

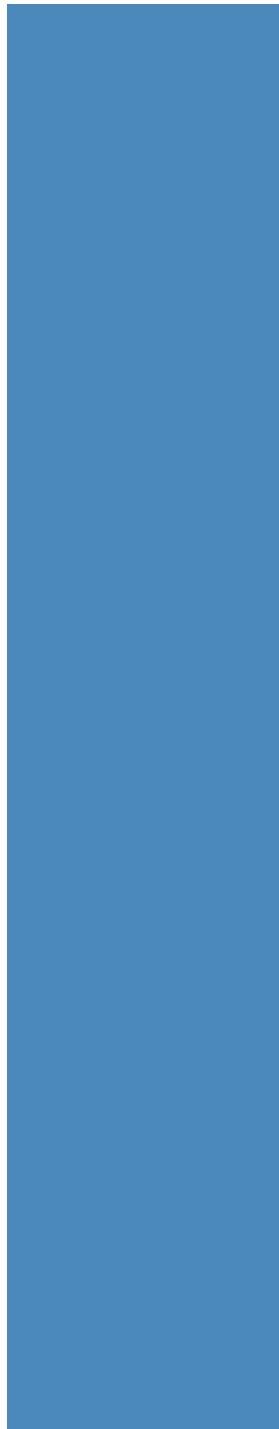


A merger of ClimateCare
& Natural Capital Partners

THE “NET” IN NET ZERO

What net zero means for business, the benefits of achieving it, and how businesses can go about delivering the “net”.

April 2022



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Introduction

This paper

As corporates increasingly set net zero targets, the conversation has shifted from ‘should I?’ to ‘how do I get there?’ In this paper, climate finance and project development specialists Climate Impact Partners, a merger of Natural Capital Partners and ClimateCare, distill what net zero is for business, the benefits of achieving it, and how businesses can go about delivering the “net”.

After a look at the definition of net zero for businesses, we turn to some lived examples (see [Part 1: Examples of how clients are getting to net zero](#)). Next, we go through why businesses are looking to achieve it (see [Part 2: Why it’s important for businesses](#)), showing what net zero adds to companies’ carbon neutrality. Finally, we go through the task of making it happen (see [Part 3: How to get there](#)), exploring the different pathways and portfolios of products to deliver the “net” in net zero.

Our appendices take a closer look at the contentions around the definition of net zero at a corporate level, research showing what companies and the public think of net zero, clarifying the role of protecting existing carbon sinks and creating new ones in achieving net zero, and trends in pricing of carbon removals.

What net zero is for business

The dust is still settling on what the concept of net zero means at a company level. At COP26, UN Secretary-General António Guterres said, “There is a deficit of credibility and a surplus of confusion over emissions reductions and net zero targets, with different meanings and different metrics. That is why – beyond the mechanisms already established in the Paris Agreement – I am announcing today that I will establish a Group of Experts to propose clear standards to measure and analyze net zero commitments from non-state actors.”¹

While rigour is important, many companies are not letting perfect be the enemy of the good and are putting plans in place while definitions are still being ironed out. You can read more on the contentions around definitions in our Appendix ([Appendix 1: Contentions about the definition of net zero](#)).

In line with the United Nations Framework Convention on Climate Change’s (UNFCCC) Race to Zero, we see the emerging definition of net zero for a corporate as having three characteristics:

- A claim that covers value chain emissions
- Action that delivers a science-informed target for abatement across those emissions
- Action that any residual emissions are neutralised by removals, including through carbon credits/offsetting

¹ António Guterres, 2021, Statement By UN Secretary-General António Guterres At COP26 World Leaders Summit, [link](#)

01

Examples of how clients of ours are getting to net zero

What does best practice look like for companies with net zero targets? Our expert team works with the likes of BCG, Co-op and Sky, enabling them to meet their unique net zero goals through solutions that deliver value for the planet, people and business.



Boston Consulting Group (BCG) has been a pioneer in business strategy since its 1963 founding in Boston, Massachusetts. The firm's core purpose has always been to enable businesses to adapt to an evolving corporate landscape and build lasting competitive advantage. Today, BCG has a global presence with 22,000 employees spread across offices in more than 90 international cities and clients from the private, public, and not-for-profit sectors.

BCG has brought the same ethos and commitment to sustainability too. The firm prides itself in being guided by the highest standards of ethics and conduct, with values that aim to do right by people and planet.

BCG has been a CarbonNeutral® certified company since 2018. This means the firm (i) measures its footprint aligning with the GHG Protocol and corporate best-practice², (ii) has set science-based targets to reduce emissions over time, and (iii) purchases and retires a volume of independently verified high-quality carbon credits that is equivalent to its annual carbon footprint.

By working with Climate Impact Partners, BCG has financed an array of high-quality projects that either avoid the release of emissions, such as projects that prevent deforestation, or remove emissions from the atmosphere, such as reforestation projects. In 2020, BCG retired carbon credits from 14 projects across 12 countries, and its ratio of removal projects increased from about 30% in 2019 to ~40% in 2020.

22,000

employees spread globally across more than 90 cities

CarbonNeutral® since 2018

Net zero by 2030

20 years ahead of the Paris Agreement's timeline

² BCG includes all relevant Scope 1, 2 and 3 greenhouse gas emissions sources, as well as non-GHG sources, such as the radiative-forcing impact of air travel. The firm independently verifies and reports its footprint via the Annual Sustainability Report and CDP Climate Disclosure where BCG is featured on the A-List. [Link](#)

Figure 1: How BCG communicates its pathway to net zero



Source: BCG analysis.

Note: Charts are visual representations and are not based on actual data; tCO₂e = metric tons of carbon dioxide equivalent.

The firm expects that approximately half of its 2021 portfolio will be from removal projects as it continues to transition towards a portfolio of 100% removal credits by 2030.

In September 2020, BCG moved beyond the CarbonNeutral[®] certification and pledged to achieve 'net zero-climate impact' by 2030.

To do so, the firm has increased the ambition of its greenhouse gas emissions targets, and now aims to cut its emissions intensity in half by 2025 (target validated by SBTi as aligned with the goal of limiting temperature rise to 1.5°C). As part of this goal, BCG will reduce its energy and electricity-related emissions (Scopes 1 and 2) by 92% per full-time equivalent employee (FTE) by 2025 and cut its business travel emissions (Scope 3) by 48.5% per FTE by 2025 (both against its 2018 baseline year). The firm expects to meet this target largely through planned changes to ways of working and travel norms, and to achieve the remaining reductions by supporting the use of sustainable aviation fuel (SAF) for flights taken by BCG employees³ and through expected efficiency gains from airlines.

While BCG continues to focus efforts on reducing emissions, the firm understands that taking responsibility for the carbon emissions it emits today is a crucial part of any robust climate strategy. BCG will work to neutralize 100% of its emissions by 2030 but also maintain carbon neutrality en-route to net zero. To achieve this the firm will begin directing more of its finance to carbon removal credits so that by 2030, BCG will solely finance projects to remove the emissions it is unable to avoid. It publicly announced its expectation to pay \$80 per metric tonne by 2030, for high-quality credits that deliver verified carbon removals alongside sustainable development benefits.

BCG is also exploring opportunities to integrate engineered removal credits into its carbon offset portfolio, from technologies ensuring more permanent carbon sequestration such as Direct Air Capture and Storage.

BCG will not stop there. Beyond the 2030 net zero mark, the firm has committed to become climate positive whereby it will remove more carbon from the atmosphere than it emits each year.

As a leading management consulting firm with global reach, BCG's greatest climate impact comes from working in collaboration with its clients, to maximize the effectiveness of their sustainability policies. As such, the firm has committed \$400 million to drive climate impact and action with clients and partners. Climate and sustainability consulting is the fastest-growing topic across all areas of BCG's business. BCG has already invested over \$240 million in climate and sustainability action so far this decade and was one of the leading consultancies engaged in shaping global climate action, for example through its exclusive consulting partnership with COP26.

Recognizing the firm's leadership, BCG was the only global management consulting firm and one of only 200 companies globally to receive an A rating in the 2021 CDP Climate Disclosure.

³ For example, through the SkyNRG BoardNow Program, United Airlines' Eco Skies Alliance, or Neste's My SAF for business program, virtually replacing a share of the kerosene consumption induced by BCG's travel with Sustainable Aviation Fuel



Co-op is a British consumer co-operative with strong social values at its core. Upon the organisation’s founding in 1844 in Rochdale, England, it was guided by an economic model, which became known as the dividend or “Divi”, whereby its customers would receive a share of profits proportionate to the purchases they made.

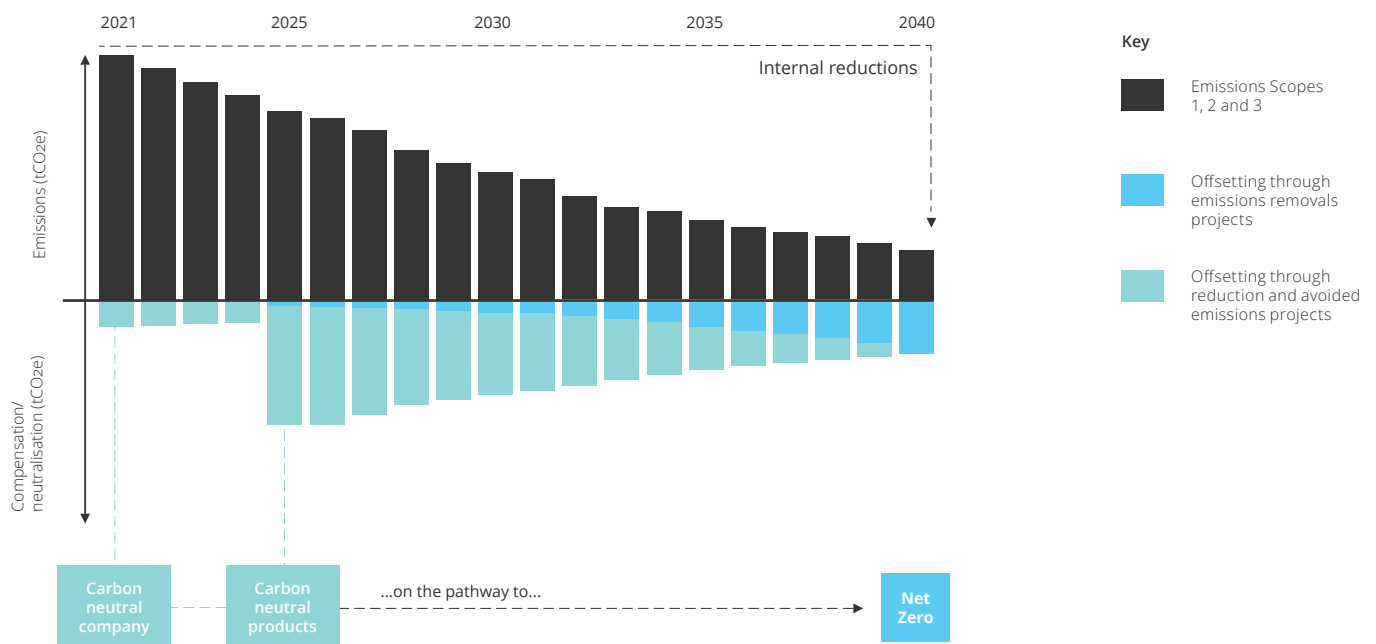
Today, the Co-op has a diverse range of businesses spanning food, insurance, funeral care and legal advice, with a total of 63,000 employees across the UK. Co-op’s community-focused approach to business still exists today and has spread around the world, with an estimated one billion people belonging to a co-operative and the largest three hundred co-operatives having an estimated turnover of over \$2 trillion.

