UK Hydrographic Office

Sustainability
Roadmap

August 2023

ADMIRALTY

Contents

Charting a sustainable future

We are committed to helping build a better future for our people, the natural world, and our communities. This roadmap sets out a 3 year pathway to reduce our negative environmental impact, support the communities we interact with, and expand our influence in developing a more sustainable maritime industry.

The current and future sustainability challenges faced by the maritime industry highlight a pressing need to reshape the way the sector operates. As the largest provider of maritime data solutions, we recognise our role in meeting these needs and defining the future of navigation.

There is a huge amount of good work happening across the UK Hydrographic Office (UKHO) in relation to our people, our communities and contributing to a healthier planet. Our science-aligned Net Zero target, alongside a shorter-term Carbon Neutrality target will help us to quantify our progress while demonstrating our commitment to tackling the effects of climate change.

Although sustainability has previously sat in siloes, in recognising its importance to ourselves and our stakeholders, we have initiated the process of understanding its role across the UKHO, helping us to identify where we are not doing enough, and where we need to go further.

Our holistic systems approach will continue to assist us in developing considerable depth and breadth of understanding during this process, which will help to catalyse sustainability solutions development going forward.

We are proud of the progress we have made to date, and consider our Greening Government Commitments (GGC) an integral part of delivering real-world impact on sustainability. This roadmap sets out our sustainability journey so far and our ambition over the coming years to address the pressing sustainability challenges facing our industry.

Charlie McNichol-Fardon,
Head of Sustainability

1 Executive Summary

We recognise our role in decarbonising the shipping industry …

Maritime transport emits around 940 million tonnes of CO_2e annually and is responsible for about 3% of global emissions[1].

To avoid the most dangerous impacts of climate change, planetary warming must be limited to 1.5°C. To achieve this, the amount of greenhouse gases added to the atmosphere each year must be reduced to zero, by no later than 2050. With more than 80% of global trade carried by sea[2], the maritime sector serves as a critical link in many global supply chains.

We recognise the critical role that our products and services play in the transition through route optimisation and improved geospatial data.

We will play an active role supporting our customers to achieve their Net Zero commitments. Recognising this, we have set an ambitious science-based commitment to Net Zero by 2050 which involves reducing, offsetting and insetting our emissions to carbon neutrality from 2030.

940m
tonnes of CO_2 to reduce shipping emissions to zero by 2050

80%
of global trade carried by sea

“

By reducing our footprint, we will not only continue to serve our customers but also meet our Greening Government Commitments and support our staff and wider community on their own journeys to Net Zero.”

Stephen Potts, Director of Finance and Corporate Services

[1] UKRI (2021), [2] UNCTAD (2022), [3] UKRI (2021)

… and in supporting safe, secure, and thriving oceans

As the Primary Charting Authority for over 63 countries, and an executive agency of the Ministry of Defence, we are committed to protecting Safety of Life at Sea. This extends to all communities affected by our business.

Protection of oceans and marine resources is crucial for the 37% of the global population living in coastal communities who rely on the ocean for their food, home and jobs. Our geospatial data plays a critical role in monitoring and protecting these environments and addressing the challenges by Small Island Developing States and other coastal communities.

We also represent the UK government worldwide as experts and advisors on seabed mapping, marine navigation and marine geospatial data. Our widespread support helps others to build an understanding of the marine environment, enabling the protection of the world's oceans and improving Safety of Life at Sea. We will play an active role in extending this to support our people and our communities, helping them to thrive in a changing world.

63
countries rely on the UKHO as their Primary Charting Authority

37%
of the global population make up coastal communities

$3tn
estimated value of ocean economy in 2030

"
It is important for us to support coastal communities, helping them to thrive across the world. Recognising this, we have invested in a number of programmes to support this endeavour."

Charlie McNichol-Fardon, Head of Sustainability at UKHO

[1] OECD (2021)

Our journey
has already begun

April 2019
Moved to new HQ which
reduced our operational
carbon emissions by half

April 2021
We set a commitment to
be Carbon Neutral by 2030
commiting 1% of our annual
revenue to support this

April 2022
Defined our commitment
to a science-aligned Net Zero
target by 2050

October 2022
Appointed our first sustainability
lead to consolidate and deliver our
commitment to our people, our
communities and a healthier planet

July 2023
Published our first sustainability roadmap

Our sustainability roadmap is aligned to achieve 12 of the UN Sustainable Development Goals

The UN Sustainable Development Goals (SDGs) were adopted in 2015 to provide a blueprint for peace and prosperity for people and planet, now and into the future. There are 17 SDGs which are an urgent call to action by all countries – developed and developing – in a global partnership. The target to achieve these is 2030.

