



Science-Based Targets, Net Zero Carbon & Offsetting

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Housekeeping



Slides and poll results will
be shared afterwards



Your microphones
have been muted



Questions? Use the Q&A
feature



Use the 'Chat' function to share
ideas/comments

Agenda

1. The reason we're all here
2. The science behind science-based targets
3. Recap on scopes
4. What are science-based targets and how to apply
5. What is net zero carbon?
6. What do we do with residual carbon?

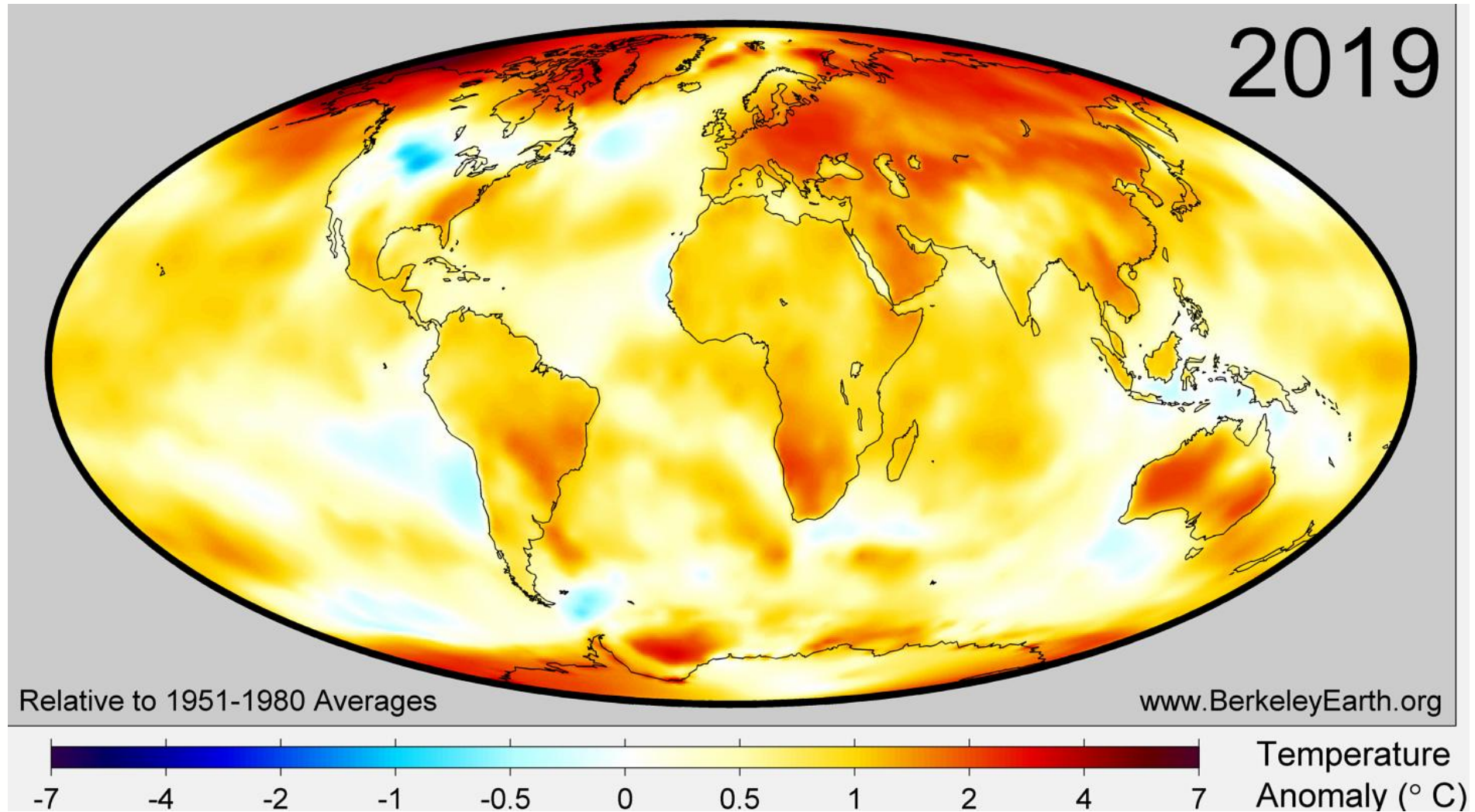
SUPPLY CHAIN SUSTAINABILITY



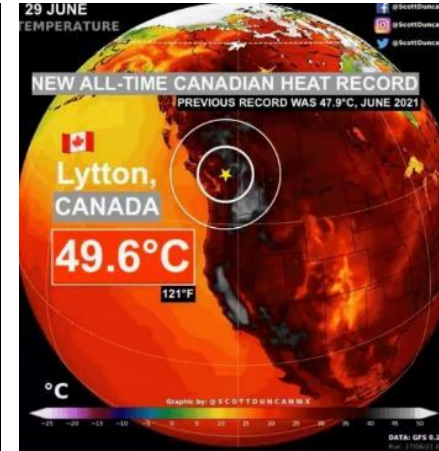
Why are we
reducing carbon?



Global Temperature Anomalies in 2019



The consequences ...



