

What is Carbon Capture and Storage (CCS)?

TECHNOLOGY

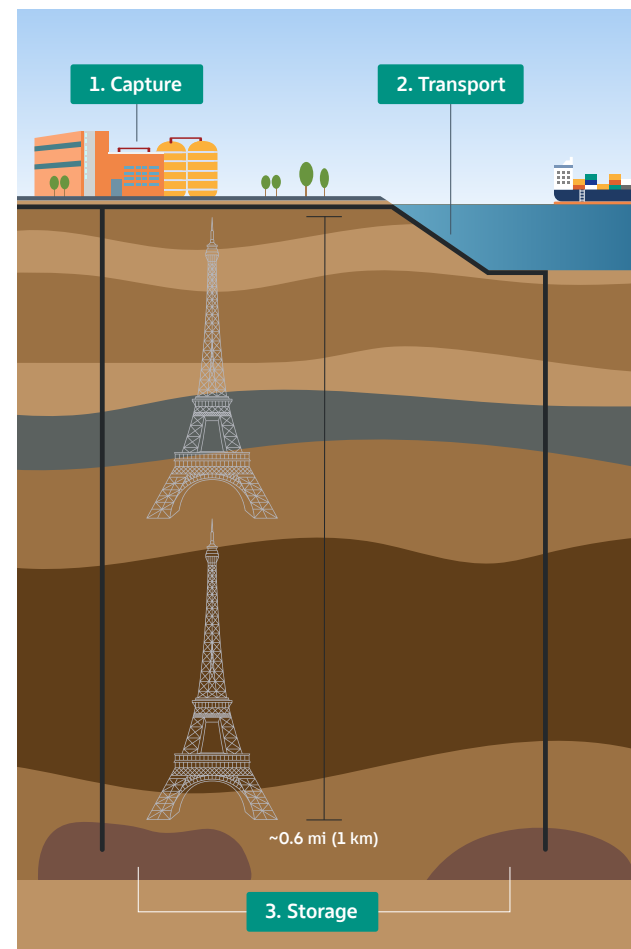
Carbon capture and storage (CCS) is a safe, proven technology that reduces industrial carbon dioxide (CO₂) and other greenhouse gas (GHG) emissions. CCS works by capturing CO₂ emissions that would otherwise be released into the atmosphere, transporting them to a storage site, where it is injected deep underground or under the sea floor.

By safely capturing and storing CO₂, we can significantly reduce emissions, helping to put us on a pathway to achieving a net-zero future.

ENVIRONMENTAL BENEFITS

Many of the world's most essential industries, including power generation, heavy manufacturing, and petrochemical production, are extremely difficult to decarbonize. CCS offers the ability to safely capture and permanently store CO₂ and the other GHG emissions from critical industrial processes.

The International Energy Agency says that in order to meet global climate goals, the world needs to capture 28 billion metric tons of CO₂ by 2060 from these types of industrial processes. **Advancing CCS in Houston can play a crucial role in significantly reducing CO₂ emissions from carbon-intensive industries.** Collectively, our Houston CCS members could capture approximately 50 million metric tons of CO₂ per year by 2030 and 100 million metric tons of CO₂ per year by 2040.



SAFETY

CCS work performed over the past 25 years has helped develop a proven process for storing CO₂ and GHG emissions in geological formations. Additionally, since 1997, the U.S. Department of Energy has invested more than \$7 billion into the research and development of CCS technologies.

The process of storing CO₂ underground has been studied and reviewed by several organizations for decades, including the United Nations' Intergovernmental Panel on Climate Change and Carnegie Mellon University. Studies conclude that **storing carbon in geological formations is a safe and viable practice that does not pose any major geological threats, including that of seismic activity.**

Before deciding where to store the CO₂, experts carefully examine the subsurface to ensure it can safely hold the injected CO₂ and has a natural, impervious geological seal to prevent the CO₂ from escaping. CO₂ emissions are typically stored a half-mile or more underground.

ECONOMIC BENEFITS

In addition to significantly reducing industrial CO₂ emissions, deploying CCS technologies will:



Support good-paying jobs associated with existing industries



Stimulate investments in locally-owned businesses



Continue giving back to the community through volunteering and philanthropy



Provide valuable tax revenue that local communities need to fund education, essential public services, and other community initiatives

Regional carbon capture studies show that investing in the development of CCS in Texas could create more than 18,000 project jobs over a 15-year period and more than 9,000 ongoing operations jobs, while creating up to \$60 billion in private investment in the state of Texas.

Houston CCS Alliance is a coordinated effort among some of the world's most innovative energy, petrochemical, and power generation companies to advance the development of CCS in the greater Houston industrial area and support the southeast Texas community.

Learn more at houstonccs.com

