CITIZEN'S ADVISORY COUNCIL TO LA PORTE INDUSTRY

Carbon Capture, Utilization, & Storage/ Sequestration 101

In this second meeting regarding carbon capture and storage (CCS), Dr. Ramanan Krishamoorti, University of Houston, presented "What is Carbon Capture (Utilization) & Storage / Sequestration? Why Now? Why Here?" Krishamoorti spoke on the energy transition, CO_2 management system, the history of CO_2 capture, the top 10 US CO_2 capture examples, CCUS (carbon capture, utilization, and storage): capture phase, and liability management.

Krishamoorti addressed the energy transition and said there are three things to consider for energy sustainability: accessibility, environmental responsibility, and affordability. Energy should not be a privilege, and everyone in the world should have access to it. However, energy transition is a massive project. For example, electricity is just one source of energy. Currently, there are 22 million cars registered in Texas alone, and millions more registered in the US. Currently, enough lithium is not available to transition all vehicles to electric.

When capturing carbon via flue gas, the gas is about 5% CO_2. After capturing the flue gas, it must be processed into pure CO_2 before storing. The side benefit of capturing flue gas is that it captures the other toxins. When flue gas is released into the air, the CO_2 in the flue gas dilutes to 0.04%. CO_2 is a corrosive, colorless, and odorless gas. CO_2 is denser than air and doesn't disperse like air. In large concentrations, it stays close to the ground.

Storing CO_2 is expensive. Processing CO_2 into a pure form for storage is more expensive. Different processes have purer releases for example ammonia. One way to store CO_2 is to pump it into the ground. The CO_2 in the ground can stay there for thousands of years. Aquifers are good at storing CO_2. These carbon storage sites will be monitored. The CO_2 is stored in subsurface wells below the water table.

The CAC is a forum for candid and constructive dialogue between those who live or work in La Porte, Morgan's Point, and Shoreacres and the managers of 44 chemical plants in La Porte. The CAC welcomes visitors. It meets again on Tuesday, February 6 at 6:00 p.m. to learn about the December 4th chemical release at Altivia that resulted in a shelter-in-place. Contact info@laportecac.org if you wish to attend. The CAC shares information about its meetings and presentations at www.laportecac.org.