Co-op has brought its responsible business DNA to the climate challenge.

In 2019, Co-op set a 1.5°C-aligned Science-Based Target (SBT) to reduce absolute scope 1 and 2 GHG emissions by 50% by 2025 from a 2016 base year and committed to reduce absolute scope 3 emissions by 11% within the same timeframe. Lower soy impact in animal feed, reducing farm emissions and greener grid energy are identified as the three biggest contributions to achieving this reduction target.

Between 2016 and 2020, Co-op reduced the carbon footprint of its operations by 47% through investments in refrigeration, energy efficiency and building controls. And since 2021, Co-op’s operational activities have been entirely carbon neutral; it offsets ongoing operational emissions through our portfolio of carbon reduction projects that span a range of technologies including renewable energy, household devices and forest protection. There is also an aspiration to achieve carbon neutrality among all its own brand products on its pathway to net zero.

Figure 2: Co-op’s pathway to net zero - for comparison



In May 2021, Co-op launched an ambitious ten-point climate action plan to achieve net zero by 2040 – a decade ahead of the UK’s own net zero target. Its plan is guided by three core principles: follow the science, work for a fair and just transition for people, and drive systems change by working with others. This systems change includes supporting and steering the British Retail Consortium’s Climate Action Roadmap, expanding into joint purchase and supply of 100% renewable electricity, campaigning for climate action and making lower carbon choices easier for customers and its members.

To achieve net zero by 2040, we are working with Co-op to develop a strategy to address the residual emissions it is unable to avoid. The projects that Co-op have supported, continue to support, and will support in the future, align with their commitment to ensure a fair transition while delivering positive impacts for people and communities around the world. Their approach reflects the University of Oxford’s ‘The Oxford Principles for Net Zero Aligned Carbon Offsetting’ and SBTi’s criteria for net zero targets.

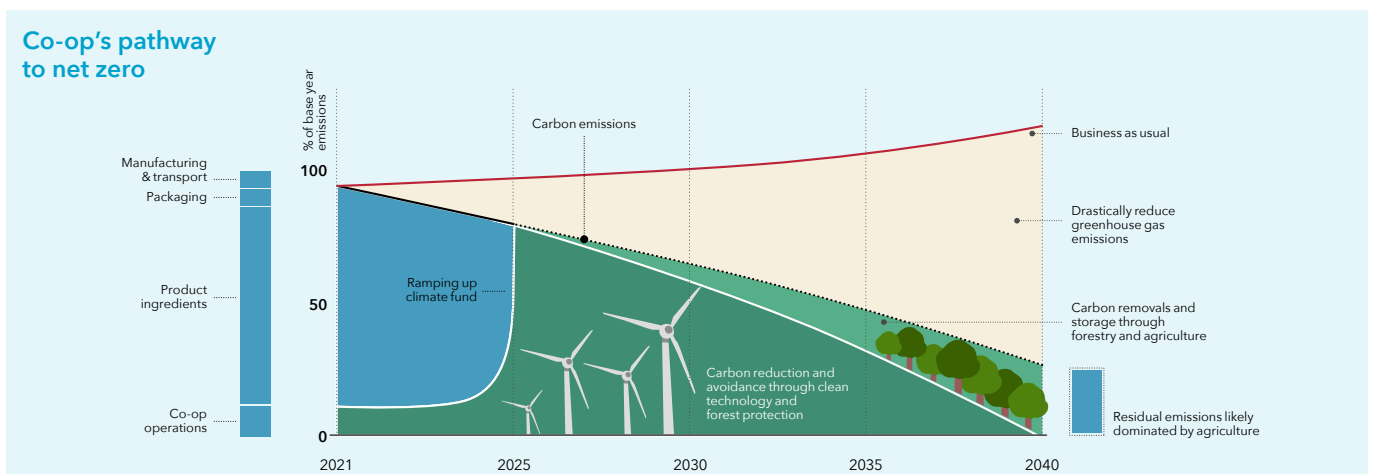
To summarise, on Co-op’s journey to achieve net zero by 2040, it will place priority on carbon reduction in line with the science, compensating for unavoidable emissions in the meantime by funding high quality carbon offset projects along the way. More widely, the Co-op is campaigning for climate justice and taking a system-wide, co-operative approach to the climate challenge. It is already carbon neutral across its operations and aims to extend this to all its own brand products on its pathway to net zero.

63,000
employees across the UK

\$2 trillion
largest three hundred co-operatives having an estimated turnover of over \$2 trillion

1.5°C
SBT to reduce absolute scope 1 and 2 GHG emissions by 50% by 2025

Figure 3: How Co-op communicates its path to net zero in its Ten-Point Climate Plan





Sky is a leading European media and entertainment company and is part of Comcast Corporation. Sky services its 23 million customers across six countries through apps, entertainment, sports, news and arts. With more than 30,000 employees, Sky understands that a business of its size, scale and reach has a responsibility to take bold climate action, and it has been driving positive change for people and planet for over a decade.

In February 2020, Sky started a new phase of its climate journey by committing to become net zero by 2030.

The target encompasses its entire value chain, including the emissions from 11,000 suppliers, its direct business operations, and those from the use of Sky products in the homes of millions of customers.

When it comes to the abatement of its emissions, Sky follows a science-informed approach. The company has publicly reported its carbon footprint across scopes 1, 2 and 3 for several years and uses this to drive progress against its target to halve its emissions across these three scopes by 2030 from a 2018 base year, which have been validated by the Science Based Target initiative (SBTi).

Sky's emissions reductions will be delivered by measures including switching its entire fleet of 5,000 vehicles to zero emissions vehicles, ensuring its new studios, Sky Studios Elstree, are the most sustainable production facilities in the world, and continuing to achieve 100% renewable electricity, first reached in 2016 as part of its commitment to RE100, through on-site wind, combined heat and power, multiple green tariffs, and working with Climate Impact Partners to procure renewable electricity through Energy Attribute Certificates and reducing the emissions by customers using Sky services. Sky has also produced the world's first automatic standby mode for its set-top boxes.

To achieve net zero at 2030, Sky will offset any remaining carbon footprint from its entire value chain through nature-based carbon removal projects such as forest, mangrove and seagrass projects. It is supporting a reforestation project in Scotland that will plant around 200,000 native trees delivering biodiversity, landscape and community benefits.

23 million

customers across six countries through apps, entertainment, sports, news and arts

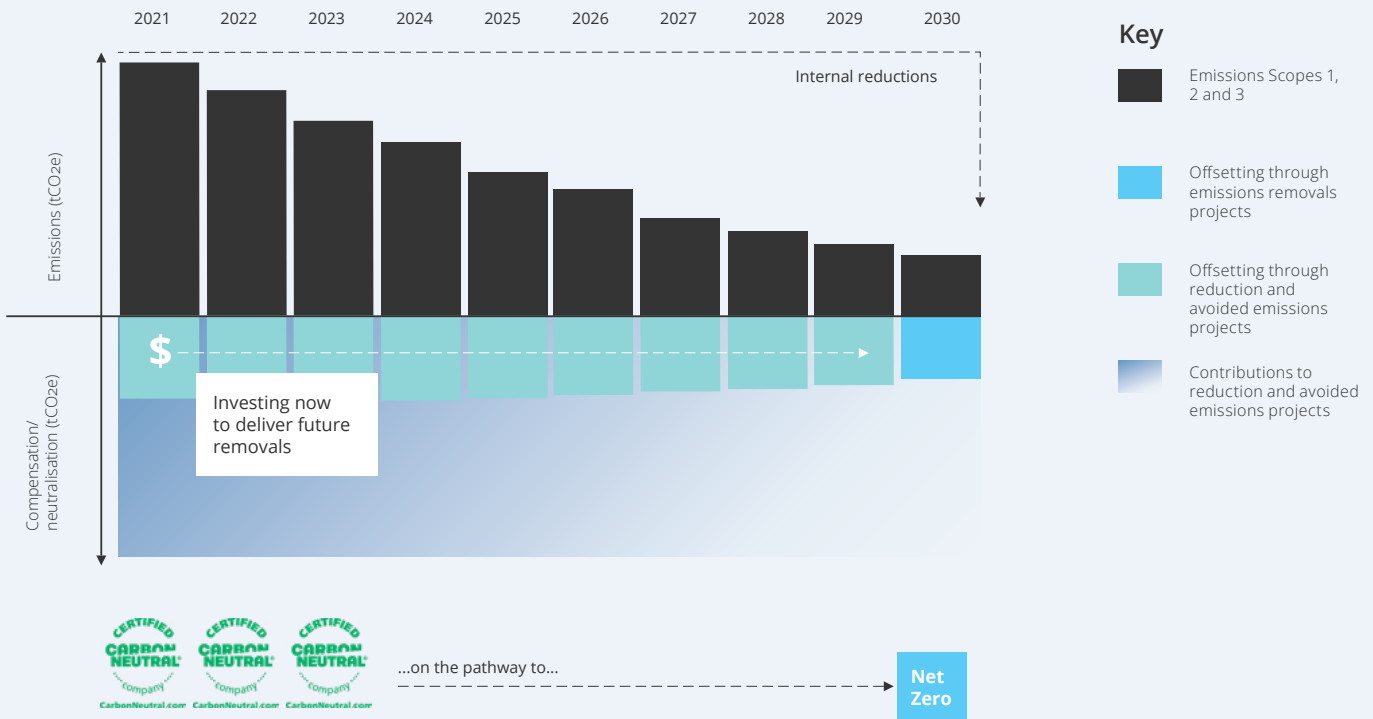
Sky Glass

the world's first TV to be certified as a CarbonNeutral® product

2030

Sky committed to become net zero across its entire value chain by 2030

Figure 4: Sky's pathway to net zero - for comparison



To complement this future goal, as a step on its journey to net zero, Sky is achieving carbon neutrality.

Through a combination of energy efficiency measures, product innovation, renewable energy generation and procurement, and offsetting residual emissions through verified carbon reduction projects, it became the world's first CarbonNeutral® media company from its direct emissions in 2006. The carbon reduction projects Sky has financed span renewable energy in India and China, forest conservation in Brazil and Indonesia, water infrastructure in Kenya and reforestation in Mexico. Sky has recently gone further to expand the scope of its carbon neutrality to its own productions and to build the world's first TV to be certified as a CarbonNeutral® product – the “Sky Glass”, launched last year.

Another action that Sky continues to take on its path to net zero is to campaign for the environment. From Rainforest Rescue to Sky Ocean Rescue, and its channels – like Sky News, Sky

Documentaries and Sky Nature – Sky informs audiences, explains how they can start taking action through #GoZero, and launched the world's first daily prime time news show dedicated to climate change. Sky Ocean Rescue will continue to champion ocean health with WWF, and rally people to #BeAnOceanHero by pledging to help save our oceans. And Sky's £25 million impact investment fund Sky Ocean Ventures will continue to support innovations stopping the flow of plastic into the sea.

