

What is Carbon Dioxide Removal?

November 26, 2023 • vajiramandravi.com



About Carbon Dioxide Removal

- It is using technologies, practices, and approaches to remove carbon dioxide from our atmosphere through deliberate and intentional human actions.
- This includes traditional methods like afforestation, as well as more sophisticated technologies like direct air carbon capture and storage (DACCS).

What are the different CDR methods?

- Biochar
 - It is the substance produced by burning organic waste from agricultural lands and forests in a controlled process called pyrolysis.
 - Although it resembles common charcoal in appearance, the production of biochar reduces contamination and is a method to safely store carbon.
- Biochar
 - Pyrolysis involves the burning of wood chips, leaves, dead plants, etc. with very little oxygen, and the process releases a significantly small quantity of fumes.
 - Biochar is a stable form of carbon that cannot easily escape into the atmosphere.

- Bioenergy with carbon capture and storage (BECCS)
 - It involves bioenergy production often through combustion to generate electricity or heat.
 - The resulting CO₂ emissions from this combustion are captured and stored underground, preventing them from contributing to the greenhouse effect.
 - It sequesters photosynthetically fixed carbon as post-combustion CO₂.
 - Direct air carbon capture and storage (DACCS)
 - It extracts CO₂ directly from the atmosphere at any location.
 - This captured CO₂ is then permanently stored in deep geological formations or used for other applications.
 - It uses electricity to remove CO₂ from the air.
 - Enhanced rock weathering
 - It involves pulverising silicate rocks to bypass the conventionally slow weathering action.
 - The resultant product, usually a powder, has higher reactive surface area, which is then spread on agricultural lands for further chemical reactions.
 - Ocean alkalinity enhancement
 - It involves adding alkaline substances to seawater to accelerate this natural sink.
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Q1) What Is Carbon dioxide?

It is a clear gas composed of one atom of carbon (C) and two atoms of oxygen (O). Carbon dioxide is one of many molecules where carbon is commonly found on the Earth. It does not burn, and in standard temperature and pressure conditions it is stable, inert, and non-toxic.

Source: [What is Carbon Dioxide Removal? | Explained](#)

Source: <https://vajiramandravi.com/current-affairs/co2-removal/>

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