SUPPLY CHAIN SUSTAINABILITY



**What is the
response, target
and progress?**



The Paris Climate Change Agreement, COP21, 2015

- Reduce emissions of the “basket of 6” Kyoto Protocol GHGs
- In line with a well-below 2°C or 1.5°C warming scenario
- Each nation to make Nationally Determined Contributions – NDCs – UK’s = 68% by 2030 vs 1990



IPCC Special Report, 2018



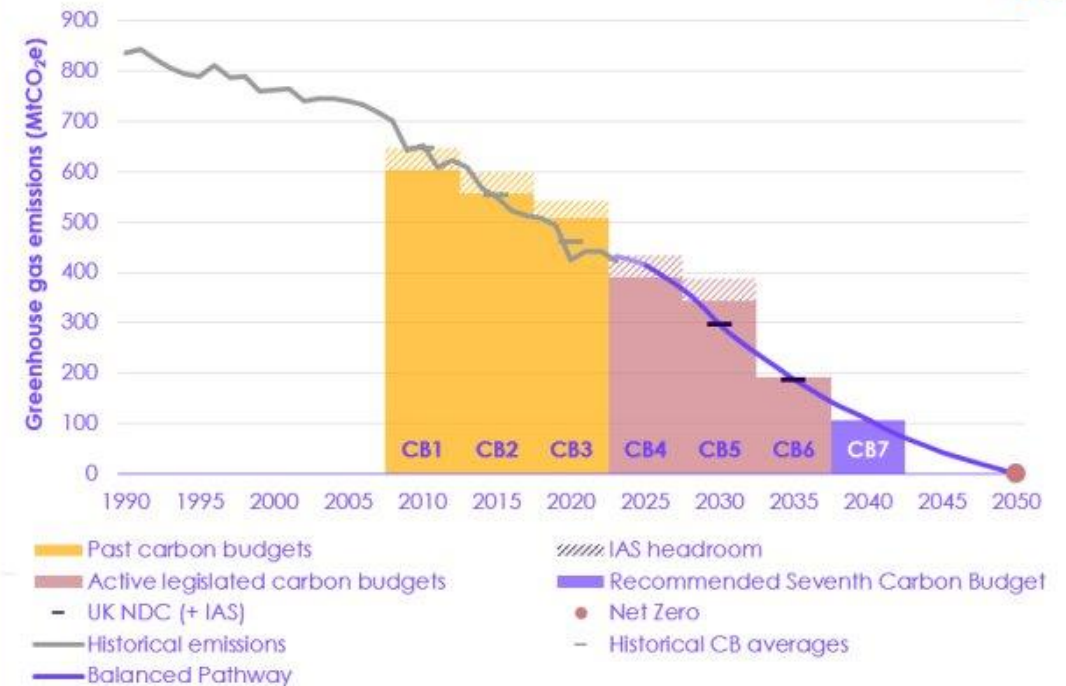
An IPCC special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty

- 2°C is not enough - the impacts from a 1.5°C world are markedly less than a 2°C world: extreme weather events, impact on biodiversity, ice melt...
- “Pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in **energy**, land, urban and **infrastructure (including transport and buildings)**, and industrial systems.
- These systems transitions are unprecedented in terms of scale, but not necessarily in terms of speed, and imply deep emissions reductions in all sectors, a wide portfolio of mitigation options and a significant upscaling of investments in those options “
- [For] 1.5°C ... renewables are projected to supply 70–85% of electricity in 2050.

The Law!

- UK Climate Change Act target of 100% reduction by 2050 – ‘net zero’
- Scotland has legislated to hit net-zero by 2045
- Wales’ target to reduce by 95% by 2050 but aiming for net zero
- Ireland has legislated to hit net-zero by 2050
- New intermediate target for UK of 81% by 2035 vs 1990 baseline

Figure 1 The recommended Seventh Carbon Budget



Description: The Balanced Pathway meets the UK's existing future emissions targets and sets the recommended level for the UK's next target: the Seventh Carbon Budget.

Source: Department for Energy Security and Net Zero (DESNZ) (2024) *Provisional UK greenhouse gas emissions national statistics 2023*; DESNZ (2024) *Final UK greenhouse gas emissions national statistics: 1990 to 2022*; Climate Change Committee (CCC) analysis.

Notes: See Chapter 3. 'CB' refers to the UK's carbon budget. 'CB1' refers to the First Carbon Budget; subsequent numbers refer to subsequent carbon budgets. 'IAS' refers to international aviation and shipping. 'UK NDC' refers to the UK's Nationally Determined Contributions.

SUPPLY CHAIN SUSTAINABILITY

SCHOL

Net Zero Carbon

Net zero

- ‘Net zero’ is about **reducing your GHG emissions as much as possible**, following the carbon hierarchy and in line with **IPCC**/Paris Climate Agreement
- It covers the **whole value chain** – upstream and downstream – to reduce carbon, not just your organisation, and includes everything you use: transport, products & services, waste, etc
- For many organisations, **more than 80 - 90%** of the carbon could be outside the business, i.e. scope 3!
- Only once emissions have been reduced can you **balance any remaining hard-to-decarbonise emissions with GHG Removals**
- ISO Guidance: <https://www.iso.org/netzero>



Net zero vs carbon neutral

Net Zero	Carbon Neutral
Scopes 1, 2 and 3	Scopes 1, 2 and 3
Reduce emissions by at least 90%	No defined ambition for reduction, but needs to be aligned with climate science
Can only offset final max 10% of residual emissions	Follows a carbon hierarchy: Reduce -> Carbon Removal
ISO 14060 standard launching SBTi corporate Net Zero standard	ISO 14068-1 standard

It can be confusing!



