

Carbon Capture and Sequestration, Engineered Carbon Removal, removing CO<sub>2</sub> from the exhaust of fossil fuel combustion plants, is a desperation move, and should not be used as an alternative to shutting down fossil fuel plants ASAP. It would be an expensive boondoggle. Capturing the CO<sub>2</sub> exhaust is only the first step, and one that consumes part of the energy produced, making the fossil fuel plant less efficient. Pipeline systems would need to be built to transport the separated CO<sub>2</sub> to a geological structure capable of holding it, which would need more energy. The geological structure must hold the CO<sub>2</sub> without leakage for centuries, longer than the USA has been a nation. If it leaks out sooner, then it will have been a waste of time and energy. The CO<sub>2</sub> would need to stay sequestered until the CO<sub>2</sub> concentration of our atmosphere decreases to low enough (350 ppm?) that the climate crisis is over. Nobody knows whether the CO<sub>2</sub> will stay underground for that long, or whether the pure CO<sub>2</sub> might react chemically with the geological structure that is holding it, causing leakage.

The July 19, 2021 issue of Chemical & Engineering News has a quote from Syrie Crouch, vice president for carbon capture and storage, Shell: "We will require something like the size of the current oil and gas industry, but with the molecules going in reverse".

Using CO<sub>2</sub> to extract more fossil fuel, as is being done in some locations, is a perversion that is only making our climate crisis worse.

Climate change is an environmental justice issue, typically impacting disadvantaged people the most. The entire fossil fuel extraction process is another environmental justice issue that would only be prolonged if CC&S is used to avoid ending our societal addiction to fossil fuels.

We need to stop burning fossil fuels as soon as possible to save our civilization from being destroyed by climate change. Carbon Capture and Sequestration (CC&S) needs additional R&D, and massive construction projects, none of which would be done quickly. In the time that it is developed, built, and put into use, we could have built much more capacity for renewable energy. Using the mirage of CC&S as an excuse to keep burning fossil fuels would be a tragic waste of time, money, and materials, allowing global warming/climate change to further increase.