CARBON MARKET WATCH

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The role of carbon removals in the EU 2040 climate framework

To which degree will the 2040 EU greenhouse gas net emission reduction goal be allowed to be met by carbon removals?

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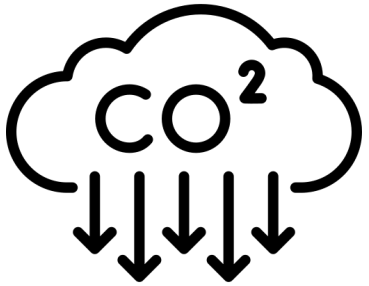
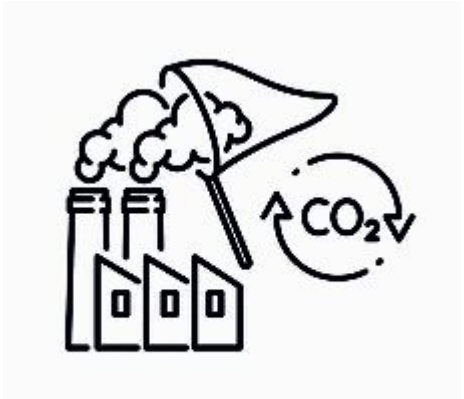
Overview

- A recap on carbon removals
- NGOs and CMW approach
- The EU 2040 target
- Co-creating EU CDR policy
- Summary

A recap on carbon removals - What

A portfolio of activities that capture CO2 ***directly*** from the atmosphere and store it away ***permanently*** with a ***net-negative emissions*** balance

CDR  $\neq$  **CCS/CCU**

There are technical, natural and mixed processes to do so

Sources: Tanzer and Ramirez (2019); The Carbon Negative Handbook, CMW (2024)

A recap on carbon removals - Why

IPCC, AR 6:

1. Lowering net-emissions in the short term
2. Balancing residual emissions in the medium term

   (net-zero/climate neutrality)
3. Reaching net-negative emissions in the medium/long term

Warning! Cannot replace ***fast, deep and sustained*** **emission reductions**

Key concerns for NGOs

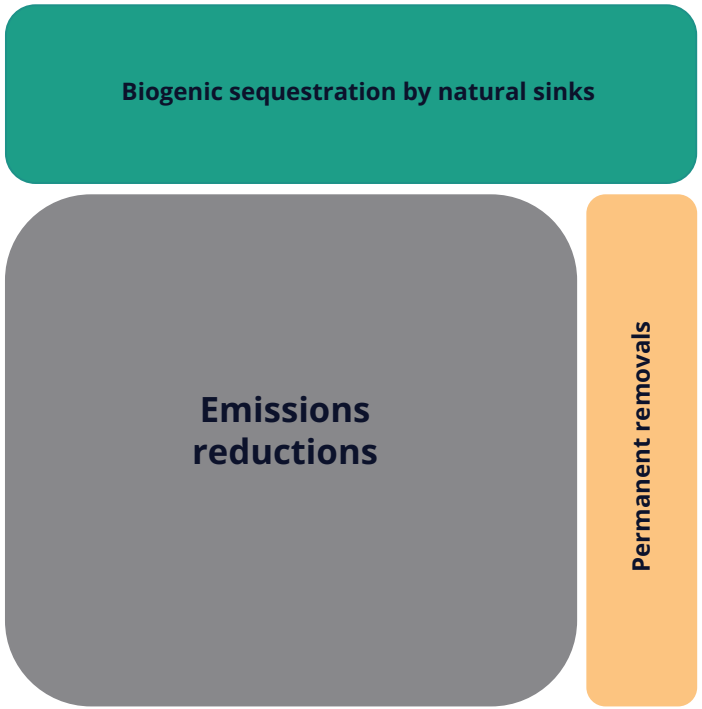
- Carbon removals remain **controversial**
- **Distraction** and waste of resources
- **Overreliance** on removals
- **Mitigation deterrence** (i.e. offsetting)
- Scepticism about role, **risks and feasibility** of technical removals (esp. BECCS)
- Need to finance nature restoration but avoid **commodification of nature** (through carbon credits)

