



DVNE

Deutscher Verband für
negative Emissionen

GERMAN POLICY FOR NET ZERO AND BEYOND

Swiss Carbon Removal Platform
June 11, 2024

Meet the team

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We support the development of a leading CDR industry in Germany

We connect




We represent



We generate and share knowledge

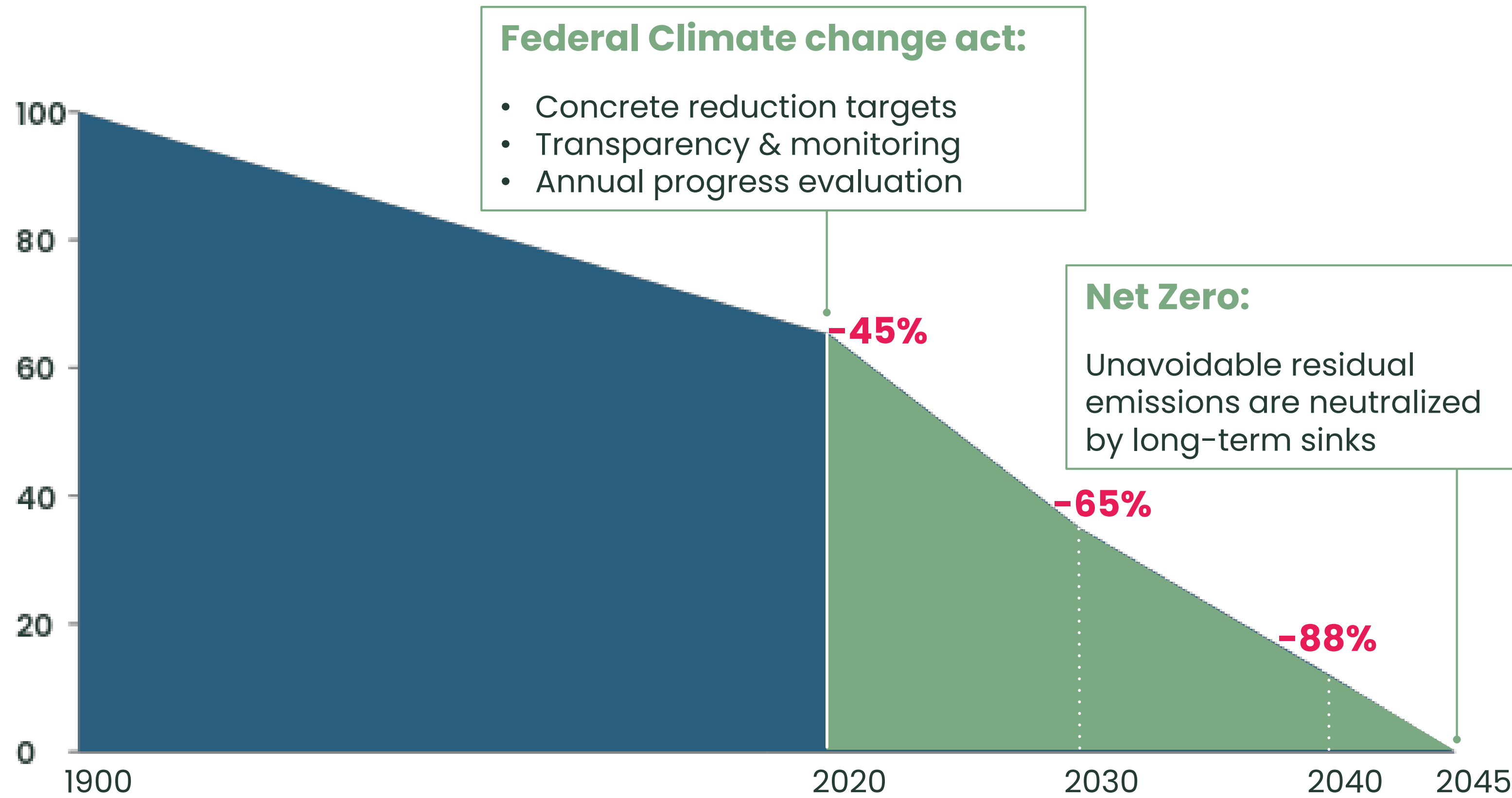
We consult

Starting point: CDR policy is rooted in a set of international goals, policies and frameworks