Take care when organisations say they are 'carbon neutral' or 'net zero'.



Or even when they ask that you are!



Are they talking about only their Scope 1 and 2, or is it Scope 3 also?



Ask the question!



Carbon Positive....

Carbon Negative.....

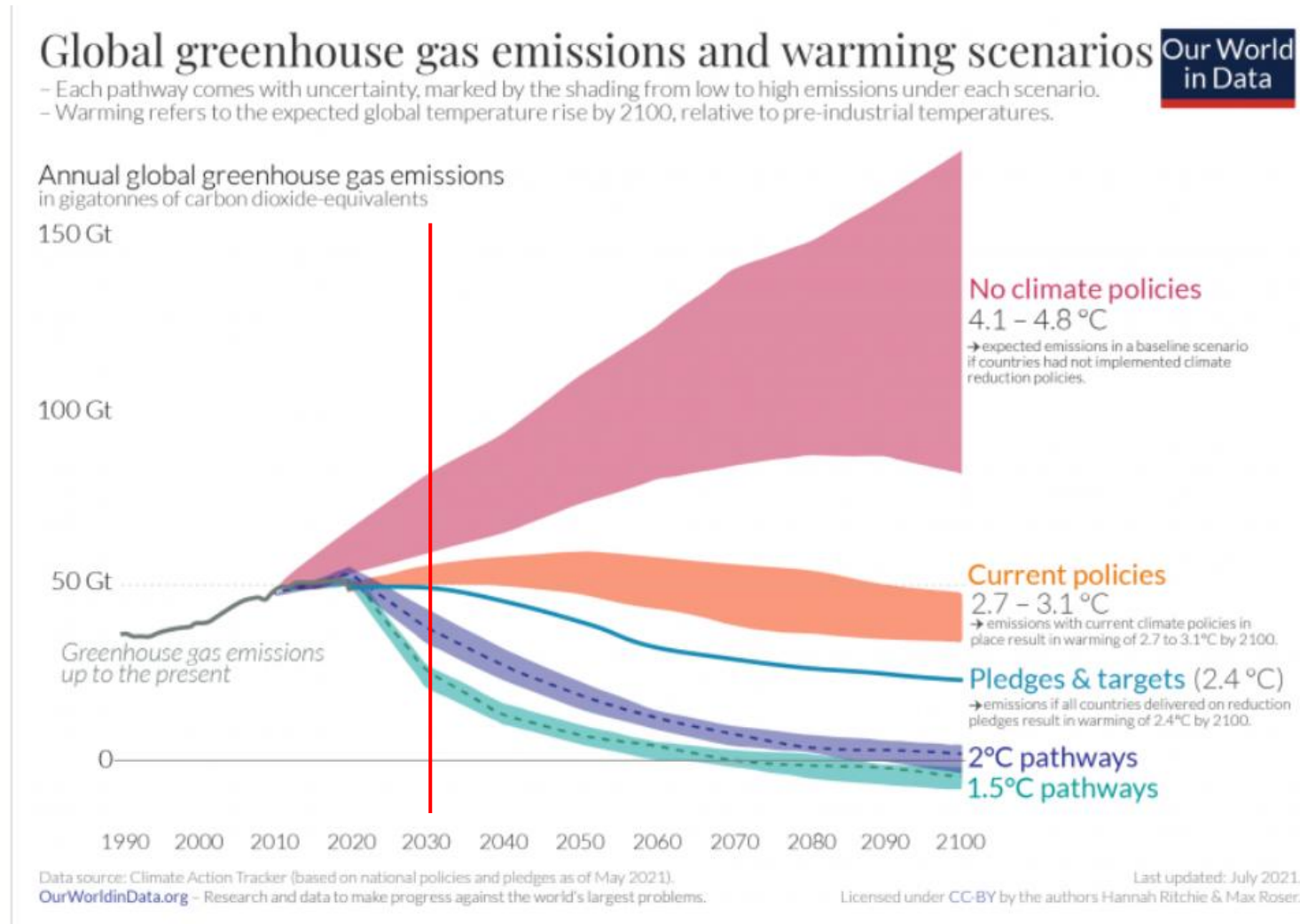
SUPPLY CHAIN SUSTAINABILITY



What makes
the targets
'science-based'?



