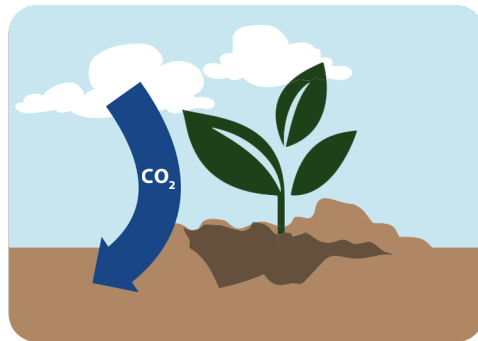


CO₂ Removal Methods in En-ROADS



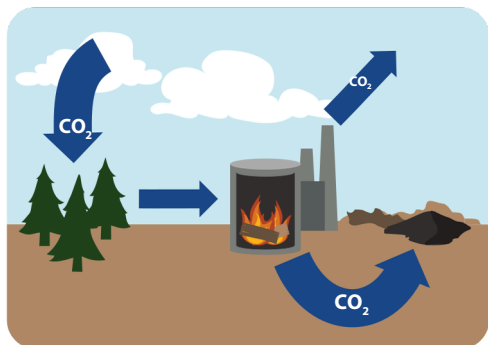
Afforestation and reforestation

As trees grow, they draw carbon out of the air, which reduces the concentration of CO₂. The CO₂ is then stored in living biomass.



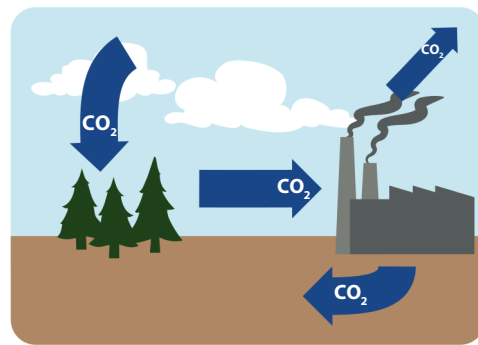
Agricultural soil carbon sequestration (SCS)

Using agricultural practices which enhance soil carbon (such as no-till agriculture and preventing over-grazing).



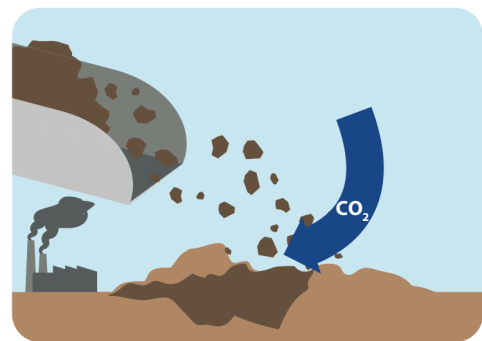
Biochar

Biochar is biomass (e.g., from trees) that has been made into charcoal via pyrolysis, and is then buried to retain the carbon.



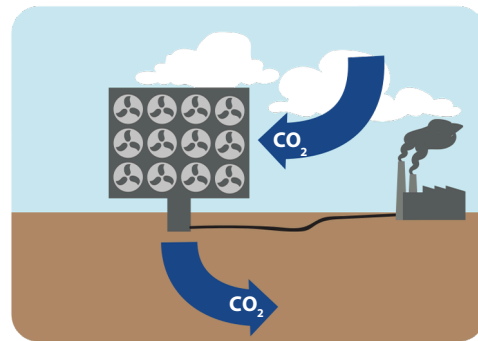
Bioenergy w/carbon capture and storage (BECCS)

Burning biomass for energy, capturing the CO₂ emissions, storing the emissions long-term, and successfully re-growing the biomass.



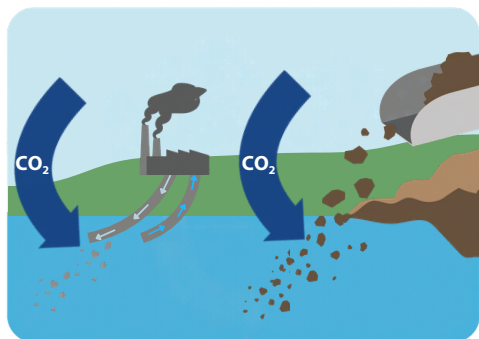
Enhanced mineralization

Mining and grinding rocks such as basalt, then spreading them on land, where they absorb CO₂ from the air and convert it to stable minerals for long-term storage.



Direct air capture (DAC)

It is an emerging technology that pulls CO₂ out of the air, where it is then stored in geological reserves. To get a net removal benefit the captured carbon must be stored long-term.



Ocean alkalinity enhancement (OAE)

Adding mined minerals or alkalinity produced electrochemically from seawater to the ocean, increasing its capacity to absorb CO₂ from the air and store it as bicarbonate.

All of the following methods of carbon dioxide removal (CDR) can be explored in the En-ROADS simulator, accessible at en-roads.org.

Note: Carbon Capture and Storage (CCS) for coal and natural gas can be simulated in En-ROADS, but it is not considered to be a form of CDR. Rather than pulling CO₂ from the air, CCS prevents emissions and does not lead to a net CO₂ removal.