS Investment Accelerator](#) to help generate a demand signal by aggregating business commitments to invest in high-quality emission reductions and removals credits that have been validated and verified through a credible voluntary compliance standard or scheme.

We invite you and your organization to join the NCS Alliance and the Investment Accelerator in our mission to drive demand for high-quality NCS projects and programs and mobilize companies to mitigate their emissions beyond their value chains.

For more information on how to join contact ncsalliance@wbcsd.org.

The NCS Alliance Guiding Principles for investing in natural climate solutions

- 1** NCS can and should raise ambition with respect to climate action, enhancing rather than diluting a nation's or a company's contribution to the Paris goals. NCS should be used in conjunction with the GHG emissions mitigation hierarchy i.e., avoiding and reducing emissions should be prioritized and continued in addition to the use of NCS credits.
- 2** NCS credits can provide an interim solution for hard-to-abate emissions but not a permanent one. For certain unavoidable emissions, carbon sinks – including natural sinks – will always be needed to achieve net zero. NCS credits should be considered an enabling solution that will support long-term sustainable land use.
- 3** NCS investments should follow rigorous environmental and social safeguards, which may help generate other benefits in line with UN SDGs.
- 4** Sound and verified carbon measurement and accounting methodologies must be applied to ensure high-integrity NCS credits. Emissions reductions and removals must be real, quantified and verified, with issues of additionality, leakage and permanence appropriately addressed and tracked through robust accounting to avoid double counting.



GLOSSARY

Beyond Value Chain Mitigation: Mitigation action or investments that fall outside a company's value chain. This includes activities outside of a company's value chain that avoid or reduce greenhouse gas emissions, or that remove greenhouse gases from the atmosphere and permanently store them.⁴⁹

Counterbalance: An organization's use of NCS credits to compensate some or all of its unabated emissions over a given period, while on a Paris Agreement-aligned, science-based emissions-reduction pathway.⁵⁰

Carbon Credit: A tradable financial instrument that is issued by a carbon-crediting program. A carbon credit represents a GHG emission reduction or removal from the atmosphere equivalent to one metric tonne of CO₂ equivalent, calculated as the difference in emissions from a baseline scenario to a project scenario. Carbon credits are uniquely serialized, issued, tracked and retired or administratively cancelled by means of an electronic registry operated by an administrative body, such as a carbon-crediting program.⁵¹

Decarbonization: The reduction of GHG emissions through the use of low-emissions power generation and other reduction techniques. For the purposes of this report, decarbonization refers primarily to CO₂, but also includes other GHGs such as methane and nitrous oxide.

Greenhouse Gas Emissions (GHG): Gaseous emissions that absorb infrared radiation emitted from the Earth's surface and reradiate back to the Earth's surface, contributing to the greenhouse effect. An entity's emissions are categorized into three different Scopes:

- Scope 1: Direct emissions, including a company's facilities or vehicles.
- Scope 2: Indirect emissions owned but not generated by the entity, often related to purchased electricity
- Scope 3: Indirect emissions not included in Scope 2 that occur in the value chain of a company and are not owned by the company but linked to its operations.⁵²

Jurisdictional-scale Crediting: The issuance of independently verified carbon credits for forest-based emissions and/or removals based on a baseline developed at the scale of an accounting area defined by a country or large subnational political/administrative unit.⁵³

Mitigation: A human intervention to reduce emissions or enhance the sinks of greenhouse gases.⁵⁴

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 priority ahead of actions or investments to mitigate emissions outside their value chains.⁵⁵

Nature-based Solutions (NbS): Actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems, which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services and resilience and biodiversity benefits.⁵⁶

Natural Climate Solutions (NCS): Natural Climate Solutions are Nature-based Solutions addressing climate change.

Net Zero: Net zero emissions are achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period.⁵⁷ At the individual actor level, a state of net zero is reached when an actor reduces its emissions following science-based pathways, with any remaining GHG emissions attributable to that actor being fully neutralized by like-for-like removals (e.g., permanent removals for fossil carbon emissions) exclusively claimed by that actor, either within the value chain or through purchase of valid offset credits.⁵⁸

Removals: The withdrawal of GHGs from the atmosphere as a result of deliberate human activities, such as through the enhancement of biological sinks of carbon dioxide or the use of chemical engineering to achieve long-term removal and storage.^{59, 60}

Unabated Emissions: An organization's emissions that remain unmitigated or uncaptured by carbon sequestration or storage while they pursue value chain methods to reduce them.⁶¹

Voluntary Carbon Market: A decentralized market wherein a private entity can purchase and sell carbon credits that represent certified GHG removals or reductions.⁶²

Value Chain Emissions: A company's Scope 1, 2 and 3 emissions as defined by the GHG Protocol accounting standard.⁶³

READING LIST

The following resources provide additional information on the topics covered in this guide for those interested in learning more.

