Conditional fungibility: sequencing permanent removals into emissions trading systems

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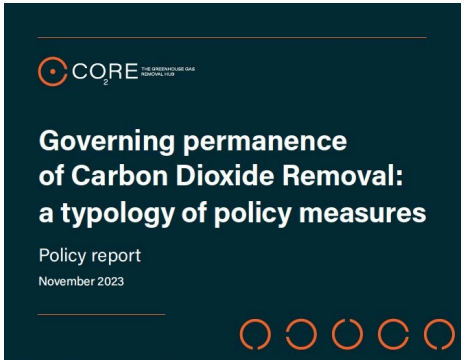
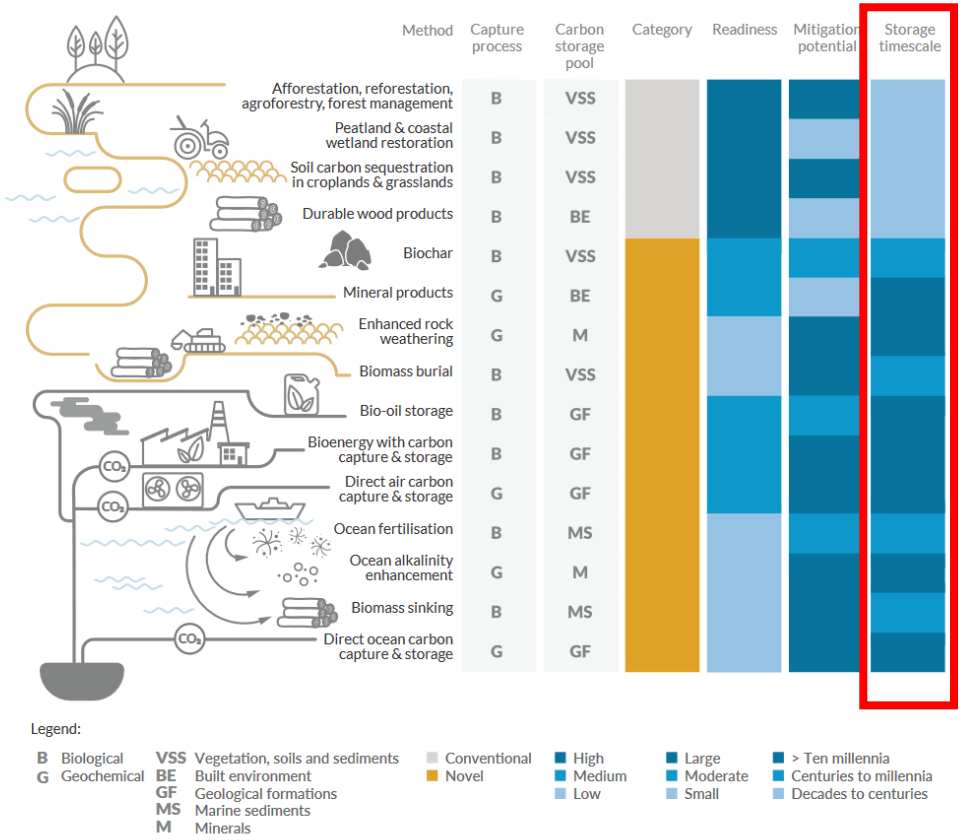
I. Motivation & policy context

1. CDR methods differ in terms of durability and risk of reversal
2. This has important implications for policy design
3. In particular, for an integration into compliance markets, which would lead to tradability of CDR units with fossil CO_2 emissions
4. How can methods be differentiated and how can their differences be taken into account in policy design?