CMW approach to CDR

- Acknowledging it is “unavoidable” for climate neutrality and net-negativity
  - It must be **supplementary** to reducing emissions as fast and deep as possible.
  - It must deliver **real climate benefit** and respect planetary boundaries and **sustainability** considerations.
  - Sustainable, permanent CDR is **scarce**. Feasibility, scalability and impacts remain uncertain.
- To achieve that we need robust policy governance of carbon removals
  - **Separate targets** and policies for emissions reduction, land based sequestration and permanent removals (no to offsetting).
  - Strong **definition, MRV, certification** methodologies

A need for separate climate targets

- Clear role for removals (supplement)
- Reduces mitigation deterrence and overreliance
- Better governance and accounting
- Certainty for project developers
- Increase trust in the architecture



A need for separate climate targets

- Biogenic sequestration by natural sinks
  - Can be reversed by human or natural disturbances
  - Vulnerable to impacts of changing climate
  - Can be crucial for biodiversity and ecosystems

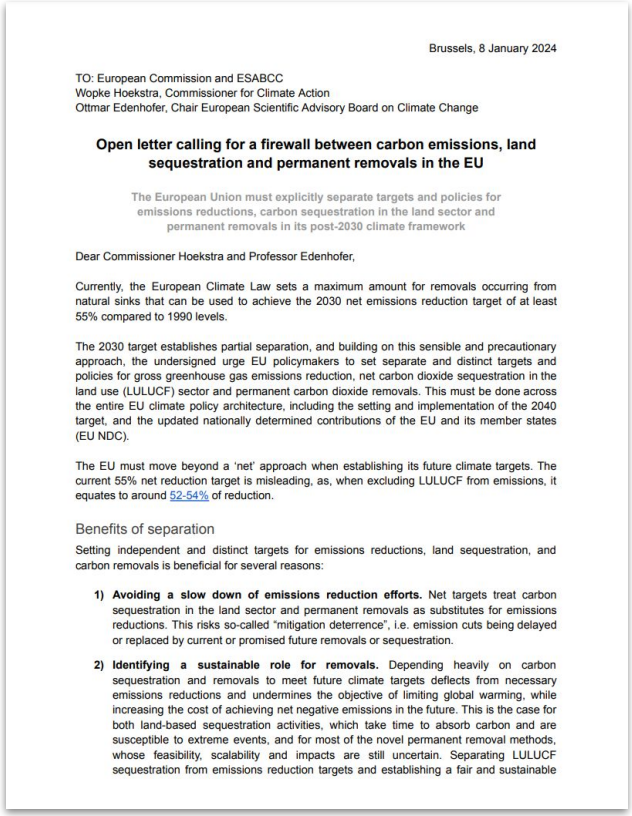
- Permanent removals
  - From centuries to millennia of carbon storage
  - Feasibility, scalability and impacts are uncertain
  - Can counterbalance residual emissions

Both can have negative side-effects

Inside Iceland's 'mammoth' direct air carbon capture plant - the biggest in the world. - Copyright Climeworks

Open letter on separate climate targets

- Published in January 2024
- Signed by **119 academics/ NGOs/companies/think tanks**
- Arguments to separate **emissions reduction, permanent removals and LULUCF sequestration**
- Call the European Commission to include this principle in
  - The 2040 target Communication
  - Subsequent proposals surrounding the setting and implementation of the 2040 target, and the updated EU NDC



Brussels, 8 January 2024

TO: European Commission and ESABCC
Wopke Hoekstra, Commissioner for Climate Action
Ottmar Edenhofer, Chair European Scientific Advisory Board on Climate Change

Open letter calling for a firewall between carbon emissions, land sequestration and permanent removals in the EU

The European Union must explicitly separate targets and policies for emissions reductions, carbon sequestration in the land sector and permanent removals in its post-2030 climate framework

Dear Commissioner Hoekstra and Professor Edenhofer,

Currently, the European Climate Law sets a maximum amount for removals occurring from natural sinks that can be used to achieve the 2030 net emissions reduction target of at least 55% compared to 1990 levels.

The 2030 target establishes partial separation, and building on this sensible and precautionary approach, the undersigned urge EU policymakers to set separate and distinct targets and policies for gross greenhouse gas emissions reduction, net carbon dioxide sequestration in the land use (LULUCF) sector and permanent carbon dioxide removals. This must be done across the entire EU climate policy architecture, including the setting and implementation of the 2040 target, and the updated nationally determined contributions of the EU and its member states (EU NDC).

The EU must move beyond a 'net' approach when establishing its future climate targets. The current 55% net reduction target is misleading, as, when excluding LULUCF from emissions, it equates to around 52-54% of reduction.

