Carbon dioxide removal

The mission of the First Movers Coalition (FMC) is to advance the most **critical emerging climate technologies** required for deep decarbonization of the world's heavy-emitting sectors. To do this, FMC is building early market demand for such technologies by 2030, in order to help scale and catalyze their mainstream adoption for carbon-intensive sectors.

First Movers Coalition – Carbon dioxide removal commitment

FMC has set ambitious commitments for companies to purchase **durable and scalable** carbon dioxide removal solutions by the end of 2030. Companies joining the FMC take the following pledge:

For members with **≥$5B** annual revenue when joining:

- Cumulative Volume Commitment: "In addition to our maximal direct emissions reduction efforts, we commit to contract for at least **50,000 tons** of durable and scalable (per FMC definitions) net carbon dioxide removals by the end of 2030."
- Alternative – Cumulative Spend Commitment: "In addition to our maximal direct emissions reduction efforts, as an alternative to contracting for 50,000 tons, companies joining the FMC can contract for at least **$25 million** of durable and scalable (per FMC definitions) net carbon dioxide removals, by the end of 2030."

For members with **<$5B** annual revenue when joining[1]:

- Cumulative Volume Commitment: "In addition to our maximal direct emissions reduction efforts, we commit to contract for at least **10,000 tons** of durable and scalable (per FMC definitions) net carbon dioxide removals by the end of 2030."
- Alternative – Cumulative Spend Commitment: "In addition to our maximal direct emissions reduction efforts, as an alternative to contracting for 10,000 tons, companies joining the FMC can contract for at least **$5 million** of durable and scalable (per FMC definitions) net carbon dioxide removals, by the end of 2030."

Commitment details

Carbon removal solutions that satisfy the following criteria are in-scope[2]:

1. **Durable** solutions that can demonstrably store captured carbon for a minimum of 1,000 years
2. **Scalable** solutions that have the potential to reach MT scale by 2030 and GT scale by 2050

The scientific community recognizes that nature-based solutions[3] can play an important role in limiting climate change[4], however, nature-based solutions are **out of scope** for the FMC's CDR commitment given FMC's mission to advance critical **technologies** expected to deliver deep emissions reductions, yet which are not available at the scale required.

All carbon removal processes must account for and quantify their net CO_2 emissions removals from the atmosphere (e.g., complete a lifecycle assessment which considers the greenhouse gas (GHG) emissions incurred during transportation, sequestration (including energy use), and utilization).

FMC expects members to purchase high-integrity CDR solutions that maximize decarbonization impact while minimizing negative externalities. Several frameworks[5] defining credit quality are emerging, covering principles such as:

- Solutions must minimize environmental harm, including deforestation, over-consumption of natural resources and land, and continued reliance on fossil fuel energy.
- Solutions must minimize social harm, including adverse impacts to local ecologies, indigenous communities, and marginalized groups, while equitably distributing social benefits including jobs, investment, and financial benefits across communities and landowners.
- Solutions must adhere to credible, science-based measurement, reporting, and verification (MRV) methodology and avoid double counting.
- Solutions must ensure additionality by demonstrating that carbon removal would not occur without the project and delivers measurable new benefits.
- Biomass based solutions must not promote monoculture and/or use arable land and native biomass.

Disclaimers

Voluntary commitments made by members of the First Movers Coalition are subject to the availability of material(s), fuel(s), service(s) supply and regulatory approvals. Members acknowledge that procuring the material(s), fuel(s), or service(s) needed to meet these commitments may come at a premium cost.

Commitment design process

The original carbon dioxide removals commitment was first introduced in 2022. Through the biennial Commitment Review process, the original commitment was revised in 2024.

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[1] Members with <$5B annual revenue may opt to commit to the more ambitious volume / spend levels required for members with ≥$5B annual revenue when joining.

[2] Solutions with a high likelihood of meeting the FMC criteria include direct air carbon capture and storage (DACCS) with direct CO_2 injection and bioenergy with carbon capture and storage (BECCS) with direct CO_2 injection. Other solutions may be used to meet the FMC commitment if they meet the durability and scalability requirements above.

[3] Nature-based solutions are, “actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits” (IUCN)

[4] International Energy Agency (IEA) notes that, “commensurate action on AFOLU [agriculture, forestry, and other land use], would help limit climate change” (pg. 92) and recognizes that nature-based solutions are one way of removing CO2 from the atmosphere (IEA); Intergovernmental Panel on Climate Change (IPCC) notes that, “nature based solutions generally benefit[s] biodiversity and support[s] its role in both climate mitigation and adaptation” (IPCC ARG WGII Full Report pg. 163)

[5] Examples of these frameworks include: the EU Carbon Removal Certification Framework (EU CRCF), Article 6.4 of the Paris Agreement, and the ICVCM’s Core Carbon Principles. – among others