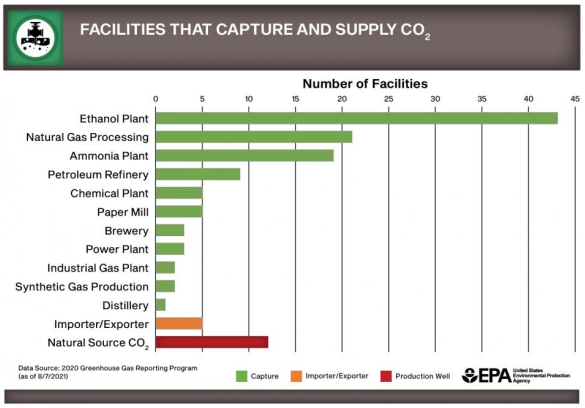
Carbon Capture Sequestration



THE RISE OF CARBON CAPTURE UTILIZATION AND STORAGE

As of 11/1/2021, 193 nations have agreed to the Paris Agreement's goal to reduce global warming from 2 degrees Celsius to 1.5 degrees Celsius annually and reduce the emission of gases that contribute to global warming. As such, many nations have added pressure on their energy producers and other carbon generating businesses to implement actionable plans that lower their carbon emissions.

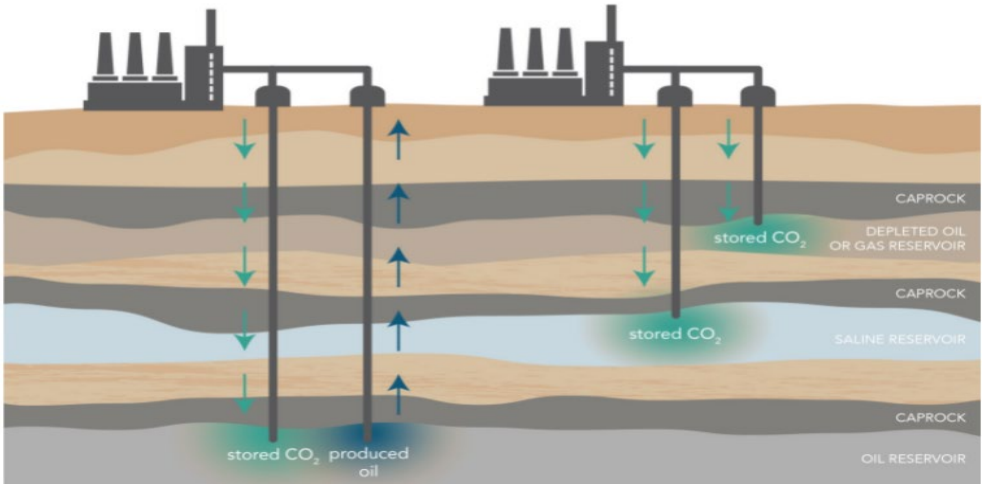
Enter carbon capture technology. Carbon capture storage or sequestration ("CCS") and carbon capture utilization ("CCU") are two important emerging technology processes that allow for energy producers to recycle CO_2 into their production process (CCU), versus emitting it into the atmosphere, or store CO_2 by injecting it into deep saline formations or depleted oil and gas reservoirs (CCS). One popular utilization technique has come in the form of oil recovery, where CO_2 is used to stimulate production activity of producing oil wells. This technique is often referred to as Enhanced Oil Recovery ("EOR"). As such, many traditional energy producers are looking to incorporate these methods into their operations or work with operators of these assets as a way of meeting their emission goals or Environments, Social, and Governance ("ESG") goals.

Carbon Capture Utilization

CO_2 driven enhanced oil recovery

Carbon Capture Storage

CO_2 injection into deep saline formations & depleted oil & gas reservoirs



45Q TAX CREDIT

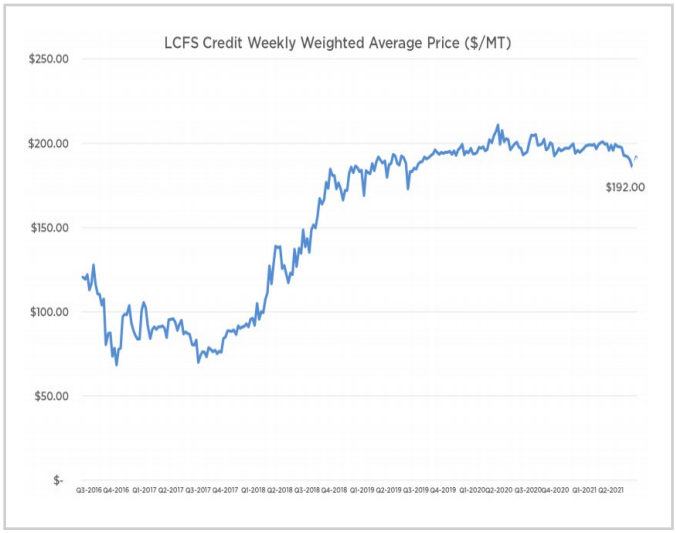
As a way to incentivize companies to utilize carbon capture techniques, the 45Q federal tax credit was established in 2008 and further expanded in 2018. In short, the owner of the carbon capture equipment receives the tax benefit as long as 1.) the facilities capture a minimum of 100,000 metric tons of CO_2 per year and 2.) must qualify as Class II (CCU) or Class IV (CCS) infrastructure. Per the latest tax code, these are the tax credits companies can look to receive by managing these facilities:

With the passing of the 2021 Infrastructure Bill, these numbers are expected to increase from $50 per metric ton for geological storage to $85 per metric ton and from $35 per metric ton for Enhanced Oil Recovery to $50 per metric ton.

ACTIVITY	2021-2026
Disposal (Geological Storage)	$34.81-50.00 per metric ton
Injection (EOR)	$22.68-35.00 per metric ton
Utilization (Other uses)	$22.68-35.00 per metric ton

LOW CARBON FUEL STANDARD ("LCFS") CREDITS

The LCFS is a renewable fuels program that focuses specifically on reducing carbon intensity (CI) of fuels used within California, Oregon, and British Columbia with several others considering adopting the program. The lower their CI score the more LCFS credits that are generated because of this, and the LCFS implications of carbon sequestration are far more significant financially than the 45Q opportunity alone.



The standard was created in 2011 by the California Air Resources Board as part of several AB32 (Global Warming Solutions Act of 2006) measures to reduce greenhouse gas emissions throughout the state. In short, AB32 provides multiple credit generating opportunities to offset CO_2 emissions via the purchase of credits at the rate of 1 credit per metric ton of CO_2 captured. Thus, CO_2 emitters now have a market place to purchase offsets for their carbon emissions.

INSURANCE CONSIDERATIONS

Financial Responsibility Requirements Mandated by CARB and the EPA for Class VI Injection wells (Disposal):

+ **Corrective Action**
+ **Post-injection site care**
+ **Well Plugging and Abandonment**
+ **Emergency and Remedial Response**

These financial responsibility requirements can be met in various ways depending on the client's business and preferences. These options include self-insurance, trusts, bonds, ESCROW accounts and insurance. IMA can provide guidance on the optimal solutions by evaluating the business and assisting clients throughout the permitting process.

SURETY BONDING AND ENVIRONMENTAL LEGAL LIABILITY INSURANCE

Given the significant liability of a CCS storage facility or a CCU site leaking, it will be imperative that companies operating in this space invest in environmental legal liability insurance ("ELLI"). Unlike General Liability insurance that only protects against sudden and accidental instances of pollution (typically discovered within 90 days of the pollution), EELI coverage protects against legal liability when there has been pollution for a sustained period that wasn't caught within the initial 90 day timeline that General Liability coverage typically offers. This coverage will be important for firms engaged in CCU since the CCU operator may not discover a leak until after the 90 day General Liability timeline. Additionally, if private equity is involved and wants to divest or there is a strategic divestiture by a continuing or discontinued company, these entities will still be in the chain of title. Tail risk is exceptionally high in this space, therefore dissolved private equity funds or companies that are in the chain of title for these assets could potentially be liable past the life of the fund or their "watch" of the assets.

Additionally, surety bonds will be an important coverage point for the wells associated with CCU or CCS assets. At some point, there will be a plugging and abandoning liability for these wells that state governments or the Bureau of Land Management could be liable for should these wells become orphaned. As such, one or both of these entities could assume financial responsibility of these assets should there not be a solvent party in the chain of ownership to take financial responsibility for plugging and abandoning these wells; thus surety bonds will be required.

TAX RECAPTURE INSURANCE POLICY

Since many of the owner operators of CCU and CCS assets are potentially in danger of committing significant levels of capital before seeing a carbon tax credit or LCFS, the insurance market has created a product that indemnifies tax credit takers for 45Q only when they are not in compliance of material compliance factors specific to each credit or project. There are many underwriting parameters for this insurance product, but the policy can provide coverage when a project or credit has been deemed not to meet specific federal requirements to receive a tax credit. Given the fact that 45Q tax credits have a three-year clawback period and LCFS credits have an indefinite clawback period, credit seekers should definitely consider purchasing one of these policies to protect their investment. Currently, there is not an LCFS recapture insurance option. However, IMA is working on a cost-effective solution.