Benefits of separation

Setting independent and distinct targets for emissions reductions, land sequestration, and carbon removals is beneficial for several reasons:

1) **Avoiding a slow down of emissions reduction efforts.** Net targets treat carbon sequestration in the land sector and permanent removals as substitutes for emissions reductions. This risks so-called "mitigation deterrence", i.e. emission cuts being delayed or replaced by current or promised future removals or sequestration.
2) **Identifying a sustainable role for removals.** Depending heavily on carbon sequestration and removals to meet future climate targets deflects from necessary emissions reductions and undermines the objective of limiting global warming, while increasing the cost of achieving net negative emissions in the future. This is the case for both land-based sequestration activities, which take time to absorb carbon and are susceptible to extreme events, and for most of the novel permanent removal methods, whose feasibility, scalability and impacts are still uncertain. Separating LULUCF sequestration from emissions reduction targets and establishing a fair and sustainable

Link to the letter

Removals in the EU climate framework

- **LULUCF Regulation**: target for biogenic removals
- **EU Climate Law**:
  - Mandatory climate neutrality (emissions and removals balance) by 2050
  - LULUCF contribution to the 2030 net reduction target of 55% is capped at 225Mt
  - Not much more
- The Carbon Removal and Carbon Farming Regulation (**CRCF**)
  - Voluntary Monitoring, Reporting and Verification (MRV) tool
  - Developing certification methodologies
  - Don’t specify the use cases of removals units

But: risks for removal integration in emission mitigation policies (i.e. ETS) - proposals already made during FF55 process and COM upcoming study on CDR in ETS

The EU 2040 target

EU COM Communication and IA (6 Feb. 2024)

- **Net 90% emissions reduction** target
- Less than **850 Mt CO2eq residual** emissions
- Up to **400 Mt CO2eq** for LULUCF and industrial removals (in IA, 317 and 75 Mt CO2eq respectively)

Table 7: Industrial removals and net LULUCF removals

	2040			2050
	S1	S2	S3	S3**
Gross GHG emissions (MtCO2-eq)	**1273**	**943**	**748**	**411**
Total Removals (MtCO2-eq)	**-222**	**-365**	**-391**	**-447**
Industrial Removals (MtCO2)	-4	-49	-75	-114
LULUCF net removals (MtCO2-eq)	-218	-316	-317	-333

*Note: **S1 and S2 values for 2050 are similar to S3 and represented in more details in Annex 8.*

Source: PRIMES, GAINS, GLOBIOM.

The EU 2040 target

Upcoming legislative proposal to **amend the EU Climate Law**

- Timing uncertain (maybe Feb. 2025?)
- Probably a net goal (emissions-removals)
- Targeted amendment (not touching other parts of the law)
- Keep 2030 approach of removals capped contribution?

Removals to be tackled in the Fit for 90%(?) **implementation package** (revisions of ETS, ESR, LULUCF) in 2026?

