



Minutes of the UPTAKE

1st Stakeholder Workshop

Potsdam 1st October 2024

Shared drive: [03.StakeholderWorkshop](#)

Plenary Session – introduction to the UPTAKE project

[Opening session - slides](#)

Presenters: Benjamin Sovacool (AU); Felix Schenuit (SWP); Friedemann Gruner (MCC); Mohamed Abdalla (UNIABDN); Soheil Shayegh (CMCC)

Summary:

- The session started with a general overview of the UPTAKE project, presenting the partners, objectives, structure and timeline.
- The project focuses on:
 - Comprehensive assessment of individual CDR methods,
 - Systemic integration of CDR into leading modelling frameworks, and
 - Facilitation and acceleration of CDR uptake considering real-world implementability constraints.
- The general overview was followed by presentations focused on four perspectives explored by the project:
 - Knowledge & Science,
 - Policy & Governance,
 - Business & Investment,
 - Society & Communities.

Each presentation covered the main strands of work within UPTAKE project which related to the given perspective. They also served as an introduction to the interactive discussions in four breakout groups.



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101081521- UPTAKE - Bridging current knowledge gaps to enable the UPTAKE of carbon dioxide



Interactive discussion in parallel breakout groups:

[BOG1 - group 1] CDR Business Models and associated policy needs

[01. UPTAKE_BMworkshop_02102024.pptx](#)

Moderator: Aleksander Śniegocki (REFORM)

Summary:

- The discussion focused mostly on tech-based solutions (DACCS, BECCS, biochar).
- Finding buyers for removals remains a key problem. Voluntary markets are ultimately small-scale, and the contracts often are not finalised due to a lack of clear financial benefit for the company in the short term. There is no clear incentive for companies to buy today if they have targets for 2040-2050 and no regulatory pressure is in place.
- Large-scale deployment of CDR will ultimately depend on a regulatory obligation to buy removals. Specific design considerations (direct obligation or carbon market, coverage of obligation) will depend on policy choices in different geographies.
- These obligations can be introduced outside the GHG-specific instruments, e.g. circular economy requirements (treating carbon as waste to be recovered), flexibilities on sector-specific obligations (e.g. Fossil Fuels + CDR contributing to Sustainable Aviation Fuel target - but need to be careful to maintain the original goals of these instruments).
- In the short term, the state can act as a buyer to learn the practicalities and deliver proof that future regulatory obligations are feasible.
- Removal obligations should be considered at the company level rather than at the country level. While the EU focuses on country-level targets, their design should consider the impact on international companies.
- Nature-based solutions require a separate reflection on business models, which connect to broader considerations and co-benefits which can be supported by other revenue-generating policies (e.g. biodiversity).

Action points:

- The REFORM team will consider the insights from the discussion during the work on Deliverable 4.1 on Business models (to be published in Q1 2025), which will then inform further work in WP4 on enabling frameworks for CDR (including policies and governance arrangements).

[BOG1 - group 2] Exploring requirements for CDR synthesis products and scientific research gaps

[02. Abdalla CDR Synthesis products and research gaps.pptx](#)

Moderator: Mohamed Abdalla (UNIABDN)

Summary:



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- Scaling existing CDR technologies to make a significant impact on climate targets remains a challenge.
- Long-term storage issues, particularly regarding permanence and preventing carbon leakage, require further research, including risks like carbon loss from fires or land-use changes.
- Emerging technologies, such as direct air capture, need improvements in energy and material efficiency for commercial viability.
- High upfront costs are associated with BECCS, making it less accessible for widespread adoption.
- Ecological and environmental trade-offs are a concern, with potential unintended consequences.
- Uncertainty in outcomes and effectiveness of many CDR methods.

Most urgent gap in terms of CDR deployment at scale:

- Urgency should be evaluated through climate impact analysis, techno-economic assessments, and stakeholder engagement.
- The priority should be on gaps that can contribute to near-term climate goals, such as achieving net-zero target, and on improving the scalability and affordability of CDR technologies.