	 Paris agreement	 EU Climate law	 German climate law
Level (Global, EU, Germany)	Global	EU	Germany
Year of origin	2015	2021 (revision expected in 2025 to enshrine 2040 target)	2019
Description	International Agreement under the UN Framework Convention on Climate Change (UNFCCC) in which States commit to the goal to limit the global mean temperature rise to well below 2° C, and ideally to 1.5°C	Enshrines in EU-law that the EU will need to reach climate neutrality by 2050, and negative-emissions thereafter. The law aims to ensure that all EU policies contribute to this goal.	Enshrines in law the obligation to reach GHG-neutrality in 2045, and the goal to reach negative emissions after 2050.
Main stipulations	States commit to achieving global GHG-neutrality in the second half of the century	The EU will need to be climate-neutral by 2050, and negative-emissions afterwards. The law sets an interim target of 55% emission reduction by 2030.	The law currently includes a target for the LULUCF-sector. After revision, separate removal targets for so-called "technical sinks" will be set for years 2035, '40 & '45
Applicable to	State Parties to the Agreement (195)	EU & Member States	Germany

Deep dive Germany: Government agreement targets **Net Zero till 2045**

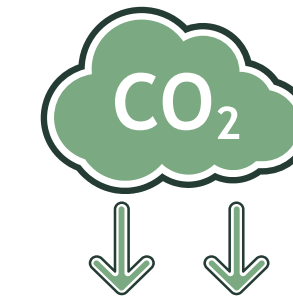
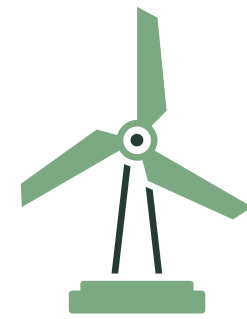
Decline in GHG emissions compared to 1990 level of 1.25Gt (in %) Indicative forecasts



45-130 million tons of CO₂e of hard-to-abate emissions **must be removed by 2045** to achieve Net Zero (8-17% of Germany's GHG emissions in 2022).

With these magnitudes, **Germany achieves Net Zero**; additional efforts needed to become **net negative**

We need emission reductions **and** carbon removals to get to net zero



Method

Carbon emission reductions

Carbon dioxide removals

Definition

Technologies, practices, and approaches that **reduce the amount of CO2 emitted** into the atmosphere

Technologies, practices, and approaches that **remove and durably store CO2** from the atmosphere

Examples

Renewable electricity, green hydrogen, battery electric vehicles ...

Afforestation/reforestation, direct air carbon capture & storage (DACCS) ...

Share of emissions¹

>90% of absolute emissions to be reduced ...

... and residual ~5-10% of our emissions to be neutralized with removals

Progress to date

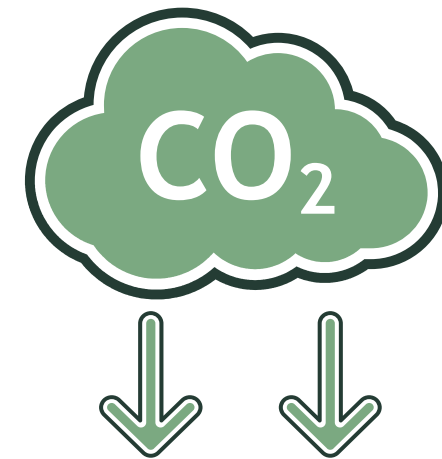


1. As per SBTi guidance to achieve Net Zero 2050 and limit global warming to 1.5°C
Source: IPCC AR6 WGIII: CDR Factsheet; IPCC AR6 Mitigation of Climate Change; SBTi Corporate Net Zero standard, March 2024; BCG analysis