Charting the course to Net Zero

We will take action within our organisation and alongside our customers and suppliers to minimise our climate impact.

Protecting our communities

We will prioritise Safety of Life at Sea and support inclusive communities.

Sustainable navigation

We will innovate to leverage value from blue data and support the development of positive cascading outcomes for the marine environment.

This roadmap defines our action during the next 3 years

Our immediate focus will be on delivering our carbon commitments.
In year 1 we will develop a site strategy to address our operational emissions and a supply chain strategy to address those in our value chain.

2030

Charting the course to Net Zero

Carbon emissions

Clear strategy to address our supply chain emissions

Develop strategy to tackle on-site emissions

Carbon neutral from 2030

Water resources

Reduce water consumption and enhance stewardship

Protecting our communities

Our employees

Develop an organisational engagement programme

Sustainability steering group to deliver our objectives

Policy review to embed sustainability in everything we do

Our communities

Support our local community

Map and report progress of community programmes

Sustainable navigation

Our products

Ensure sustainability is at the heart of our products and services

Our influence

Utilise our position across various industry associations to progress the sustainability agenda

Delivering for our stakeholders

Five key stakeholder groups were identified and mapped when establishing our sustainability pillars and priorities:

Colleagues
Our colleagues are at the heart of what we do and we want to encourage our people to thrive in a sustainable future.

Defence
As there is increasing pressure on the government to decarbonise and meet the UK's Net Zero goals, our roles in the decarbonisation of Defence is increasingly important.

Customers
We recognise our role in helping our customers reduce their emissions as they make their own carbon reduction commitments.

Coastal communities
Whilst reaching Net Zero is crucial, we want to ensure that we are adequately supporting and creating opportunities for the coastal communities that are impacted by our business.

Government
As an executive agency, sponsored by the MOD, we are delivering on the Greening Government Commitments.

Our programmes deliver sustainable outcomes across the globe

### Carbon Neutral surveys to assist marine conservation[1]

In 2022, we completed a seabed mapping survey for the Cayman Islands. This allowed scientists to better understand the impact of climate change on sea levels.

The project also assisted marine conservation efforts by uncovering information about the depth and nature of the seabed and its ecosystems. The entire footprint of this hydrographic survey was offset through a certified offsetting scheme, making it the first known carbon-neutral survey.

Innovating to support safe, secure and thriving oceans[2]

In 2020, our ADMIRALTY Marine Innovation Programme began helping start-ups and innovators develop solutions to support safe, secure and thriving oceans.

Spearheaded by our Research, Design and Innovation team and RE_SET, the programme provided innovators with a chance to develop new solutions to help solve some of the world's most pressing oceanic challenges, such as coastal inundation, offshore renewable energy and maritime insurance innovation.
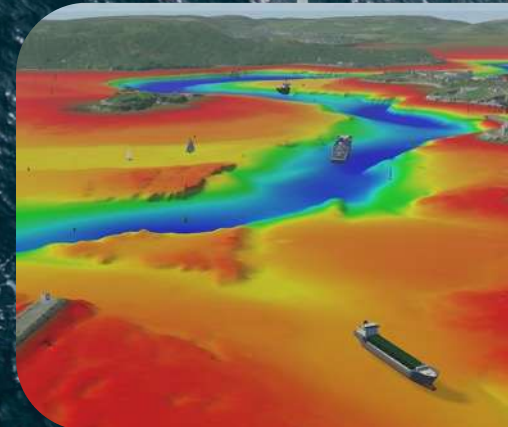
Developing regulations to support a sustainable blue economy[3]

In 2020, we worked with partners across Southern Africa to develop regulations and promote compliance with international obligations. We also discussed the wider use of data for supporting marine spatial planning, maritime infrastructure development, environmental protection and management of resources. These are all fundamental activities for developing a sustainable blue economy.

During the seminars, we helped develop an implementation plan, created regional peer support networks and developed regulation and legislation.