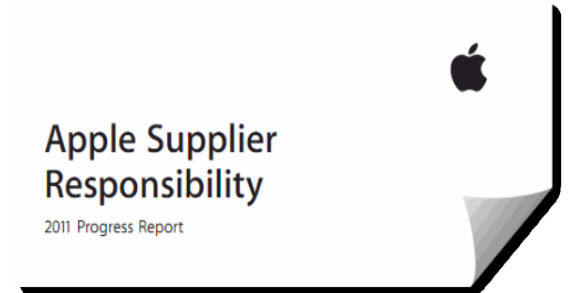
The science-based route to a lower carbon world



- SBT are the process of aligning with the science behind the Paris Climate Change Agreement
- Distilled into what that means at an organisational level
- Leading to reduction targets on a near-term and long-term timeframe for that organisation
- Hence targets are 'science-based' as they align with the science of the Paris Climate Agreement to limit warming to 1.5°C

But, why should we...?

- Reporting for compliance
- Reduced risk of energy security
- Stay ahead of regulation
- Identify hotspots to make carbon reductions and cost savings
- Improve reputation
- Meet stakeholder/client demands
- Win new work
- Become a market leader
- Which all means data reporting and accuracy...



SUPPLY CHAIN SUSTAINABILITY



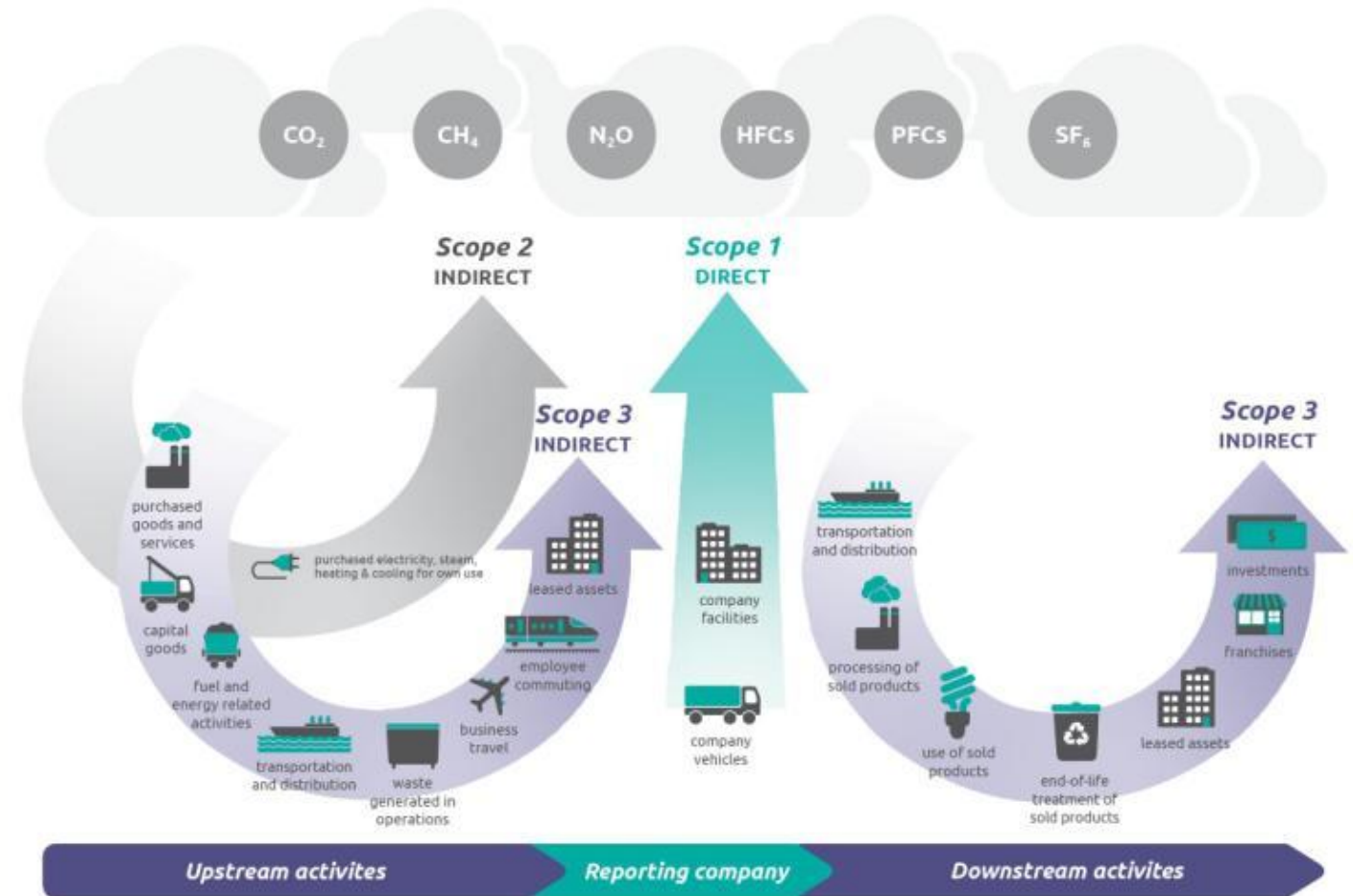
Recap on Scopes



Operational Boundaries – Scopes

- **Direct emissions** are emissions from sources that are owned or controlled by the reporting company
- **Indirect emissions** are emissions that are a consequence of the activities of the company but occur at sources owned or controlled by another company

Figure [1.1] Overview of GHG Protocol scopes and emissions across the value chain



SUPPLY CHAIN SUSTAINABILITY



The Science Based Targets Initiative - SBTi



The Science Based Targets Initiative (SBTi)

- Who they are and their purpose:
 - A partnership between CDP, the UN Global Compact, the World Resources Institute and the World Wildlife Fund
 - A method for any organisation to set carbon emissions reduction targets in line with the Paris Climate Agreement that has long term goals for the planet and global economy
 - Identify opportunities to reduce carbon and cost, and report to your clients



SUPPLY CHAIN SUSTAINABILITY



Setting a Science Based Target



WHY SHOULD COMPANIES SET SBTS?