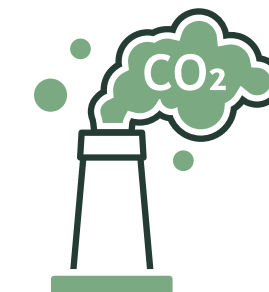
Medium progress

Low progress

Carbon Dioxide Removals (CDR) extract CO₂ from the atmosphere



Carbon Dioxide Removal (CDR) refers to technologies, practices, and approaches that remove and durably store carbon dioxide (CO₂) from the atmosphere and prevent it from further causing global warming



Necessary to **reverse and stabilize rising atmospheric CO₂** concentrations


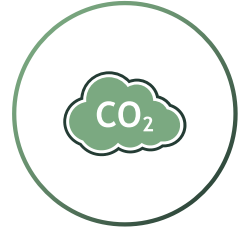


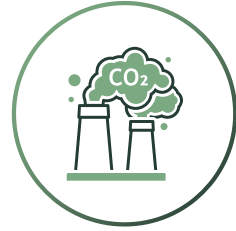



Critical for **significantly mitigating the impacts** of global warming



Imperative for **meeting ambitious net-zero** emissions targets and goals

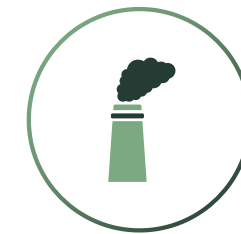
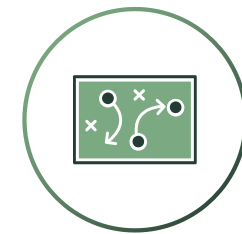
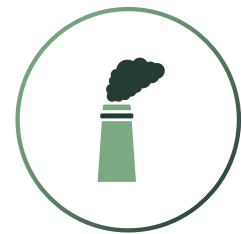
Policies: Multiple EU policies & strategies impact the CDR market

	 Carbon Removal Certification Framework (CRCF)	 Emissions Trading Scheme (ETS)	 LULUCF Regulation	 2040 Climate targets	 Industrial Carbon Management Strategy	 Green Claims Directive
Description	Voluntary EU wide framework for certifying carbon removals, carbon farming & carbon storage in products. Sets standard of activities based on Q.U.A.L.I.T.Y criteria	EU's cap-and-trade system to reduce emissions via a carbon market. A cap is set for the total amount of GHG emissions that can be emitted. This cap reduces with time.	Sets out how the land use sector contributes to the EU's climate goals. Binding target of 310 Mt for land-based net carbon removals by 2030.	Communication suggests 90% net-emission reduction target for 2040, requiring up to 400 Mt of carbon removal, including 75 Mt of 'industrial' carbon removal.	EU-wide strategy looking at scaling up CCS, CCU and 'industrial' CDR. The strategy identifies a set of actions to be taken at EU and national level.	Aims to tackle greenwashing by setting out when and how corporations can buy and use carbon credits to make compensation and contribution claims.
Owner/developer	European Commission	European Commission	Member States	European Commission	European Commission	EU institutions
Status	Legislation being adopted	Adopted	Adopted	Communication published	Communication published	Under discussion
Timeline	Ongoing (implementation)	Report on CDR integration expected in 2026	Currently in Phase 1. Phase 2 covers 2026-2030	Revised climate law expected Q1/Q2 2025	Ongoing (initiatives to start from 2024 onwards)	Expected agreement Q1/Q2 2025
Scope	Activities taking place within the EU. Voluntary but will apply to project developers, certification bodies & schemes	Sectors in scope of ETS 1	LULUCF sector, Member States	EU & Member States	CCS, CCU and 'industrial' CDR operators	Corporations operating on the EU-market
Target(s)	N/A	Cap to reach net-zero by 2039	310 Mt for LULUCF by 2030	Suggested target of 90% net-emission reduction target. Recognises need for up to 400 Mt of CDR	In addition to injection capacity target of 50Mt by 2030 set under the NZIA, the ICMS sets 250 Mt injection capacity target by 2040 in the EEA	N/A
Expected CDR impact	Impact will be determined by how the certificates can be used which is set out in other EU legislation, e.g. Green Claims, potential compliance market integration.	Currently CDR isn't integrated into the ETS, but the Commission is assessing the policy options for integration. A compliance market for CDR is expected to have a significant impact on funding the sector.	Significant impact for LULUCF-based CDR as this is a legally binding target and expected to drive demand. Member States responsible for caring for and expanding their carbon sinks to meet the new EU target.	No immediate impact. The revised EU Climate Law will establish the target. The Commission set the Commission's intention. A separate CDR target is being discussed – this would have a significant impact on CDR sector.	Impact to follow depending on implementation of measures. Likely further R&D support (in particular, for DACS). More concrete measures expected in the context of revision of EU Climate Law.	Likely to have a significant impact on the CDR sector. Discussions still ongoing unclear on whether it will have a positive or negative impact.

