

THE TRANSITION OF CCS FROM FOSSIL FUEL CO2 CONTROL TO NEGATIVE EMISSIONS

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Industrial Biofuel Storage Transport Capture

The last decade's major investments in CCUS as a fossil fuel control technology have brought the field to the point that it is effective and readily designed. However even more rapid development of renewable technology is likely to keep CCUS from being a major player in world electric generation as investment in clean electricity from wind and solar is more cost effective and lower risk. However, at least 25% of the ultimate reductions in carbon emissions, and then any required atmospheric remediation through negative emissions, will require those same technologies in slightly different approaches. Much smaller scale capture plants will be required for industrial emissions and for biofuel plants. Fortunately a number of industrial players are already developing technology at this scale. The development of low carbon fuel standards is a huge innovation driver in this space. California regulations will, in the future, permit carbon capture on biofuels to be included in carbon footprint calculations. That market is designed to maintain a price of \$100/ton for CO₂, and current prices hover around that point. This confluence of new small carbon capture technology and innovative means for providers to get paid for capture will create a new generation of carbon capture, and ultimately negative emissions technologies. Challenges include CO₂ transportation and underground storage when the sources are smaller than today's power plant plans. This talk will focus on the US market for small scale-capture driven by biofuel production, and the approaches that carbon capture providers are taking to make their technology appropriate at this scale.