In summary, Sky recognizes that net zero is the ultimate goal if we are to advance the transition to a low carbon economy, but it also understands that taking responsibility for today's emissions and being carbon neutral is a crucial part of the journey there. By partnering with Climate Impact Partners, Sky has offset the emissions it is unable to avoid through more than 30 verified emissions reductions or removals projects around the world.

02

Why it's important for businesses



Why it's important for businesses

A quarter of the world's largest companies have set a net zero target. The last year saw a three-fold increase in net zero commitments among the world's largest companies. This makes it the fastest-growing corporate climate commitment⁴.

Why has net zero risen to such prominence among companies so rapidly (See Appendix 2: What companies think) despite confusion about terms? (See Appendix 1: Contentions about the definition of net zero) What does it add to the existing panoply of climate actions available to companies? In this section, we analyse the similarities and differences between net zero targets on the one hand and two existing pillars of corporate climate action – carbon neutrality and Science Based Targets (SBTs) – and look at the climate and business benefits of setting a net zero target on top of the two.

Companies can benefit from the reference point that governments are using: 1.5°C and net zero have become the global objectives for climate action. But of the two, net zero is clearer for stakeholders like consumers and employees to understand. That is not to say that compliance to the law is the only story a company tells about its net zero action. It's more about companies using the government/ international net zero target as a reference: the tag line "Paris Agreement, but 10 years early"⁵ is one such example.



⁴ Based on our research into the Fortune Global 500. Both carbon neutral achievements and targets and SBTs still outnumber net zero achievements or targets (See "Appendix 2: What companies think: insights on net zero from our analysis of the Fortune Global 500" section)

⁵ This is the tag line of Amazon and Mission Possible's The Climate Pledge initiative

Similarities and differences in definitions

Carbon neutral

Carbon neutrality is when: "GHG emissions or other activities with warming effects attributable to an actor are fully compensated by GHG reductions or removals, or other activities with cooling effects, exclusively claimed by the actor, such that the actor's net contribution is zero, irrespective of the time period or the relative magnitude of emissions and removals involved."⁶

Two key similarities between the definitions of carbon neutral and net zero are that:

- It's a process of annual accounting and reconciliation of companies' carbon footprints
- That offsets are used to act on all residual emissions.

Three key differences between the definitions of carbon neutral and net zero are that:

- While carbon neutral action can cover a range of different company emissions such as product life cycle, company operations or all three scopes, net zero must cover all three scopes of a company
- While carbon neutral action encourages companies to reduce emissions where possible, net zero requires companies to have reduced emissions in line with 1.5 °C scenario
- While carbon neutral action requires companies to compensate for their residual emissions using reduction, avoidance or removal credits, to be net zero a company must be using removals credits for residual emissions.

Science-Based Targets (SBTs)

SBTs define the level of internal reductions a company should make in order to deliver what's required to reach global net zero emissions. Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to well-below 2°C above preindustrial levels and pursuing efforts to limit warming to 1.5°C, with no or low overshoot.⁷

The main difference between the definitions of SBTs and net zero is that the latter requires companies to neutralise residual emissions using carbon removal credits. This makes the two fundamentally different concepts, the former is about lessening a company's negative impact on the climate, the latter is about eliminating it altogether.

⁶ UNFCCC, 2021, Race to Zero Lexicon, [link](#). This is the lexicon's definition of climate neutral. However, most corporate standards for carbon neutral (e.g. The CarbonNeutral Protocol, PAS 2060) cover all greenhouse gases (GHGs) not just carbon dioxide. Climate neutral is no doubt a more accurate term because carbon dioxide is only one of the GHGs that are calculated as part of achieving carbon neutrality. But corporates want a label of an action that is familiar to people, and the evidence shows that carbon neutral is more well known, as set out in analysis of Google Trends data in Natural Capital Partners, 2021, CarbonNeutral product white paper, page 18, [link](#).

⁷ [ibid](#)

Similarities and differences in definitions

Table 1: Summary of the similarities and differences between carbon neutral, SBTs and net zero

		Carbon neutral	SBTs	Net zero
What emissions are covered	Product, service, organisation, activity or all three scopes of legal entity	✓		
	All three scopes of a legal entity		✓ ⁸	✓
How emissions are reduced	Reduced where possible	✓		
	Reduced in line with a 1.5°C scenario		✓ ⁹	✓
The residual emissions	Take responsibility for residual emissions on an annual basis, including through offsetting credits	✓		✓
	Offset using any type of high quality carbon credit	✓		
	Offset using only removal types of high quality carbon credits			✓

⁸ An SBT must cover all three scopes only if scope 3 emissions total more than 40% of the overall value chain carbon emissions.

⁹ There are companies with SBTs with 2°C pathway aligned scenarios. But from July 2022 all new targets must be 1.5°C pathway aligned and all targets approved that don't yet have a 1.5°C pathway have until 2025 to update their targets to a 1.5°C aligned pathway. (SBTi, 2021, Climate ambition: SBTi raises the bar to 1.5°C, [link](#))

Climate and business benefits of going beyond carbon neutrality and setting a net zero target

In addition to carbon neutrality, net zero means that companies are acting according to a concept alluded to in the Paris Agreement, and by investing in removals, moves the company into territory of emerging climate solutions that are going to be a vital part of the world's climate response for decades to come.

Table 2: Summary of the business and climate benefits: carbon neutral and carbon neutral + net zero

	Carbon neutral	Carbon neutrality + net zero
Recognisable action today	✓	✓
Responsibility for unabated emissions	✓	✓
Finance for mitigation to communities least responsible for climate change	✓	✓
Beyond "fair share"	✓	✓
Investment in future removals		✓
Alignment with Paris Agreement		✓

Climate and business benefits of going beyond an SBT and setting a net zero target

While SBTs can be complex, net zero provides a clear, credible statement of climate leadership to stakeholders. As IKEA's sustainability specialist Ashley Myers put it: "There's no point to try for an 80 percent reduction, since everyone in the business thinks they are in the 20 percent."

While an SBT will set a company on a meaningful internal reductions trajectory, the addition of a net zero goal enables a company to ensure that the low-carbon transformation is a global one, financing mitigation and adaptation where it is most needed.

To reach net zero, businesses will channel finance to removals projects, many of which deliver sustainable development beyond carbon storage. 86% of credits issued from nature-based removal projects are from developing nations¹⁰.

Nature-based removal projects in tropical regions are especially impactful as tropical countries are home to the majority of our earth's remaining biodiversity and nearly every country in the tropical regions is classified as a developing or least-developed country.

For instance, community reforestation projects in Kenya and Uganda use carbon finance to support smallholder farmers, who have been severely impacted by changing weather patterns caused by climate change. The projects help farmers adapt by supporting them to plant new trees on their land, which improves soil health, creates new income from the fruits and nuts harvested and provides shade for crops or livestock.

Table 3: Summary of the business and climate benefits: SBT and SBT + net zero

	SBT	SBT + net zero
"fair share"	✓	✓
Recognised by leading NGOs	✓	✓
Alignment with Paris Agreement	✓	✓
Finance for mitigation to communities least responsible for climate change		✓
Recognised by customers and employees		✓
Leadership, going beyond "fair share"		More on this overleaf: Net zero by 2030/2040/2050? What can you read into the target date?

¹⁰ Carbon credit issuance data from: UC Berkeley, accessed November 2021, Voluntary Registry Offsets Database, link.
List of developing economies from: IMF, accessed November 2021, Emerging-market-and-developing-economies, link

Net zero by 2030/2040/2050? What can you read into the target date?

Under the umbrella of 'net zero', there are still a range of differences in company ambition. We have split net zero goals into two types:

Responsible net zero targets. These targets are set to achieve net zero in line with the Paris Agreement target of 2050, or in line with the country's net zero target where that company is headquartered. They give a clear long-term direction for a company's decision-making on climate and provide a signal to investors that the company is a responsible corporate citizen and plans to play by the rules – given that 90% of the world's economy is already covered by net zero goals, most of which are mid-century. These include Holcim's and Sony's net zero by 2050 targets.

Leadership net zero targets. Some companies are going beyond the "fair share" model and raising ambition to reach net zero well ahead of when that is expected by the Paris Agreement. These include Accenture (2025 target), Microsoft (2030), Sky (2030), VMware (2030), Co-op Group (2040), Aviva (2040). Like carbon neutrality, this taps into a concept that governs much private sector decision-making: leadership.

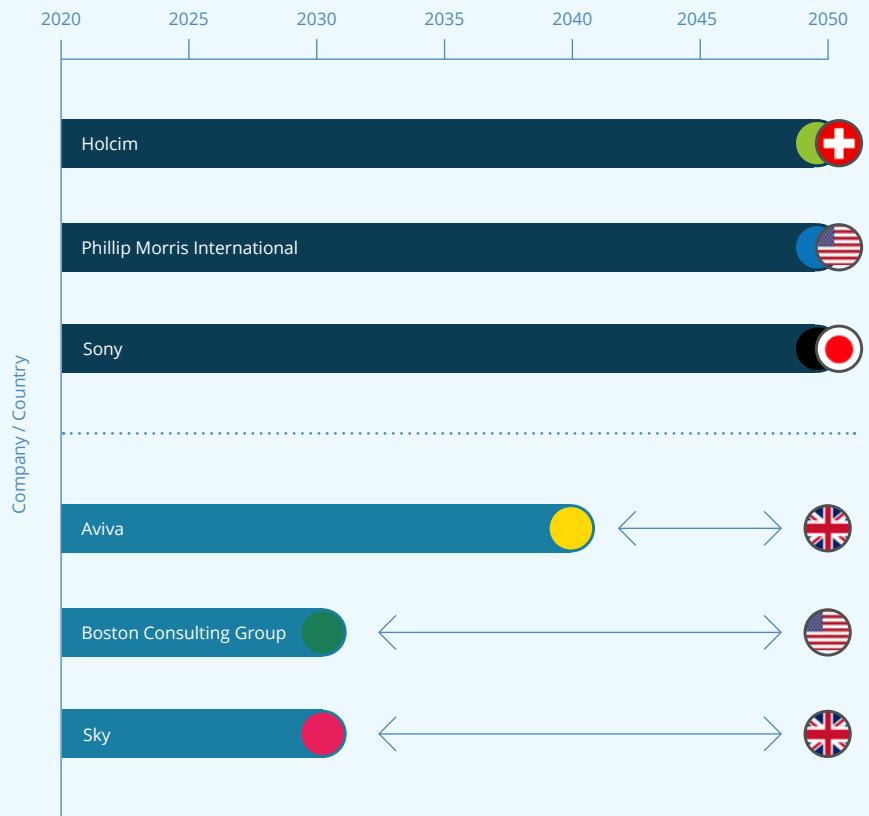
There is of course some nuance that this binary classification of net zero targets doesn't capture. For instance the leadership that companies might have demonstrated in setting a net zero target prior to there being any government target in the country where they are headquartered. And since multinationals will operate in many locations, using the national government target from where they are located may not always be the most accurate proxy.

