Carbon Capture Companies Are Entering the Market

Carbon capture companies have largely failed to deliver on the promise of reliable and cheap carbon capture and storage (CCS) technology. However, with big carbon capture companies making significant investments in the field, a cheaper, greener form of carbon capture and utilization or storage is becoming a reality. Prospects of investing in CCS technology promise a bright future for the technology and new ways to tackle climate change.

Source: Unsplash

Companies that are in Carbon Capture and Storage

Carbon capture and storage is a relatively new technology with humble beginnings in the US in 1972. The expansion of technology and new ways to store and utilize the captured CO_2 have led several commercial CCS companies to join the carbon capture market. The market is attractive because:

- It is young, with plenty of space for expansion
- Governments back it
- You can sell carbon offsets
- The captured CO2 has applications for both fuel extraction and synthetic fuel (eFuel) generation

- The CO2 captured has agricultural applications as well as industrial applications

There are two main types of CCS companies out there: those that store and those that utilize captured carbon. CarbFix, for example, captures CO_2 at a source, dissolves it in water, and pumps it underground. Here, CO_2 reacts with basalt and forms minerals - permanent carbon storage. Other companies, such as Carbon Engineering, mix carbon with hydrogen to get eFuels – an alternative to fossil fuels.

Source: Unsplash

How Many Companies Use Carbon Capture

Carbon capture, utilization, and storage (CCUS) is a technology still in development. Many companies are trying out different approaches to capturing carbon. Naming them all is a challenge, but large-scale CCUS projects are few and well known. As of 2020, there are 21 large-scale carbon capture companies in operation. They are primarily in the US, Canada, Middle East, and Norway.

Top Carbon Capture Companies

The lucrative aspect of the carbon capture market has attracted many small and big businesses. Also among these companies are oil giants, such as Shell, that see an opportunity for growth and carbon offset.

Other companies, such as Exxon, have invested in carbon capture companies with ambitious goals: up to 100 million tons of CO_2 captured per year by 2040. Here are the top ten carbon capture companies in 2022:

Company	Location	Established in	CCS Technology Used	Carbon Capture per year (in tCO2)
CarbFix	Iceland	2014	Source-Capture and Storage	1 Billion / Lifetime
CarbonFree	US	2015	Direct Capture and Utilization	800 million
Quest Carbon Capture and Storage (SHELL)	Canada	2015	Source-Capture and Storage	1.2 million
Carbon Engineering	Canada	2009	Direct CCS and Storage and eFuel Production	1 million
Aker Carbon Capture	Norway	2020	Source-Capture and Utilization	400,000
LanzaTech	New Zealand	2005	Source-Capture and Utilization	150,000
CO2 Solutions by SAIPEM	Canada	1997	Source-Capture and Utilization	11,000
Global Thermostat	US	2010	Direct Air CCS and Utilization	4,000
Climeworks	Switzerland	2009	Direct Air CCS and Storage	4,000
Net Power	US	2008	Allam-Fetvedt Cycle Source-Capture and Utilization	N/A - Electricity Production Tied Capture

How to Invest in Carbon Capture Companies?

Investing in carbon capture companies may be a lucrative move. Currently, the best way for regular people to invest in carbon capture is through larger, publicly-traded businesses that invest in smaller CCS companies.

<u>Companies that invest in CSS technologies:</u>

1. Shell,
2. ExxonMobile,
3. Chevron,
4. Dow,
5. INEOS,
6. Marathon Petroleum, etc.

Another option, instead of investing in a single business, is with carbon capture ETFs. KraneShares Global Carbon Strategy ETF and Global X CleanTech ETF are the two largest ETFs currently available.

The Pros and Cons of CCS Investing

Investing in carbon capture companies early in the development of the market is a great way to become involved. However, there are risks to consider. Most notably, high technology costs, high supply chain costs, and strong competition create volatility in the market. The young age of most of these companies is another risk to consider.

For example, NRG Energy is a new player in the market. It pays a consistent dividend, has an $8 Billion market cap, and is projected to grow. However, it has gone bankrupt once before. On the other hand, Aker ASA has plenty of experience in carbon capture and is situated in Norway, a country deeply devoted to mitigating climate change. However, their stock has historically been very volatile.

Source: Unsplash

Final Thoughts

Carbon capture and storage is an emerging market full of lucrative opportunities for novel investors. However, up to this point, the technology has shown mixed results. That being said, the high investment influx and simultaneous development of several CCS technologies promises rapid development in the upcoming decades. As more large players enter the market, it is expected to keep growing and likely see wider adoption across the world.