Policies: Two German policies set the guardrails for CDR development

Broad applicability

CDR method specific



Langfriststrategie Negativemissionen (LNe)

Carbon Management Strategy (CMS)

Carbon Storage Act (KSpG)

National Biomass Strategy

Description

The German long term negative emissions strategy is aimed at creating a common understanding on the role of negative emissions within German climate change mitigation action. It will address governance & regulation, CDR markets, R&D

Acknowledges the need for CCS and CCU in Germany and triggers a revision of the German Carbon Storage Act. Defines for which industrial processes CCS will be legally permissible (e.g. no coal-powered energy production).

The KSpG in its current vision practically prohibits Carbon storage in Germany. Through revising the German Carbon Storage Act, Offshore-Carbon Storage will become possible and the permitting procedure for CO₂-Infrastructure will be revised and streamlined.

The Biomass Strategy will identify sectors that depend on the use of biomass and prioritise those sectors by implementing the cascading principle.

Owner/developer

Federal Ministry for economic Affairs and Climate Action

Federal Ministry for Economic Affairs and Climate Action

Bundestag

Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection

Status

under development

in the process of adoption

Adopted 2012, currently under revision

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Timeline

first draft expected in Q1/ 2025

Q4 / 2024

Revision to be adopted in Q4/2024

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Scope

Technical sinks / Negative Emission Technologies

CCU/S and CO₂-Infrastructure

Carbon Storage and – after revision – Carbon transport via pipeline and permitting procedure for CO₂-pipelines

The Biomass Strategy forms the basis for the sustainable utilization of biomass from forestry, agriculture and waste management.

Applicable to Federal Government (not a binding law though)

CCS-project developer/ Infrastructure planning (Companies, Regulatory authorities)

N/A

Relevant for CDR-methods that require biomass utilization

Target(s)

will develop dedicated removal targets for technical sinks for 2035, 2040 and 2045 to be included in the German Climate Change Law