Responsible net zero targets

Companies with a net zero target date in line with the government target for net zero where they are headquartered

Leadership net zero targets

Companies with a net zero target date accelerating ahead of the national target for net zero where they are headquartered



03

How to get there

Having examined what best-practice net zero action looks like among some of our forward-thinking clients and why it's important for business, this section explores how businesses can work towards and achieve the "net" in net zero. What are the different pathways and products for companies to "net" off their residual emissions as they journey to net zero and beyond? And what are the relative merits of each?

There *is* a relationship between the important work of reducing value chain emissions (for example through Value Chain Sustainability or [Renewable Electricity procurement](#)) and what a company does outside its value chain. The two can be very closely related and one can certainly be used to determine a price on carbon for the other. However, this document focuses only on the action that a company takes outside its value chain in a net zero programme, most commonly in compensating and neutralising its residual emissions.



A) The pathways and strategies for the “net” in net zero

Over the last 20 years, we have tailored climate programmes to fit business strategies: we know that life is more complicated than one-size-fits all. When setting out the approaches for companies to reach net zero, we have touched upon some wider considerations for companies that aren't strictly about hitting the net zero target.

One consideration is the need for global emissions to be reduced by 45% by 2030. 90% of net zero goals are beyond 2030. In other words, it's not net zero or nothing: when companies are on their journey to net zero, they can take other actions to contribute towards that 2030 global target.

We outline three different pathways to net zero.

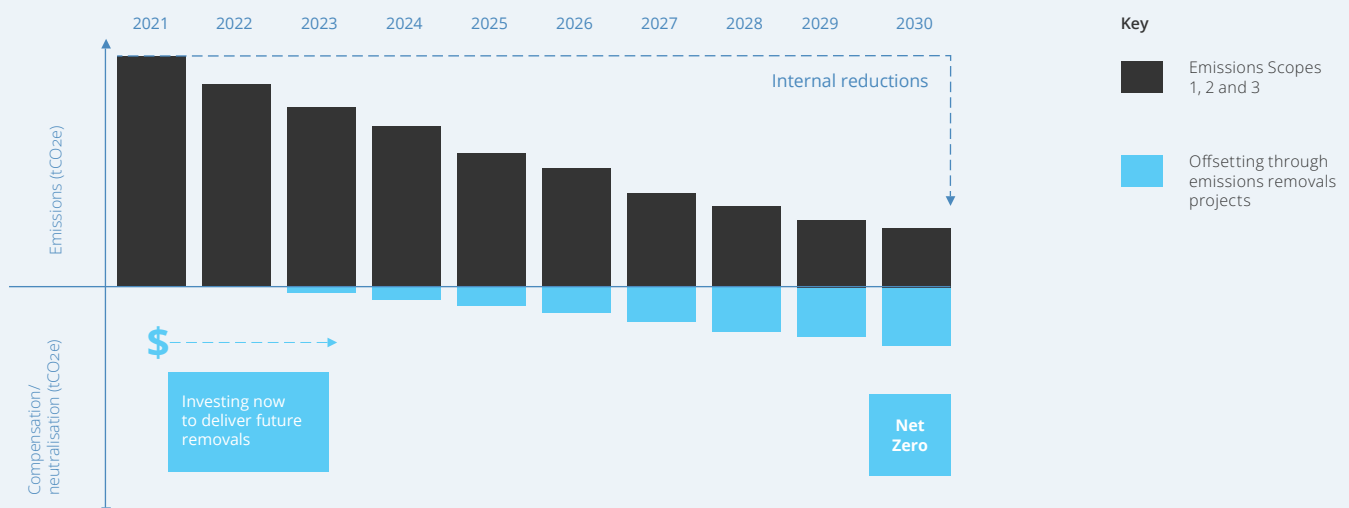
Pathway 1: Net zero (only)

The first is for those companies that do not want to take climate action outside the value chain on the way to their net zero goal, apart from financing the removals projects that will offset all emissions at the point of net zero onwards.

The benefits of not taking additional action on the way to net zero is that it is the least expensive and can be clearer to communicate given it only finances one type of solution outside the value chain (carbon removals offsetting).

The drawback is that there is no extra climate action along the way other than the company achieving a science-informed reduction target. These science-informed reduction pathways apportion companies' "fair share", which is premised on limiting global warming to 1.5°C, but only if all companies also sign up to their fair share. Currently, that is a long way from being the case. As of July 2021, only 17% of Fortune Global 500 companies had set Science-Based Targets (SBTs), with a further 10% committed to set one. As of October 2020, only 3.6% of global emissions are produced by companies covered by SBTs.

Figure 5: Pathway 1: Net zero (only)



Pathway 2: Carbon neutral on the way to net zero

The second pathway is when companies achieve carbon neutrality along the way to net zero. Companies do this by financing carbon reduction, avoidance or removal offsets to compensate for their residual emissions as they journey to net zero, and then increase their finance of carbon removals to offset all residual emissions from the point of net zero onwards. Companies can tailor their carbon neutral programmes to their business. Some start with carbon neutrality in one product line or with their operations and then expand to cover the whole value chain and all products.

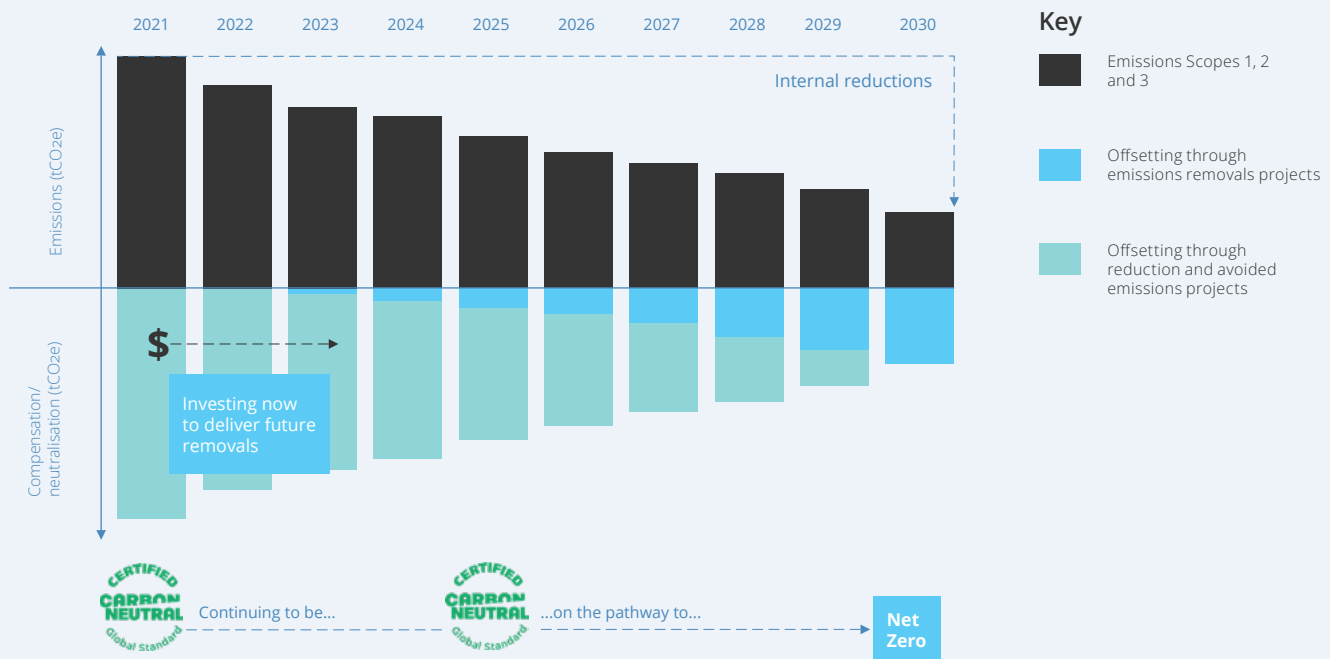
The path to net zero can be paved with a range of good intentions—and achievements. With this approach companies demonstrate that they are taking additional climate action on their way to net zero and supporting projects that contribute

to the global transformation to a low carbon economy – including the conservation of existing carbon sinks through deforestation prevention projects.

Carbon neutrality provides an opportunity for clear and understandable action today: offsetting precisely what a company emits and taking responsibility for all emissions today to deliver a rapid response to climate change.

Inevitably this approach may cost more than pathway 1 to finance the extra action. The Voluntary Carbon Market Integrity Initiative (VCMI) is working on guidance which will go through consultation from April/May 2022 and may provide greater clarity or new approaches to using carbon neutral and net zero claims.

Figure 6: Pathway 2: Carbon neutral on the way to net zero



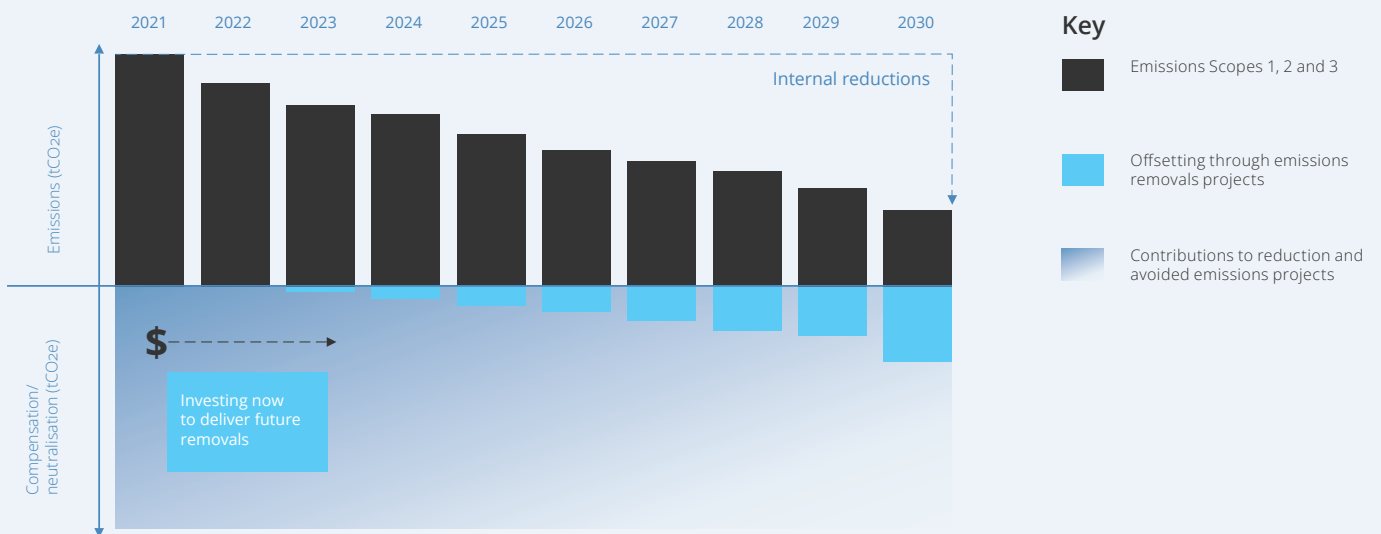
Pathway 3: Net zero plus

The third pathway goes a step further than carbon neutrality and sets a carbon price to finance climate solutions on the way to net zero, and puts that finance to work tackling climate change, often in service of a regenerative business beyond the point of net zero, or achieving carbon neutrality. In other words, a company makes additional contributions along the way to net zero, then purchases removals carbon credits to neutralise residual emissions from the point of net zero onwards. They might also purchase carbon offsets to achieve and maintain carbon neutrality along this pathway, but this won't always be the case. There are a couple of different approaches we are seeing on the net zero plus pathway.