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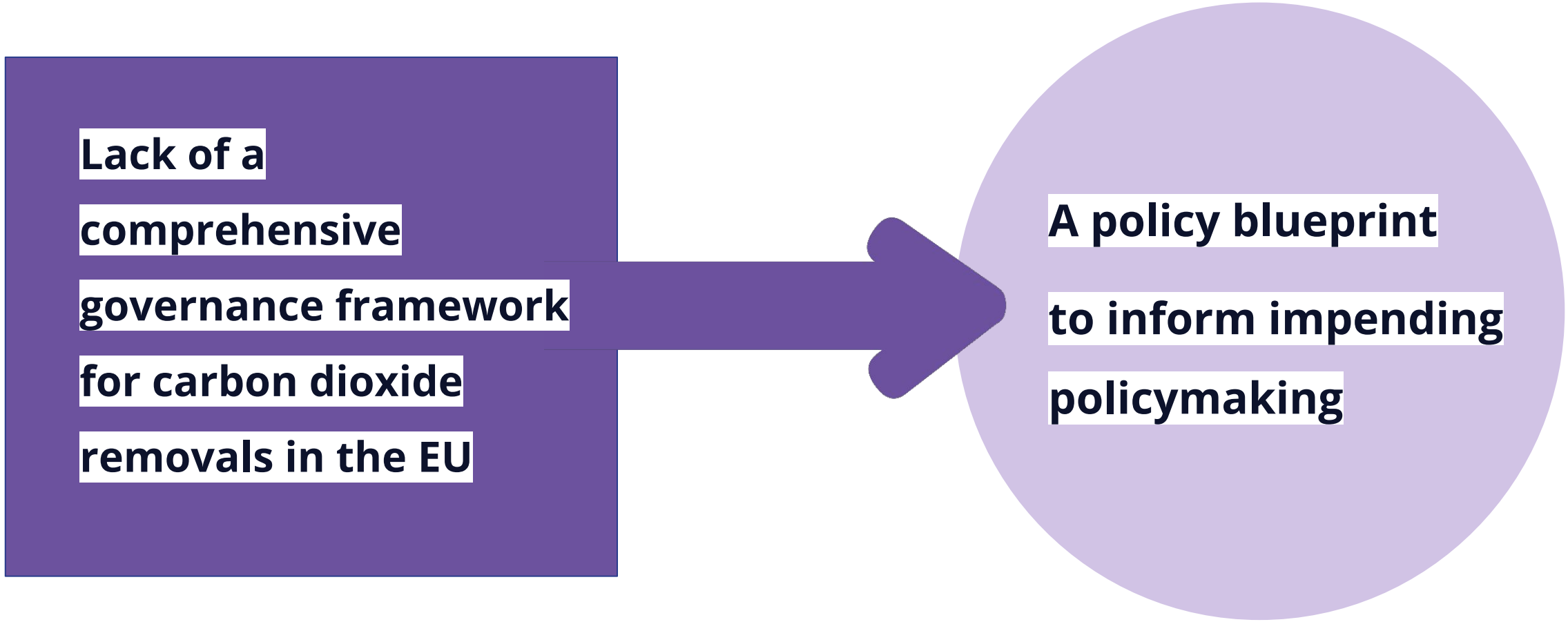
A common vision for carbon removals in the EU - The CO2ol Down process

CO2OL DOWN

About CO2ol Down

The CO2ol Down process - start and end point



CO2ol Down: Two key challenges

Mitigation deterrence

- The EU climate architecture **does not prevent** the use of CDR for offsetting purposes.