A broad CDR portfolio: differences in storage timescales

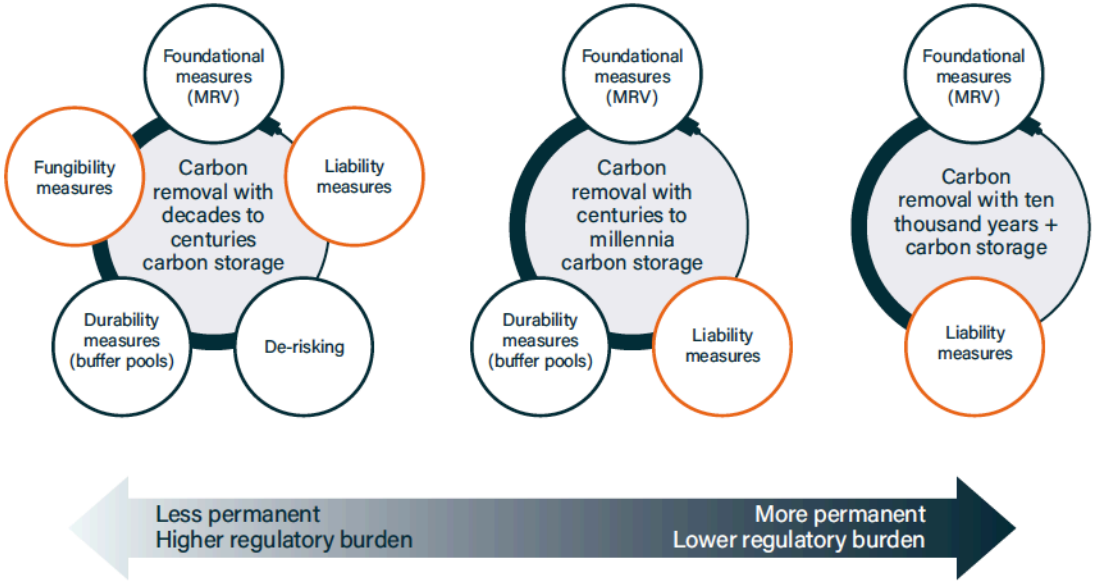


THE STATE OF Carbon Dioxide Removal

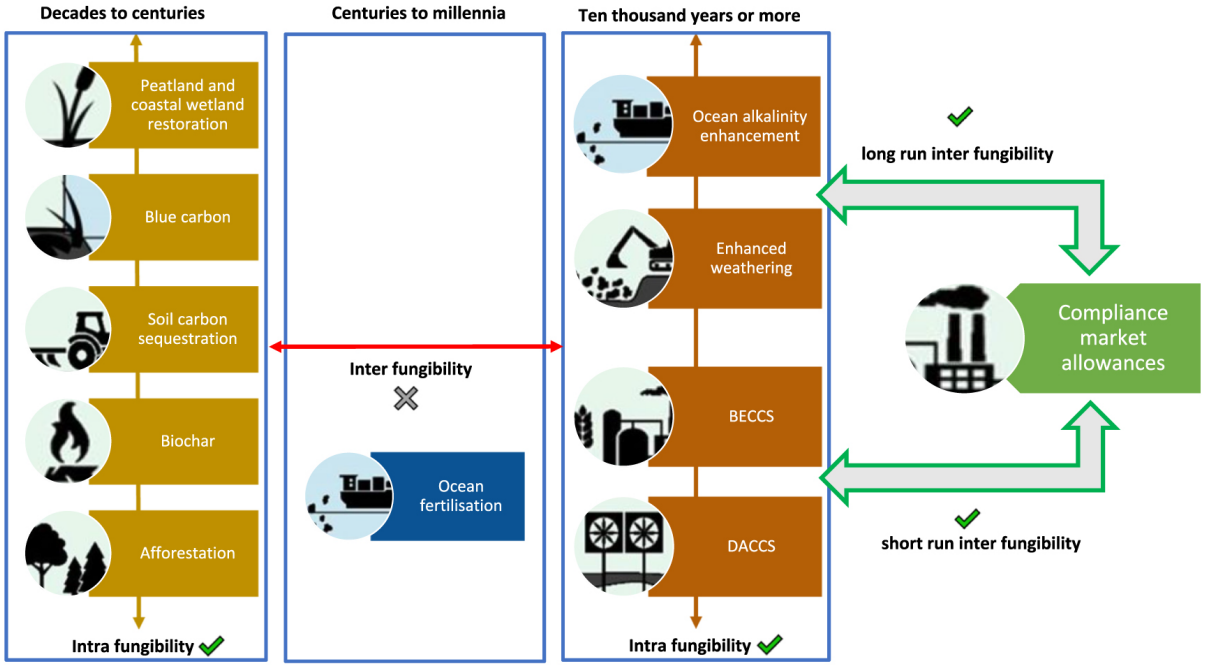
Five groups of measures to address permanence issues

MRV measures	Greenhouse gas quantification through crediting mechanisms and according to predefined standards
Liability measures	Mechanisms that stipulate the storage duration period and legally obligate actors to continually remove carbon in the event of a reversal or at the end of a project lifespan
De-risking measures	Financial carbon insurance and market discount rates/ratings agencies.
Durability measures	Measures to manage carbon that is re-released into the atmosphere due to extreme weather events, disease, site/facility maintenance or poor land use governance. The main measure is the use of buffer pools.
Fungibility measures	Attempts to quantitatively value CDR with different levels of permanence, from which equivalence ratios can be produced.