Removals

Some companies are spending the extra contribution to stimulate the carbon removal market and bring down the cost of associated technologies. To stay below 1.5°C of warming, the UN's Intergovernmental Panel on Climate Change (IPCC) estimates we need to remove at least 8 billion tonnes of CO₂ from the atmosphere every year by 2050.

Figure 7: Pathway 3: Net zero plus



The IPCC acknowledge the challenge of delivering this is great: “Ideas for CO₂ removal have not been proven to work at scale and, therefore, run the risk of being less practical, effective or economical than assumed. There is also the risk that the use of CO₂ removal techniques ends up competing for land and water, and if these trade-offs are not appropriately managed, they can adversely affect sustainable development.” Technological removals through things like carbon capture and storage are viewed as a technology for the future and this approach frequently appeals to those companies looking to position themselves as innovative.

For most companies an entire focus on removals is not feasible. These project types are more expensive than other project types, ranging from \$25-\$2,000 a tonne, with the top end being the technological type which delivers very small volumes currently. The second drawback is availability (related to cost of course). Carbon removal projects that deliver large volumes, such as reforestation, take time to yield results. In 2020, Microsoft found that 2 mtCO₂ of the removals projects it considered met its “basic prerequisites” and it bought 1.3mt of what was offered¹¹. Its annual footprint was more than five times this.

Social cost of carbon

Other companies follow the WWF and BCG model, and determine the level of finance contributed by the social cost of carbon. “No matter how companies choose to determine the size of their financial commitment, the amount should be high enough to reflect the true social and environmental cost of their emissions.”¹²

The benefits of framing a programme around a societal price of carbon is that it puts a higher price of carbon into the business – causing more abatement within the value chain.

It also means that companies are not constrained by the carbon market and can finance carbon innovations¹³ in geographies or project types (e.g. soil carbon) where carbon market standards are not yet developed. In addition, it prepares a business for possible higher carbon prices determined by increased regulation.

In addition to being a more costly approach, the concept of a “contribution” model is a very recent idea. Therefore, consumers may struggle to understand how significant “\$x million contribution” is and how it equates to a company’s specific environmental impact. There is also no consensus around what the social cost of carbon should be, and no accounting mechanism for the carbon impact of projects is used if they do not follow any of the established carbon standards.

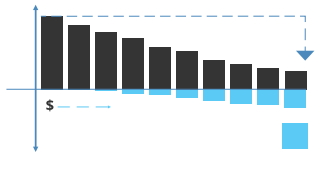


¹¹ Microsoft, 2021, Microsoft Carbon Removal - Lessons from an Early Corporate Purchase, [link](#)

¹² WWF, BCG, 2020: Beyond Science Based Targets: A blueprint for corporate action on climate and nature, [link](#)

¹³ For more information about carbon innovations, read Natural Capital Partners, 2021, Carbon innovation for business impact, [link](#)

Summary the pathways for the “net” in net zero, and their merits

Pathway	1	2	3
Tabloid headline	The carbon sink	Everything plus the carbon sink	Everything plus the carbon sink
Title	Net zero	Carbon neutral on the way to net zero	A carbon price to finance solutions on the way to net zero
Details	Removals offsets growing to offset all emissions from the point of net zero onwards	Reductions, avoidance or removals offsets on the way, then only removals offsets growing to offset all emissions from the point of net zero onwards	Extra contributions along the way determined by the social cost of carbon, then removals to offset all residual emissions from the point of net zero onwards
Achieving science-informed targets			
Does your company want to contribute to the global transition to net zero through climate action outside the value chain on the way to net zero goal?	Yes	Yes	Yes
Does your company want to cover all residual emissions through carbon offsets on the way to net zero goal?	No	Yes	Yes
Pros	<ul style="list-style-type: none"> Least expensive Focused on internal business transformation and removals only 	<ul style="list-style-type: none"> Carbon neutral <ul style="list-style-type: none"> Clear and understandable action today Supporting projects that reduce and avoid emissions contribute to global net zero, including conserving existing carbon sinks through deforestation prevention projects Can follow The CarbonNeutral Protocol Participating in a robust market-based mechanism that is bringing increased quality and integrity to climate action 	<ul style="list-style-type: none"> Action today Can finance climate action in geographies or projects types (e.g. soil carbon) where carbon market standards aren't yet developed Can contribute to Government targets
Cons	<ul style="list-style-type: none"> On the way to net zero the company is merely achieving its fair share, as set out by a science-informed reduction target, which will only limit global warming to 1.5°C if all other companies also have such targets 	<ul style="list-style-type: none"> More expensive The Voluntary Carbon Market Integrity Initiative (VCMi) is working on guidance and may provide greater clarity or new approaches to using carbon neutral and net zero claims 	<ul style="list-style-type: none"> Most expensive The concept of a “contribution” has only relatively recently been articulated and consumers may struggle to understand how significant a contribution is No single accepted definition of what the social cost of carbon should be No accounting mechanism for the carbon impact of projects is used
% of Fortune Global 500 with net zero targets on this pathway	Unknown. So far it's difficult to definitively distinguish from Pathway 3	40%	Unknown. So far it's difficult to definitively distinguish from Pathway 1
Examples	Accenture	Aviva, Co-op, Sky	BCG, Microsoft, Shopify, Stripe

The SBTi favours approaches 2 and 3, concluding in its Corporate Net Zero Standard: “In the transition to net-zero, companies should take action to mitigate emissions beyond their value chains.”¹⁴ “Purchasing high-quality carbon credits in addition to reducing emissions along a science-based trajectory can play a critical role in accelerating the transition to net-zero emissions at the global level.”¹⁵

Regardless of the selected route, companies will need to consider how to grow removals investments in order to offset all emissions at the point of net zero. A company could go from 0% to 100% of its emissions in the year it hits net zero. Or it could build from 0% to 20%, to 40%, to 60%, to 80%, reaching 100% in year 5.



¹⁴ MSBTi, 2021, SBTi Corporate Net Zero Standard, [link](#)

¹⁵ SBTi, 2021, Beyond Value Chain Mitigation FAQ, [link](#)

B) The project types, products and tactics for the “net” in net zero

Whatever pathway a business takes, carbon removals will be required to offset residual emissions from the point of net zero onwards. This section sets out the different projects types companies can finance and the ways companies can structure a carbon finance portfolio.

The project types for the “net” in net zero

Carbon removal projects can be organised based on the maturity of the opportunity, and the maturity of the methodology that will be used to measure and verify its impact.

Our teams regularly scan for projects that drive the industry toward the greatest convergence of opportunities and methodologies.

While we have limited the options here to carbon removal, that is not to say that only carbon removal projects contribute to global net zero targets or the maintenance of carbon sinks. Read more on this in [Appendix 3: More details on the route to net zero: is a sink a removal?](#)

Figure 8: Carbon removal project types organised by maturity of the opportunity and methodology

	No large-scale availability at low cost (>\$100/t)	Large-scale availability at low cost (<\$100/t)
Proven methodology*	<ul style="list-style-type: none"> • Blue carbon (mangrove and wetlands restoration, seagrass/saltmarsh) • Construction materials (engineered) 	<ul style="list-style-type: none"> • Afforestation • Reforestation • Improved forest management (IFM)** • Soil carbon and agriculture
No proven methodology	<ul style="list-style-type: none"> • Direct air capture • Blue carbon (seaweed/kelp) • Woody biomass burial • Enhanced weathering • Mineralisation 	<ul style="list-style-type: none"> • Biochar • Bioenergy with carbon capture and storage (BECCS) • Construction materials (bio-based)

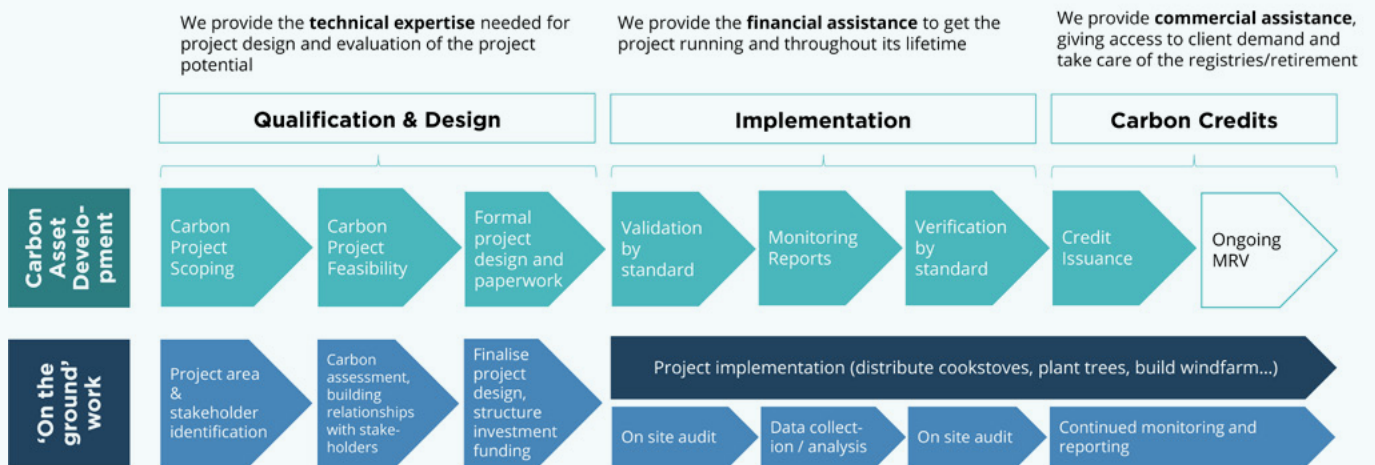
* We have defined “proven methodology” as those that are approved by ICROA. While these project types have ICROA-approved methodologies, that does not mean all projects of that type are delivered under ICROA-approved methodologies

** Improved forest management (IFM) both removes and avoids emissions.

Structuring a carbon finance portfolio

To understand the breadth of offsetting solutions, grasping the timeline of a carbon credit can be a helpful starting point.

Figure 9: The lifecycle of a carbon offset project



- Carbon project feasibility:** Assessing the operational, technical and commercial feasibility of a project, including area and activity and implementation partner identification, preliminary local stakeholder engagement, baselining and additionality/permanence/leakage evaluation.
- Project implementation:** Undertaking and monitoring the activities that deliver the reductions or removals. Examples include: distributing efficient stoves to prevent or reduce tree harvesting for fuel; planting trees; working with communities to protect forests; building a solar plant.
- Financing/Finance commitment:** Sourcing and structuring the funding needed to get the project running and sustained throughout its lifetime.
- Project Design Document (PDD):** A document prepared for the a carbon standard that includes detailed project design, baseline and monitoring methodology and stakeholder consultations.
- Validation/Registration:** Confirmation of conformance with a carbon standard's criteria through an independent auditor validating the project using desk review of the PDD and a site visit to the project.
- Verification:** Confirmation that a project was delivered and monitored in accordance with the programme's requirements over a specified period, and that the project estimated emission reductions or removals in line with the approved methodology. Includes an on-site audit.
- Issuance:** Following the approval by the carbon standard of a project's periodic verification reports, credits are issued into an account in the registry of that standard. The number of credits issued equal the number of tonnes of verified CO₂e reductions or removals.
- Purchase:** A company purchases carbon credits for the purposes of offsetting emissions.
- Retirement:** When the buyer wishes to make an offsetting claim the appropriate number of credits is retired in the registry. Retired credits are permanently removed from circulation in a registry system to avoid double counting of credits.