Science-based targets give your business a **clear path** to reduce its greenhouse gas (GHG) emissions **in line with climate science**.

They can provide your business, its shareholders, investors and customers **confidence** that you are playing your part in **tackling the climate crisis**.

Setting science-based targets isn't just the right choice for the planet—it's the right choice for your business. **91% of companies said science-based targets had a positive impact on their business overall**, with favourable impacts reported across reputation, strategy, and long-term financial performance.

THE FIRST THING YOU NEED TO CONFIRM IS COMPANY CATEGORISATION

	Categorisation	Emissions	Balance sheet (€) worldwide	Net Turnover (€) worldwide	Employee Number
Large Meet one threshold or more	A For all geographies	X	X	>450m	>1000
Medium Meet two thresholds or more	A _{high income countries} B _{low, lower-middle, and upper middle-income countries}	X X	<25m <25m	Between 50 – 450 m Between 50 – 450 m	Between 250 – 1000 Between 250 – 1000
Small Meet emission threshold and two others	B _{for all geographies}	<10,000 tCO ₂ e across S1+2	<25m	<50 m	<250

All companies must register for an account using the new SBTi Services Validation Portal, before making a commitment or submitting targets for validation. This registration step will confirm whether your company is eligible to make a commitment and set targets.

1. Register

2. Commit

Submit your intent to set a science-based target via the target Validation Portal.

Develop your targets using Science Based Targets initiative standards, criteria and guidance available

3. Develop

4. Submit

Prepare your target submission forms and submit them to SBTi Services via the Validation Portal to start your validation.

Announce your targets and inform your stakeholders.

5. Communicate

6. Disclose

Annually disclose progress made towards your science-based targets.

THE NEW CORPORATE NET-ZERO STANDARD VERSION 2.0 – WHY THE UPDATE?

- 11,000+ companies now have SBTi targets
- Gap between **ambition vs delivery** is growing
- New standard (released June 2026) moves focus to **real-world decarbonisation**

Ambition (targets set)



Delivery (actual reductions)



 Delivery gap

THE NEW CORPORATE NET-ZERO STANDARD VERSION 2.0 – WHAT’S CHANGED?

- New tiered requirements based on company size. Category A businesses now need to submit carbon reduction plans and get third party GHG verification.
- All companies must report GHG emissions and target progress annually.
- Targets move to a 5-year cycle, you renew your near-term targets at the end of each cycle to stay ahead of your long-term/Net Zero targets.
- Scope 1 and 2 targets are now separate targets.
- Reduction percentages are built to be moving more dynamically depending on base year, target year, sector, etc.

THE NEW CORPORATE NET-ZERO STANDARD VERSION 2.0 – TIMELINE

- ✅ Now – V1.3.1 is still valid
- 🟡 2026–2027 – Transition period
- 🔴 Jan 2028 – V2.0 mandatory

COMPANY CATEGORISATION AND TARGETS

Table 1. An overview of target types and requirements.

	Scope 1	Scope 2	Scope 3
Near-term targets (5-year targets)	Required for all companies	Required for all companies	Required for Category A companies
Long-term targets (targets to reach residual emissions levels by 2050 at the latest)	Dependent on target-setting method	Optional for all companies	Optional for all companies
Net-zero targets combine scope 1, 2, and 3 near-term and long-term targets, together with the neutralization of residual emissions at the net-zero target year. Net-zero targets are optional for all companies. ¹			

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3. Develop

SCOPE 1 TARGET-SETTING

- **Absolute emissions reduction targets:**
follows a linear reduction pathway from the base year to Net Zero
- **Emissions intensity reduction targets:**
reduce emissions per unit of output (mainly for steel, cement and chemicals sector)
- **Asset transition targets:**
decarbonise by phasing out high-emitting assets and replacing them with low-carbon alternatives (using mostly asset transition timelines)

Develop your targets using Science Based Targets initiative standards, criteria and guidance available

3. Develop

SCOPE 2 TARGET-SETTING

- **Absolute emissions reduction targets:**
follows a linear reduction pathway from the base year to Net Zero
- **Low-carbon electricity targets:**
increase the share of electricity sourced from low-carbon sources - either low-carbon power generation or contracts (e.g., power purchase agreements, renewable energy certificates)

Develop your targets using Science Based Targets initiative standards, criteria and guidance available

3. Develop

SCOPE 3 TARGET-SETTING

- **Absolute emissions reduction targets:**
reduce total value-chain emissions to residual levels by net zero.
- **Supplier / customer alignment targets:**
increase the share of value-chain partners with science-based targets.
- **Category- or activity-specific targets:**
set tailored targets for key emissions categories or high-impact activities.

