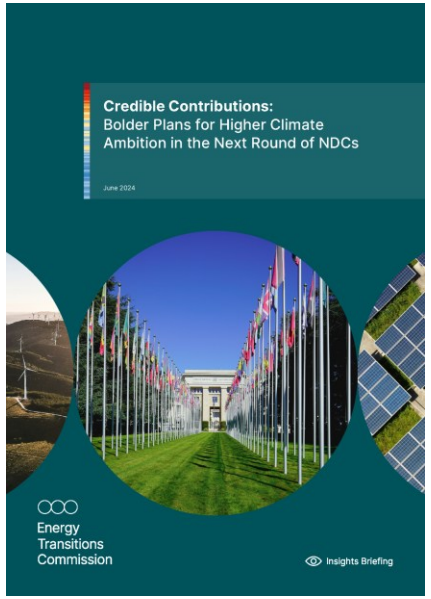
Energy Transitions Commission

Reaching Climate Objectives: the role of carbon dioxide removals

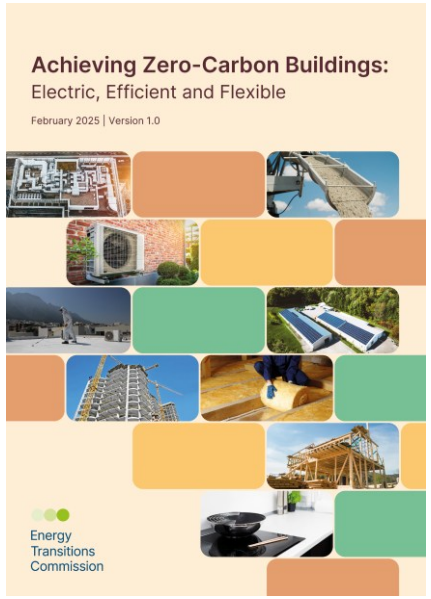
ETC Webinar – November 2025

The ETC's 2025 webinar series



February 13th

Credible Contributions: Bolder Plans for Higher Climate Ambition in the Next Round of NDCs



April 10th

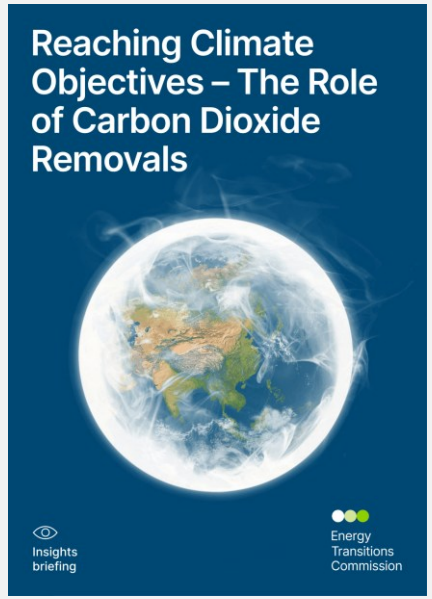
Achieving Zero-Carbon Buildings: Electric, Efficient and Flexible

July 15th

Insights across our "Barriers to clean electrification" series

October 1st

The Role of Hydrogen & Bio energy



November 25th

Reaching Climate Objectives: the role of carbon dioxide removals

Agenda

- Key messages from the report
- Updates and recent trends
- Q&A

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- **Key messages from the report**
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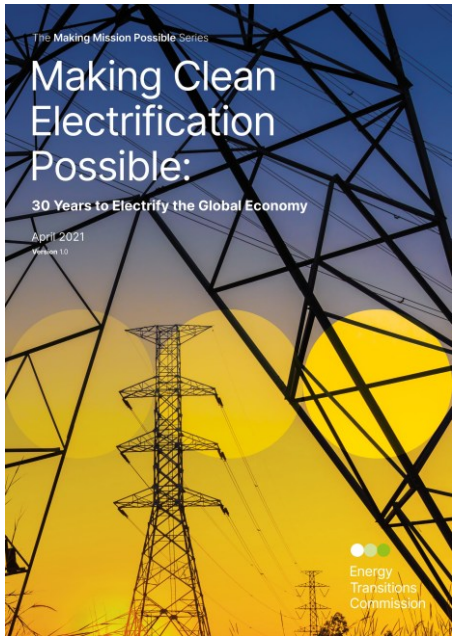
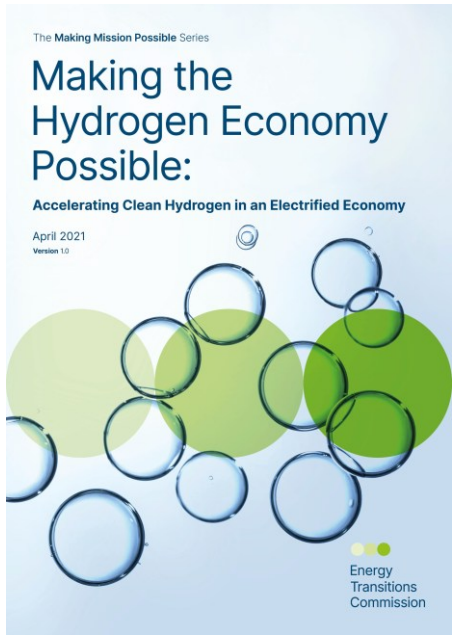
Reminder: Making Mission Possible series set out how to achieve a Net Zero economy by mid-century

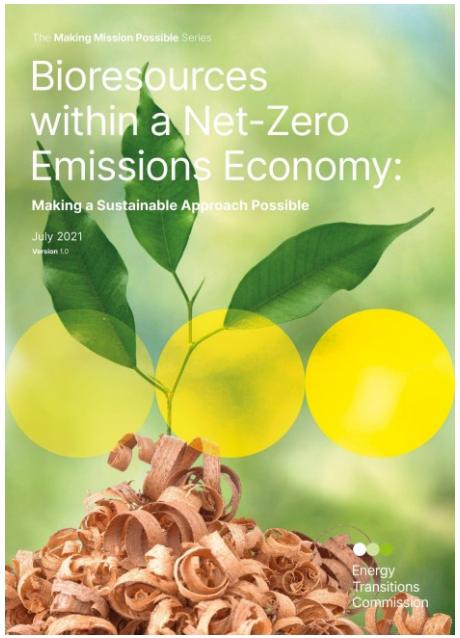
The Making Mission Possible Series

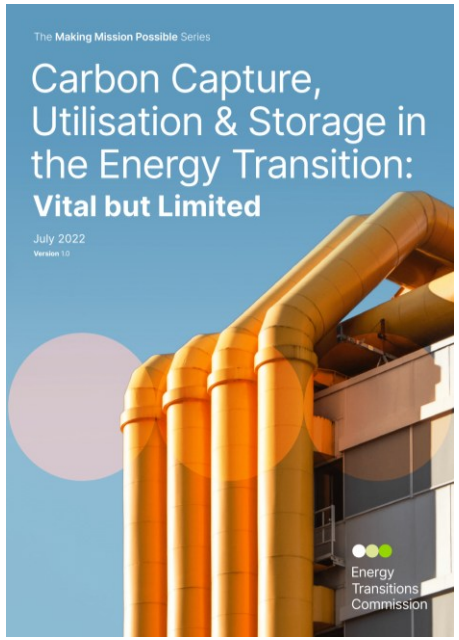
Decarbonisation

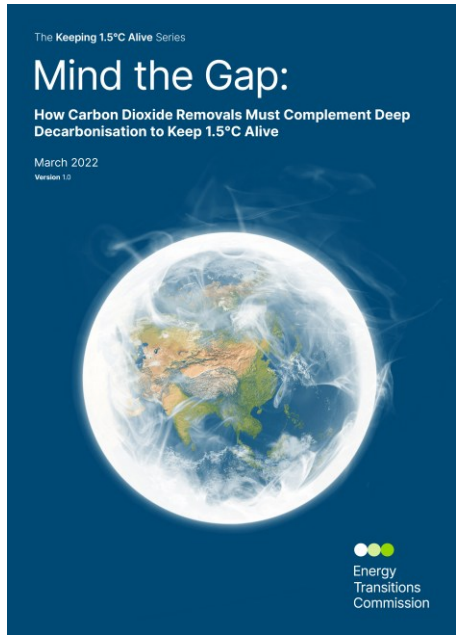
Negative Emissions

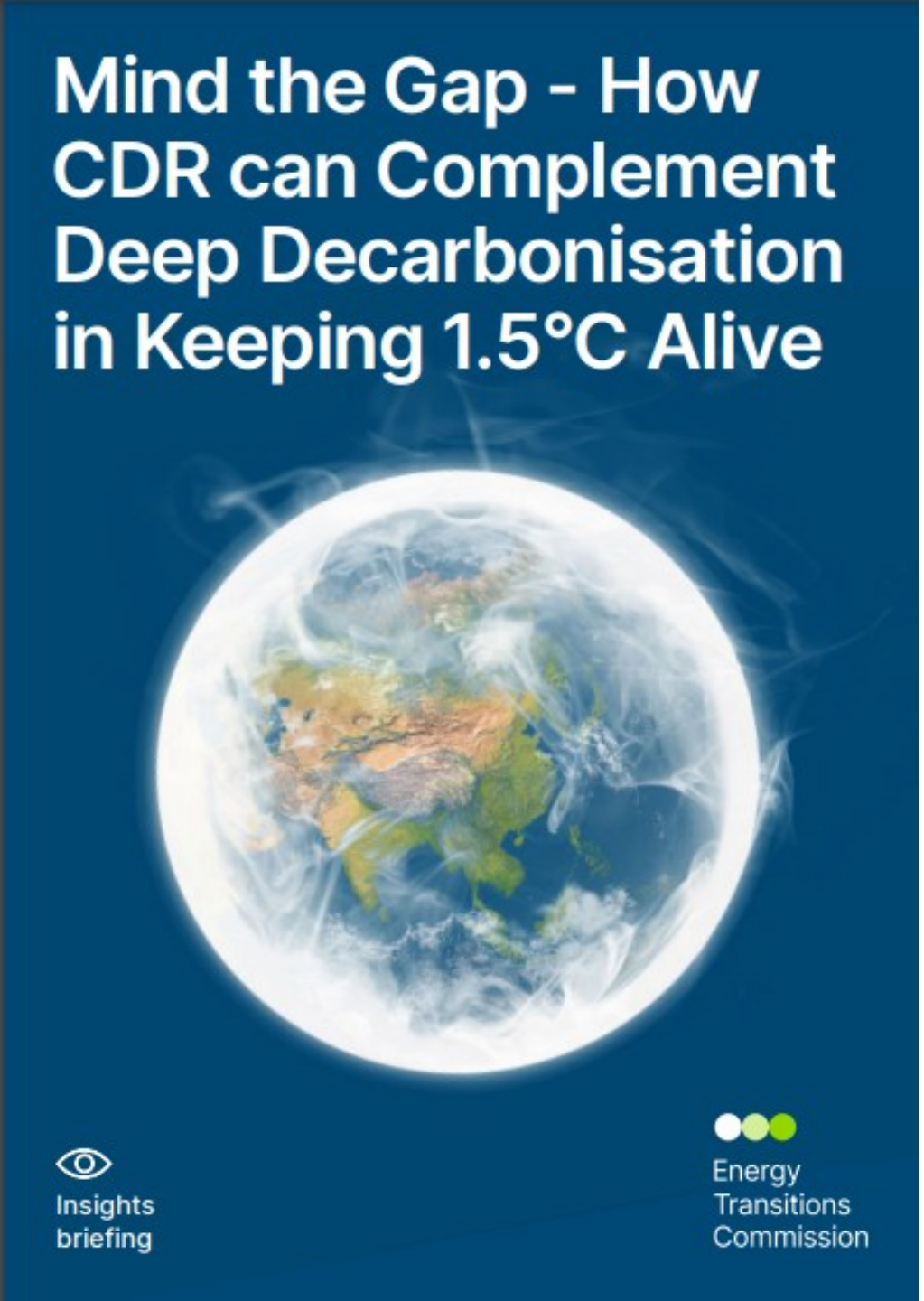












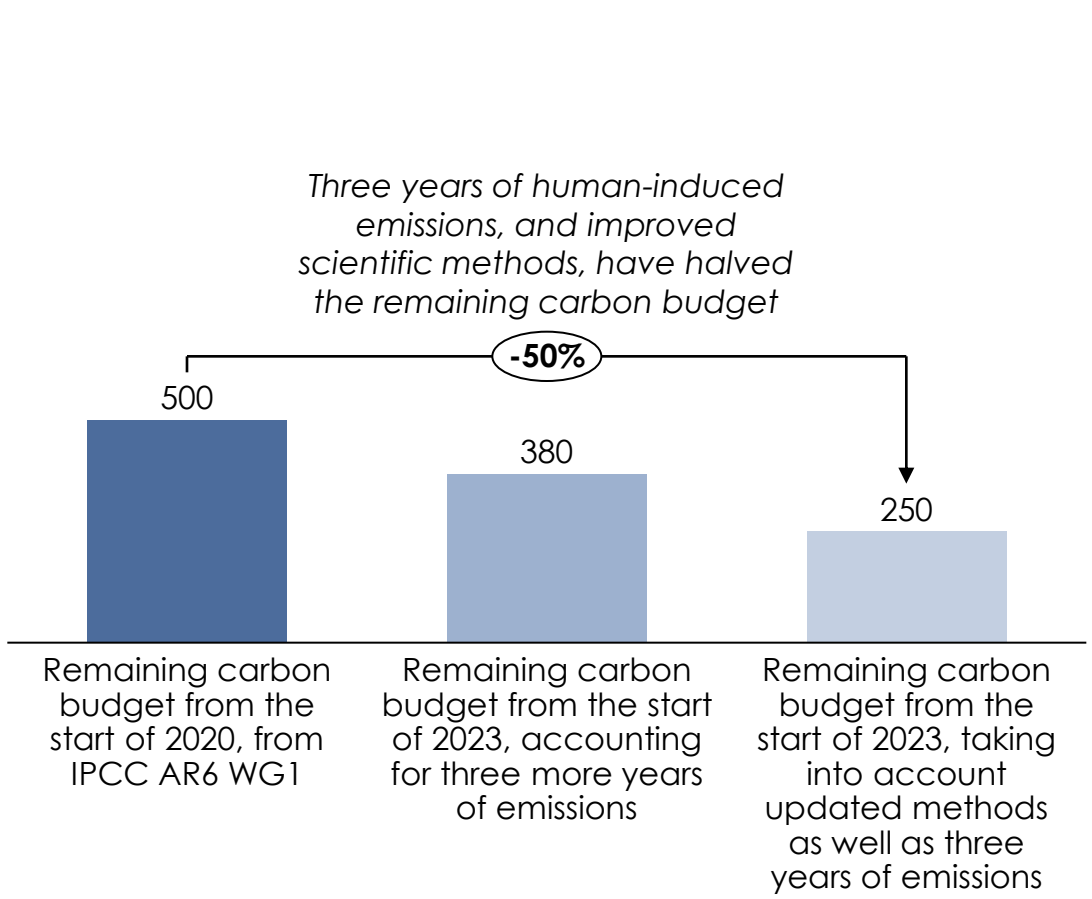
1. Despite ambitious decarbonisation strategies we will need **carbon dioxide removals** to fill a **70 ->225 Gt CO_2 carbon budget overshoot gap**
2. A portfolio of carbon dioxide removal solutions could be scaled up to cumulatively **remove 165 Gt CO_2 by 2050**, and an **ongoing rate of 3-5 Gt CO_2 p.a. thereafter**
3. Managing **risks to permanence and delivery** at scale will require robust monitoring and verification systems and secure finance
4. Removals will need to be paid for via a **combination of corporate and governmental efforts**
5. To deliver CDR at necessary scale, key policy and corporate actions must **support them in the 2020s**