[1] UKHO (2022), [2] UKHO (2020), [3] UKHO (2020)

2
Greening Government Commitments

Our targets also ensure we are meeting our Greening Government Commitments (GGC)

The **GGC's framework for 2021 to 2025** sets out the actions that the government will take to improve the environmental impact of the government estate and its operations, whilst promoting greater efficiency and best use of taxpayer money, from a 2017 to 2018 baseline. The government aims to have met, or exceeded, the GGCs by the end of the financial year 2024 to 2025.

The UKHO's progress against the GGCs are summarised below:

A
Mitigating climate change: working towards Net Zero by 2050

Reduce the overall greenhouse gas emissions from estate and operations, with policies to compensate and report on progress.

The UKHO has already made strong progress in reducing its overall GHG emissions by 62% from the 2017/18 baseline, driven primarily by the new HQ building. A Net Zero roadmap has also been developed to support ongoing efforts to be carbon neutral by 2030 and Net Zero by 2050.

B
Minimising waste and promoting resource efficiency

Reduce the overall amount of waste generated, with sub targets addressing waste to landfill, proportion recycled and food waste.

To date, the UKHO has reduced the overall amount of waste generated by 85% from a 2017/18 baseline, nullified waste to landfill and increased the amount of waste recycled to 73%, exceeding the GGC requirement. In 2022, the waste disclosure in the annual report expanded to include food waste, and wastewater in 2023. Over the next 3 years, the UKHO will report on the introduction and implementation of reuse schemes.

C
Reducing our water consumption

Measure and reduce water consumption and provide a qualitative assessment of efforts to encourage efficient use.

Since moving into the new HQ building, water demand has fallen by 81% from the 2017/2018 baseline, surpassing the GGC requirement. Over the next 3 years we will start to develop a qualitative assessment to show what is being done to encourage efficient use of water both in our organisation and our supply chain.

D
Procuring sustainable products and services

Buy more sustainable and efficient products and services with the aim of achieving the best long-term, value for money for society.

We have reviewed our supply chain and procurement practices and our next step will be to explore how we can support our suppliers to adopt sustainable practices that align with our sustainability goals. We are looking to establish a monitoring approach for our progress in sustainable procurement. This will enable us to identify and address procurement priorities for each department, ensuring that we recognise potential risks across all of our products and services.

E
Nature recovery – making space for thriving plants and wildlife

Improve and develop a nature recovery plan, to improve biodiversity.

Through an assessment of our land use practices, we are identifying areas where permaculture principles can be applied to improve soil quality, water usage, plant and animal diversity as well as overall ecosystem health. As part of our future site strategy, we will be working towards implementing techniques such as companion planting, and water catchment systems.

F
Adapting to climate change

Conduct a Climate Change Risk Assessment across estates and operations and develop a plan in response to the risks identified.

Having delivered a 'BREEAM Excellent'* head office building, we are now working to refine and integrate our internal environmental management systems, with the aim of achieving the ISO 14001 certification. To help us achieve this, we have established an Environmental Management System board which will lead the climate change risk assessment across our estates and operations to best identify target areas for resilience planning and areas for continual improvement.

G
Reducing environmental impacts from ICT and digital

Deliver an annual ICT and digital footprint, waste and best practice data for each department and partner organisation.

We will use the Greening Government: ICT and Digital Services Strategy to develop our own strategic approach for the sustainable management of our ICT and digital services. Our strategy will align with the MOD's core principles: reduce our environmental footprint, use digital to adapt and evolve, and deliver responsible and assured procurement.

3

Understanding our carbon commitments

Understanding our carbon commitments

The UKHO has committed to Carbon Neutrality by 2030 and a science-aligned Net Zero target by 2050. But what does this mean?

Carbon Neutral by 2030

Carbon neutrality means not adding new greenhouse gas (GHG) emissions to the atmosphere. Where emissions continue, they must be offset by absorbing an equivalent amount from the atmosphere.