- [Carbon Credit Basics for Business](#) (EDF)
- [Nature-based solutions for climate change mitigation](#) (International Union for Conservation of Nature)
- [NCS for Corporates](#) (NCS Alliance)
- [The Lighthouses](#) (NCS Alliance)
- [Net-Zero Standard](#) (Science Based Targets initiative)
- [Beyond Value Chain Mitigation FAQ](#) (Science Based Targets initiative)
- [Natural Climate Solutions Handbook](#) (The Nature Conservancy)
- [Tropical Forest Credit Integrity Guide](#) (Tropical Forest Credit Integrity)
- [State of Finance for Nature](#) (UNEP and World Economic Forum)
- [Nature and Net Zero](#) (World Economic Forum)
- [Scaling Investments in Nature](#) (World Economic Forum)
- [Forests for Climate: Scaling up Forest Conservation to Reach Net Zero](#) (World Economic Forum)
- [Guidance on Voluntary Use of Nature-based Solution Carbon Credits Through 2040](#) (World Resources Institute)

ACKNOWLEDGMENTS

A special thanks to all those who supported the development of this Guide.

NCSA Taskforce members: Allan Traicoff (LEAF Coalition); Ed Hewitt (RESPIRA); Gabriela Burian (Bayer); Helen Temple (TBC); Jason Funk (CI); Kelley Hamrick (TNC); Lorenzo Esposito Caserta (ENI); Luke Pritchard (WeMeanBusiness); Michael Weiss (IndigoAg); Mikkel Larson (CIX); Raul Arce-Contreras (EDF); Rebecca Kershaw (PwC); Roman Paul Czebiniak (WRI); Subhi Barakat (Unilever).

NCSA Technical Advisory Group: Carolyn Ching (Ceres); Christina Elvers (Shell); Giancarlo Raschio (The Gold Standard Foundation); James Smith (WBCSD); Malcolm Starkey (The Biodiversity Consultancy); Martin Kaonga (bp); Max DuBuisson (indigo Ag); Natsuru Toda (Mitsubishi Corporation); Pippa Howard (FFI); Rod Taylor (WRI).

NCSA Steering Committee: Christina Magerkurth (Winrock International); Diane Holdorf (WBCSD); Kevin Soubly (Shell); Maria Dewantini Dwianto (PT. Rimba Makmur Utama); Maria Mendiluce (WeMeanBusiness); Mike Korchinsky (WildlifeWorks); Nicole Schwab (WEF); Paulina Ponce de León (BCG); Roman Paul Czebiniak (WRI); Subhi Barakat (Unilever); Todd Stevens (WCS); Zoe Quiroz-Cullen (FFI).

In addition, the SustainAbility Institute by ERM interviewed the following individuals:

Andrew Grigg (Alcoa)
 Braulio Pikman (ERM)
 Bryan Sylvester (BCG)
 Carolyn Ching (Ceres)
 Charles Henderson (ERM)

Claude Lorea (GCCA)
 Hannah Hislop (Unilever)
 Hishmi Jamil Husain (Tata Steel)
 Isabel Tome Esteban (Iberdrola)
 Jesper Nielsen (BCG)
 Jop Weterings (McKinsey)
 Lee Solsbery (ERM)
 Lisa Shpritz (Bank of America)
 Marta Martinez-Sanchez (Iberdrola)
 Monica McBride (Bayer)
 Pete Jones (ERM)
 Rebecca Kershaw (PwC)
 Rosa García Pineiro (Alcoa)
 Subhi Barakat (Unilever)

And last but not least:
 Imre Sebestyen: Design Support (WBCSD)
 Emily Smith: Copy Editing (ERM)
 Stefan Jimenez: Project Support (ERM)