Emission reduction scenarios and the overshoot gap

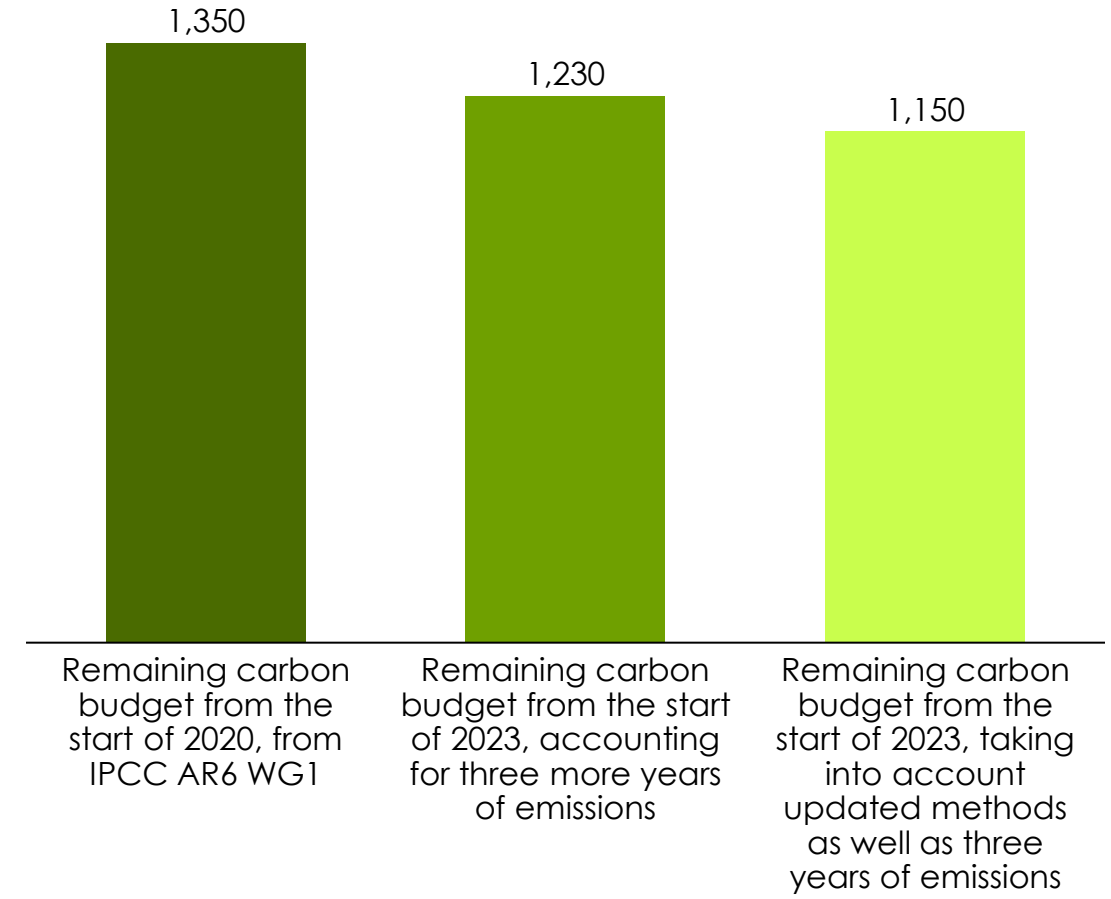
Carbon budgets to limit global average temperature increase to 1.5°C and 2°C have decreased, increasing the urgency of action in the short term

Carbon budgets for a given temperature rise, In $GtCO_2$

Budget for 50% chance of staying within 1.5°C



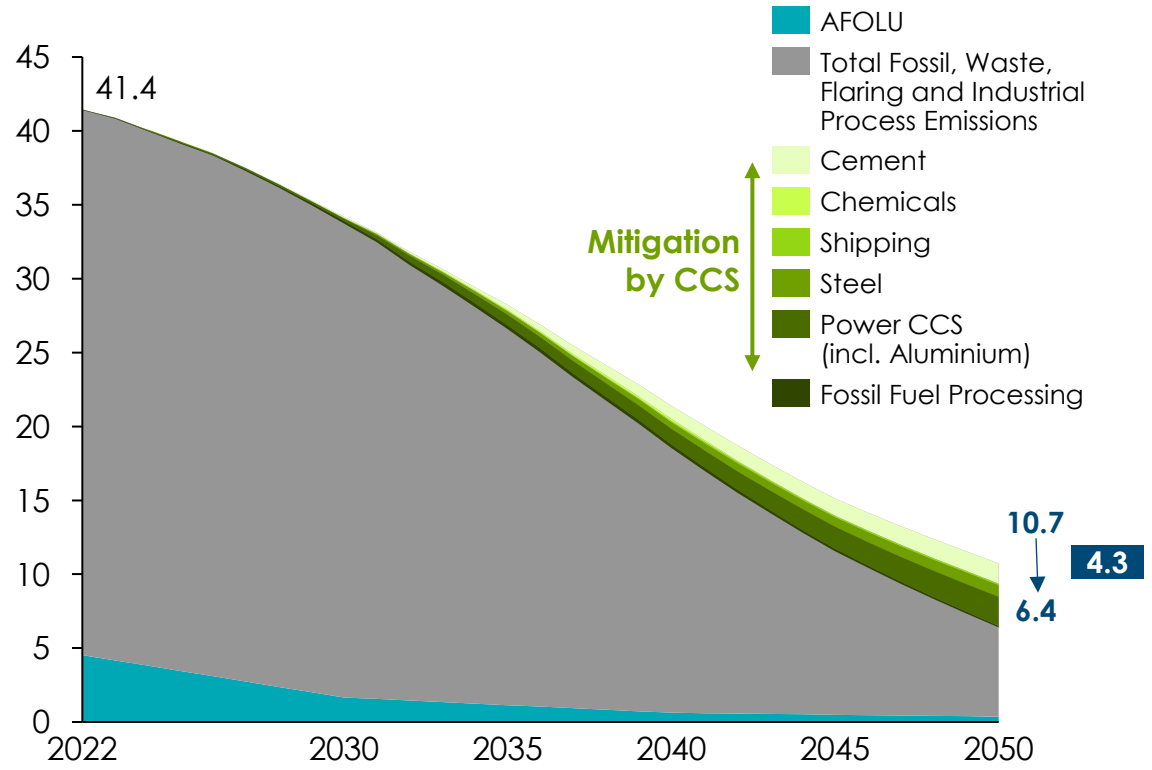
Budget for 50% chance of staying within 2°C



Emissions from fossil fuels & industry could fall rapidly; but cumulative emissions over the period are still likely to exceed carbon budgets

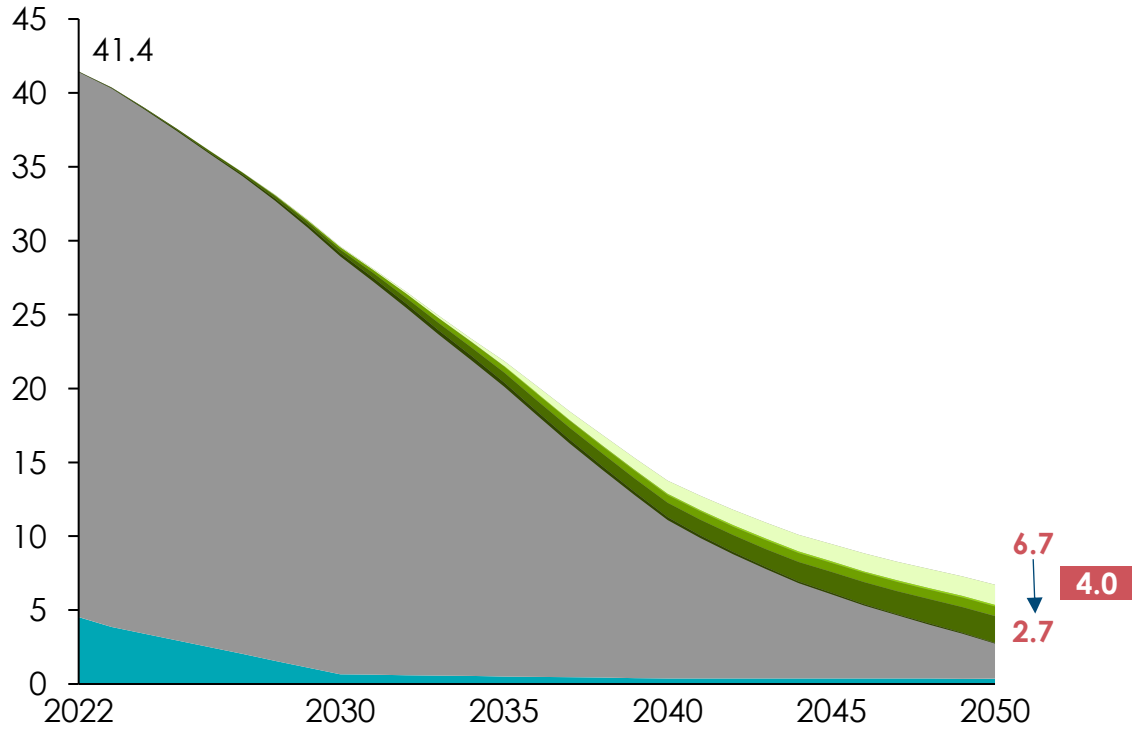
Net emissions from fossil fuels, industry and AFOLU after carbon capture and storage,
$GtCO_2$

ACCELERATED BUT CLEARLY FEASIBLE



Cumulative emissions 2023-2050:
630 $GtCO_2$ from fossil fuels and industry post-CCS + 40 $GtCO_2$ from AFOLU =
670 $GtCO_2$

POSSIBLE BUT STRETCHING



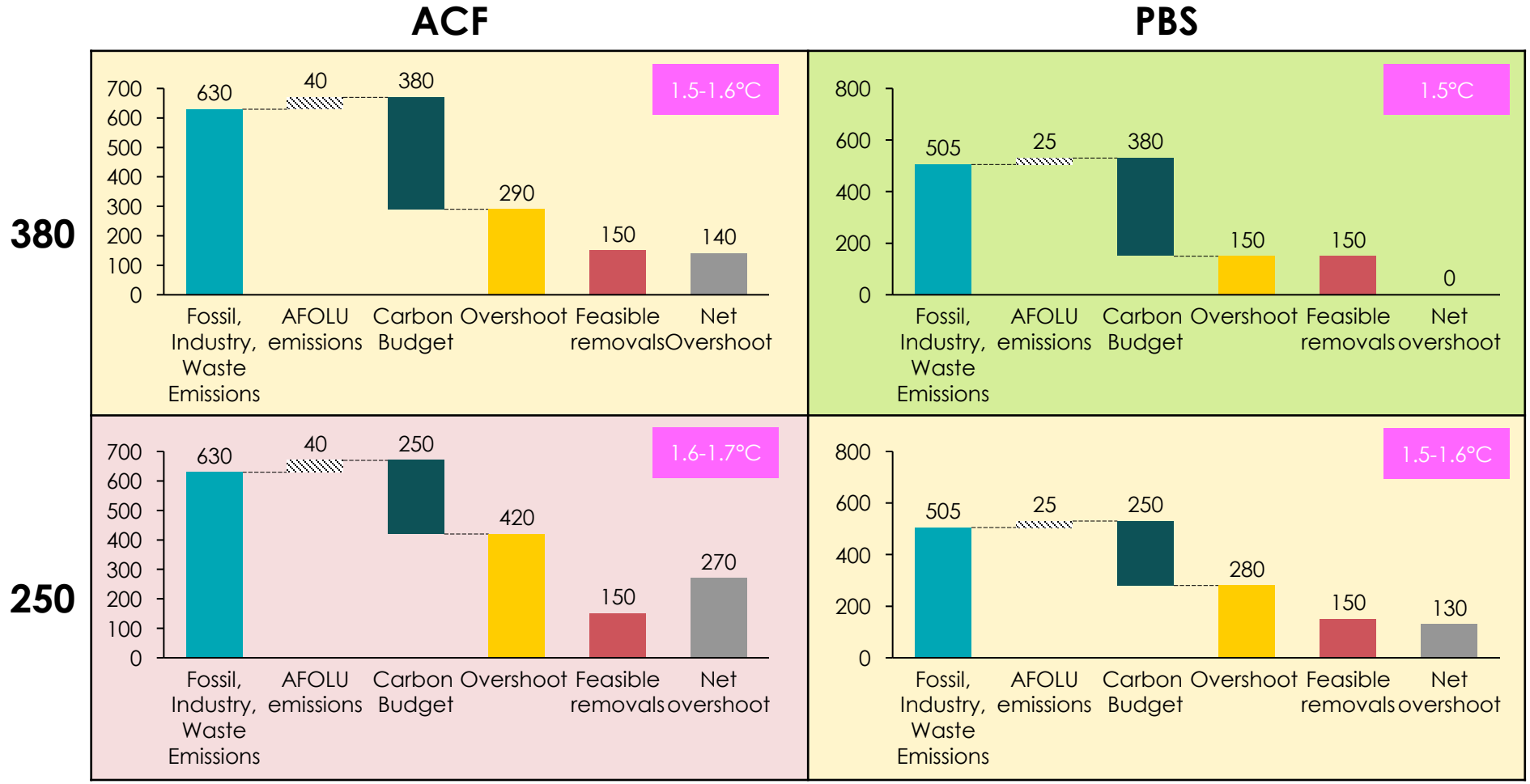
Cumulative emissions 2023-2050:
505 $GtCO_2$ from fossil fuels and industry post-CCS + 25 $GtCO_2$ from AFOLU =
530 $GtCO_2$.