For example, the UKHO can achieve carbon neutrality through carbon capture and reforestation that is supported by carbon credit schemes.
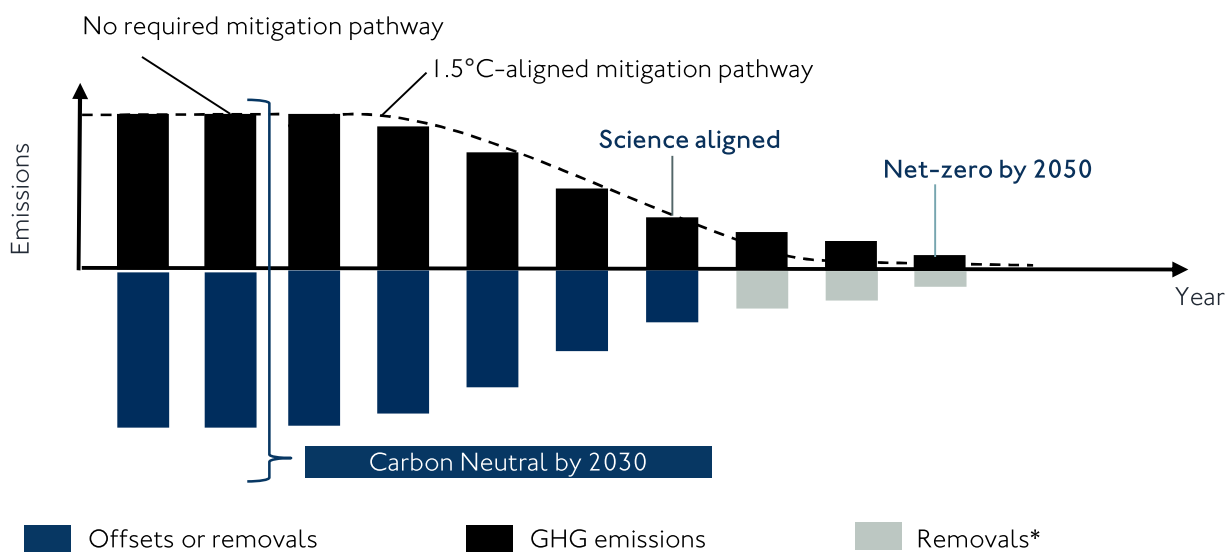
Net Zero by 2050

Net Zero means reducing Green House Gas emissions to as close to zero as possible, with any remaining emissions offset.

This long-term reduction target will reduce the cost of offsetting to meet the UKHO carbon neutrality target.

Science aligned reduction targets are 5–15 year reduction targets in line with a 1.5°C climate scenario.

Our Net Zero roadmap has outlined key actions we will take to reduce our emissions by 52% by 2035.

The diagram below illustrates our pathway to Carbon Neutrality and Net Zero following a science aligned, 1.5°C aligned mitigation pathway.

No required mitigation pathway

1.5°C-aligned mitigation pathway

Science aligned

Net-zero by 2050

Emissions

Year

Carbon Neutral by 2030

■ Offsets or removals   ■ GHG emissions   ■ Removals*

*Measures to remove carbon from the atmosphere within or beyond the value chain.
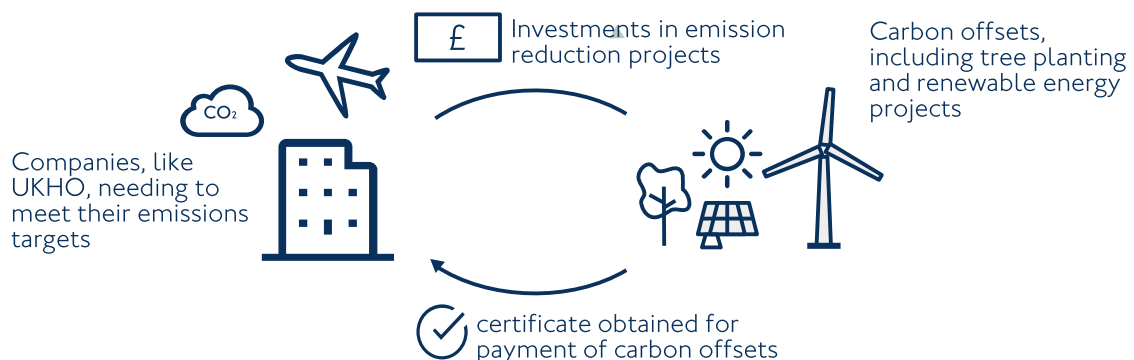
Carbon neutral by 2030

In 2021 we set our Carbon Neutrality target. This means from 2030 we will begin to offset our annual GHG emissions. There are a variety of mechanicms used by orgnaisations to achieve this; carbon offsetting and carbon insetting.

What is carbon offsetting?

A carbon offset is a reduction in emissions of carbon dioxide made to compensate for emissions occurring elsewhere.