- **No comprehensive policy** that addresses potential and risks of CDR.

A polarised debate on CDR

- **Overconfidence** risks delaying emission reductions.
- **Overcaution** risks blocking investments and proper regulation.

CO2ol Down: The objective

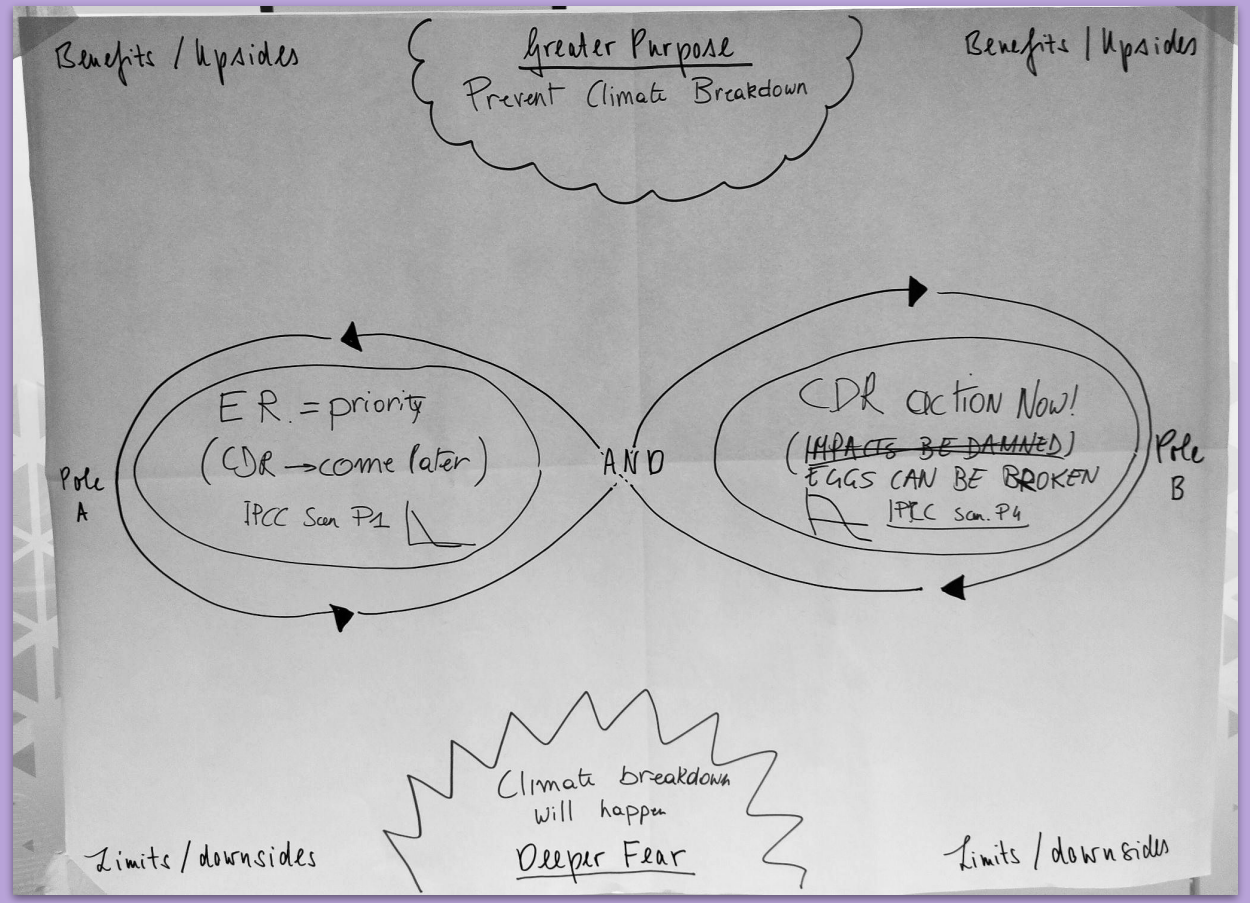
Maximising the upside and minimising the downside of each pole by focusing on the greater purpose.