Endnotes

- 1 Intergovernmental Panel on Climate Change (2022): Climate Change 2022: Mitigation of Climate Change. <https://www.ipcc.ch/report/ar6/wg3/>
- 2 Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) (2019): Global Assessment Report on Biodiversity and Ecosystem Services. <https://ipbes.net/global-assessment>
- 3 ZSL, WWF (2020): Too Hot to Handle : A deep dive into biodiversity in a warming world. https://f.hubspotusercontent20.net/hubfs/4783129/LPR/PDFs/LPR_Climate_Change_Deepdive.pdf
- 4 S&P Global (2022): The Sustainability Yearbook : Nature is climbing the agenda, but corporate biodiversity commitments remain rare. <https://www.spglobal.com/esg/csa/yearbook/articles/nature-is-climbing-the-agenda-but-corporate-biodiversity-commitments-remain-rare>
- 5 Ermgassen, S.Z., et al. (2022): 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/>
- 6 Milner-Gulland, E.J. (2022): Don't dilute the term Nature Positive. <https://www.nature.com/articles/s41559-022-01845-5.pdf?origin=ppub>
- 7 Matthews, H.D. et al. (2022): Temporary nature-based carbon removal can lower peak warming in a well-below 2C scenario. <https://www.nature.com/articles/s43247-022-00391-z>
- 8 United Nations Environment Programme (2022): UN Environment Assembly concludes with 14 resolutions to curb pollution, protect and restore nature worldwide. <https://www.unep.org/news-and-stories/press-release/un-environment-assembly-concludes-14-resolutions-curb-pollution>
- 9 WBCSD (2022): Insetting and Scope 3 climate action: applying and accounting for NCS in the value chain. <https://www.wbcd.org/UK1dO>
- 10 Intergovernmental Panel on Climate Change (2022): Climate Change 2022: Mitigation of Climate Change, Figure: SPM.7. <https://www.ipcc.ch/report/ar6/wg3/figures/summary-for-policymakers/figure-spm-7/>
<https://www.ipcc.ch/report/ar6/wg3/figures/summary-for-policymakers/figure-spm-7/>
- 11 Cook-Patton, S. et al. (2021): Protect, manage and then restore lands for climate mitigation. <https://www.nature.com/articles/s41558-021-01198-0>
- 12 Cook-Patton, S. et al. (2021): Protect, manage and then restore lands for climate mitigation. <https://www.nature.com/articles/s41558-021-01198-0>
- 13 Pricewaterhouse Coopers (2021): Beyond compliance: Consumers and employees want business to do more on ESG. <https://www.pwc.com/us/en/services/consulting/library/consumer-intelligence-series/consumer-and-employee-esg-expectations.html>
- 14 The Nature Conservancy (2021): New Study Shows Natural Climate Solutions Essential to Preventing Catastrophic Global Warming. <https://www.nature.org/en-us/newsroom/epic-institute-natural-climate-solutions-report/>
- 15 KPMG (2020): The Business Case for Climate Action. <https://assets.kpmg/content/dam/kpmg/ie/pdf/2020/01/ie-the-business-case-for-climate-action.pdf>
- 16 Matthews, H.D. et al. (2022): Temporary nature-based carbon removal can lower peak warming in a well-below 2C scenario. <https://www.nature.com/articles/s43247-022-00391-z>
- 17 IUCN (2020): IUCN Global Standard for Nature-based Solutions. <https://portals.iucn.org/library/sites/library/files/documents/2020-020-En.pdf>
- 18 Harris, N. and Wolosin, M. (2018): Ending Tropical Deforestation: A stock-take of progress and challenges: Tropical Forests and Climate Change: The latest science. <https://wriorg.s3.amazonaws.com/s3fs-public/ending-tropical-deforestation-tropical-forests-climate-change.pdf>
- 19 World Resources Institute (2022): Carbon Removal: Assessing carbon removal pathways, their potential, barriers, and policy options to accelerate development as part of a suite of climate actions. <https://www.wri.org/initiatives/carbon-removal>
- 20 Tropical Forest Credit Integrity Guide (2022): Tropical Forest Credit Integrity Guide for Companies: Differentiating tropical forest carbon credits by impact, quality, and scale. <https://tfciguide.org/wp-content/uploads/2022/07/TFCI-Guide-English.pdf>
- 21 Bayer (2022): This Is How We Protect the Climate. <https://www.bayer.com/en/sustainability/climate-protection>
- 22 McKinsey & Company (2022): Our commitment to environmental sustainability. <https://www.mckinsey.com/about-us/environmental-sustainability>
- 23 Netflix (2022): About Netflix – Sustainability. <https://about.netflix.com/en/sustainability>
- 24 CarbonCredits.com (2022): Netflix Bought 1.5 Million Carbon Credits in 2021. <https://carboncredits.com/netflix-carbon-credits/>
- 25 Unilever (2021): Climate Transition Action Plan. <https://assets.unilever.com/files/92ui5egz/production/bbe89d14aa9e0121dd3a2b9721bbfd3bef57b8d3.pdf/unilever-climate-transition-action-plan-19032021.pdf>
- 26 Swiss Re Institute (2021): The economics of climate change: no action not an option. <https://www.swissre.com/dam/jcr:e73ee7c3-7f83-4c17-a2b8-8ef23a8d3312/swiss-re-institute-expertise-publication-economics-of-climate-change.pdf>
- 27 World Bank (2021): The Economic Case for Nature: A global Earth-economy model to assess development policy pathways. <https://www.worldbank.org/en/topic/environment/publication/the-economic-case-for-nature>