Target options like absolute reduction, volume reduction, supplier alignment, product use targets, etc.



Corporate Near-Term Tool

Version: 2.5
Support: info@sciencebasedtargets.org

Scope 1&2 Tool User Guide

Section 1: Input emissions and activity data as required by the selected Target Setting Method. Required input fields are highlighted in yellow.

Section 2: Summary of emissions reduction target data and visualizations, Sector-specific intensity convergence / Sectoral decarbonization approach (SDA).

Section 3: Summary of emissions reduction target data and visualizations, Cross-sector absolute reduction / Absolute contraction approach (ACA).

Section 4: All target modelling output data, SDA & ACA.

Section 1. Input data

Enter your company name		
Target setting method	Absolute Contraction Approach	This approach is not applicable to power generation emissions
SDA scenario		Not applicable
SDA sector		Not applicable
Base year	2025	Select a base year
Base year Activity output		
Base year Scope 1 emissions	2,000	tCO ₂ e
Base year Scope 2 emissions	2,000	tCO ₂ e
Target year	2035	Select a target year
Target year Type of activity projection		
Target year Activity output		
Most recent year (MRY)	2025	Select most recent year of available emissions&activity data
Net-zero year	2050	Optional input, defaults to 2050

Section 3. Cross-sector absolute reduction / Absolute contraction approach (ACA)

1.5 degree scenario (1.5C)
[Review all target modelling data](#)

	Base year (2025)	Same as base year	Target year (2035)	% Reduction to date	% SBT reduction
Scope 1 emissions (tCO ₂ e)	2,000	-----	1,160	-----	42.00%
Scope 2 emissions (tCO ₂ e)	2,000	-----	667	-----	66.67%
Combined Scope 1+2 emissions (tCO ₂ e)	4,000	-----	1,947	-----	51.33%



1. ABSOLUTE EMISSIONS BASED TARGET SETTING METHODS

Section 1.1. Input data (absolute targets)

Target coverage	Scopes 1,2 & 3	
Target setting method	Absolute contraction	To calculate intensity targets, please use Section 2.1. Input data (intensity targets)
Base year	2025	
Target year	2050	
Sector pathway	Cross-sector pathway	Please select sector pathway
Scope 1 emissions	2,000	tCO ₂ e
Scope 2 emissions	2,000	tCO ₂ e
Scope 3 emissions	80,000	tCO ₂ e
Total emissions in Scopes 1,2 & 3 (tCO ₂ e)	84,000.00	tCO ₂ e

Section 1.2. Absolute target results

	Base year (2025)	Target year (2050)	% Absolute Reduction
Company Scopes 1,2 & 3 (tCO ₂ e)	84,000.00	8,400.00	90.00%
Long Term SBT formulation	Company A commits to reduce Scopes 1,2 & 3 emissions 90% by 2050 from a 2025 base year		

SBTi Validation Portal

SBTi
SERVICES

Accounts

UAT19

Home

Commitment

Submission Validation

User profile

Company profile

Logout

Validation service

Submission elements

GHG Inventory

Targets

Progress and reporting

Evaluation questions

Payment

Terms & Conditions

GHG Inventory

Targets

Progress and reporting

Evaluation questions

Net Zero

S.10.1.1

Target year *

Please select the company's net-zero target year, ensuring that if power sector or maritime targets over the company's own operations are being set, the year is not later than 2040.

2050

Net-Zero Target Language

UAT19 commits to achieve net-zero greenhouse gas emissions across the value chain by 2050.

Near Term

Near-term energy and industrial targets

+ Add target

Stage	Target ID	Base Year	Target Year	Target Setting Approach	Ambition	Scope 1+2 emissions Coverage	Scop
Ready for submission	41732	2023	2032	Absolute - cross sector	56.6%	0%	0%
Ready for submission	41737	2024	2032	Absolute - cross sector	45%	0%	0%
Draft incomplete	41882	2024	0	Steel SDA	0%	0%	0%

The company has not covered 100% of scope 3 bioenergy emissions with near-term targets.

Companies using bioenergy must confirm that bioenergy associated emissions, including the net emissions from the combustion phase, the gross emissions from the processing and distribution phases, and land-related phases are covered in totality by eligible science-based targets. This applies even if the companies assume equal CO2 emissions from the combustion of bioenergy to bioenergy feedstock removals. Please update the scope 3 targets to ensure bioenergy coverage is 100%.

Help

Required fields

ValidationPortalsubmissionmanual.pdf

Route to Setting a Target: SMEs



Special, quicker route for SMEs:

- The SME can go straight to setting a near-term SBT for their scope 1 and 2 emissions.
- For a near-term target each business must choose a carbon baseline year and a target year between 5 and 10 years into the future
- Scope 3 near-term targets are not mandatory but you need to commit to measuring and reducing them anyway
- As with large organisations, SMEs must communicate their targets and publicly disclose their emissions inventory and progress against targets on an annual basis.
- Costs 1,000 GBP to get near-term targets validated. Corporates pay ~10,000 GBP depending on size.

