



Carbon Dioxide Removals in EU Member State policies and laws

State of play and how to improve it

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Objectives

- **Understanding and describing status quo**
- **Descriptive overview of CDR frameworks in all 27 EU Member States**
 - national climate laws,
 - national Energy and Climate Plans (NECPs),
 - national Long-Term Strategies (LTS), and
 - CAP strategic plans.
- **Qualitative assessment**
 - governance, environmental integrity, inclusive and open debate
 - gaps and impediments that might prevent greater CDR uptake
- **Recommendations tailored to MS and EU processes, not to individual MS.**

Our findings: Governance

- No hierarchy between reductions and CDR (unlike EU Climate Law); no CDR framework articulates explicitly the equivalence problem.
- No quantified CDR targets, except climate laws PT (CDR = 10%), DE (LULUCF), LTS BE, EE, ES, FR, HU, NL, SI (LULUCF) and SE government CDR report.
- If CDR targets exist, they are long-term (2050 mostly), not short-term (exceptions: FR NECP, SE gov report).
- MS with climate neutrality target refer to removals to offset remaining emissions.
- No CDR strategies; LTS do not close this gap = descriptive and repeating existing policies
 - No weighing of pros and cons of CDR methods
 - Investment needs not quantified, except in LTS, GR, HU, SE (bio-CCS)
- No public consultation specific to CDR (part of LTS, climate laws or NECP)
- No CDR definition but sometimes confusion with CCS and CCU

Our findings: Nature-Based Options

- **Natural sinks are the focus.**
- **MS assume stable or increasing natural sinks; some quantify area to be afforested / restored and timber harvesting volumes (LTS AT, FR, FI, IT, NECP IE).**
- **Quantified CDR targets by LULUCF, e.g. DE climate law, FR NECP**
- **Many general and descriptive statements on measures: sustainable forest management, soil protection, rewetting, carbon farming, climate resilience**
- **Markets for incentivizing negative emissions (Flanders)**
- **Subsidies conditional to mitigation: CZ, FR, SE and CAP plans**



Our findings: Technology- Based Options

- **Not the focus.**
- **BECCS mentioned as a possible tool to offset residual emissions (LTS Wallonia, LTS / NECP FR, LTS FR, IT, LTS NL) but no BECCS discussion**
- **SE quantifies bio-CCS contributions, PT considers BECCS as cost-ineffective**
- **DAC mentioned in CDR frameworks of IT, GR, DE and DK (with quantified potentials)**
- **CCS: Most countries only provide qualitative information on CCS/CCU, but there are some that have quantitative information (DK).**

Conclusions

- **NBS obviously more developed than TBS**
- **No strategic and comprehensive approach to CDR in any MS framework:**
 - Only few targets relevant for CDR
 - No priority for specific CDR options
 - No discussions of the pros and cons of each CDR option
 - No discussion on combined effects of CDR options
 - Spread over in various documents.
 - Description of measures that already exist to meet other targets; CDR as a side effect.
 - Research efforts in many documents
- **Few safeguards to address the equivalence problem (except MS with quantified CDR targets; discount factors not considered)**

Recommendations

- **EU can't lead alone**
- **Discuss and adopt CDR strategy – as part of LTS or separate but not primarily descriptive**
- **Main elements of a CDR strategy:**
 - Define what CDR is: removal, permanence, additional.
 - The firewall: Keep CDR separate from mitigation = separate targets, no measures that make CDR a mitigation currency (ETS, ESR)
 - Hierarchy: reductions first, removals second
 - Decide *how* to remove CO₂: the pros and cons of each CDR options and their combined effects
 - Restoration of ecosystems as no-regret option.
 - Honest about TBS: energy consumption, costs, availability, technological maturity



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Thank you

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Definition of CDR

IPCC: CDR = the withdrawal of greenhouse gases from the atmosphere as a result of deliberate human activities and store it *durably*.

Storage: No definition of permanence

CDR different from CCS. CCS does not remove actively CO₂ from the atmosphere but prevents it from entering the atmosphere.

CDR different from CCU for the same reasons plus no permanent storage