



Carbon dioxide removal in climate change mitigation policy planning

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Rationale

To achieve the Paris Agreement's goal to **limit global warming** to well below 2°C or even 1.5°C, a dramatic increase in mitigation efforts is needed: reaching a global **balance** of greenhouse gas (GHG) emissions and carbon dioxide (CO₂) **removals** by 2050. This requires all countries to urgently and significantly **cut emissions** as well as to **start removing CO₂** from the atmosphere (Carbon Dioxide Removal, CDR) through Negative Emissions Technologies (NETs).

Under the international climate policy regime, Parties are to communicate on their mitigation efforts, including via:

- Nationally Determined Contributions (NDC), to be communicated every five years, with an updated NDC due before the next UN climate change conference in 2021
- Long-term Low Greenhouse Gas Emission Development Strategies (LEDS) with a horizon to 2050

Governments and companies increasingly pledge net-zero emissions (a balance of emissions and removals). Credible strategies for achieving such targets are so far largely missing.

Opportunities

The Paris Agreement requires countries to communicate and track progress of their climate plans, actions and support through a transparency framework. This allows sharing information on carbon dioxide removal efforts. International guidance, standards and procedures can facilitate robust **measurement, reporting and verification (MRV) and accounting** of the mitigation contribution of carbon dioxide removal and promote consistency across international, regional, national and sub-national levels. A common MRV and accounting approach is crucial to ensure the credibility and long-term viability of carbon dioxide removal, given CDR-specific challenges such as concerns regarding the permanence of carbon storage. Carbon market mechanisms could allow countries collaborate toward their net zero ambitions and demonstrate carbon dioxide removal efforts in an internationally comparable manner.

The reorganization of **national climate policy planning** associated with emerging net-zero (or even net-negative) emission targets offers an opportunity for engaging public and expert stakeholders to strengthen the basis of long-term planning. The establishment of independent expert advisory bodies (such as the UK's Committee on Climate Change) and citizen panels (such as the French Citizens' Convention on Climate), are valuable examples. Climate policy needs to mobilize mitigation, including carbon dioxide removal across all sectors and levels of governance to actually reach net zero targets.

Carbon dioxide removal is not free of cost and often more expensive than emissions reductions; mobilizing significant **funding** to upscale activities and trigger cost reduction is thus crucial. Funding needs range from research and development to pilot and demonstration activities, as well as development of long-term policy instruments.

Challenges

Countries are still at the **early stages** in their transition to low greenhouse gas emissions and climate-resilient development. Emissions targets and mitigation action plans are not yet fully informed by science nor fully mainstreamed into policies and processes on the different levels of public administration.

Ideally, countries would set national long-term emissions targets and intermediate milestones in line with an at least “well below 2°C”-compatible emissions pathway. They would integrate climate and sustainable development considerations into national and sub-national legislation and policies in a coherent manner. In order to make private finance flows consistent with sustainable and low emission development, regulation and carbon pricing policies would be introduced, ensuring cost-effective emission reduction and CDR measures.

In reality, countries face a multitude of challenges relating to a) identifying and comparing emission reduction and carbon dioxide removal **options across all sectors** of the economy, b) developing appropriate **regulation, policy and funding** to advance mitigation solutions at various stages of maturity and with various cost-benefit structures, and c) considering **synergies and trade-offs** not only across mitigation options but also between mitigation and other goals and priorities.

Steps toward credible mitigation with CDR

Given the identified challenges and the important lead times for scaling up carbon dioxide removal options up while bringing costs down, we recommend governments to engage in the following steps

1. Set up an independent interdisciplinary **scientific advisory body** for a national carbon dioxide removal strategy led by a politically experienced and academically respected expert. This body should set up focused expert working groups to map out sector-specific and cross-sectoral issues for carbon dioxide removal at various levels, ranging from the international to the subnational.
2. **Participate** in domestic and international discussions to shape **emerging carbon market mechanisms** and other international **climate finance instruments** into credible instruments for mobilizing carbon dioxide removal underpinned by robust **MRV** and **accounting** rules aligned with international rules and the best available science.
3. Ensure regular interaction between policy-makers, private sector, civil society and researchers to develop recommendations for setting, implementing, tracking and revising **climate targets** including **decadal** targets (2030, 2040, 2050), a net zero greenhouse gas target for an appropriate point in time and **specific** separate targets for conventional mitigation and for carbon dioxide removal efforts. Engage with these stakeholders and the general public in a **continuous dialogue** – via mass and social media, workshops and dialogues with targeted stakeholder groups – on the question how these targets may be achieved. Feed dialogue outcomes back into each next round of target setting.

Impressum

Perspectives Climate Group
Hugstetterstrasse 7,
79106 Freiburg i.B., Germany

Contact: Matthias Honegger

honegger@perspectives.cc

More information and publications on carbon dioxide removal, net-zero climate targets, climate policy instruments including carbon markets, climate finance and finance for CDR and more related topics on our website:

<https://www.perspectives.cc/publications/>