SUPPLY CHAIN SUSTAINABILITY

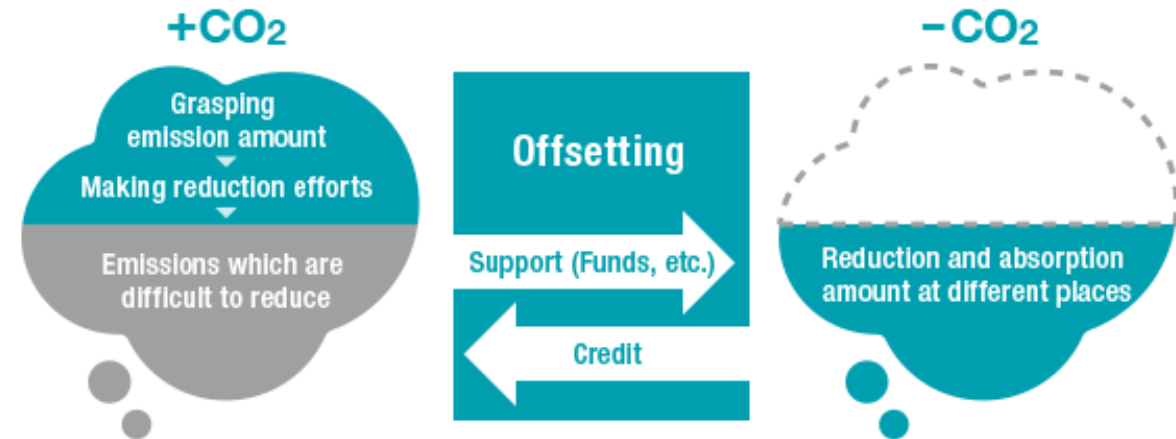


**What do we do
with hard-to-
decarbonise
residual carbon?**



What does 'carbon offsetting' mean?

- Compensating for GHG emissions that arise from an organisation, product or project in one place through GHG avoidance, reduction or removal activities elsewhere
- Achieved by investing in projects that will lead to lower carbon emissions overall when compared to a business-as-usual situation, that would not have otherwise happened without the investment



What does ‘good’ offsetting look like?

To be robust the offsetting needs to be

- ***Real (verifiable and traceable)***
- ***Additional***
- ***Measurable***
- ***Permanent***

Backed by a mechanism that is

- Independent, transparent, inclusive, with robust governance, avoids double counting

R

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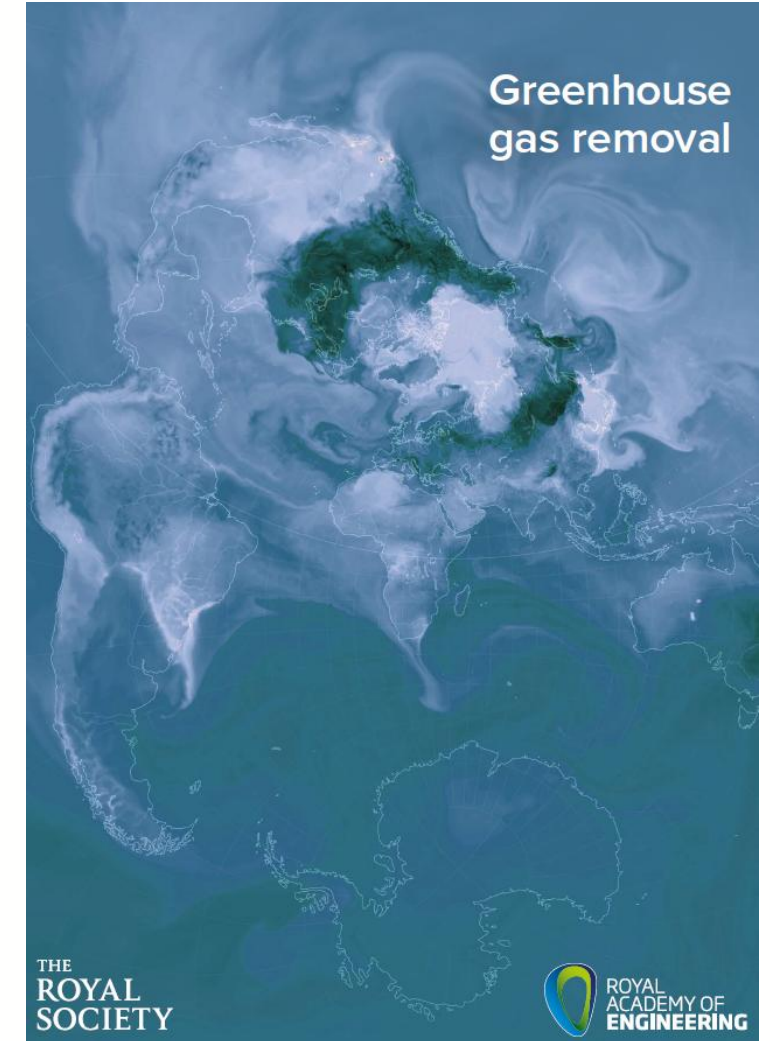
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Going further: GHG Removal