Assuming a smaller remaining carbon budget, even ambitious carbon removal projections will not be sufficient to fill the overshoot gap

Net emissions overshoot and implied temperature rise, by scenario

Remaining carbon budget 2023 – 2050 for a 50% chance of limiting global warming to 1.5°C

Gt CO_2



Note: [1] Estimates calculated using values for the Transient Climate Response to Cumulative Emissions of Carbon Dioxide (TCRE), using a value range of 0.27-0.63 C per 1000 $GtCO_2$, based on the IPCC's Sixth Assessment Report. Note that the temperature estimates calculated here will likely underestimate future warming, as these do not account for the warming impact of other greenhouse gases, notably methane and nitrous oxide.
SOURCE: Systemiq analysis for the ETC; IPCC (2021) Climate Change 2021: The Physical Science Basis; Forster et al. (2023), *Indicators of global climate change 202: annual update of large-scale indicators of the state the climate system and human influence.*

Typology of carbon dioxide removals and associated risks

A portfolio of CDR solutions will be required to mitigate carbon budget overshoot

NATURAL CLIMATE SOLUTIONS

'RESTORE'

Restore natural ecosystems (e.g., forests, peatlands)

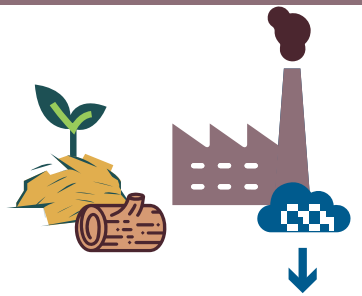
'MANAGE'

Better manage current use of land

HYBRID/BIOMASS WITH CARBON REMOVAL STORAGE

BIOCHAR

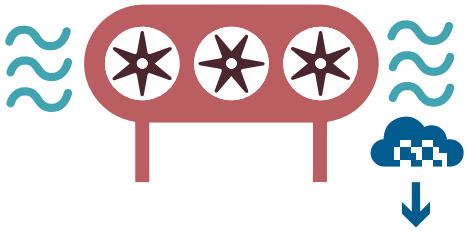
Burn biomass in absence of oxygen to slow decomposition



BECCS

Produce energy from biomass then capture CO2 produced

ENGINEERED SOLTUIONS



DACCS

Capture CO2 direct from air and store underground

IN ADDITION

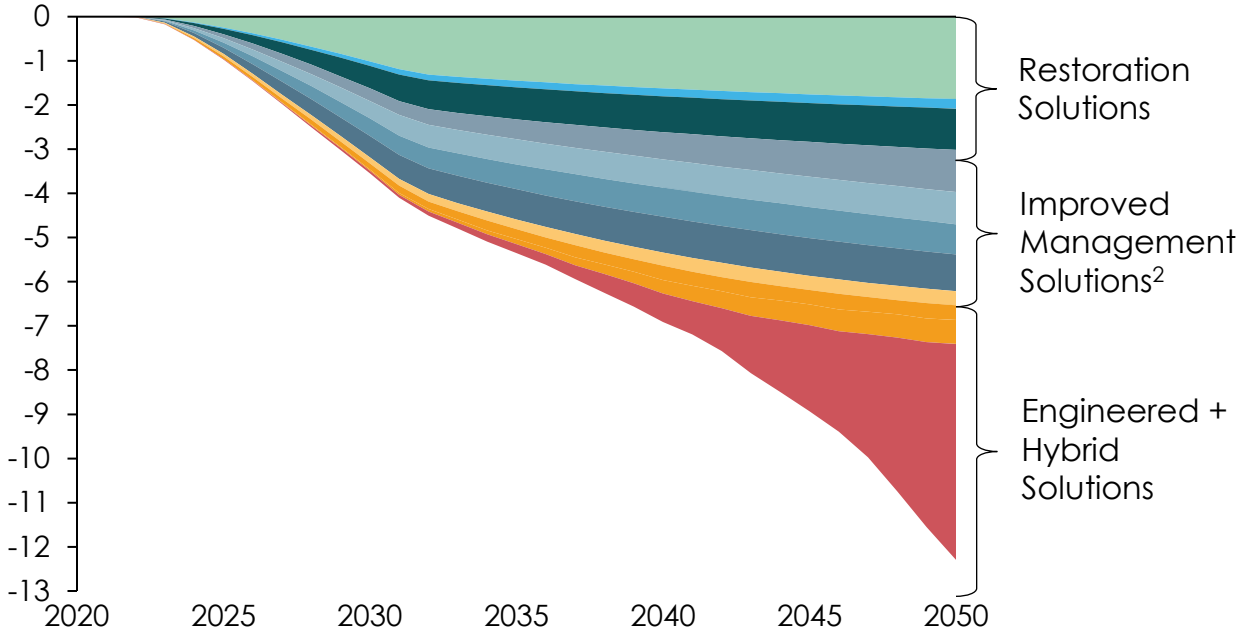
ACCELERATE CDR INNOVATION, E.G. ROCK WEATHERING, OCEAN ALKALINITY AND FERTILISATION, MICRO-ALGAE

Source: ETC (2022), *Mind the Gap: How Carbon Dioxide Removals Must Complement Deep Decarbonisation to Keep 1.5℃ Alive* - *Infographic*.

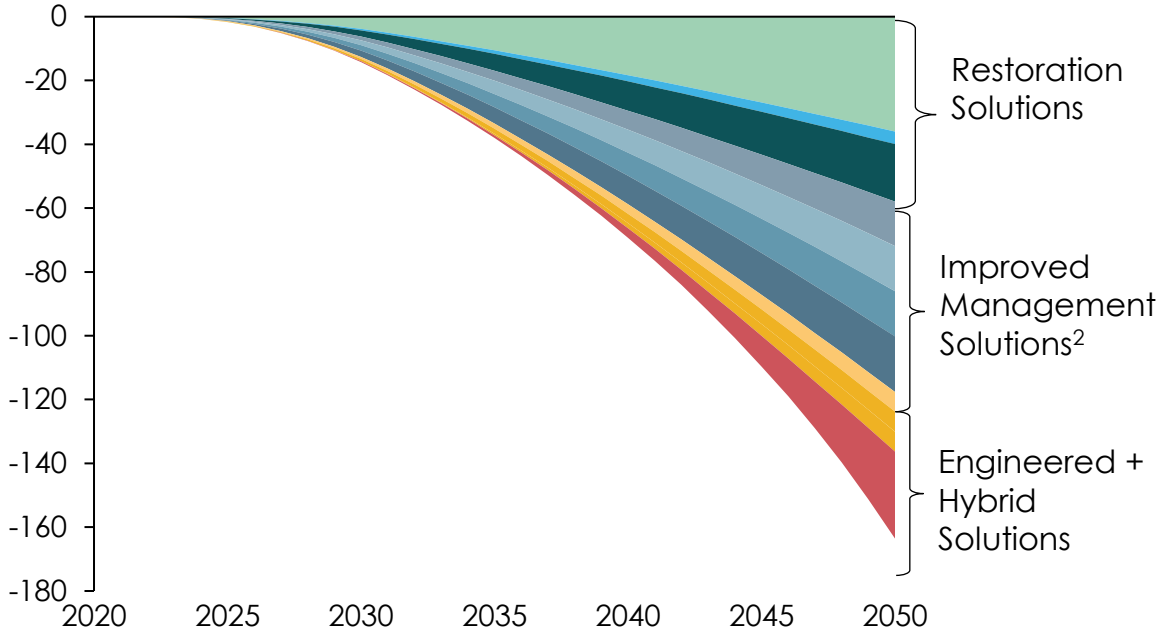
Ambitious and rapid scaling of a CDR portfolio could deliver cumulative sequestration of ~165 $GtCO_2$ by 2050

CO_2 ONLY

Potential ramp-up of CDR, $GtCO_2$/year, global



Cumulative CDR 2020-2030, $GtCO_2$, global



NCS: Restore

- Restore forests
- Restore Blue carbon[1]
- Restore drained peatlands

NCS: Manage

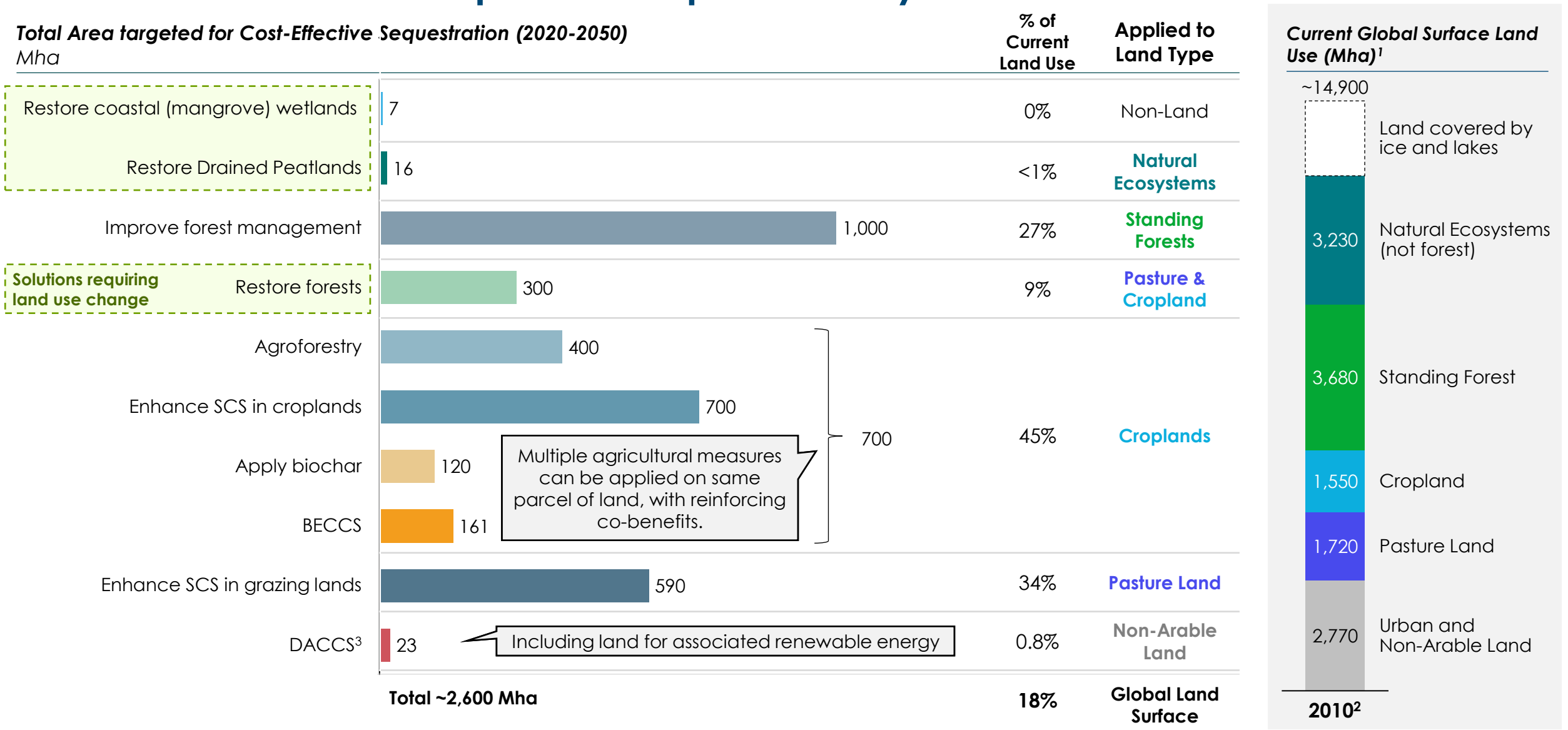
- Improve forest management
- Agroforestry
- Enhance soil carbon sequestration in croplands
- Enhance soil carbon sequestration in grazing lands