Structuring a carbon finance portfolio

Some of these activities and milestones can happen simultaneously, for example preparation of the Project Design Document (PDD) may be done in parallel with early project implementation and financing, in order to inform final project design and funding requirements. The circumstances of each project is taken into account in phasing these activities. These dependencies and sequences are captured in the diagram above.

A company can get involved in project finance at various stages within a carbon credit's lifecycle, with different rewards accordingly. Three funding structures can be blended based on risk and reward potential and can be implemented alongside a direct reduction strategy:

Spot market

Projects depend on a reliable revenue stream from carbon credits. This revenue enables the project partners and local communities to deliver certified emissions reductions and other sustainable development benefits, and for local stakeholders to benefit from and be aligned with the long-term objectives of the project.

Forward purchase

Businesses can provide funding to emission reduction projects after the validation of the project but before the verification and issuance of carbon credits is completed. The prospect of lower costs and more secure access to reductions must be weighed against greater risk around delivery of final issued credits, more complex contracting, and likely long-term commitment.

Project development

Projects require up-front capital to design and develop projects, including investment in early on-the-ground activities prior to validation and credit issuance. Upfront investment is based on the expectation that the project will generate credits in the future. The delivery risk associated with these projects is highest of the three funding structures, but they can be attractive to businesses seeking to lower uncertainty in supply and potential exposure to future price increases, break new ground, or 'own' a story around creating new carbon and sustainable development impacts. Investment in new project development is carefully structured to ensure a viable project for all stakeholders whilst managing the risks. Different investment structures are possible depending on the risk appetite of the investing company. Thorough due diligence, rigorous design and ongoing monitoring are undertaken through the life of the project to ensure integrity and mitigate performance risks.

Conclusion

The phrase net zero has shot to prominence and is here to stay. It has become the dominant signal by corporates to ensure their long-term resilience in a world determined to tackle climate change.

For many companies already taking action, it is an additional step. For others newer to climate action, it might be the centre-piece. But net zero is not a silver bullet, nor is it without complexity. However, complexity should not stifle action and we are confident the private sector will rise to the net zero challenge.

We look forward to continuing our work with businesses on whatever journey is their best fit.

**Net zero here
we come.**



Appendices



Contentions about definition of net zero

When thinking about what net zero actually means, the answer will depend on who is talking about it.

Net zero at a global level

At the global level, it means, as defined by the Intergovernmental Panel on Climate Change (IPCC) and the Paris Agreement: “When anthropogenic emissions of greenhouse gases (GHGs) to the atmosphere are balanced by anthropogenic removals over a specified period.”¹⁶

Net zero at a company level

For businesses, things are more complicated because of a range of different definitions, confusion with other types of target, such as carbon neutrality, and varying approaches to how it should be achieved.

The UNFCCC’s Race to Zero initiative defined net zero in 2021 as when: “**An actor** reduces its emissions following **science-based pathways**, with any remaining GHGs attributable to that actor being **fully neutralised 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.”¹⁷ We look at these **three concepts** in more detail below.

The Science Based Targets initiative (SBTi) – a partnership between WWF, WRI, UN Global Compact and CDP – set out its Net-Zero Standard in October 2021. It defines corporate net zero as: “Reducing scope 1, 2, and 3 emissions to zero or to a residual level that is consistent with reaching net-zero emissions at the global or sector level in eligible 1.5°C-aligned pathways; and neutralizing any residual emissions at the net-zero target year and any GHG emissions released into the atmosphere thereafter.”

We are now going to unpack some of the key terms in these definitions and explore the contentions around them. Along the way, we’ll see why the company-level definition of net zero isn’t as simple as the definition of net zero at a global level.

Contention #1: value chain: “an actor”

While it is quite simple to define the boundary of the entity for net zero at a planetary level (everything in the planet), it is more complicated when it comes to companies. Overlap between companies’ scope 3 emissions is well documented¹⁸. The SBTi Corporate Net Zero Standard has said that net zero should cover at least 90% of total scope 3 emissions. This stands in contrast to most country targets which don’t include emissions from goods and services its citizens buy and import.

For companies in the finance sector, the problem is made infinitely more complex by the extent to which a financial product is responsible for the emissions of the company it finances. This isn’t just a problem for carbon accounting in the financial sector, many companies take on finance and are regularly investing in capital expenditure. The SBTi is still working through how the value chain is defined for financial sectors, with a final standard expected in January-March 2023¹⁹.

Turning to another difficulty of defining the value chain, we’ll look back to September 2021, when UK football team Tottenham Hotspur hosted a Premier League football match against Chelsea. It covered the scope 3 emissions including the travel of fans to the game and food eaten at the stadium. There are two perspectives around whether this would satisfy the value chain as the SBTi defines it. Do we consider the entity as the game? In which case it will – at first glance - have covered more than 90% of scope 3 emissions. However, if the Premier League, or the football team, is considered the entity then the match was just one event within a year’s worth of activities.

And where does the value chain stop? Take on the one hand a food and beverage company paying a regenerative farm for agricultural commodities and banking the carbon removals that project generates in its own value chain accounting. On the other hand, there might be a technology company buying carbon removal credits from a similar regenerative farming project in the voluntary carbon market.

¹⁶ IPCC, 2018, SR 1.5, [link](#)

¹⁷ UNFCCC, 2021, Race to Zero Lexicon, [link](#)

¹⁸ BloombergNEF, 2021, Liebreich: Climate and Finance – Lessons from a Time Machine, [link](#) “Accounting for Scope 1 and Scope 2 is relatively straightforward. A utility’s Scope 1 is a power user’s Scope 2, so if you own shares in both, there is a double-count, but it is fairly easily removed. Scope 3, however, is a whole different ball game.”

¹⁹ SBTi, 2022, Net Zero for Financial Institutions, [link](#)

What's the difference between the two transactions? If scope 3 includes the emissions of products bought, aren't these both within the value chain, since the carbon credits are a product the technology company has bought? The Greenhouse Gas Protocol (GHG Protocol) is looking at this as part of new guidance on carbon removals due for completion at the end of 2022²⁰. On the "Draft List of Topics to Address" is "Defining terms and concepts" around "Carbon Removals" including "Carbon removals occurring in the company's value chain vs. carbon removals occurring outside of the value chain."

The GHG Protocol – led by environmental NGOs WRI and WBCSD – is no longer the only game in town for carbon accounting²¹. With carbon accounting moving from an environmental discipline to an economic and financial discipline, it is difficult to judge which processes and rules will win out and achieve consensus across the economy.

Contention #2: emissions reductions: "science-based pathways"

The UNFCCC requirement that a company "reduces... emissions following a science-based pathway" is not supported by a clear consensus on how such 'science-based' internal reduction plans are constructed and delivered.

The SBTi was set up in 2015 to provide such pathways for companies. It defined what a company's "fair share" is on a path for the world to reach net zero by 2050, based on the expected contribution of the sector(s) in which it operates. Mostly it targets 2030 achievement dates.

1,000 businesses around the world have set or are committed to setting a SBT, including 27% of the Fortune Global 500. However, the SBTi has not approved a methodology for oil and gas companies to set a SBT. The financial sector only had its methodology approved in April this year.

Other companies have chosen not to set SBTs because they believe the methodologies do not take sufficient account of reductions made before the SBT baseline year of 2015. According to this school of thought, companies that had delivered significant decarbonisation in their operations before 2015 are in effect penalised for having taken early action.

As well as debate over what trajectory of emissions is "science-based" or "science-informed", there is a debate about how far companies must be along those trajectories before they can become net zero. Must a company "be reducing" its emissions following a science-informed pathway, in the words of the UNFCCC, or "have already reduced" its emissions according to such a pathway, as the SBTi describes? Some don't see why a corporate can't achieve the "net" bit at any point along the journey, by balancing emissions with removals year on year, provided the company has set and is achieving an SBT. The SBTi's Corporate Net Zero Standard requires companies to have achieved a long-term SBT, and is currently building its programme for companies to set those long-term SBTs, over and above the current SBTs, which have been renamed "near-term" SBTs. Under its pathways most sectors' long-term SBT will require a 90% reduction in emissions (forestry, land, and agriculture sectors will require an 80% reduction).

Other net zero initiatives do not have the same stringent internal reduction criteria. For example, 900 certified B Corporations are committed to achieving net zero and are counted as part of the UNFCCC's Race to Zero signatories. B Corp defines net zero as: "pursuing strategies that first and foremost reduce emissions wherever possible"²² without mandating that those emissions reductions targets are approved by the SBTi.

As a result, while a company's net zero goal undoubtedly requires significant internal reductions according to abatement pathways that are "science-informed", following an SBTi approach may not be appropriate or even possible for some businesses or sectors.

²⁰ GHG Protocol, 2021, Land Sector and Removals Initiative - Overview (7-21) v2, [link](#)

²¹ At COP26 the International Financial Reporting Standards Foundation (IFRS), the global accounting body that sets the accounting rules for most U.S. and European businesses, agreed to form an International Sustainability Standards Board (ISSB) to develop and publish in 2022 a comprehensive global baseline of high-quality sustainability disclosure standards to meet investors' information needs

²² B Corporation, 2021, The Case for Net Zero for Climate Action Business Leaders — and Understanding What It Means, [link](#)

Contention #3: emissions removals: “fully neutralized by like-for-like removals”

A critical distinguishing feature of achieving net zero emissions is that unabated emissions must be offset using removals.

The University of Oxford’s ‘The Oxford Principles for Net Zero Aligned Carbon Offsetting’²³ has outlined four key guiding principles for offsets to be consistent with achieving net zero: “cut emissions, use high quality offsets, and regularly revise offsetting strategy as best practice evolves; shift to carbon removal offsetting; shift to long-lived storage, and; support the development of net zero aligned offsetting”.

Quality thresholds for removals credits, particularly around permanence, are still under regular discussion. For natural climate solutions, a critical part of the climate action toolkit that needs finance today, the standards have created buffer processes to deliver permanence in forestry projects. A standard’s “buffer account” pools non-tradable credits – contributed by individual projects – to cover the risk of unforeseen losses in carbon stocks from an individual project. To date, reversals (including wildfires) have only activated 0-6% of carbon offset standards’ buffer pools to date.

Although it included specific vintage requirements for removals projects in an early consultation of its Net Zero Standard, the SBTi is less restrictive and focuses more on the requirements of

internal abatement across all three scopes in its final Net Zero Standard published in October 2021. It also pointed to the Greenhouse Gas Protocol’s development of new guidance on carbon removals, due for completion at the end of 2022, as a reason for not publishing more specific requirements.