Different methods require different *policy bundles*



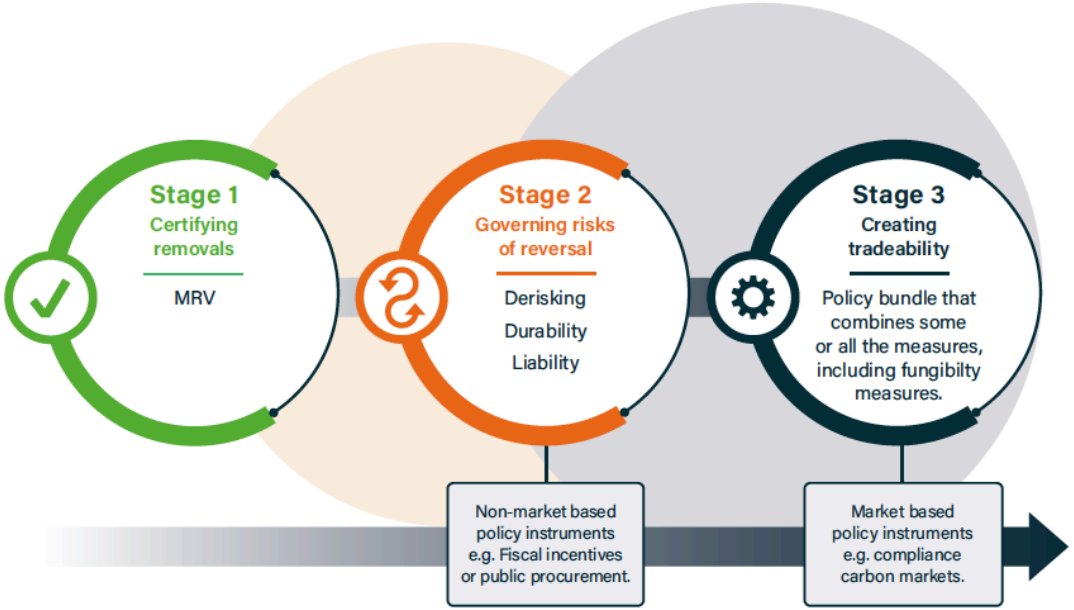
Differences in durability and risk of reversal: Inter- and intra-fungibility



Sequencing strategy to integrate CDR into compliance markets

A sequencing strategy would provide:

- sufficient time for capacity building
- the establishment of non-market-based policies to lower the costs of permanent CDR
- the signaling of the ETS's eventual role as a tool for creating demand for CDR.



Next steps in ETS integration the UK and the EU

UK:

- **Consultation closed August 2024**; response in the coming 6 months will decide on whether non-permanent CDR is eligible but high likelihood BECCS and DACCS will be integrated
- **The UK government has outlined important design preferences** such as the intended cap design (starting with maintaining a gross cap, and then moving to a net cap), but further work needs to be done on allowance design (such as differentiation) and broader permanence framework.
- **Linking discussion between the EU and the UK** may influence design choices and next steps

European Union:

- **Commission report in 2026 and review of the ETS;** as well as other pillars of EU climate policy
- **Don't take ETS integration for granted**: It's one of the main talking points in the CDR bubble, but it is still very early. ;ore general issues such as 2040 target design and reorientation of the main pillars (AFOLU? Agri-ETS? Effort Sharing Regulation?).
- **The new focus on competitiveness makes it even less possible to anticipate** alliances and conflicts in the Commission, between Member States, etc.

Recommendations

- **Think of integration as a sequence:** 1) MRV/certification 2) managing reversal risks & non-market instruments 3) creating tradability
- **Don't complicate future linking:** CDR integration should not make future linking of the UK and EU ETS more difficult (by including different, less permanent CDR methods).
- **Be transparent about the objective:** Is it liquidity and more flexibility in the ETS or robust demand for CDRs - if the former, CDR should not be a proxy for this discussion - other options should be on the table (otherwise we will get international credits through the back door)
- **Broadening the debate:** While working on medium- to long-term policy design is important, creating demand in the short term is even more important for scaling up CDR. Given that ETS prices won't match permanent CDR prices, other instruments will be needed to bridge the gap until eventual integration.

Thank you!