Hybrid and engineered approaches

- Apply biochar
- BECCS
- DACCS

Notes: The analysis was designed to avoid potential double-counting of emissions reductions, and is adjusted from annualised average potential estimates for 2020-2050 period. The models reflect land use & management changes, yet in some instances can also reflect demand-side effects from carbon prices, so may not be defined exclusively as 'supply-side'. (1) 'Blue Carbon' is defined as ocean-based biomass sequestration including mangroves, seagrasses, and tidal marshes. (2) Improved management solutions have been adjusted for feasibility on a country-by-country basis. Overall average reduction is ~50%.
Source: SYSTEMIQ analysis for the ETC (2021), based on Roe et al. (2021), Hannah et al. (2021), Griscom (2017), ETC (2021) *Bioresources for a Sustainable Net-Zero Economy*, High Level Panel for Oceans (2020)

18% of global land surface would need to be engaged in CDR Solutions to achieve our feasible sequestration potential by 2050

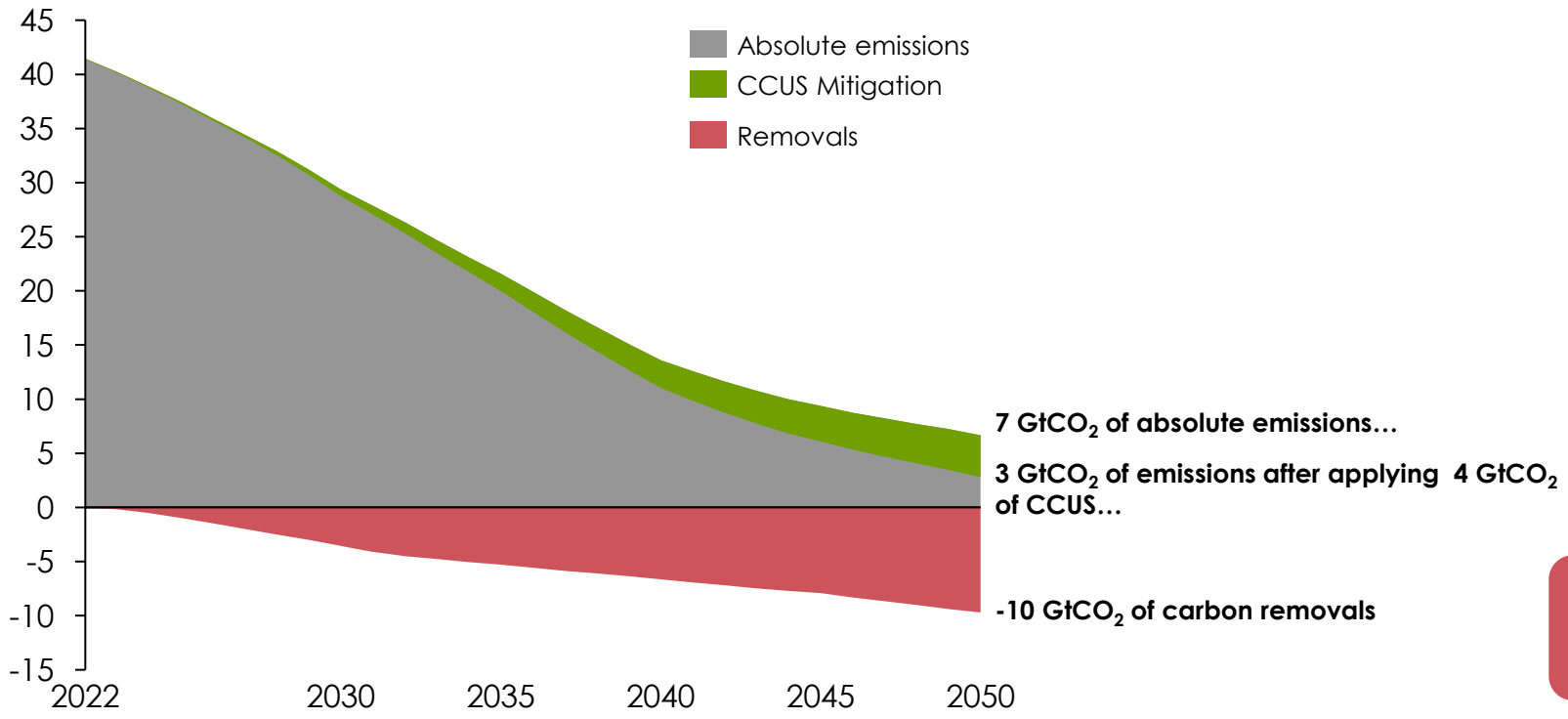


Note: (1) Global surface area excludes oceans. Land covered by lakes and ice (e.g., Antarctica) not available. Minor difference in totals and percentages due to rounding; (2) Baseline data forecast from 2000. (3) DACCS estimate assumed for 2050.
Sources: ETC analysis interpreted from: Roe et al 2021; IIASA GLOBIOM / FOLU Growing Better 2019 Report; Ritchie et al. (2013), Land Use - OurWorldInData.org.

It is not prudent to rely on significantly higher use of CCUS or CDR – the priority must be to bring down fossil fuel demand, but CDR will be critical to reduce carbon budget overshoot

Net emissions from fossil fuels, and after CCUS and CDR (PBS)

$GtCO_2$

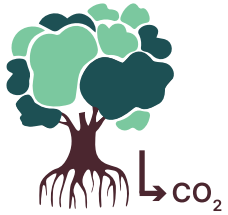
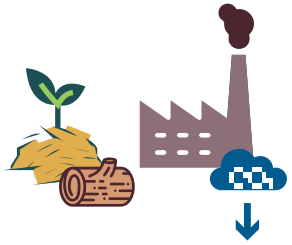
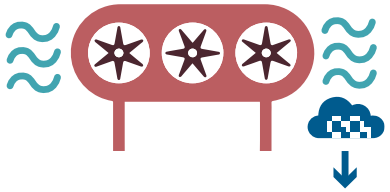


CDR needs to scale: it is crucial to reduce carbon budget overshoot and get back to 1.5°C:

- Nature-based and hybrid solutions can scale quickly in the short term, together with…
- A range of hybrid and engineered, durable solutions in the mid-to-long term

Recent developments suggest a faster scale-up in removals than shown here is very unlikely

Each CDR solution has risks and co-benefits to be considered

	NATURAL CLIMATE SOLUTIONS		HYBRID/BIOMASS WITH CARBON REMOVAL STORAGE		ENGINEERED SOLTUIONS
					
	‘RESTORE’	‘MANAGE’	BIOCHAR	BECCS	DACCS
RISKS	Permanence: carbon stored in biosphere is short-term	Permanence: carbon stored in biosphere is short-term	Feedstock: biomass feedstock not sourced sustainably	Feedstock: biomass feedstock not sourced sustainably	Moral hazard: clean power insufficiently available
CO-BENEFITS*					

CO-BENEFITS*

- Biodiversity
- Clean water
- Community economic return
- Soil health
- Fossil free energy generation
- Skilled jobs

Source: ETC (2022), *Mind the Gap: How Carbon Dioxide Removals Must Complement Deep Decarbonisation to Keep 1.5℃ Alive* - *Infographic*.

A comparison of key characteristics and risks for selected CDR solutions

ILLUSTRATIVE

Improve Management[5] *BECCS* *DACCS*
Nature Restoration *Biochar (sequestration in soil)*

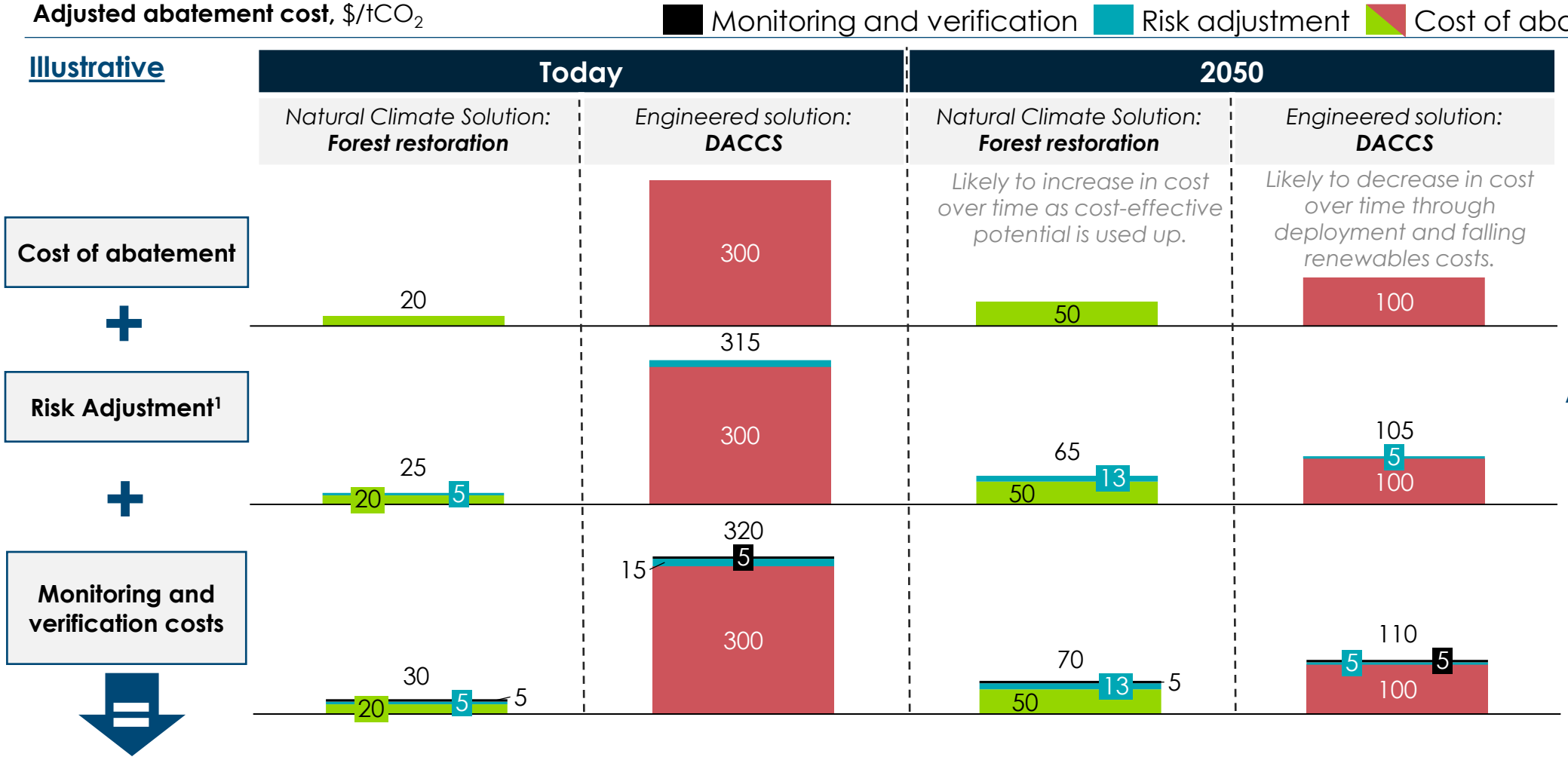
Characteristics

Costs	Today	High	~$600 / tCO_2 ~$100 / tCO_2 ~$10 / tCO_2	Low
	2050	High	~$600 / tCO_2 ~$100 / tCO_2 ~$10 / tCO_2	Low
Technological Readiness Level[1] (0-11)	Capture	Low	1 12	High
	Storage	Low	1 12	High
Confidence in capture science and volumes		Low	*Effective project design & delivery* *+/- 25%* *+/- 1%*	High
Essential Co-Benefits[2]		Limited		Multiple

Risks

Storage monitoring[3]	Limited		Established
Risks to Permanence[4]	High	*Effective project design & delivery*	Low

Appraisal of the risks of different CDR options is likely to shift the relative costs towards engineered solutions over time



Abatement costs don't accurately reflect risk

A proportion of expected sequestration should be held in a 'buffer pool'

Costs will be incurred for monitoring and independently verifying sequestration

Full project cost incl. risk adjustment and monitoring costs: carbon credits should take all costs into account