N/A

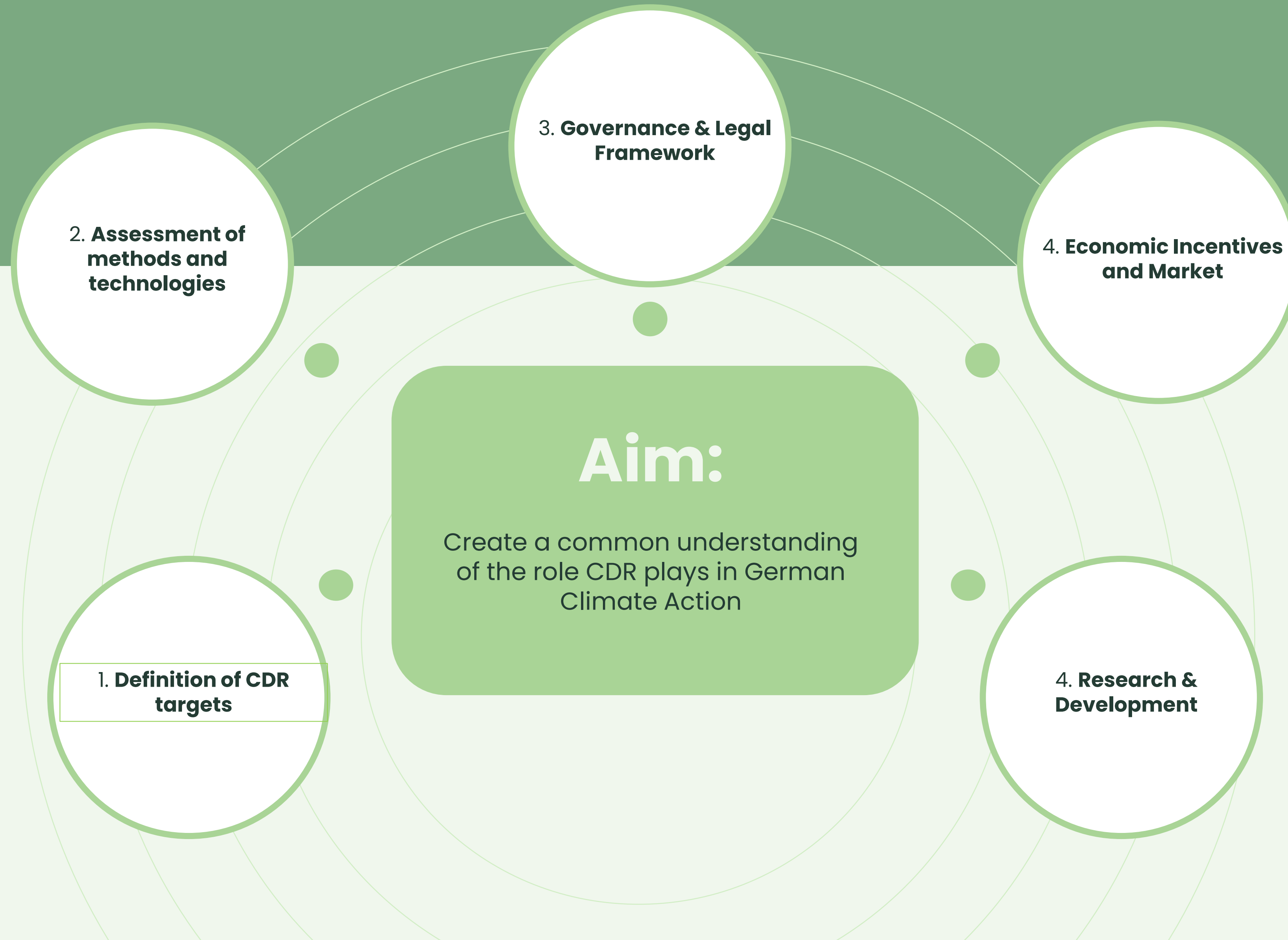
Expected CDR impact

High overall impact on CDR in Germany as the Strategy aims at comprehensively address how CDR should be included in Germany's mitigation portfolio.