Carbon offsets need to be measurable, verifiable emission reductions from certified projects that reduce, remove or avoid GHG emissions. These projects must adhere to a rigorous set of criteria to gain verification from third party agencies. Credits are then purchased on the voluntary carbon market (VCM) to compensate for an organisation's emissions by avoiding or reducing emissions elsewhere.

The UKHO has the opportunity to invest in Blue Carbon projects that establish and maintain healthy mangrove ecosystems on degraded lands, sustainably managed carbon sequestration and sustainable livelihoods in coastal communities.

£ Investments in emission reduction projects

Carbon offsets, including tree planting and renewable energy projects

CO₂

Companies, like UKHO, needing to meet their emissions targets

certificate obtained for payment of carbon offsets

What is carbon insetting?

Unlike carbon offsetting which involves financing external projects, carbon insetting implements sustainability measures within a company's value chain. Nature-based solutions such as reforestation, renewable energy, and regenerative agriculture, help achieve this.

Carbon insetting aims to achieve carbon neutrality by reducing emissions internally rather than relying solely on external mechanisms. One of the main benefits is the ability to directly address emissions within a company's operations.

Organisations should approach carbon insetting with a genuine commitment to sustainability and be transparent in its effectiveness. Countries and organisations need to identify high-integrity projects that adhere to robust climate methodologies. Measuring and monitoring emission reductions accurately can be complex, leading to inaccurate and misleading statements.

Net Zero by 2050

In 2022 we increased this commitment to a Net Zero target. Our long-term reduction targets follow a science-aligned mitigation pathway. Reducing our emissions will also reduce our cost to offset.

Why do we need to decarbonise?

To avoid the most dangerous impacts of climate change, planetary warming must be limited to 1.5°C.
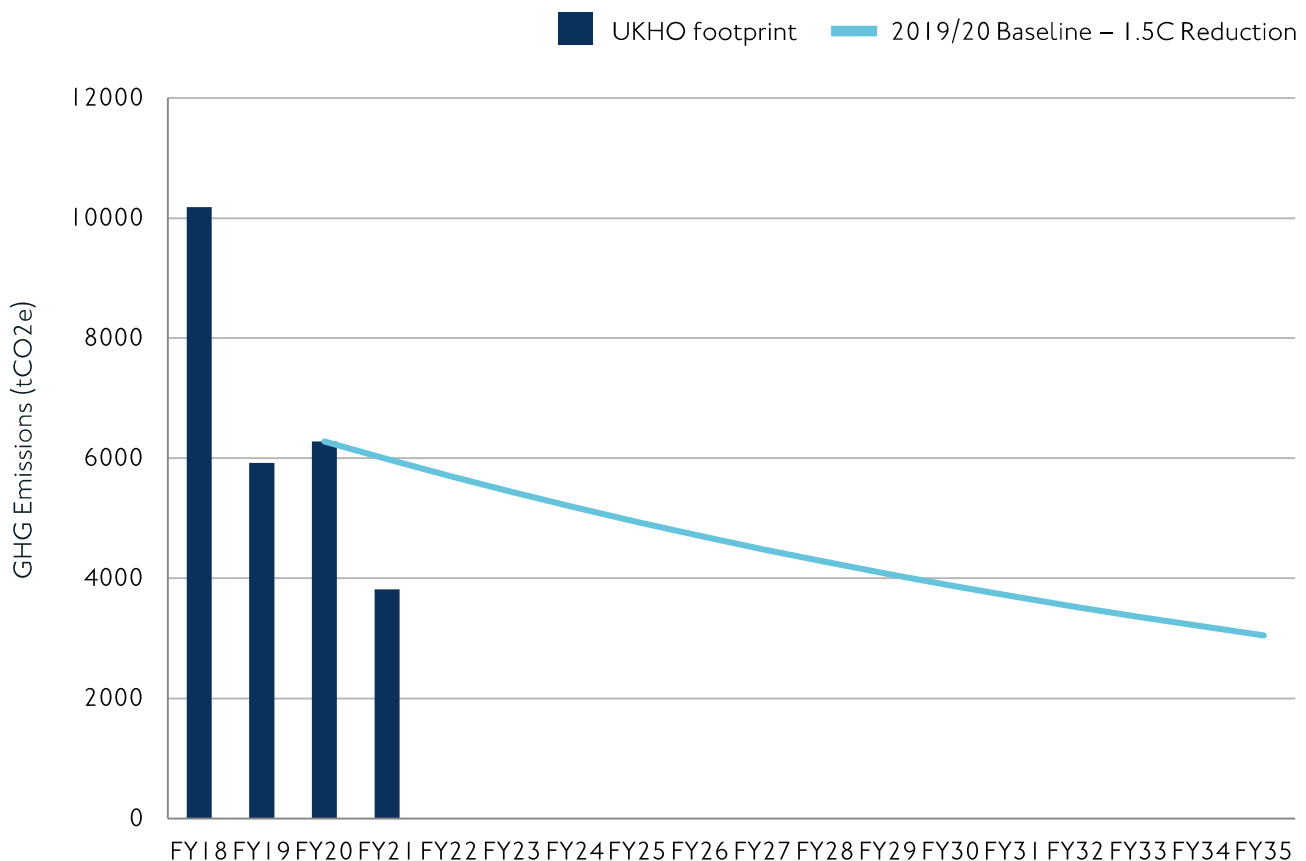
To do this, the global rate of decarbonisation must rapidly accelerate from 0.5% a year to 15.2% a year. Every year of delayed action this rate significantly increases, making net zero more challenging to achieve. To reach the International Maritime Organization's (IMO) goal of Net Zero by 2050, the shipping industry will need to reduce its emissions by more than half by 2030 while also keeping up with global demand.