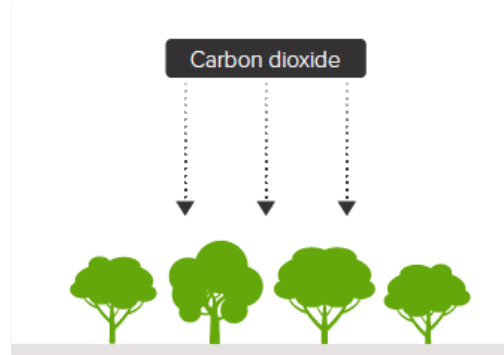
Actively removing GHG from the atmosphere

- Goes further than compensating for emissions in one place with reduced emissions elsewhere by actually removing the carbon from the atmosphere
- Variety of different routes and technologies to sequester carbon
- Some more developed than others
- Required for true, deep decarbonisation and net zero targets

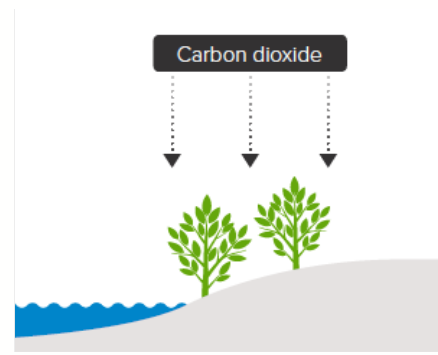


Going further than offsetting: GHG Removal

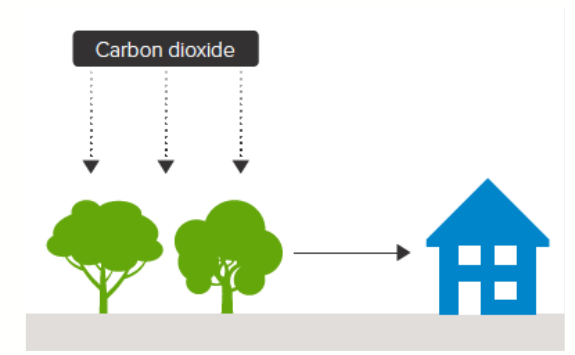
Afforestation, reforestation



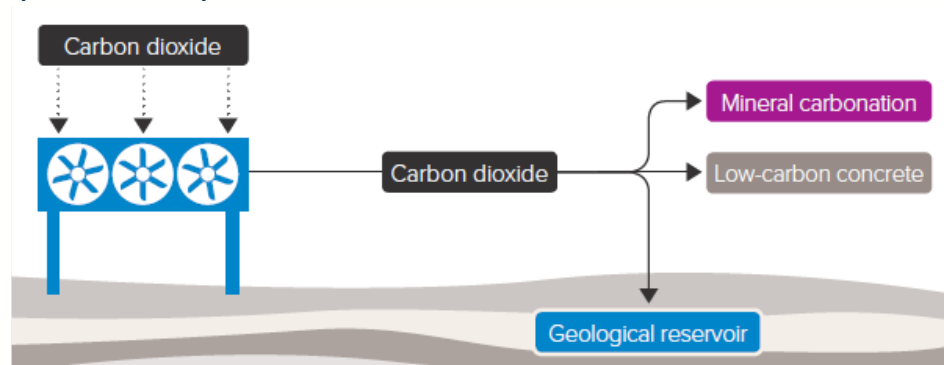
Wetland, peatland and coastal habitat restoration



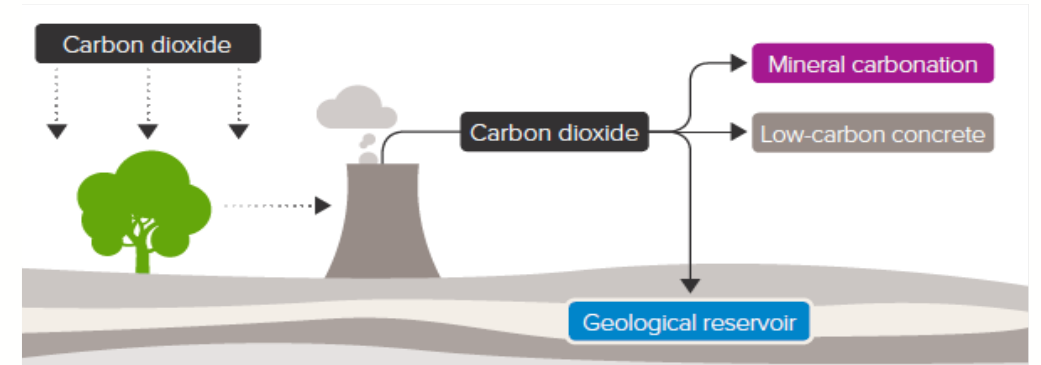
Building with biomass



Direct air capture and carbon storage (DACCS)



Bioenergy with carbon capture and storage (BECCS)



We'd Love to Hear Your Feedback...

Please take a moment to
complete our short form:

Feedback Form

<https://forms.office.com/e/b594i1FcHA>

24/06/26 - Science Based Targets,
Net Zero and Carbon Offsetting -
National Highways SDF





Thank you for your time

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