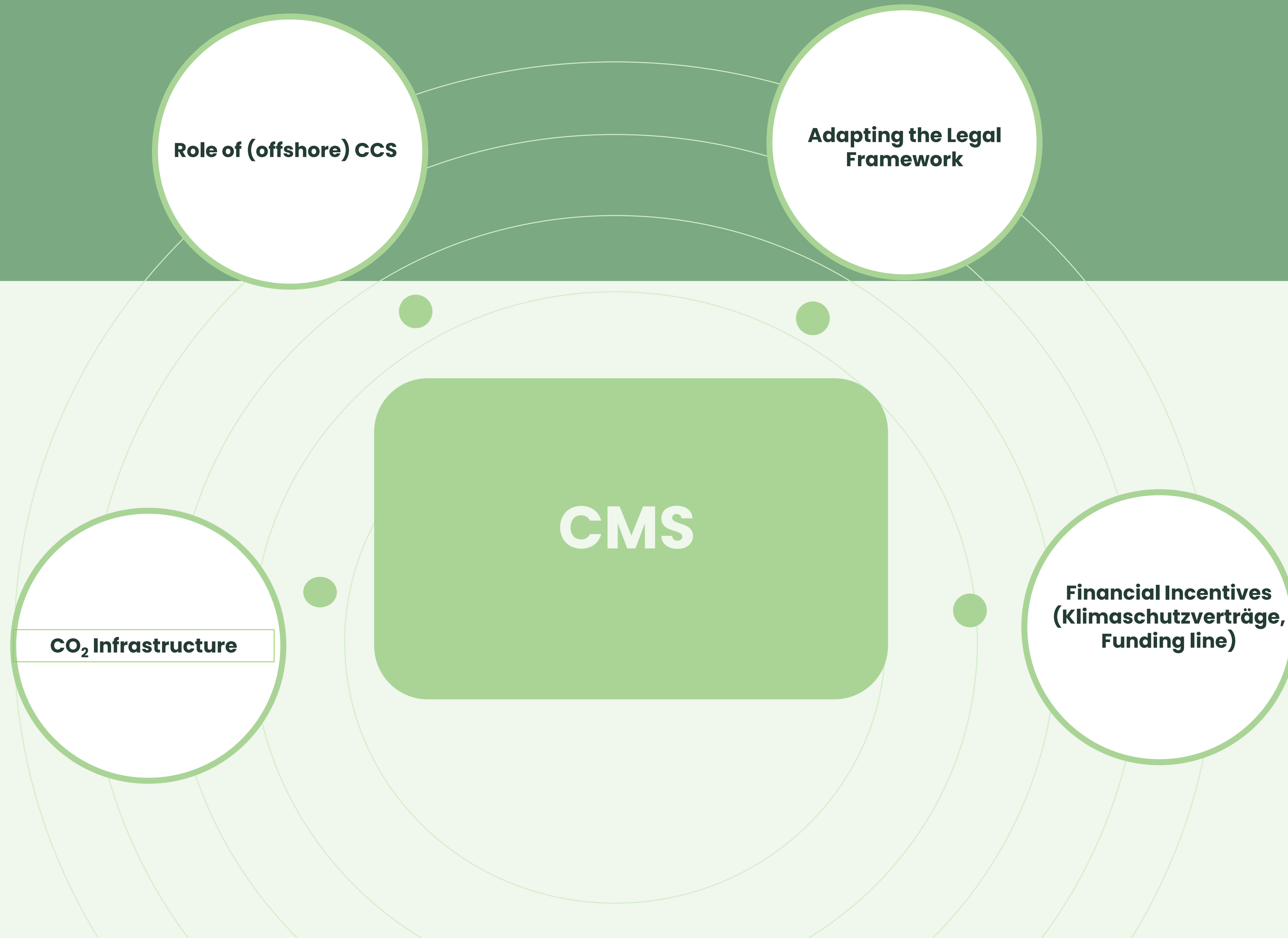
Impact on Bio-CCS and DACCS in Germany

High Impact on Bio-CCS and DACCS in Germany as the KSpG regulates the storage and transport of captured CO₂.

Impact on Bio-CCS and Biochar as the Biomass Strategy might limit the biomass availability for this activities



