

# WHY CARBON SEQUESTRATION WON'T SAVE US

## How Would CCS Work?

Carbon capture and sequestration (CCS) is a proposed process in which carbon dioxide from coal-fired power plants would be captured at the plants' exhaust systems before it reaches the atmosphere, compressed into a liquid and injected deep underground to be stored (or sequestered) forever. These underground spaces storing carbon dioxide could be in your backyard, under your home, ranch, or family farm. This proposed technology allows our continued reliance on coal sources while attempting to curtail global warming.

Investors have been unwilling to invest in such an untested, unproven and risky technology, and widespread deployment of CCS will only occur with substantial political and financial guarantees from taxpayers.

## PROBLEMS WITH CARBON CAPTURE AND SEQUESTRATION

1. **Cost** - the United States government has already invested millions of taxpayer dollars in the attempt to prove this technology, with little to show for it. Capturing and sequestering carbon dioxide from coal-fired power plants is an extremely expensive option for cleaning up the earth's atmosphere. Every dollar spent on CCS technology is a dollar not spent on clean and renewable energy technologies. Not to mention that the electricity coming from coal plants that sequester carbon will be more expensive because a lot of energy is lost in the process of running the plants.
2. **Monitoring and verification** - supposing that the carbon pumped underground remains there, strict maintenance, monitoring and enforcement would need to be performed indefinitely to ensure the carbon dioxide doesn't escape into the atmosphere, putting communities and families' health at risk, and defeating the purpose of keeping this harmful toxin out of the air. An act of nature such as an earthquake could jeopardize the reliability of the stored carbon dioxide, and then the entire investment would be lost.
3. **Long term liability on the taxpayer** - if coal companies are not held responsible for the long term risks associated with pumping carbon dioxide under people's property, in the end, the average citizen will end up bearing the costs of carbon dioxide leakage into the air and water contamination.
4. **CCS increases the lifecycle costs of coal production** - coal production has problems other than the release of massive amounts of carbon dioxide into the atmosphere. Workers in the coal mines and their health and safety will continue to be at risk. By-products of coal production such as fly ash, mercury, sulfur dioxide, and nitrogen oxide will continue to be emitted by coal-fired power plants. Mountaintop removal, strip mining on mountains and pollution of aquifers are all side-effects of coal production that are not addressed with the proposed CCS technology.

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## WHO OWNS THE PORE SPACE?

Both a coal-fired power plant and the associated storage site (or sites) will require a long-term commitment after the site closes, during which the site will need to be closely monitored to ensure that the injected CO<sub>2</sub> does not escape into the atmosphere.

Since there are so many unknowns with the potential damages cited above, ownership of the pore space and mineral rights, and liability if something goes wrong, clear decision is required on who is accountable to ensure long term stewardship and responsibility.

Several states have already developed a legal framework in which the state would assume responsibility for long-term stewardship once a CCS project has been completed. However, some CO<sub>2</sub> injections could use pore space in more than one state if the formation lies below several different states. This concern and others must be taken into account when differing legal frameworks among states exist.

A further complication is the difference in property law across the country. In many states, the federal government retains the subsurface rights to the land, creating a “split estate” where a surface owner does not have rights to the minerals and space below the surface. In other states, the mineral rights, or multiple shares in mineral rights have been sold to private parties other than the surface owner. Depending on the location, it may be impractical, impossible, or very costly for utilities to acquire title to hundreds of thousands of acres of land and subsurface rights to store carbon dioxide.

Minimizing the risks of CCS will require developing and enforcing strict standards and protocols on site selection, project design, operation, and long term monitoring. Additionally, any protocol or procedure in place that may limit industry liability should ensure that the enormous potential risk and cost burden does not fall on the American taxpayer.

## WOULD YOU WANT CARBON STORED UNDER YOUR BACKYARD?

Citizens of Greenville, Ohio, decided the risks outweighed the proposed benefits of having carbon dioxide sequestered under their houses and farms. In August of 2009, Columbus-based research group Battelle’s effort to capture 1 million tons of CO<sub>2</sub> from an ethanol plant and store it 3,000 feet underground went unrealized after facing opposition from local political leaders and citizens. Citing “business considerations,” the company issued a statement announcing they were canceling plans after concerns raised by a citizens’ group and mayor that the tests could endanger the county’s aquifer, which provides water to the farms that make up most of the county’s economic base. Mike Bower, the mayor of Greenville said of Battelle’s decision, “Messing with the natural resources of our area didn’t seem to be a wise thing from an experimental standpoint.”

## A SENSIBLE AND JUST TRANSITION TO CLEAN, RENEWABLE ENERGY IS A BETTER FUTURE

Each new power plant coal companies built mean decades of profits for them, but for the rest of us, its bad news. Since CCS is an unproven technology and experts disagree as to how long it will take for it to be available for widespread commercial use and we know we can reduce our dependence on coal today with proven, cost effective technologies, we should stop investing millions of taxpayer dollars to continue our dependence on coal. Simply increasing efficiency and promoting clean and renewable energy such as wind and solar is a more viable and immediate option. CCS requires billions of dollars of taxpayer subsidies to be viable, and every dollar spent on unproven, unreliable CCS technology diverts resources from cleaner, cheaper, and safer alternatives. If we care about climate change, healthy and vibrant communities, and a safe planet for the next generation, coal production and sequestering its harmful emittents cannot be part of the new clean energy solution.

However, if coal production is curtailed during the transition to clean and renewable sources of energy, coal communities will face a loss of jobs and revenue. It is imperative that economic development and job re-training be a priority specifically targeted to the communities that will be affected by declining coal production.