We have set a science-aligned Net Zero target

We have set a Net Zero target in line with climate science, set year on year to stay on track for 1.5°C warming. Our target covers both our operational and value chain emissions. This means we are aiming to reduce our direct energy consumption as well of those of our suppliers and customers.

In 2021 we developed a Net Zero roadmap that outlines the key actions we can take to reduce our overall emissions by 52% by 2035. Our recent site strategy plan sets out a pathway to achive a reduction of 88% from our scope 1 and 2 emissions by 2030 on our way to achieving zero emissions by 2050.

The sustainability site plan details a three phase approach that includes nine modelled decarbonisation interventions including additional site solar PV, additional EV charging infrastructure, electrification of heat, installation of a wind turbine and land based ecological interventions.

Annex: Glossary

Glossary

Term	Description
Abatement	The prevention, reduction or elimination of emission sources, to reduce the concentration of certain gases and contaminants in our environment.
Blue Carbon	The carbon stored in coastal and marine ecosystems.
BREEAM	An established method of assessing, rating, and certifying the sustainability of buildings.
Carbon Credit	An asset that represents a certain volume of emissions removed or avoided through offsetting projects. Companies may purchase and retire these credits to claim the emissions reductions for themselves.
Carbon Market	A system of trading carbon credits. Carbon markets may be voluntary or mandated by the government.
Carbon Neutral	Making or resulting in no net release of carbon dioxide into the atmosphere, especially as a result of carbon offsetting.
Carbon Offset	A process that involves a reduction in, or removal of, carbon dioxide or other greenhouse gas emissions from the atmosphere in order to compensate for emissions made elsewhere.
Emissions trading schemes	A type of carbon market where the government imposes a sector-based, regional, or nationwide cap on emissions. Companies operating within these schemes may only emit carbon according to how many allowances they own and may trade these allowances between themselves. Also called 'cap and trade'.
Greenhouse Gas Emissions (GHG)	Are gases in the earth's atmosphere that trap heat, causing climate change, and contribute to respiratory disease from smog and air pollution (these include carbon dioxide, methane and nitrous oxide).
Insetting	A strategy that involves companies paying for emissions reduction or removal projects within their own value chain.
Mitigation	Measures that reduce greenhouse gas emissions by preventing activity that would have caused emissions. For example, switching to renewable energy or avoided deforestation.
Net Zero	Achieving an overall balance between residual emissions produced and emissions taken out of the atmosphere.
Offsetting	Achieves neutrality by purchasing equivalent carbon offsets to counterbalance CO_2 emissions.
Removal	Measures that directly soak up greenhouse gases (GHGs) from the atmosphere, which can be achieved through natural, geological or technological methods.
Science based Targets (SBT)	Short- to medium-term targets (between 5-15 years) that are developed in line with what climate science states is required to meet the goals of the Paris Agreement. Companies can set targets to align with either a 1.5°C or well-below 2°C pathway.
Upstream/ Downstream emissions	Upstream emissions come from the production of your business's products or services, while downstream emissions come from their use and disposal.

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