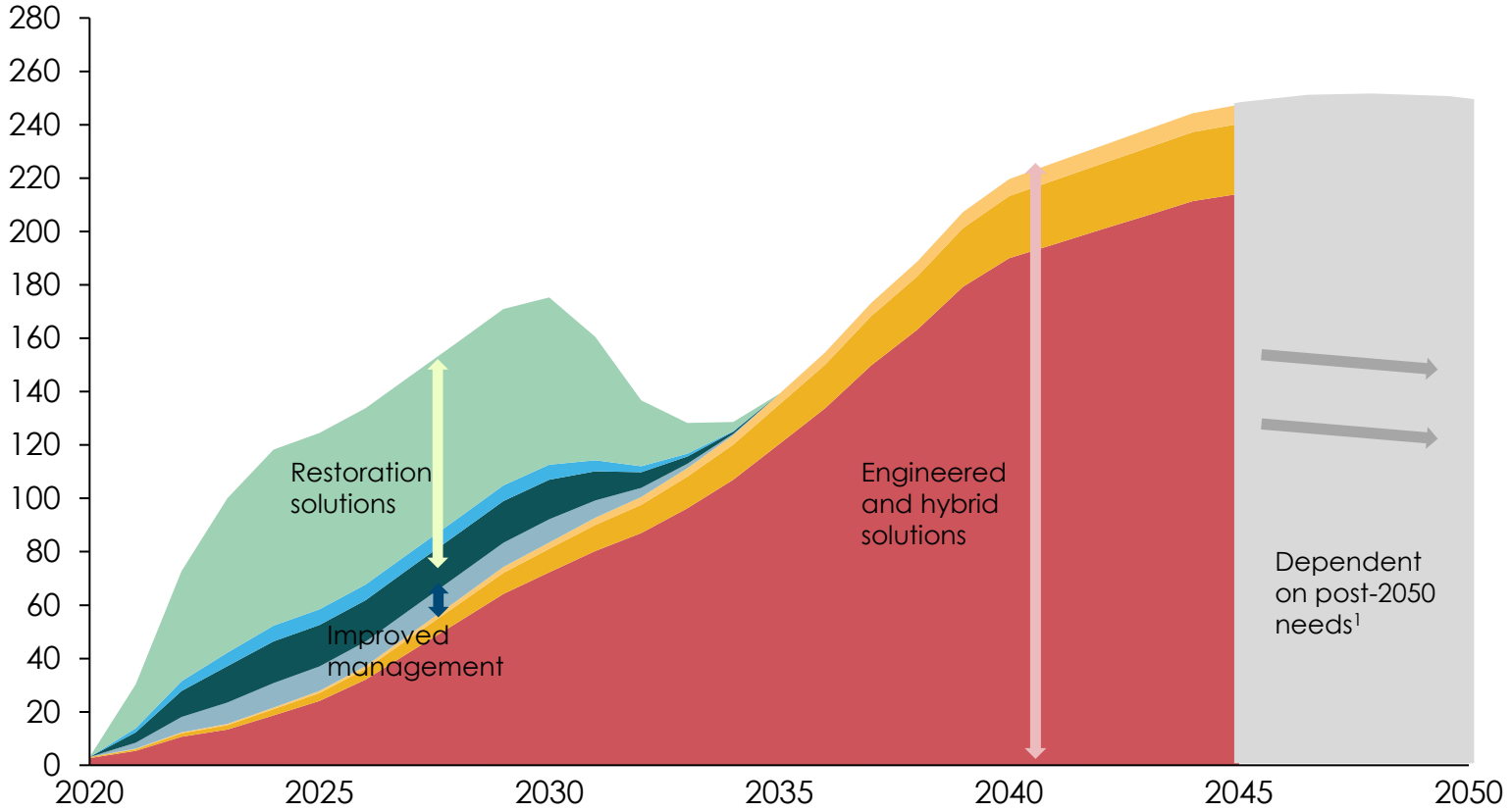
(1) Reflecting the risk of future CO2 sequestration materializing or being reversed

Funding removals

Capital investment for CDR averages c. $100bn/year over next 3 decades; significant investment in nature restoration required in 2020s, alongside scaling DACCS

Expected annual capital investment for CDR solutions

USD bn/year, global



	Annual average investment	Cumulative investment (2020-2050)
Engineered and Hybrid/BiCRS solutions	$100 bn	$3,000 bn
NCS: Improved management solutions	$7 bn	$200 bn
NCS: Restoration solutions	$25 bn	$700 bn
Total	~$130 bn	~$4,000 bn

NCS: Restore

- Restore forests
- Restore coastal wetlands
- Restore drained peatlands

NCS: Manage

- Improve forest management
- Agroforestry
- Enhance soil carbon sequestration in croplands
- Enhance soil carbon sequestration in grazing lands

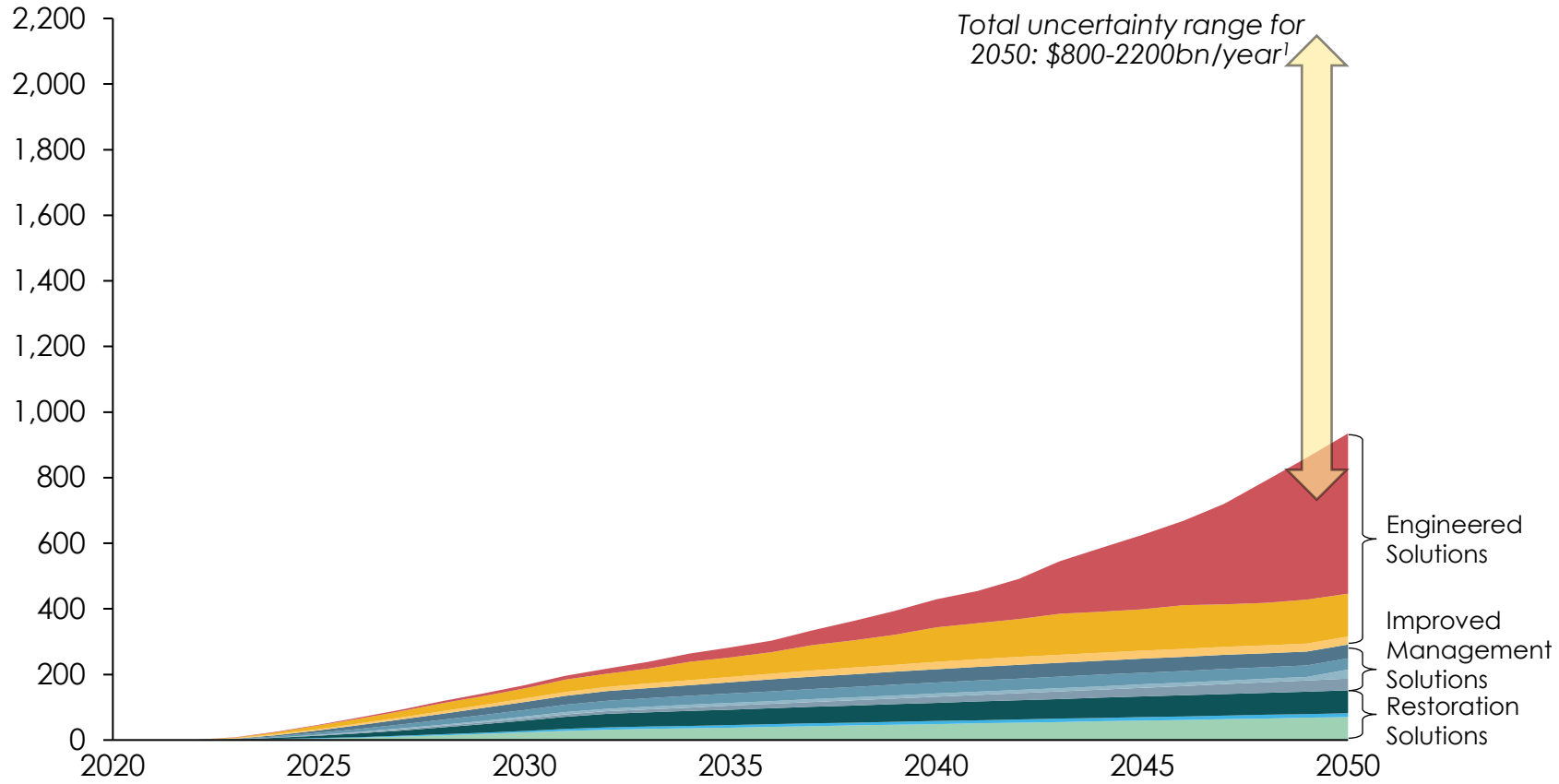
Hybrid and engineered approaches

- Apply biochar
- BECCS
- DACCS

Total market for CDR could reach $200bn/year by 2030; $1000bn/year by 2050

Expected annual cost of CDR solutions

USD bn/year, global



	Cost estimate (2030)	Cost estimate (2050)	Cumulative potential (2020-2050)
Engineered and Hybrid/BiCRS solutions	$100-600/t CO_2	$100-300/t CO_2	45 Gt CO_2
NCS: Improved management solutions	$0-100/t CO_2	$0-100/t CO_2	60 Gt CO_2
NCS Restoration solutions	$5-100/t CO_2	$25-100/t CO_2	60 Gt CO_2
Total			160 Gt CO_2

NCS: Restore
- Restore forests
- Restore blue carbon[1]
- Restore drained peatlands

NCS: Manage
- Improve forest management
- Agroforestry
- Enhance soil carbon sequestration in degraded croplands
- Enhance soil carbon sequestration in degraded grazing lands

Hybrid and engineered approaches
- Apply biochar
- BECCS
- DACCS

To deliver the necessary CDR at scale we foresee a large funding gap by 2030

Current funding is insufficient

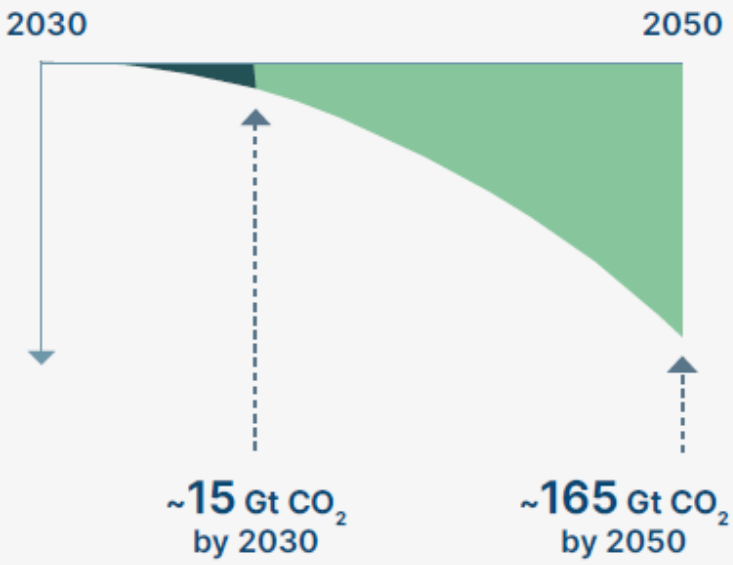
Today:

- Compliance markets cover around ~10% of global emissions, and largely exclude removals
- The Voluntary Carbon Market covers < 0.1% of emissions
- Other mechanisms (e.g., direct Govt. funding) are nascent, or not targeted towards removals

We need:

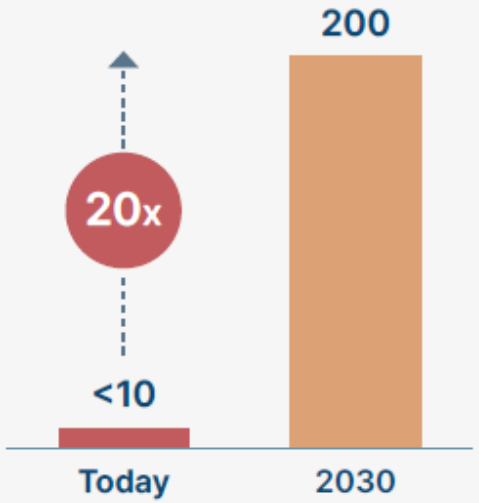
A MASSIVE SCALE UP OF CDR STARTING TODAY

Cumulative CDR



REQUIRING A 20X INCREASE IN FUNDING BY 2030

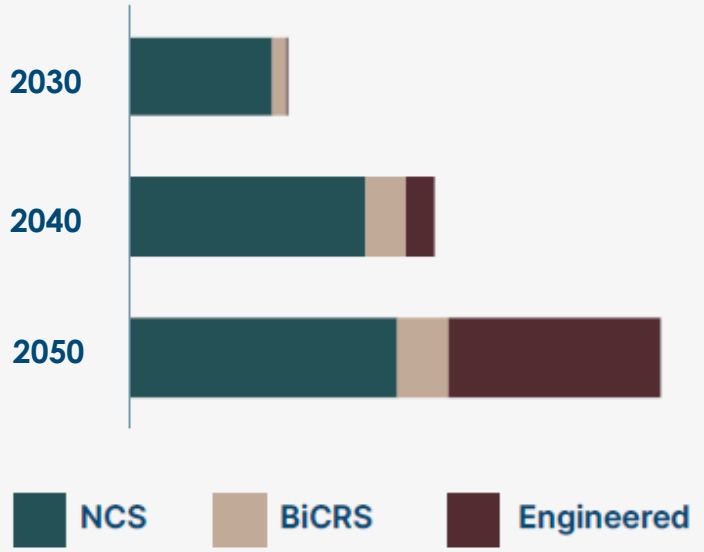
USD $bn/year



Approximately 1/3 of 2030 demand might be met by forecasted growth in Voluntary Carbon Markets

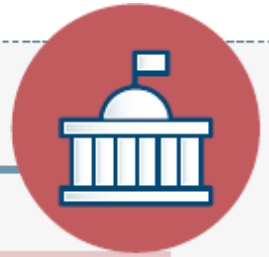
DELIVERING AN EVOLVING PORTFOLIO OF CDR SOLUTIONS

Gt CO_2/yr removed



Who should pay for removals?

GOVERNMENTS, VIA:



- Direct finance & purchase of removals
- Enhancing and creating compliance markets with a limited quantity of removals
- Reforming existing policy and subsidy regimes

+

CORPORATES, VIA:

- Meeting obligations in compliance markets (e.g., EU ETS)
- Committing to net-zero decarbonisation pathways...
- ...neutralising any remaining emissions with carbon removal credits in the voluntary market.