Co-create a governance proposal for CDR in the EU

- Amendments to **revise the EU Climate Law**.
- Policy recommendations for **dedicated instruments on permanent removals**.

Model for international replications in the NDCs

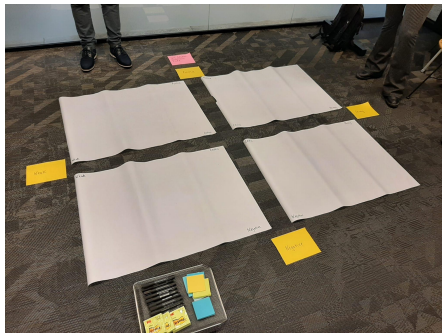
The CO2ol Down process - polarity mapping

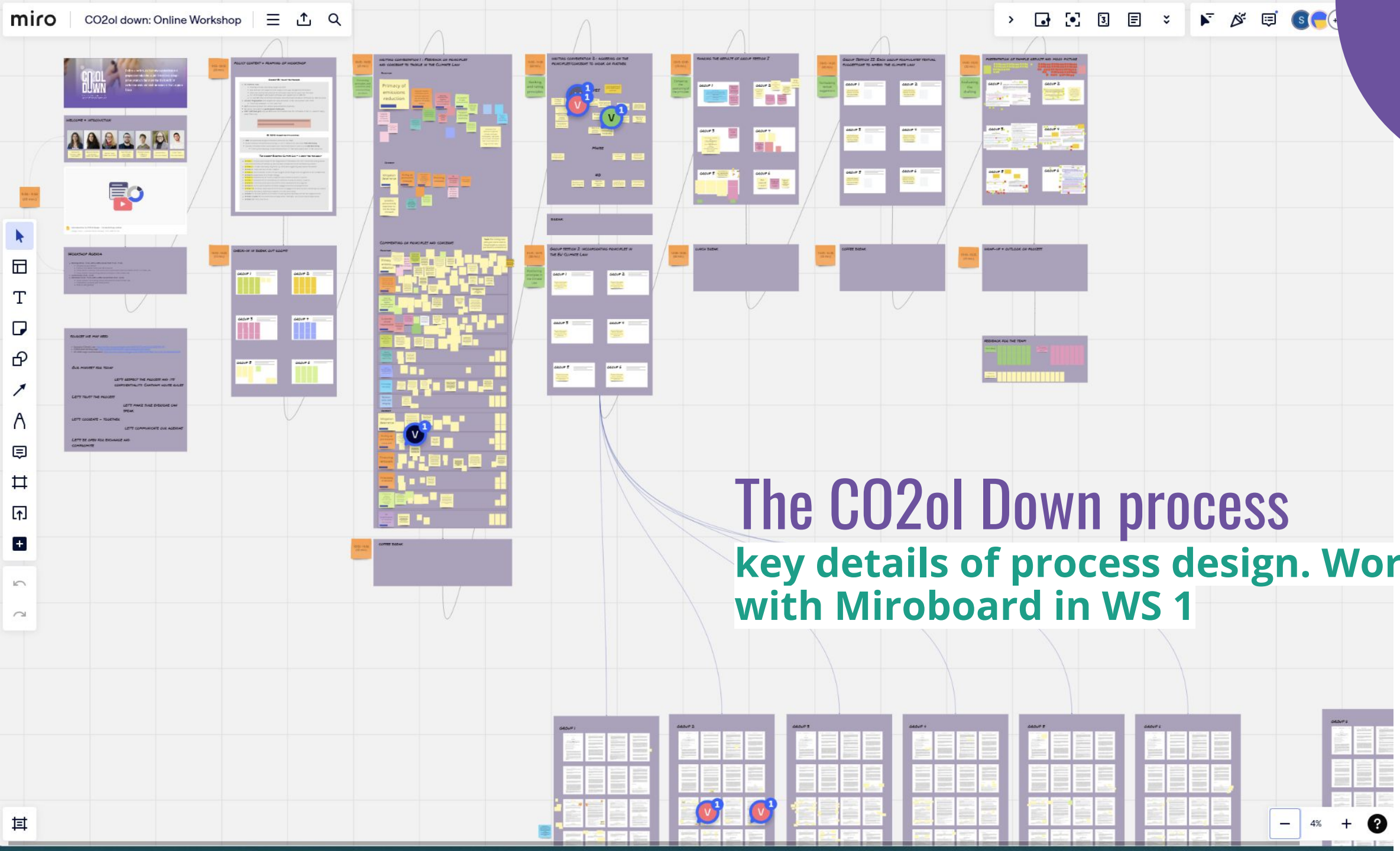


The CO2ol Down process - timeline and milestones

CO2ol Down: The process

We mapped stakeholders, from industry, academia, civil society, with a field resonance analysis





miro
CO2ol down: Online Workshop
The CO2ol Down process
key details of process design. Work with Miroboard in WS 1

The CO2ol Down process

key details of process design. The harvest brough in

The CO2ol Down process

key details of process design. Co-creators positioning in relation to results

The CO2ol Down process

the essence of co-creation

- Widest possible participation of diverse stakeholders
- Basic participation conditions
- Innovative proposals emerging from collective intelligence
- Common positions out of systemic consensus-making
- Participants' growth and development through the creative exchange

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A common vision for carbon removals in the EU - The CO2ol Down results

Proposal for a revision of the EU Climate Law

Key amendments to the text:

- **Art 2**: Climate neutrality and mandatory net-negativity;
- **Art. 4**: Separate targets for emissions reductions, biogenic sequestration and permanent removals by 2040.
- **Art. 4a (new)**: Role and mandatory protection of natural sinks.
- **Art. 4b (new)**: Role and binding targets for permanent removals.

Link to the text

Policy recommendations for EU instruments on permanent removals

- **Target setting**
  - Legally binding targets, science-based and regularly reviewed
  - At EU level and fairly allocated among MS
- **Governance**
  - ESR approach, overseen by MS
  - Robust MRV
- **Finance**
  - Both public and private, ‘Polluter Pays’ and ‘Ability to Pay’
  - Compliance approach
- **Portfolio approach**
  - Wide range of methods, respecting key requirements
  - CDR portfolio of MS, different geo and socio-economic conditions
- **Sustainability criteria**
  - Sustainability, justice and ethical considerations
  - Do no harm, precautionary principles and respect for planetary boundaries

Link to the text

Level of endorsement

- 20 signatories out of 48 participants
- Mainly academics, followed by NGOs
- Lack of co-creation culture
- Contentious topics
  - LULUCF contribution to climate neutrality
  - Compliance-based financing mechanism (what about the VCM?)

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Summary

- CDR unavoidable for climate neutrality and net-negativity
- Only permanent removals for residual emissions
- Supplementary to emissions reduction
- Real climate benefit within planetary boundaries
- Robust policy governance needed
- Separate targets for 2040

Contact

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Thank you for your attention. Any questions?

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