

# The Global Market for Carbon Capture, Utilization and Storage (CCUS) 2023-2040

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# **Abstracts**

Carbon capture, utilization, and storage (CCUS) refers to technologies that capture CO2 emissions and use or store them, leading to permanent sequestration. CCUS technologies capture carbon dioxide emissions from large power sources, including power generation or industrial facilities that use either fossil fuels or biomass for fuel. CO2 can also be captured directly from the atmosphere. If not utilized onsite, captured CO2 is compressed and transported by pipeline, ship, rail or truck to be used in a range of applications, or injected into deep geological formations (including depleted oil and gas reservoirs or saline formations) which trap th CO2 for permanent storage.

Carbon removal technologies include direct air capture (DAC) or bioenergy with carbon capture and storage (BECCS). This fast growing market is being driven by government climate initiatives and increased public and private investments. In 2022 there was over \$1 billion in private investment in CCUS companies. Climeworks, a Swiss start-up developing direct air capture (DAC) raised a \$650m round in April 2022. In December 2022, Svante raised US\$318 million in a Series E fundraising round. Funding has dipped in 2023, but investment remains robust.

The market for CO2 use is expected to remain relatively small in the near term (



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Figure 112. OCOchem's Carbon Flux Electrolyzer.

Figure 113. ZerCaL<sup>™</sup> process.

Figure 114. CCS project at Arthit offshore gas field.

Figure 115. RepAir technology.

Figure 116. Soletair Power unit.

Figure 117. Sunfire process for Blue Crude production.

Figure 118. CALF-20 has been integrated into a rotating CO2 capture machine (left),

which operates inside a CO2 plant module (right).

Figure 119. O12 Reactor.

Figure 120. Sunglasses with lenses made from CO2-derived materials.

Figure 121. CO2 made car part.



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