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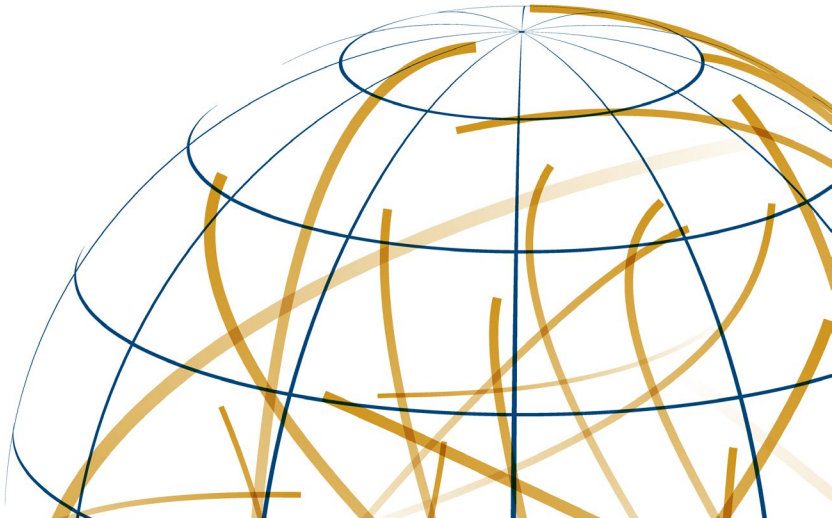
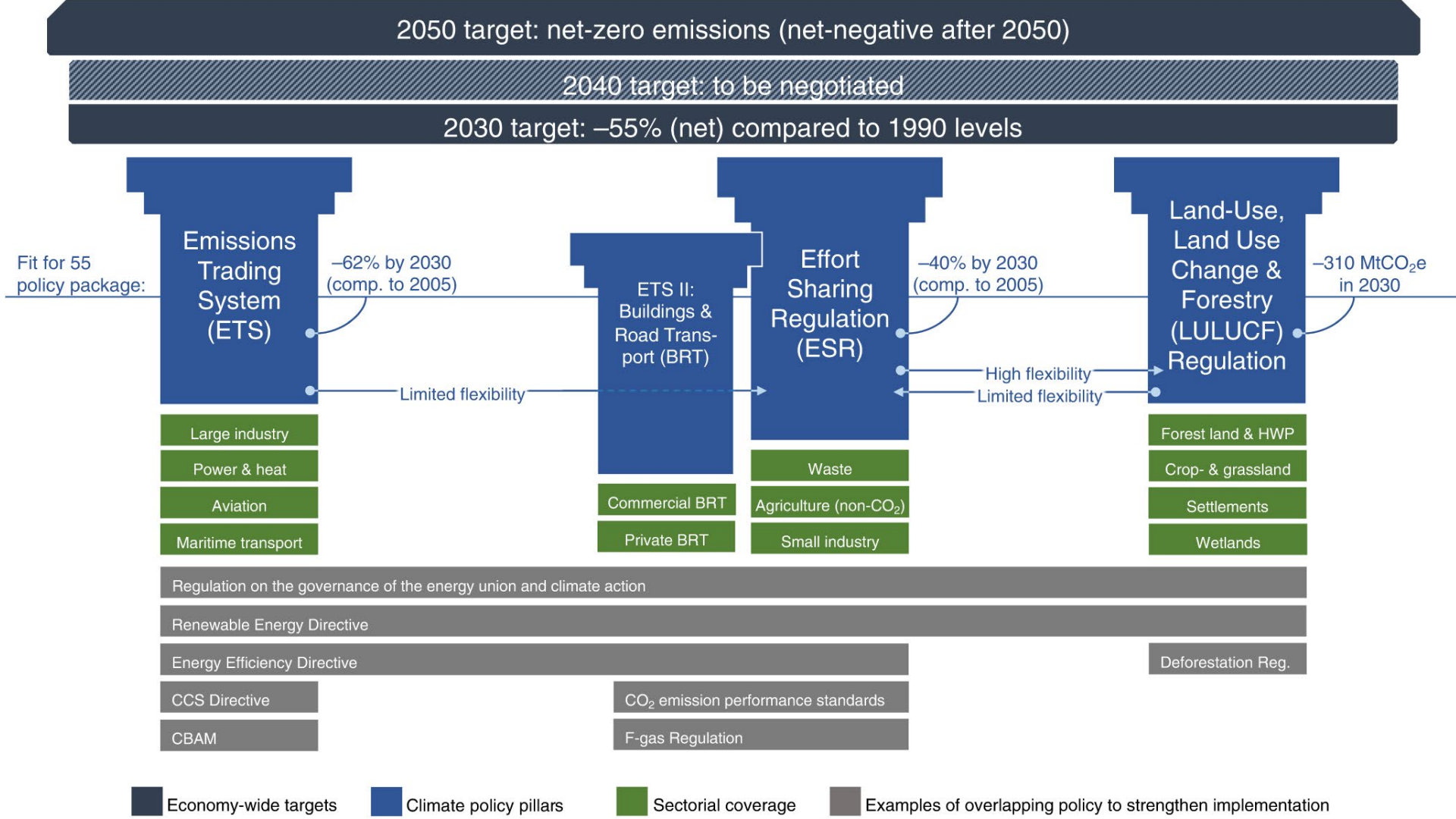
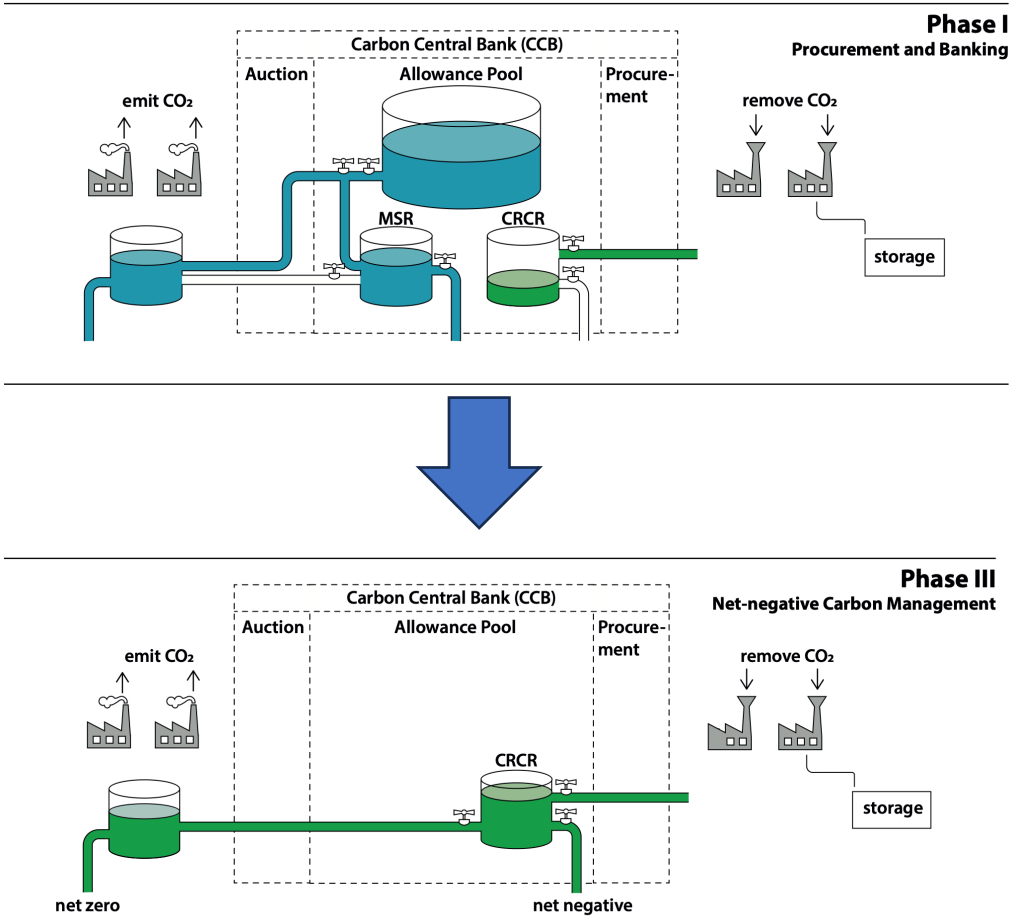



2050 target: net-zero emissions (net-negative after 2050)
2040 target: to be negotiated
2030 target: –55% (net) compared to 1990 levels
Fit for 55 policy package:
Emissions Trading System (ETS)
–62% by 2030 (comp. to 2005)
Limited flexibility
ETS II: Buildings & Road Trans-port (BRT)
Effort Sharing Regulation (ESR)
–40% by 2030 (comp. to 2005)
High flexibility
Limited flexibility
Land-Use, Land Use Change & Forestry (LULUCF) Regulation
–310 MtCO2e in 2030
Large industry
Power & heat
Aviation
Maritime transport
Commercial BRT
Private BRT
Waste
Agriculture (non-CO2)
Small industry
Forest land & HWP
Crop- & grassland
Settlements
Wetlands
Regulation on the governance of the energy union and climate action
Renewable Energy Directive
Energy Efficiency Directive
Deforestation Reg.
CCS Directive
CO2 emission performance standards
CBAM
F-gas Regulation
Economy-wide targets
Climate policy pillars
Sectorial coverage
Examples of overlapping policy to strengthen implementation

- **A Carbon Central Bank to transform the ETS into a net-negative-ready trading system**



Rickels et al. 2022/2024