Actions for the 2020s

2030 Targets for Carbon Dioxide Removal

By 2030 we aim for:

CDR per year

Funded by :

$200 bn/yr for CDR

NATURAL CLIMATE SOLUTIONS

'RESTORE'

1.6 Gt CO_2 per year

300 Mha
marginal degraded land (tropics) planted

7 Mha
of mangroves restored

13 Mha
of peatland recovered

MANAGE

1.6 Gt CO_2 per year

500 Mha
(~12-15 %) of forest under improved management

400 Mha
(12 %) of cultivated land under improved management

HYBRID / BIOMASS WITH CARBON REMOVAL STORAGE

BIOCHAR

0.1 Gt CO_2 per year

2-5 EJ
of sustainable crop residue biomass

40 Mha
of biochar applied to farmland

BECCS

0.2 Gt CO_2 per year

~4 EJ
of sustainable biomass from residues and dedicated energy crops

~170
BECCS 1 $MtCO_2$ /yr scale facilities

ENGINEERED SOLUTIONS

DACCS

0.1 Gt CO_2 per year

235 TWh
Of clean power, <10% of 2050 supply

~80
DACCS facilities

NINE ACTIONS TO SCALE CDR IN THE 2020s

In addition to rapid and critical decarbonisation action

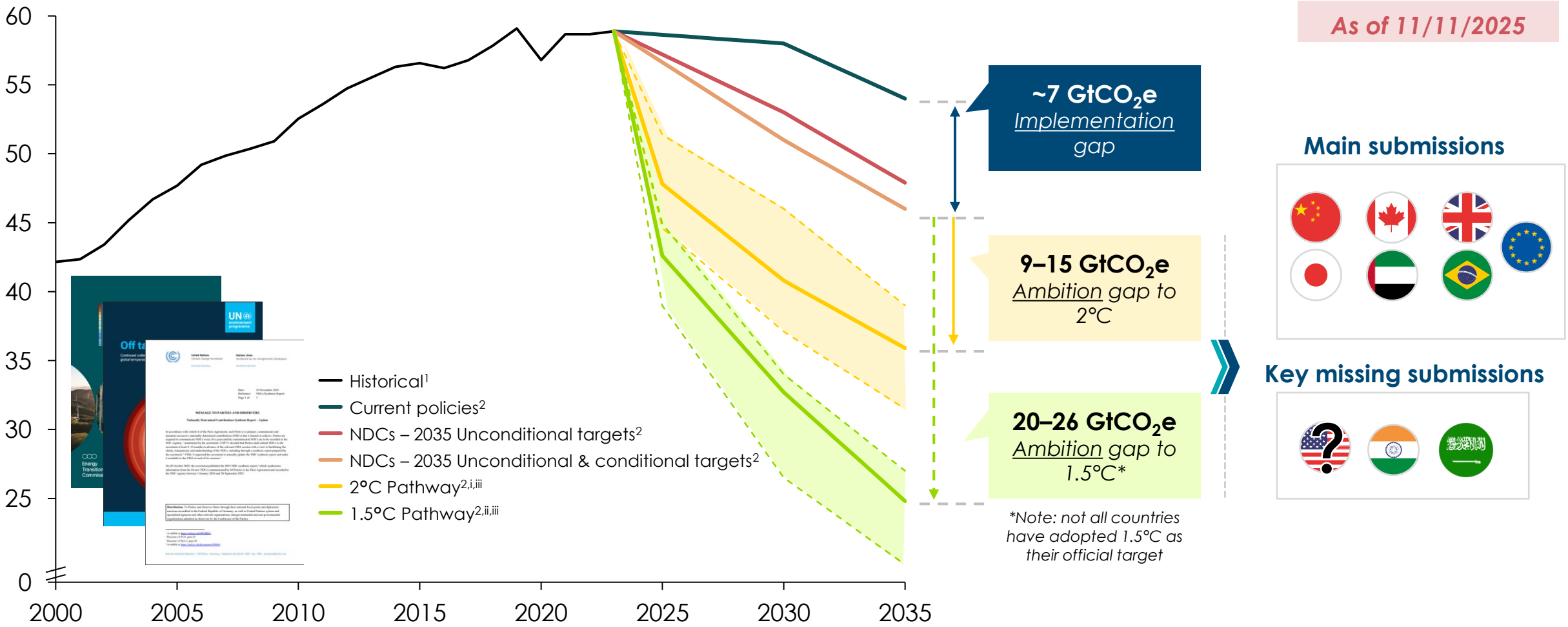
** 'Standard Setters' include voluntary bodies setting standards for corporate action and credits, credit standard setters are often closely associated with brokers and exchanges*

Agenda

- Key messages from the report
- **Updates and recent trends**
- Q&A

Current global trajectory is far from reaching 1.5°C pathway; carbon removals may need to play even bigger role to reach climate targets

Global GHG emissions



Notes: [i] Based on IPCC Working Group III Sixth Assessment Report scenario class c1 (limit warming to 1.5°C (>50%) with no or limited overshoot). [ii] Based on IPCC Working Group III Sixth Assessment Report scenario class c3 (limit warming to 2°C (>67%)). [iii] Range corresponds to range between tenth and ninetieth percentile, central line corresponds to median.

Sources: ETC (2024), Credible Contributions: Bolder Plans for Higher Climate Ambition in the Next Round of NDCs. Systemiq analysis for the ETC based on [1] IPCC (2022), Metadata Browser: Data for Figure SPM.5 - Summary for Policymakers of the WGIII Contribution to the IPCC AR6, [2] UNEP (2025), Emissions Gap Report 2025: Off target; Climate Watch NDC Tracker [accessed November 2025]; UN (2025) Nationally Determined Contributions Synthesis Report – Update

Intention and use of Article 6 expanded in the latest round of NDCs, with first methodology for global carbon markets agreed in October

"From those [NDCs] received until now, there is an expectation of a reduction of emissions of 10%. We would need 60% [to stay within 1.5C]. So overshooting is now inevitable."
"It is time to put a price on carbon"

- Publication of the **first UN regulated global carbon market**: the Paris Agreement Crediting Mechanism (PACM) in October, 2025.
- … followed by the **development of the Common Carbon Credit Data Model** (CCCDM), with the objective to standardize data across markets and improve traceability.
- **Growing intention** to use specific scopes of voluntary cooperation under Article 6 expressed **in new round of NDC**
- Growing readiness and cooperation: **85 countries have authorization** and/or tracking arrangements underway; and **61 countries have bilateral agreements** and/or arrangements formalized
- **Outcomes felt short on COP30,** although Article 6 negotiations didn't move forward, a draw back on previously negotiated terms was averted

Source: UN Synthesis Report; UNFCCC website; Paris Agreement Article 6 Implementation Partnership

The vast majority of voluntary carbon credits purchased today are 'reduction' credits, not 'removals/neutralisation'

CARBON CREDITS:
Represent a tradable unit of reductions in emissions of carbon dioxide (CO_2) or greenhouse gases made by a company, sector or economy to compensate for emissions made elsewhere in the economy.

REMOVAL:
Projects that remove carbon from the atmosphere, and therefore 'neutralise' emissions.

Nature-Based Solutions (NBS)
e.g., afforestation/restoration or improved management solutions (enhanced soil carbon sequestration)

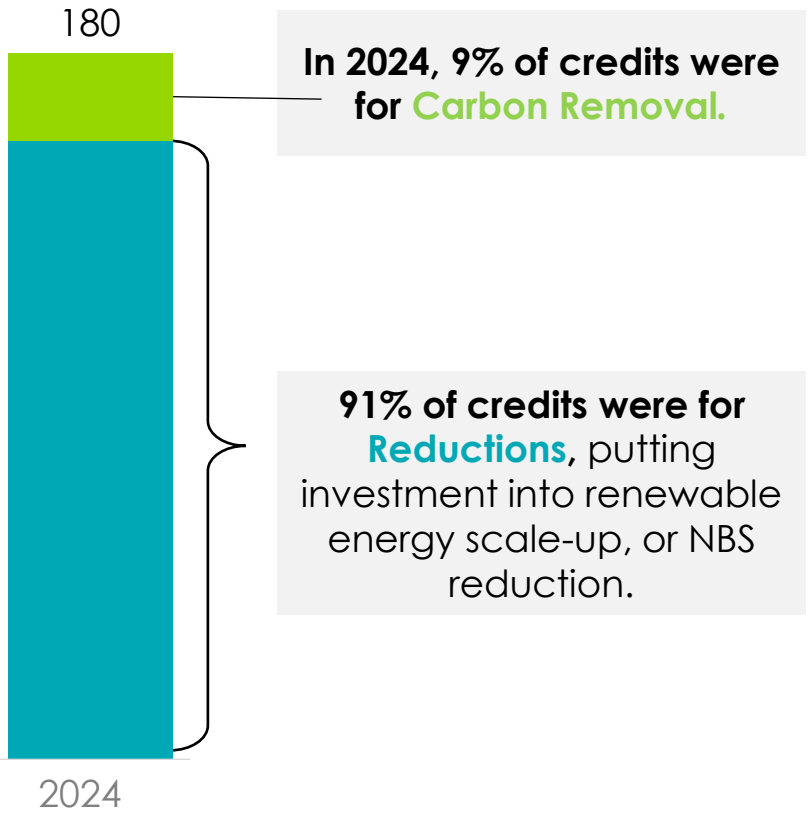
Energy-based solutions
e.g., Direct air capture (DAC)

REDUCTION:[1]
Projects that indirectly reduce emissions from entering the atmosphere outside of the buyer's value-chain.

Nature-Based Solutions (NBS)
e.g., avoided deforestation and forest degradation

Energy-based solutions
e.g., renewable energy generation, methane capture & utilisation in low-income countries

Demand for voluntary carbon credits 2024

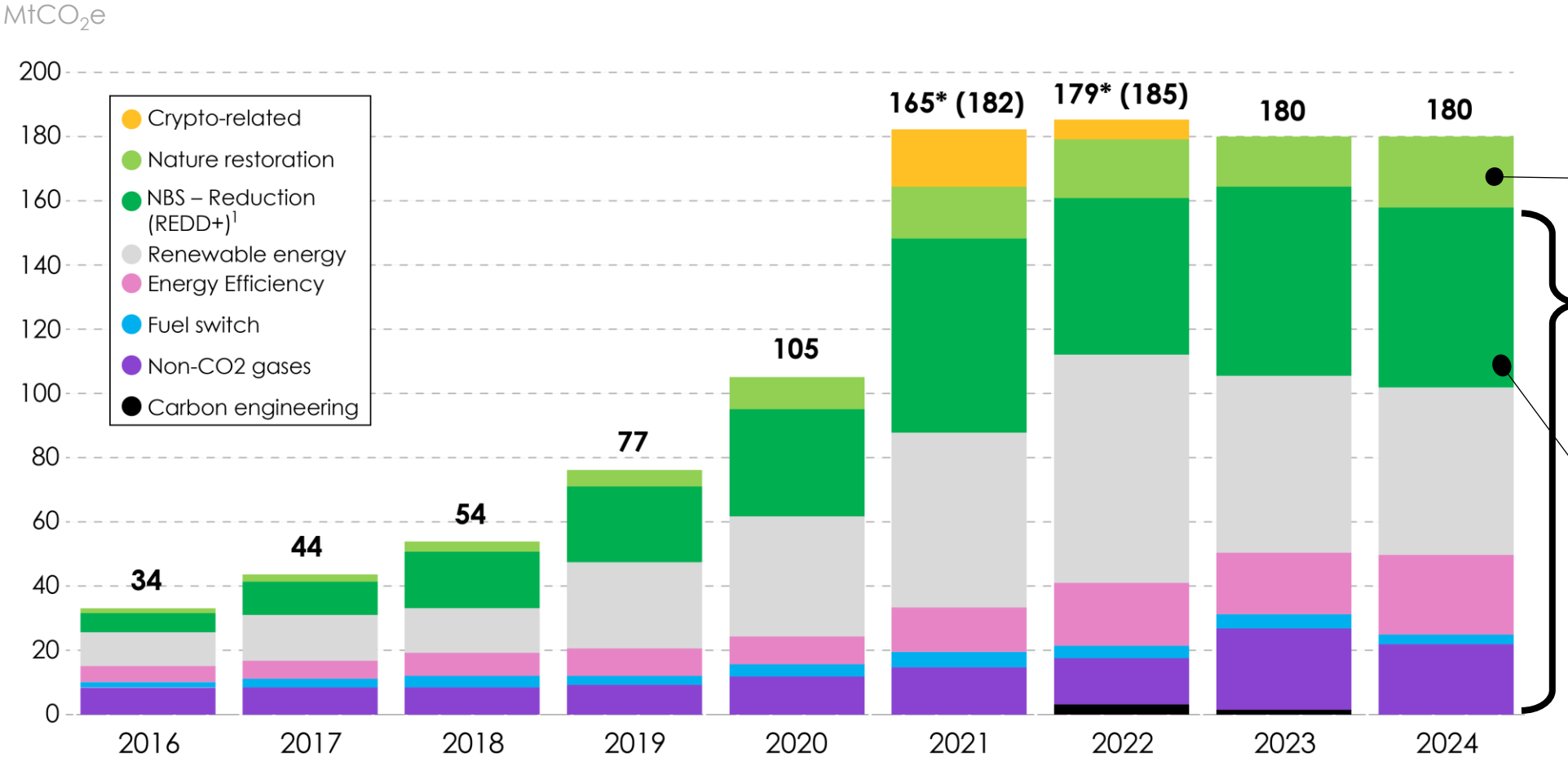


[1] Some use a subset of reductions which include avoidance credits and reductions credits.

Source: MSCI (2025), *Frozen Carbon Credit Market May Thaw as 2030 Gets Closer*.

Growth in the Voluntary Carbon Market has been slow

Demand for voluntary carbon credits 2016-2024



In 2024 9% of credits were for Carbon Removal.

The majority of credits are reduction offset credits, putting investment into renewable energy scale-up, or NBS reduction.

REDD+ refers to **avoided deforestation** as well as sustainable management of forest carbon stocks. These credits are NBS reductions.

[1] REDD+ refers to Reduced Emissions from avoided Deforestation and forest Degradation, as well as the sustainable management and enhancement of forest carbon stocks.

Source: MSCI (2025), *Frozen Carbon Credit Market May Thaw as 2030 Gets Closer*.

There are significant concerns about the integrity of carbon credits

TIME

Bogus Carbon Credits are a 'Pervasive' Problem, Scientists Warn

DIE ZEIT

Phantom Offsets and Carbon Deceit

Grist

Carbon offsets are 'riddled with fraud.' Can new voluntary guidelines fix that?

