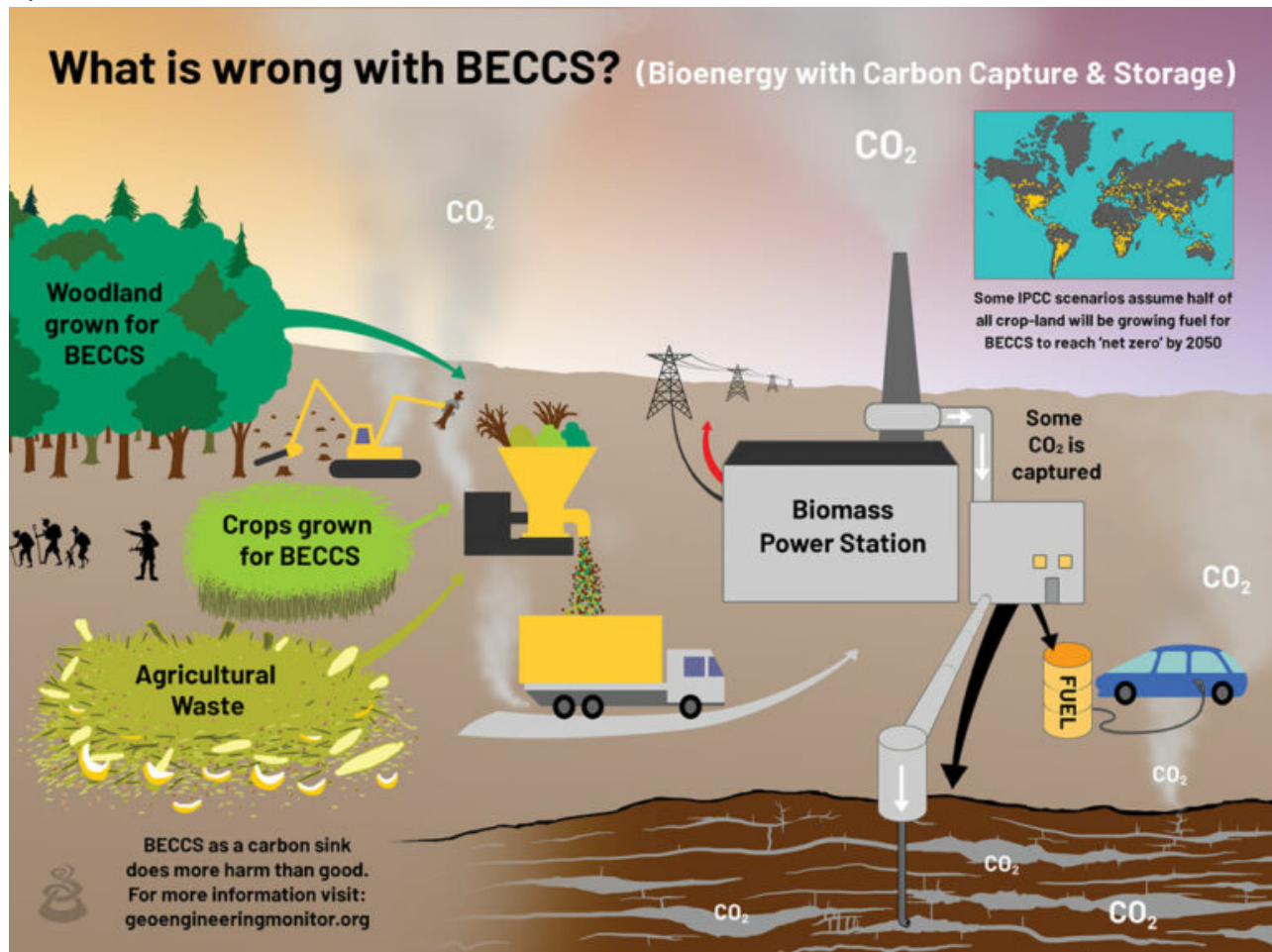


BIO-ENERGY WITH CARBON CAPTURE AND STORAGE (BECCS)

April 15, 2021



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Overview

BECCS aims to capture CO_2 from bioenergy applications, and store it through either Carbon Capture and Storage (CCS) or reuse it with Carbon Capture, Use and Storage (CCUS). This theoretical carbon dioxide removal (CDR) approach demands burning very large quantities of cultivated crops, trees or plant residues to generate energy – such as electricity, or heat – or converting them into ethanol to be burned. The CO_2 arising from the combustion process is then – so the theory goes – filtered from the exhaust gases, usually with energy-intensive post-combustion capture. If a CCS approach is used, the captured CO_2 is compressed into liquid form and transported to sites where it can be pumped underground, theoretically, for long-term storage. CCUS is a proposal to “store” captured CO_2 , usually temporarily, in manufactured goods or synthetic

fuels. BECCS has been called “carbon negative” because bioenergy is wrongly assumed to be “carbon neutral”, based on the idea that plants will regrow to fix the CO₂ that has been emitted. Several scientists have pointed out that this claim overlooks emissions from land use change as well as life cycle emissions, like the CO₂ emitted during cultivation, harvest and transport.

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