The IPCC warned that: “Ideas for CO₂ removal have not been proven to work at scale and, therefore, run the risk of being less practical, effective or economical than assumed... There is also the risk that the use of CO₂ removal techniques ends up competing for land and water, and if these trade-offs are not appropriately managed, they can adversely affect sustainable development.” This is another reason why the SBTi was so keen to ensure a focus on companies reducing their emissions first. B Corp does not require its net zero signatory businesses to neutralise emissions only through carbon removals, and instead asks companies to “use verified offsets that emphasise carbon removal projects.”²⁴

²³ University of Oxford, 2020, The Oxford Principles for Net Zero Aligned Carbon Offsetting, [link](#)

²⁴ B Corporation, 2021, The Case for Net Zero for Climate Action Business Leaders — and Understanding What It Means, [link](#)

Timeline: net zero over time

2014 President of the World Bank, Jim Yong Kim, says that a proposed global climate agreement should “provide a clear pathway to zero net emissions before 2100.”

2018 The IPCC’s SR 1.5 report found that limiting warming to 1.5°C, CO₂ needs to reach net zero between 2044 and 2052, and total GHG emissions must reach net zero between 2063 and 2068. Reaching net zero emissions by 2040 would considerably increase the chance of limiting warming to 1.5°C.

2020 The U.N. High Level Climate Champions start the Race to Zero campaign, to mobilise non-state actors (companies, investors, universities, cities, regions and hospitals).

SBTi launch consultation to define net zero targets.

China sets target to be carbon neutral/net zero by 2060.

2000s Net zero is used rarely, often interchanged with carbon neutral, and mostly in reference to the built environment sector.

2015 SBTi launched by WWF, World Resources Institute, UN Global Compact and CDP. Targets for companies are calculated based on their share of their sector’s emissions trajectory consistent with net zero by 2050.

Paris Agreement alludes to the concept of net zero in Article 4, albeit without naming it as such. It talked about the need to achieve: “a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases.”

2019 The Net-Zero Asset Owner Alliance is formed, convened by UNEP’s Finance Initiative and the UN’s Principles for Responsible Investment.

The UK becomes the first G7 country to set a net zero target.

2021 The International Energy Agency (IEA) published a net zero road map. It said if the world was to meet its target of limiting temperature increases to within 1.5°C, no new oil and gas projects should be developed.

The USA and EU set 2050 net zero targets and India sets a 2070 net zero target, meaning that national/ supra-national net zero targets now cover 90% of global emissions. The UK government announced that from 2023 financial institutions and companies with shares listed on the London Stock Exchange must have net zero transition plans.

SBTi launched its Corporate Net Zero Standard.

Perceptions of net zero

What companies think: insights on net zero from our analysis of the Fortune Global 500

Each year we study the climate actions and commitments of the Fortune Global 500. In September 2021, we published the latest research²⁵. It found that net zero has arrived as a major pillar of corporate climate action, though some targets are reinventing the wheel by using goals such as carbon neutrality and net zero interchangeably.

The number of companies with a net zero target, as defined in this paper, has quadrupled in a year: up to 25% of companies from 8% of companies a year ago. 92% of these net zero targets are set for later than 2030. Among companies headquartered in the US and Europe this increases to 34% of companies, up from 9% a year ago, with 82% of targets set for later than 2030.

Figure 10: Area chart of net zero achievement dates among companies in the Fortune Global 500

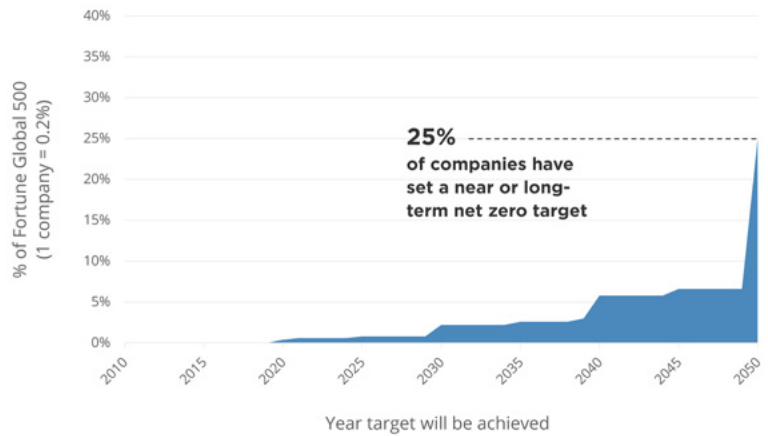
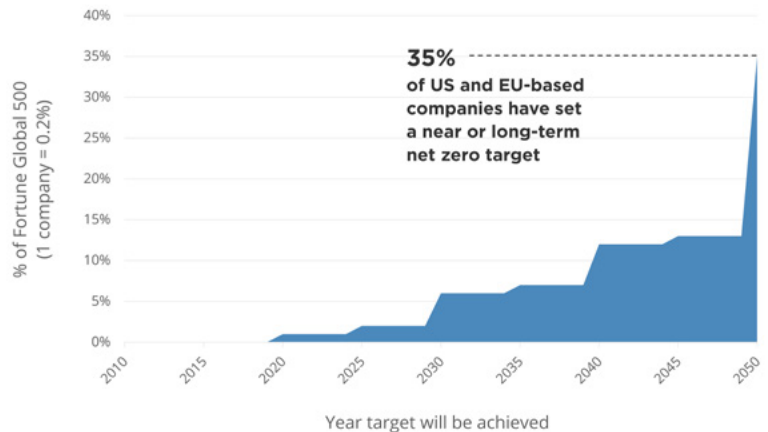


Figure 11: Area chart of net zero achievement dates among companies in the Fortune Global 500 headquartered in the US or Europe



²⁵ Natural Capital Partners, 2021, *Reality Check: The third annual study to assess how Fortune Global 500 companies have increased their climate actions and commitments*, [link](#)

54% of all companies with a net zero target have set an SBT, and 35% of all companies with a net zero target have a more immediate carbon neutral target/achievement.

Our analysis scratched beneath the surface of these net zero targets. We consider 20% not fully aligned with the emerging consensus around how net zero is defined and consider them closer to carbon neutrality targets because they do not cover value chain emissions. We consider 56% of net zero targets as responsible net zero targets, with a target date in line with the government target for net zero where they are headquartered. We consider 23% of net zero targets as leadership net zero

targets, accelerating ahead of the national target for net zero where they are headquartered.

We also looked at which net zero initiatives are gaining traction to rally companies to act and provide communities of peer-support.

Figure 12: Pie chart breaking down net zero targets into responsible and leadership among companies in the Fortune Global 500 with a net zero target

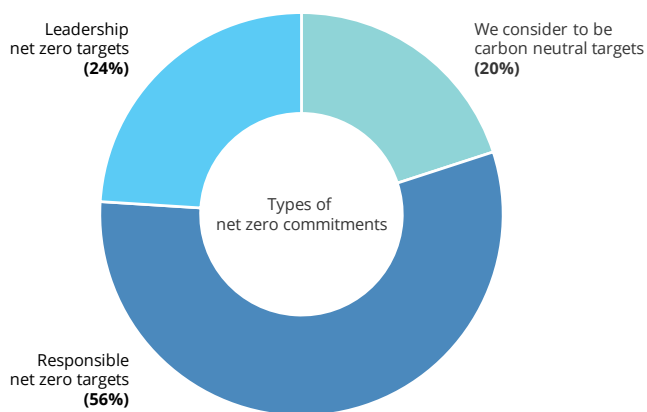


Figure 13: Venn diagram of SBTs, CN and net zero among companies in the Fortune Global 500

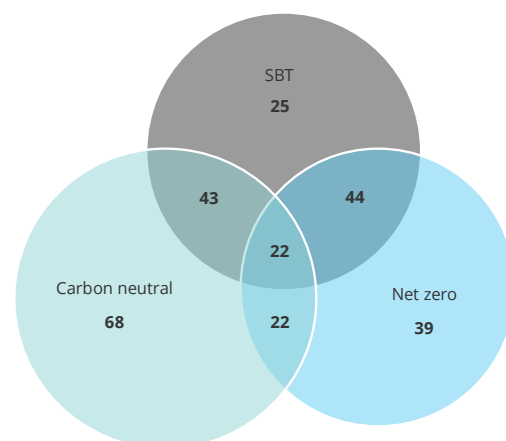


Table 4: Race to Zero, Business Ambition for 1.5, The Climate Pledge initiatives among companies in the Fortune Global 500 with a net zero target

Net zero initiative	% of companies that follow the definition	Number of companies
SBTi / Business Ambition for 1.5	10%	50
Net-Zero Banking Alliance (NZBA)	3%	13
The Climate Pledge	3%	17
Net-Zero Asset Owner Alliance	2%	11

What the public think: collecting research about knowledge of net zero

The UNDP’s recent survey of 1.2 million people from 50 countries, found that 64% of people said that climate change was an emergency – presenting a clear and convincing call for decision-makers to raise ambition.

Edelman’s Trust Barometer found that 89% of people want brands to address one or more societal issues and “climate change/environmental” was the top societal problem that brands are expected to solve. It also found that action builds trust – by two-to-one margin, brand trust increases when actions help workers and communities (64%), instead of making commitments on what a brand will do in the future (36%).

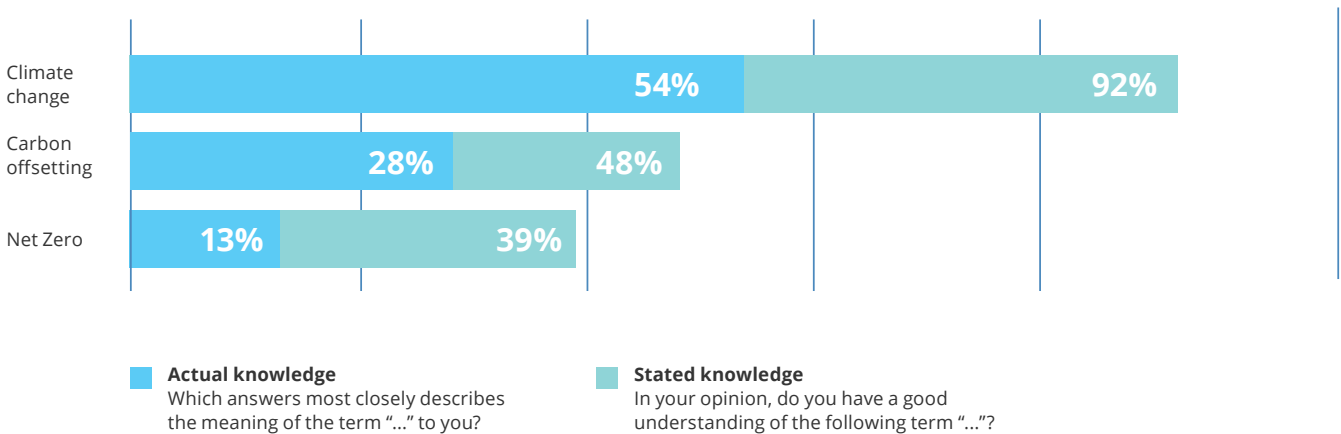
As our timeline (See “Timeline: net zero over time” section) showed, net zero has only come to prominence in the last few years. This means that public understanding of net zero is still nascent. The most comprehensive data for this comes from Vice Media Group, which surveyed over 9,000 adults in the

U.S.A., the UK, Denmark, Spain and India in April 2020 and tested both the stated and actual knowledge of different concepts around climate change. It found that 39% of people felt they had a good understanding of net zero but only 13% managed to describe the meaning of the term.²⁶

In addition, a survey in the UK found that 39% of people stated they had ‘a lot’ or ‘a fair amount’ of knowledge of net zero, with 87% having heard of net zero. After providing information on net zero, 78% said they strongly or somewhat supported the net zero target.