Challenges in translating scientific research into practical CDR solutions:

- Public perception and acceptance remain key barriers.
- The cost viability of various CDR methods is a challenge, limiting their deployment.
- Securing funding and investment for CDR projects requires clear financial incentives.

Action points:

- **Develop a priority list of CDR research gaps** that can directly support achieving net-zero and short-term climate targets.
- **Engage stakeholders** in discussions around improving scalability and affordability, particularly for technologies like BECCS and direct air capture.
- **Explore strategies to enhance public perception** and acceptance of CDR solutions through targeted outreach and education campaigns.
- **Collaborate with funding bodies** to identify potential investment opportunities for emerging CDR technologies and address cost barriers.
- **Initiate research into long-term storage solutions** with a focus on improving carbon permanence and addressing risks related to carbon leakage from fire and land-use changes.





[BOG2 -group 1] The EU mitigation target for 2040 in the Climate Law: How can rapid CDR upscaling be aligned with ambitious emission reductions in future climate policy designs?

[03. 20241002_UPTAKE BOG policy .pptx](#)

Moderator: Felix Schenuit (SWP)

Summary:

- **2040 target design relevant for future CDR policy:** currently 2 “ceilings” for residual emissions and removals
- **Subsequently, integration into existing pillars / policy instruments key policy question**
 - **ETS integration:** dominates the discussion, quite conceptual, could be important signal for CDR supplier, but takes time
 - **Burden/effort sharing on CDR regarding the targets?** more discussions about different potentials (and responsibility) for CDR in different member states
- **Procurement will be an important element of CDR policy:** CDR policy will have to decide what role governments play in this (in addition to company procurement)
- **Looming discussion:** import of CDR credits generated in non-EU countries

Action points:

- WP4 Task 4.2 will continue to observe key policy developments (EU 2040 target, ETS/ESR) and how decisions taken at the EU level compare to those at the Member State level and in other G7 countries

[BOG2 - group 2] Communication and engagement strategies for upscaling CDR

[04. CDR for Society and Communities_new.pptx](#)

Moderator: Benjamin Sovacool (AU)

Summary:

- Different socio-technical aspects of CDR implementation and deployment were discussed.
- For the technologies included in the UPTAKE project, technological readiness, existing implementations, integration of research and spread of field trials were mentioned as crucial elements.
- When it comes to the decision-making process for the implementation of CDR technologies, different roles were discussed. National and international governments and the market are recognized as crucial for making the deployment of CDR happen,





however the public is assigned veto power. The room agrees on the power of public opposition to CDR to stop it from being implemented.

- Involving the public in the development and application of CDR is recognized as crucial. This involvement is not only framed as towards acceptance, but also as towards engaged and shared development of the technologies and their deployment.
- The role of transparency and global coordination of regulations are highlighted as crucial in addition to public involvement.
- Other elements informing the discussions have been: considerations over the differences in the combinations of technological solutions and country capabilities determining differing deployments in Global North & G.South; and alternative deployment scenarios in which CDR is not only aimed at for-profit.

Action points:

- Task 1.3 members will benefit from these discussions while developing the survey instrument aimed at eliciting public perceptions of CDR technologies. The insights shared during the session will inform the framing and some of the implementation choices for this instrument.

Plenary session – reporting the results obtained in groups to the plenary

Presenters: Aleksander Śniegocki (REFORM); Lucilla Losi (AU); Mohamed Abdalla (UNIABDN); Soheil Shayegh (CMCC); Till Reinholz (IKEM);

Summary:

- The main insights from the four breakout groups were presented (see the summary above).
- The presentations were followed by an open discussion on the research priorities and knowledge gaps in the area of CDR policies.
- The need for more crosscutting research involving diverse groups of stakeholders was highlighted.

Action points:

- CMCC and REFORM will follow up with the participants to share the presentations and the minutes of the workshop.
- Stakeholders are invited to join the online Stakeholder Forum: [UPTAKE CDR Stakeholder Forum \(google.com\)](#)

Annex 1 - [List of participants](#)

Annex 2 - [Agenda](#)

