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Carbon Capture is not Climate Action

A new technology is being brought to Western Nebraska in the form of Carbon Capture and Storage in the name of climate action, but the health of Nebraska's environment and people are being ignored. Bridgeport Ethanol Plant announced this fall that they plan to begin building technology that will capture and store "175,000 tons/yr" which is a small percentage of the 4,577 million tons emitted by the US in 2020.

Carbon can be captured from the atmosphere itself or in the Ethanol Plant's case from the point of the CO₂ production. After carbon is captured from the plant's smokestack, it can either be 1. Stored underground in underground rock formations or 2. Re-used in industrial processes.

At the Bridgeport Ethanol plant, CO₂ is produced during fermentation of ethanol and then generally is released into the atmosphere. Carbon capture technology in ethanol plants will capture the CO₂ from the smokestacks and decrease the plants overall emissions. After carbon is captured, it would be transported through a more than 700-mile proposed pipeline across Iowa and Nebraska to North Dakota where it would be stored underground. On the surface, this sounds like climate action is being brought to Nebraska, but I would like to propose the opposite.

Biden's Inflation Reduction Act increased the tax credit given from "\$50/ton to \$85/ton per carbon captured and stored successfully". Now if Bridgeport Ethanol's carbon capture

technology stores their estimated 175,000 tons/year they would get around \$14 million in tax credits. It is important to mention that an investigation in 2020 by the U.S. Treasury found “\$893 million out of \$1 billion in carbon-capture tax credits sought through 2019, was submitted in ways that didn’t meet EPA rules”.

Carbon capture technology has not historically been successful which is the main issue with funding carbon capture projects as the emission reduction promises are not consistently met. The ‘S&P Global Market Intelligence’ published research on 13 different carbon capture projects in 2022 stating “seven performed below stated capacities, two failed due to technical issues, and one was suspended”. The first carbon capture project started in 1972, since then the technology has still not developed to be consistently successful as only 3 out of 13 projects from this study performed as they set out to do.

Supporters of Bridgeport Ethanol Plant carbon capture argue that Nebraska’s economy and agriculture will benefit, but many farmers are even opposed to the CO2 pipeline as their land and safety are at risk. There is little state regulation which would protect farmers from eminent domain by pipeline corporation or land damages in the event of pipeline failure.

People living near CO2 storage and pipelines are at risk of dangerous CO2 leaks. A CO2 pipeline in Mississippi “evacuated 200 people and sent 45 to the hospital”, think about the disaster that could be if a similar event were to happen in western, rural Nebraska where towns are isolated and proper medical help may not be available.

Finally, carbon capture and storage might decrease emissions numbers, but if the focus of climate action is only numbers than other vital aspects of the environment are being ignored. The cost of disturbances to soil, wildlife, and farmers during pipeline construction, or the damage to

an ecosystem in the event of pipeline failure are immeasurable and therefore not paid for by carbon capture companies. Research published by Iowa State University found the Dakota Access Pipeline “reduced crop yields an average 25-15% two years after construction had damaged soil stability.” I believe that climate action should focus on the health of agriculture land and building human resilience in the face of disaster as much as reducing emissions, which is not the case with carbon capture.

The bottom line is that the benefits of emissions reductions is not guaranteed from carbon capture technology. If the United States is serious about climate action, then the health of our environment and people long term needs to be the top priority, not funding carbon capture projects.

References

- Hammel, P. (2022, October 5). *State's first commercial carbon capture and storage project to be in Bridgeport*. Nebraska Examiner. Retrieved December 2, 2022, from <https://nebraskaexaminer.com/2022/10/04/states-first-commercial-carbon-capture-and-storage-project-to-be-in-bridgeport/>
- Hedreen, S. (2022, September 2). *Carbon capture 'simply won't work' to meet net-zero targets, report says*. S&P Global. Retrieved December 2, 2022, from <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/carbon-capture-simply-won-t-work-to-meet-net-zero-targets-report-says-71959535>
- Hulac, B. J. (2020, April 30). *Treasury ig: A decade of carbon-capture tax credits were faulty*. Roll Call. Retrieved December 2, 2022, from <https://rollcall.com/2020/04/30/treasury-ig-a-decade-of-carbon-capture-tax-credits-were-faulty/>
- Tekeste, M. Z., Ebrahimi, E., Hanna, M. H., Neideigh, E. R., & Horton, R. (2020). Effect of subsoil tillage during pipeline construction activities on near-term soil physical properties and crop yields in the right-of-way. *Soil Use and Management*, 37(3), 545–555. <https://doi.org/10.1111/sum.12623>