



Deer Park Community Advisory Council

Monday, April 24, 2023

Carbon Capture and Storage 101: Meeting 2

Calpine VP of External Affairs Brett Kerr discussed the Calpine Carbon Capture Initiatives in Deer Park and Baytown. Calpine is focused on Step 1 of Carbon Capture, or the technology to remove CO₂ emissions from industrial processes and the air. Capture equipment can be retrofitted in existing facilities or built into new facilities. The U.S. Department of Energy (DOE) awarded Calpine a grant to support the carbon capture project at their Deer Park Energy Center. Calpine's Deer Park Carbon Capture Project is in collaboration with Shell and will be one of the world's largest carbon capture projects. It will be designed to capture 95% or more of CO₂ emissions from flue gas generated from the turbines at Calpine's Deer Park Energy Center. Calpine is assessing the Baytown Energy Center for a Baytown Carbon Capture Project. This project would be designed to capture more than 95% or more of CO₂ emissions from turbines and auxiliary boilers at this facility. Calpine expects \$1 billion in capital expenses to be designated for these projects in the next 3-5 years.

Mohammad Bdair, CCS Business Opportunity Manager of Shell Chemicals discussed Shell's involvement in CCS both in Deer Park and worldwide. Shell is currently involved in 8 projects in different phases of development and operation. The Quest project in Canada has safely captured and stored more than 6 million tons of CO₂ since starting operation in 2015. Shell is assessing the viability of CCS for its Deer Park Chemicals facility. In 2021, the U. S. DOE awarded a grant to study the feasibility of carbon capture and storage at Shell Deer Park Chemicals. The project would allow Shell to significantly reduce direct emissions by about 95% using Shell proprietary technology. Shell is actively pursuing collaboration with Calpine on CCS to significantly reduce indirect, owned emissions. With this project, up to 6 million tons of CO₂ can be captured and safely stored annually by Shell and Calpine combined. Storage is about 1 to 3 miles underground in a contained space where CO₂ has an impossible path to escape. CO₂ can also be injected into underground oceans or saline aquifers.

DPCAC's May 22nd meeting topic is Construction and Maintenance of SH 225 and SH 146. TxDOT will discuss projects underway and planned for SH 225 and SH 146, including connectors to the Beltway 8 Bridge. Visitors are welcome! For an invitation, contact info@deerparkcac.org.

Read about DPCAC meetings and see summaries of our most recent presentations at www.deerparkcac.org.