Le Monde

Brazil: Three carbon offset projects accused of being scams

The Guardian

Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows

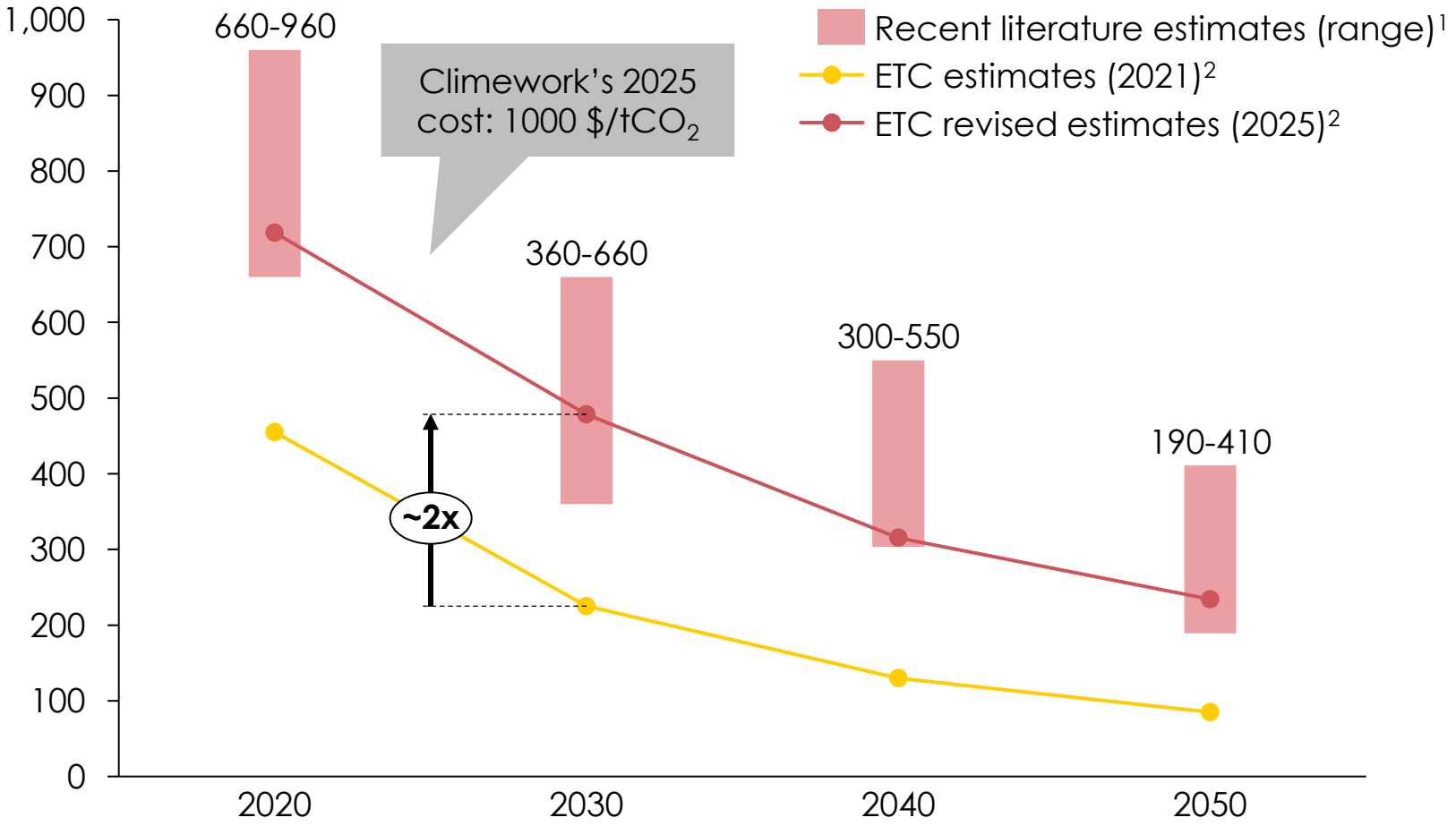
POLITICO

Bogus carbon offsets increased emissions

Recent estimates of levelised cost of DAC are higher than previously predicted, which could hinder the technology's scale-up in the long-term

Levelised cost of CO_2 capture via DAC – projections 2020-2050

$/tCO_2$



Key take-aways

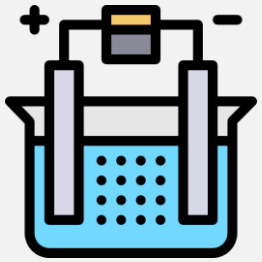
- **Historical DAC cost projections have been optimistic** with lower-than-realised capital costs and ongoing energy costs
- Recent **credible publications predict higher costs of DAC until 2050**[1], which could hinder the technology's scale-up

Sources/notes: 2020 and 2030 estimates: Lorenzo Sani (2024) Bridging the gap between the UK's CCUS targets and reality. 2040 and 2050 estimates: Katrin Sievert et al. (2024); Manon Abegg et al. (2024); Levelised cost of DAC refers to a fully electrified DACC system for 5,000 full load hours per annum. Assumes weighted average cost of capital of 7% and plant lifetime of 20 years, growing to 30 years by 2050.; Reality check on technologies to remove carbon dioxide from the air (MIT Energy Initiative, 2024)

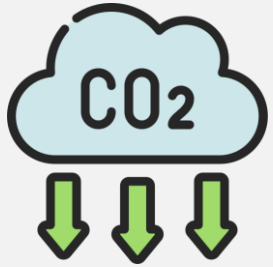
Ocean-based CDR (o-CDR), carbon seawater removal via electrochemical processes, could become more economical than DAC

Overview of production process

1. **Electrodialysis or electrolysis**



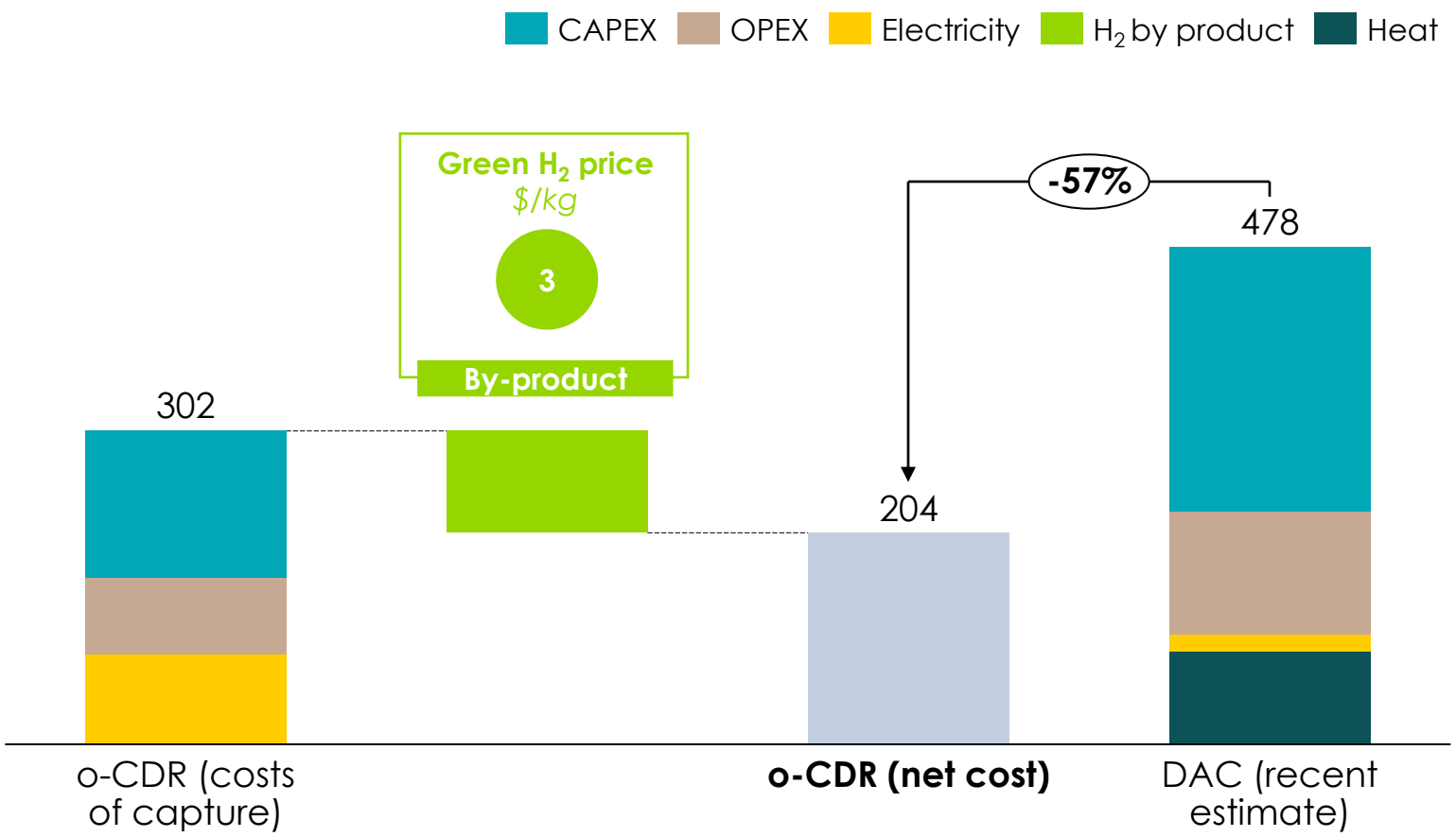
2. **CO_2 capture or precipitation**



3. **Neutralisation and disposal of water**

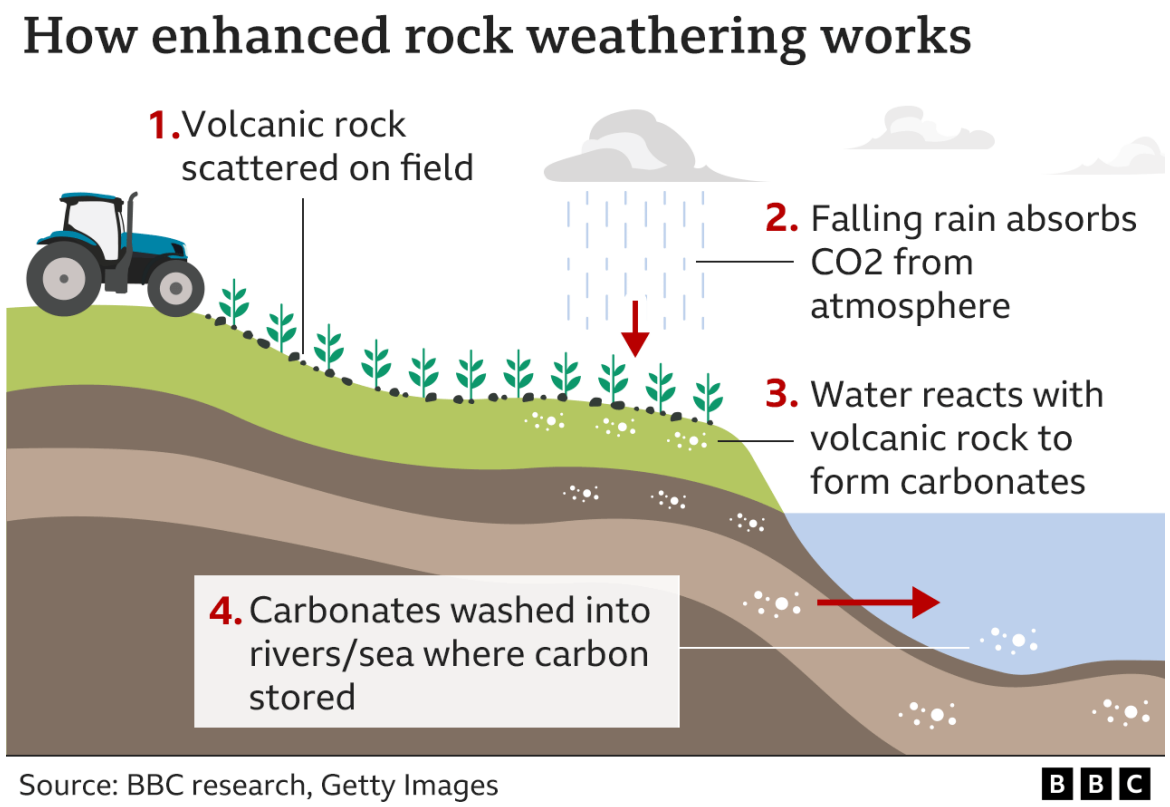
Levelised cost of CO_2 capture for direct air and direct water capture in 2030

$/tCO$_2$



RHS: Notes/Sources: 1) Absorption: CO_2 binds with solvent/sorbent (like MEA) in a reactor. Desorption: The CO_2-rich solvent/sorbent is heated to release CO_2 and regenerate the solvent 2) Yafiee et al. (2024) 3) Prince Aleta et al. (2023);
LHS: Notes: Electricity cost: 50$/MWh. Electrolyzer utilisation: 50%. Plant capacity: 110,000 tons CO_2/y. Sources: 1) Patent US20220040639A1, 2) Globe Newswire (2024) Equatic to Build North America's First Commercial-Scale Ocean-Based Carbon Removal Facility

Enhanced rock weathering: Major progress and gigaton potential ready for scale-up