- 28 World Economic Forum (2020): Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy. https://www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf
- 29 Forbes (2019): The Value Of Pollinators To The Ecosystem And Our Economy. <https://www.forbes.com/sites/bayer/2019/10/14/the-value-of-pollinators-to-the-ecosystem-and-our-economy/?sh=1945477a1d65>
- 30 CNBC (2021): Climate change will disrupt supply chains much more than Covid – here’s how businesses can prepare. <https://www.cnbc.com/2021/08/19/climate-change-supply-chain-disruptions-how-to-prepare.html#:~:text=Extreme%20weather%20events%20also%20hit,the%20United%20Nations%20Development%20Program>
- 31 Science Based Targets initiative (2021): SBTi Corporate Net-Zero Standard. <https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf>
- 32 United Nations Framework on Climate Change (2022): Race to Zero Criteria 3.0. <https://climatechampions.unfccc.int/wp-content/uploads/2022/06/Race-to-Zero-Criteria-3-0-4.pdf>
- 33 CDP (2022): Guidance for companies. <https://www.cdp.net/en/guidance/guidance-for-companies>
- 34 Convention on Biological Diversity (2021): First Draft of The Post-2020 Global Biodiversity Framework. <https://www.cbd.int/doc/c/abb5/591f/2e46096d3f0330b08ce87a45/wg2020-03-03-en.pdf>
- 35 GlobeScan (2021): IKEA Climate Action Research 2021: Enabling People to Live a More Sustainable Life at Home. <https://globescan.com/2021/11/02/ikea-climate-action-research-2021-enabling-more-sustainable-life-at-home/>
- 36 Pricewaterhouse Coopers (2021): Beyond compliance: Consumers and employees want business to do more on ESG. <https://www.pwc.com/us/en/services/consulting/library/consumer-intelligence-series/consumer-and-employee-esg-expectations.html>
- 37 European Commission. (2021): European Climate Law. https://ec.europa.eu/clima/eu-action/european-green-deal/european-climate-law_en
- 38 Japanese Ministry of Economy, Trade and Industry (2022): GX League Basic Concept Announced, Call for Endorsing Companies Starts. https://www.meti.go.jp/english/press/2022/0201_001.html
- 39 Wei, C., Ai, K.M., and Tan, R. (2022): What Singapore’s revised carbon tax means for companies’ carbon strategies. <https://www.southpole.com/blog/what-singapores-revised-carbon-tax-means-for-companies-carbon-strategies#:~:text=From%202024%2C%20large%20emitters%20in,US%2436%20to%20US%2468>
- 40 Institutional Investors Group on Climate Change (2021): \$14 trillion investors call for consistency on ‘corporate net zero alignment plans’ and director accountability on climate targets. <https://www.iigcc.org/news/usd-14-trillion-investors-call-for-consistency-on-corporate-net-zero-alignment-plans/>
- 41 Bloomberg Professional Services (2021): ESG assets may hit \$53 trillion by 2025, a third of global AUM. <https://www.bloomberg.com/professional/blog/esg-assets-may-hit-53-trillion-by-2025-a-third-of-global-aum/>
- 42 Climate Action 100+ (2022): About Climate Action 100+. <https://www.climateaction100.org/about/>
- 43 McKinsey & Company (2022): How to prepare for a sustainable future along the value chain. <https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/how-to-prepare-for-a-sustainable-future-along-the-value-chain>
- 44 Voluntary Carbon Markets Integrity Initiative (2022): VCMI Claims Code of Practice. <https://vcmintegrity.org/vcmi-claims-code-of-practice/>
- 45 Fischer, R. et al. (2020): Governance effects on deforestation in the tropics: A review of the evidence. <https://www.sciencedirect.com/science/article/abs/pii/S146290111930509X>
- 46 United Nations Environment Programme (2021): State of Finance for Nature. <https://www.unep.org/resources/state-finance-nature>
- 47 Ecosystem Marketplace (2022): The Art of Integrity: Ecosystem Marketplace’s State of the Voluntary Carbon Markets 2022 Q3. <https://www.ecosystemmarketplace.com/publications/state-of-the-voluntary-carbon-markets-2022/>
- 48 Intergovernmental Panel on Climate Change (2022): Climate Change 2022: Mitigation of Climate Change. <https://www.ipcc.ch/report/ar6/wg3/>
- 49 Science Based Targets (2021): Beyond Value Chain Mitigation FAQ. <https://sciencebasedtargets.org/resources/files/Beyond-Value-Chain-Mitigation-FAQ.pdf#:~:text=%E2%80%9CBeyond%20value%20chain%20mitigation%E2%80%9D%20refers%20to%20mitigation%20action,remove%20and%20store%20greenhouse%20gases%20from%20the%20atmosphere>
- 50 World Resources Institute (2022): Guidance on Voluntary Use of Nature-based Solution Carbon Credits Through 2040. <https://www.wri.org/insights/guidance-voluntary-use-nature-based-solution-carbon-credits-through-2040>
- 51 The Integrity Council for the Voluntary Carbon Market (2022): Part 5: Terms & Definitions. ICVCM–Public-Consultation–FINAL–Part–5.pdf <https://icvcm.org/wp-content/uploads/2022/07/ICVCM-Public-Consultation-FINAL-Part-5.pdf>
- 52 PlanA (2022): What are Scopes 1, 2 and 3 of Carbon Emissions? [What are Scopes 1, 2 and 3 of Carbon Emissions? \(plana.earth\)](https://www.plana.earth/What-are-Scopes-1-2-and-3-of-Carbon-Emissions/)
- 53 Tropical Forest Credit Integrity Guide (2022): Differentiating tropical forest carbon credits by impact, quality, and scale. <https://tfciguide.org/>
- 54 Science Based Targets (2021): SBTi Corporate Net-Zero Standard: Version 1.0. <https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf>
- 55 Science Based Targets (2021): Beyond Value Chain Mitigation FAQ. <https://sciencebasedtargets.org/resources/files/Beyond-Value-Chain-Mitigation-FAQ.pdf>