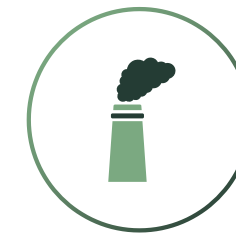
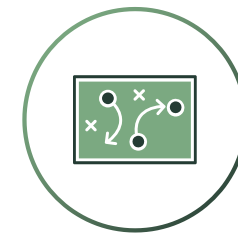
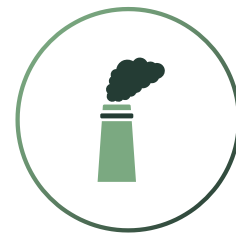
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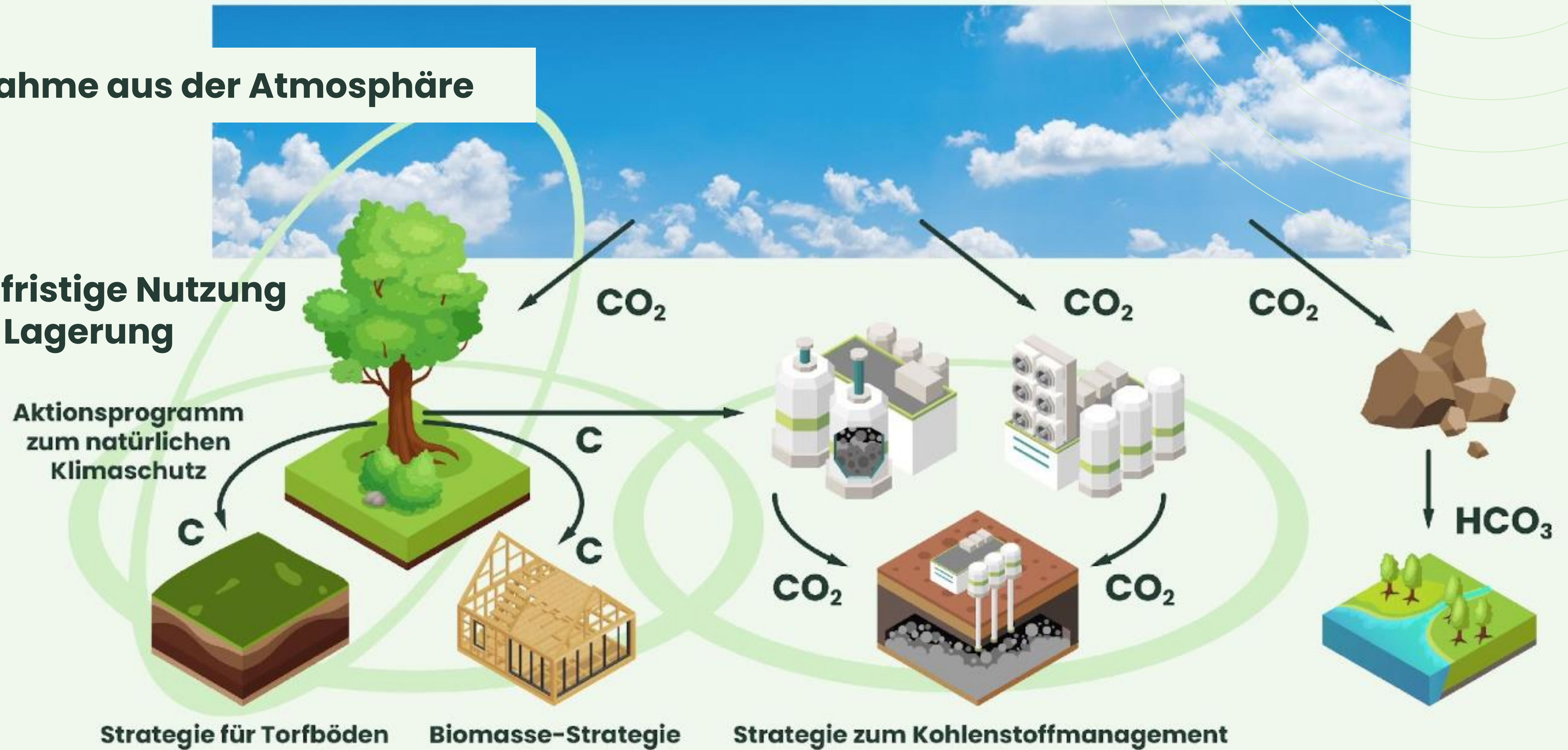
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Other strategies (exemplary)

1.
Entnahme aus der Atmosphäre

2.
Langfristige Nutzung
oder Lagerung



An aerial photograph of a vast, dense forest of tall, thin trees, likely pines or cypresses, stretching across rolling hills. The forest is a deep, vibrant green, and the perspective is from a high angle, looking down on the canopy. The text "Time for Q&A" is centered in the middle of the image in a white, italicized serif font.

Time for Q&A

Let's CONNECT

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