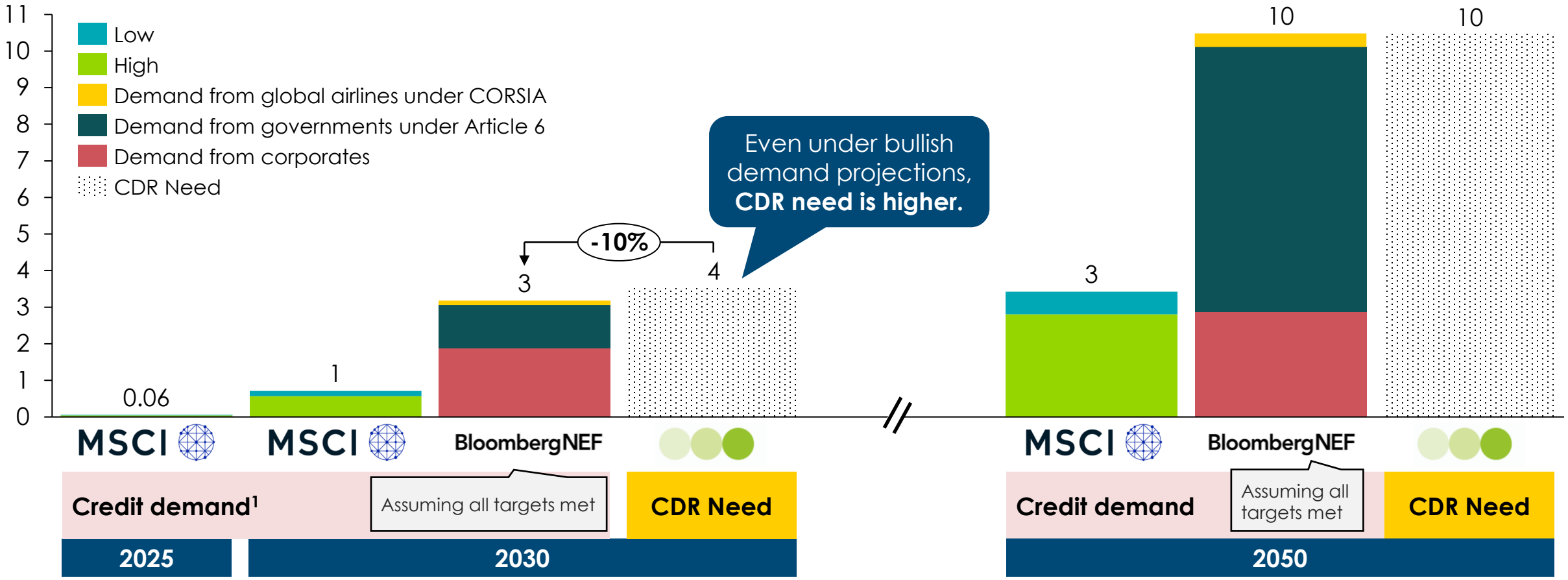
Overview	• Adding crushed carbonate and silicate rocks to **accelerate geochemical processes on land** which sequesters CO2 from atmosphere
Costs	• **$50 to $200 per tonne of CO2** • Primarily from mineral processing, transport and verification costs
Readiness Level	• First independently **verified credits issued in January** • Estimates suggest scaling from 0.03 Mt CO2 to as much as **4 Gt of CO2 per year**
Co-Benefits	• Support crop production: alkaline rocks can **de-acidify soils** as they break down
Risks	• Tracking requires extensive soil sampling, raising the **cost of credits** • **Increase emissions** from mining and transporting

Source: Press releases; The State of Carbon dioxide Removal (2024) A global, independent scientific assessment of Carbon Dioxide Removal

Massive gap between demand vs. need – poses fundamental problem to 1.5°C

Demand projections for carbon market vs. ETC CDR pathway

GtCO2/year



Source: BNEF (2025), *Long-Term Carbon Credit Demand Outlook 2025*. Corporate demand is BNEF's 'price elastic' scenario; MSCI Carbon Markets (2025), *Frozen Carbon Credit Market May Thaw as 2030 Gets Closer*.

Notes: *MSCI credit volume calculated by multiplying projected market size ($) by ETC average cost of carbon removal in each year ($/tCO$_2$). CORSIA*= Carbon Offsetting and Reduction Scheme for International Aviation is a global market-based measure developed by the International Civil Aviation Organization (ICAO) to address carbon emissions from international flights.

Role of corporate carbon credits

Updated SBTi CNZS V2 released in November for consultation now recognizes early removals for ongoing emissions

Corporate net-zero strategy pathways

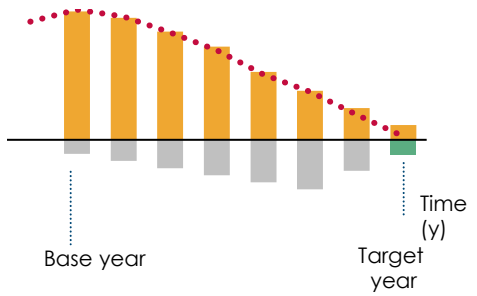
Gross emissions
Removals 'Neutralisation'
Reduction or Removals Offsets (expected)
Reduction or Removals Offsets (encouraged)
Net-emissions[1]

tCO_2e

As of Nov, 2025

STBi CNZS v1

Emissions abatement in line with science

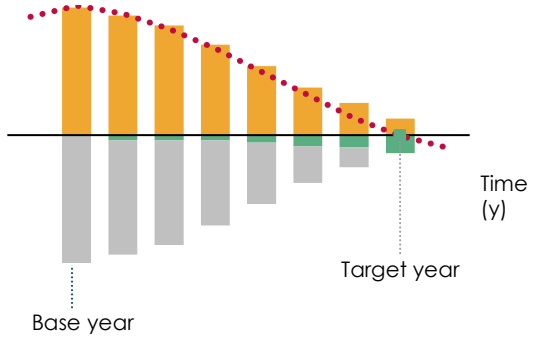


Firms curtail GHG emissions at a pace and scale consistent with 1.5°C emission pathways– for most sectors, this means reaching zero positive emissions.

Any remaining emissions after 1.5°C reductions should be neutralised. BVCM is also recommended.

SBTi CNZS V2

Emissions abatement in line with science. With proposed near-term removals requirements (1% by 2035) and optional BVCM.



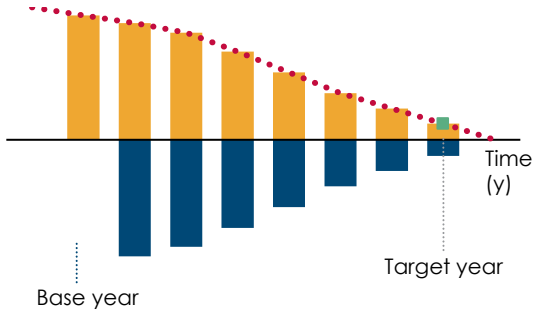
While reducing emissions at a pace and scale consistent with net-zero by 2050, remove CO_2e with nature-based removal or technology-based removal, with a mandatory 1% by 2035 (for large /large profits companies only).

Neutralise residual emissions at net-zero year, and recognition for removals ongoing emissions (up to 100%).

VCMI

Platinum Claim

Accelerating corporate engagement with voluntary carbon markets



First, set near term reduction targets and demonstrate progress towards them.

Then, select a claim (silver, gold platinum) and retire CCP-approved credits (reduction or removals) equal to a % of remaining emissions. Platinum covers 100%.

[1] Net emissions as defined by IPCC (remaining emissions neutralised with removals)
Source: Adapted from WEF Alliance Carbon Removal; SBTi Net Zero paper 2020; BCG Analysis

Executive Summary:

1) **Carbon credits are a necessary tool to finance carbon removals which are required to achieve the transition to a net-zero economy by mid-century and limit global warming to 1.5°C.** Carbon credits represent a tradable unit of carbon emission reductions or removals from one part of the economy to compensate for emissions in another part of the economy.

   Large-scale removals are required to counterbalance residual emissions that cannot be reasonably abated by 2050 to meet net-zero targets; ETC estimates around 150 $GtCO_2$ would be required by 2050. This would 10 $GtCO_2e$/year of removals by 2050 (equivalent to around 20% of global emissions today being removed), but we are off-track to achieving this, currently removing only 2 Gt $GtCO_2e$ /year.

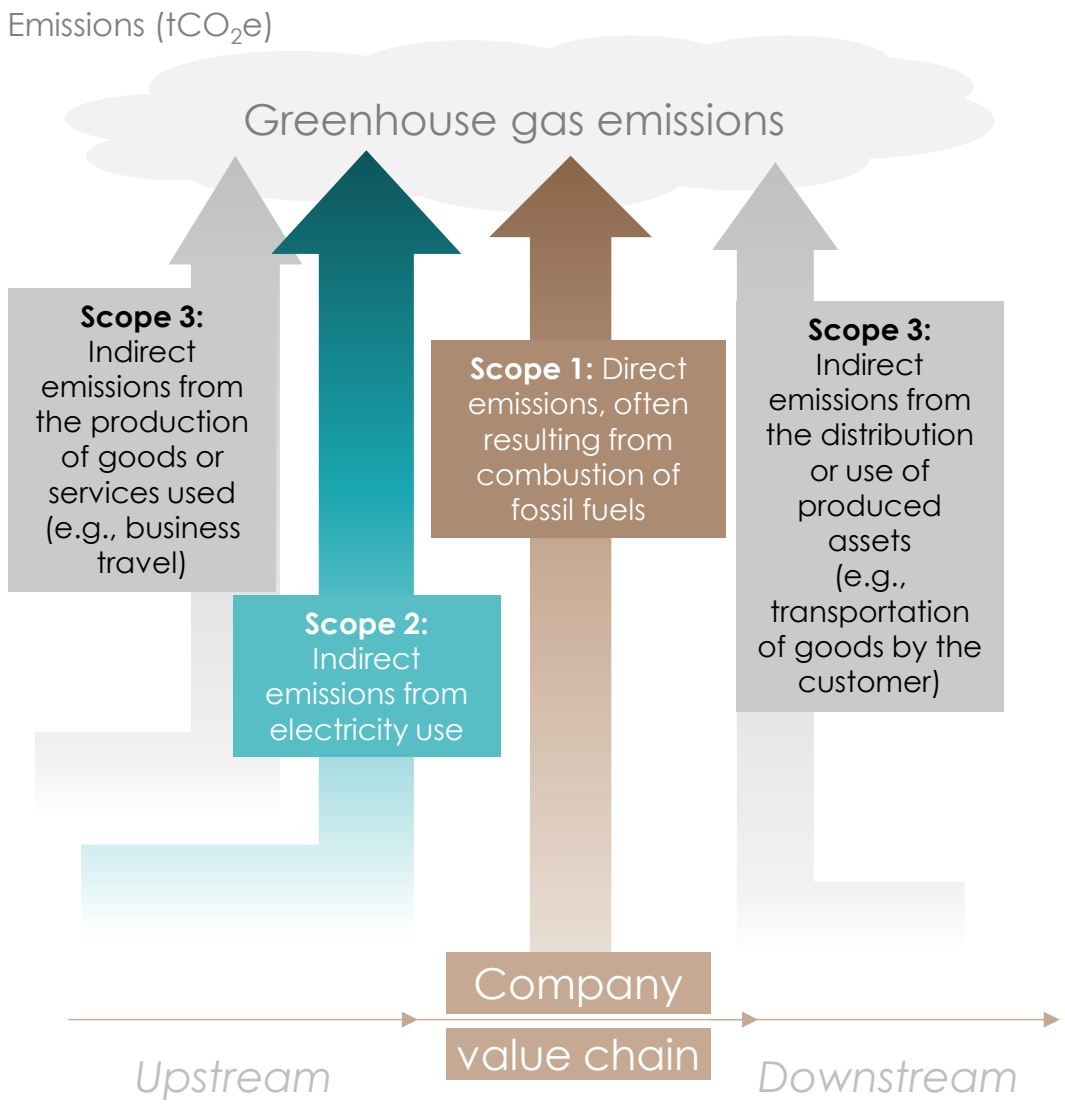
2) **Corporate purchases of high-quality carbon removal credits should scale rapidly, as part of ambitious corporate net-zero targets.** Corporations play a key role in the carbon credits market, making up an estimated 90% or more of market activity today, with the rest from governments and philanthropy.[1]

   Many leading corporates in climate action are validated by science-based net-zero targets, defined by the Science Based Targets initiative (SBTi). In March 2025, SBTi published its revised Corporate Net-Zero Standard V2 (CNZS V2) draft which proposes high-ambition guidelines for setting and achieving corporate net-zero targets. ETC generally endorses the high-ambition corporate strategies set out by the SBTi's CNZS V2. We suggest additional considerations:

   - **Corporate carbon removal action may be better based on the cost of decarbonisation a proportion of revenue** (rather than on company size and geography)
   - **Companies that address their Scope 3 targets should also be required to set near-term neutralisation targets to address Scope 3 residual emissions.** In support of also requiring near-term Scope 1 neutralisation targets to address residual emissions with carbon removals, which is an option suggested by the SBTi.
   - **Beyond net-zero pathway action to address ongoing emissions,** for example, with carbon removal or highly-additional reduction credits (e.g., funding early coal-phase out and ending deforestation in low-income countries) should be rewarded with a "gold star" equivalent for achieving net-zero today.

[1] Source: BNEF (2025), *Long-Term Carbon Credit Demand Outlook 2025*.
[2] ETC (2022), *Mind the Gap: How Carbon Dioxide Removals Must Complement Deep Decarbonisation to Keep 1.5 ℃ Alive*.

What are Scope 1, 2 and 3 emissions?



Source: Adapted from First Climate (2024), *What are Scope 1, Scope 2 and Scope 3 Emissions?*

ETC next steps

ETC at COP30: ‘Mind the Gap’ report helping set global targets and delivery of keynote speech for the Climate Champions event

- ETC’s 2022 ‘Mind the Gap’ report is helping to set global targets for carbon dioxide removal:
  - Including an overall **3 Gt/year 2030 target** (via COP 30 Axis 1 Industry, Energy & Transportation Accelerating Low Carbon Technologies in Difficult to Abate Industries)
  - including **0.1 Gt of carbon removal from biochar on 40 mH of land by 2030, as part of COP** Action Agenda on Transforming Agriculture and Food Systems through **Land Restoration and Sustainable Agriculture**

- **Andrea Bath,** ETC Low-Carbon Fuels Lead, introduced the role of removals at Climate Champions “Implementation Workshop: The Global Carbon Harvest Alliance”
  - Call to **increase ambition and scale up demonstrator projects** in carbon dioxide removals

Agenda

- Key messages from the report
- Updates and recent trends
- **Q&A**