While net zero targets are increasingly becoming the focus of good practice on climate change, and public awareness of all aspects of climate change is increasing, net zero may not provide the clear, credible statement of action expected by consumers and other stakeholders. Companies are therefore choosing to complement their net zero targets with clear and understandable action today.

Figure 14: Stated vs actual knowledge of climate terms



Source: Vice Media, 2020

²⁶ Vice Media, 2020, What’s Stopping Us From Stopping Climate Change?, [link](#)

More details on the route to net zero

Background: Nature-based solutions: is a sink a removal?

The Paris Agreement describes net zero as the “balance between anthropogenic emissions by sources and removals by sinks.” Therefore, protecting existing carbon sinks through natural climate solutions such as forest conservation, makes an important contribution to this global net zero goal.

However, according to the emerging definitions, the protection of existing carbon sinks does not contribute to achieving net zero at a corporate level. That’s because the corporate net zero calculus boils down to the following: is what a company emits across its value chain “netted” out by what it removes? Protecting sinks, which reduces the emissions of an entity separate to the company, does not therefore enter the calculus.

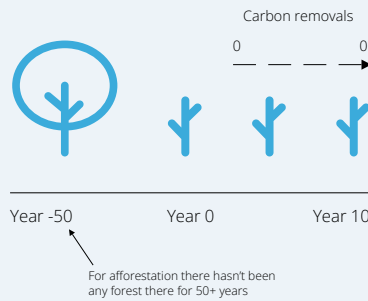
However, protecting existing carbon sinks is one of the most effective ways to tackle climate change. At its crudest, if we don’t halt deforestation then all the reforestation will be counteracted by emissions from deforestation. Because of this, many companies are incorporating the protection and conservation of natural carbon sinks into their net zero strategies.

Removals

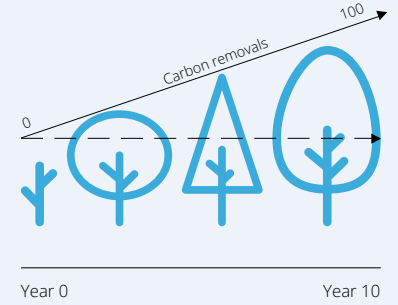
Figure 15

Afforestation / Reforestation Projects building new carbon sinks

Baseline scenario



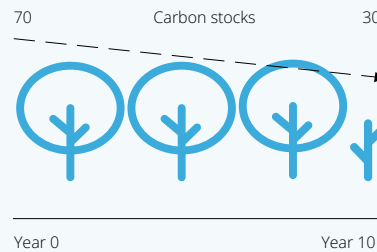
Carbon finance scenario



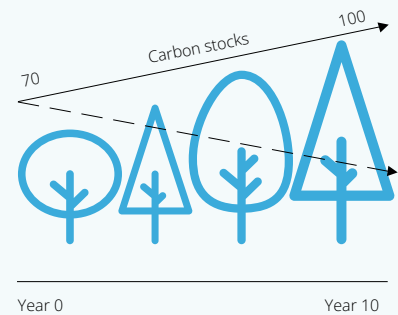
Removals and avoidance

Improved forest management Projects both building new carbon sinks and protecting existing carbon sinks

Baseline scenario



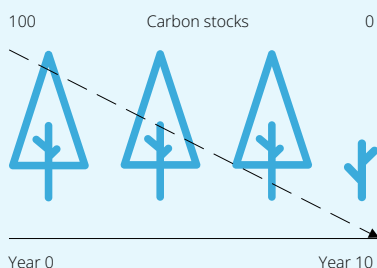
Carbon finance scenario



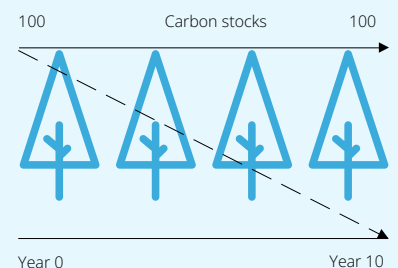
Avoidance

Preventing deforestation Projects protecting existing carbon sinks

Baseline scenario



Carbon finance scenario



Respected organisations have agreed. The SBTi concluded in its Corporate Net Zero Standard: “In the transition to net-zero, companies should take action to mitigate emissions beyond their value chains²⁷.” And: “Purchasing high-quality carbon credits in addition to reducing emissions along a science-based trajectory can play a critical role in accelerating the transition to net-zero emissions at the global level.”²⁸

The Stockholm Environment Institute remarked: “Today, avoiding emissions is just as important – if not more so – as removing them.”²⁹

Figure 15 explores the difference and overlap between protecting sinks and removals. Table 5 explores the potential of those different nature based solutions to tackle climate change.

Table 5: The potential of carbon sinks to tackle climate change

Carbon sink: project type	Global net zero			Corporate net zero
	Does it help	How much of the mitigation needed by 2030 can it deliver?		Does it help
		The Nature Conservancy / PNAS ³⁰	Drawdown ³¹	
New Sinks				
Afforestation	✓	1%	10%	✓
Reforestation	✓	16%	19%	✓
Protecting existing sinks (e.g. through REDD+)				
Forest conservation	✓	6%	1%	✗
Peatland conservation	✓	2%	7%	✗
Grassland conservation	✓	<1%	1%	✗
Mangrove conservation	✓	1%	<1%	✗
Both new sinks and protecting existing sinks				
Improved forest management	✓	2%	Not studied	Somewhat ³²

²⁷ SBTi, 2021, SBTi Corporate Net Zero Standard, [link](#)

²⁸ SBTi, 2021, Beyond Value Chain Mitigation FAQ, [link](#)

²⁹ Stockholm Environment Institute, 2020, Should carbon offsets only include removing CO₂ from the atmosphere?, [link](#)

³⁰ The Nature Conservancy / Griscom et al, 2017, Natural Climate Solutions, [link](#)

³¹ Drawdown

³² Different Improved Forest Management projects deliver different percentages of avoidance and removals tonnes

In focus: forecasts for demand, supply and price of carbon removal offsets

Supply and demand are both set to transform drastically in the voluntary carbon market.

The Taskforce on Scaling Voluntary Carbon Markets (TSVCM), now called The Integrity Council for the Voluntary Carbon Market (IC-VCM), predicts that more ambitious private sector climate commitments could require the market to increase by a factor of 15 times its current size by 2030 and a factor of 100 times by 2050³³. However, this won't happen overnight. Projects take time to develop. The time from submitting a project for approval to issuing verified credits can range from two years to more than 10 years for some nature-based solutions.

The rapid growth and changes in supply/demand dynamics makes the task of forecasting price extremely difficult. Here we pull together the best available forecasts. Analysis of the availability of mitigation opportunities around the world by Ecosystem Marketplace focused on what increases in price will have to occur to achieve this scale as the lower hanging fruit of mitigation options are delivered, leaving only the more expensive ones. Existing projects could add 131 million tonnes to supply if prices reached an average of \$7.08 and new projects could add a further 170 million tonnes if prices reached \$9.28. Another attempt at price projections has been made by Trove

Research/UCL published in June 2021. It predicts that today's average prices of \$3-5 per tonne CO₂e will need to increase to \$20-50 per tonne CO₂e by 2030 and potentially higher, to incentivise sufficient new projects to come to market and deliver the emissions reductions and removals that would not have occurred without carbon financing. McKinsey & Co analysis of the voluntary carbon market concluded that it "expects average prices to go up in the near to medium term, mainly due to strong demand growth especially for higher-cost project types such as reforestation and carbon dioxide removal."^{34 35}

Some market participants have published their own price forecasts. Boston Consulting Group is "expecting to spend \$35 per tonne in 2025 on carbon avoidance and removals, rising to \$80 per tonne of 100% carbon removals in 2030—a significant increase from the current voluntary carbon offset market average of \$3 to \$6 per tonne." Reinsurance company Swiss Re announced that its plans to reach net zero by 2030 include an internal carbon price of \$100 a tonne from 2021, an increase from its present \$8/tonne. In summary, the future price of carbon removal credits is very difficult to predict. That is one reason that some companies are choosing to finance the lifecycle of the project themselves.

³³ IC-VCM

³⁴ McKinsey, 2021, A blueprint for scaling voluntary carbon markets to meet the climate challenge, [link](#)

³⁵ McKinsey, 2020, How the voluntary carbon market can help address climate change, [link](#)

Further Reading

BCG: www.bcg.com/about/net-zero

The Co-op: <https://www.coop.co.uk/climate>

Sky: <https://www.skyzero.sky/>

WRI, 2019, What Does “Net-Zero Emissions” Mean? 8 Common Questions, Answered: <https://www.wri.org/insights/net-zero-ghg-emissions-questions-answered>

Natural Capital Partners, 2021, Simplifying Climate Complexity: Making Net Zero meaningful for business:
<https://www.naturalcapitalpartners.com/insights/blog/making-net-zero-meaningful-for-business>

Natural Capital Partners, 2021, Research into climate actions and commitments of Fortune Global 500:
<https://info.naturalcapitalpartners.com/reality-check>

SBTi, 2021, Corporate Net Zero Standard:
<https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf>

SBTi, 2021, Beyond Value Chain Mitigation FAQ:
<https://sciencebasedtargets.org/resources/files/Beyond-Value-Chain-Mitigation-FAQ.pdf>

Forbes, 2022, What Every CEO Needs To Know About Net Zero Pledges: <https://www.forbes.com/sites/jamiehailstone/2022/02/21/what-every-ceo-needs-to-know-about-net-zero-pledges/?sh=22d3e4a43f8d>

Climate Impact Partners

ClimateCare and Natural Capital Partners have merged to form Climate Impact Partners, delivering solutions for action on climate.

Together with the world's leading companies and quality project partners we will cut 1 billion tonnes of CO₂ by 2030 to transform the global economy, improve health and livelihoods and restore a thriving planet.

We do this by developing and delivering the highest quality carbon financed projects, from which we create carbon credit and energy attribute certificate portfolios. This enables organisations to offset the emissions they can't reduce, put a price on carbon to incentivise change, and meet their ambitious climate goals.

Climate Impact Partners builds on the expertise, integrity, and innovation of two companies that have led the voluntary carbon market – Natural Capital Partners and ClimateCare. Fuelled by a relentless drive for rapid action and results, our global team continues to pioneer the market's growth, and set the standards for quality that will maximise its impact.

Contact us

To find out how Climate Impact Partners can help your company achieve its net zero goals, contact us at:

[**solutions@climateimpact.com**](mailto:solutions@climateimpact.com)

To read more about net zero and watch videos with our team of climate finance experts, visit:

[**netzeroforbusiness.com**](https://netzeroforbusiness.com)

To learn about our company that has led the voluntary carbon market, visit:

[**climateimpact.com**](https://climateimpact.com)

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A merger of ClimateCare
& Natural Capital Partners