- 56 United Nations Environment Programme (2022): UN Environment Assembly concludes with 14 resolutions to curb pollution, protect and restore nature worldwide. <https://www.unep.org/news-and-stories/press-release/un-environment-assembly-concludes-14-resolutions-curb-pollution#:~:text=rights%20and%20governance-.UN%20Environment%20Assembly%20concludes%20with%2014%20resolutions%20to%20curb,protect%20and%20restore%20nature%20worldwide&text=Nairobi%2C%2002%20March%202022%20E2%80%93%20The,achieve%20the%20Sustainable%20Development%20Goals>.
- 57 Intergovernmental Panel on Climate Change (2022): Global Warming of 1.5 °C. <https://www.ipcc.ch/sr15/>
- 58 Race to Zero (2021): Interpretation Guide: Race to Zero Expert Peer Review Group. <https://racetozero.unfccc.int/wp-content/uploads/2021/04/Race-to-Zero-EPRG-Criteria-Interpretation-Guide.pdf>
- 59 Intergovernmental Panel on Climate Change (2022): Global Warming of 1.5 °C. <https://www.ipcc.ch/sr15/>
- 60 Science Based Targets (2021): SBTi Corporate Net-Zero Standard: Version 1.0. <https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf>
- 61 World Resources Institute (2015): COP21 Glossary of Terms Guiding the Long-term Emissions-Reduction Goal. <https://www.wri.org/insights/cop21-glossary-terms-guiding-long-term-emissions-reduction-goal>
- 62 Climate Focus (2022). So, what is the voluntary carbon market exactly? <https://climatefocus.com/so-what-voluntary-carbon-market-exactly/>
- 63 Science Based Targets (2021): Beyond Value Chain Mitigation FAQ. <https://sciencebasedtargets.org/resources/files/Beyond-Value-Chain-Mitigation-FAQ.pdf>



Natural
Climate
Solutions
Alliance

For more information visit
naturalclimatesolutionsalliance.org
and follow us on [LinkedIn](#).