

# Gulf of Mexico: Local stakeholders' perspective



## Team Leads

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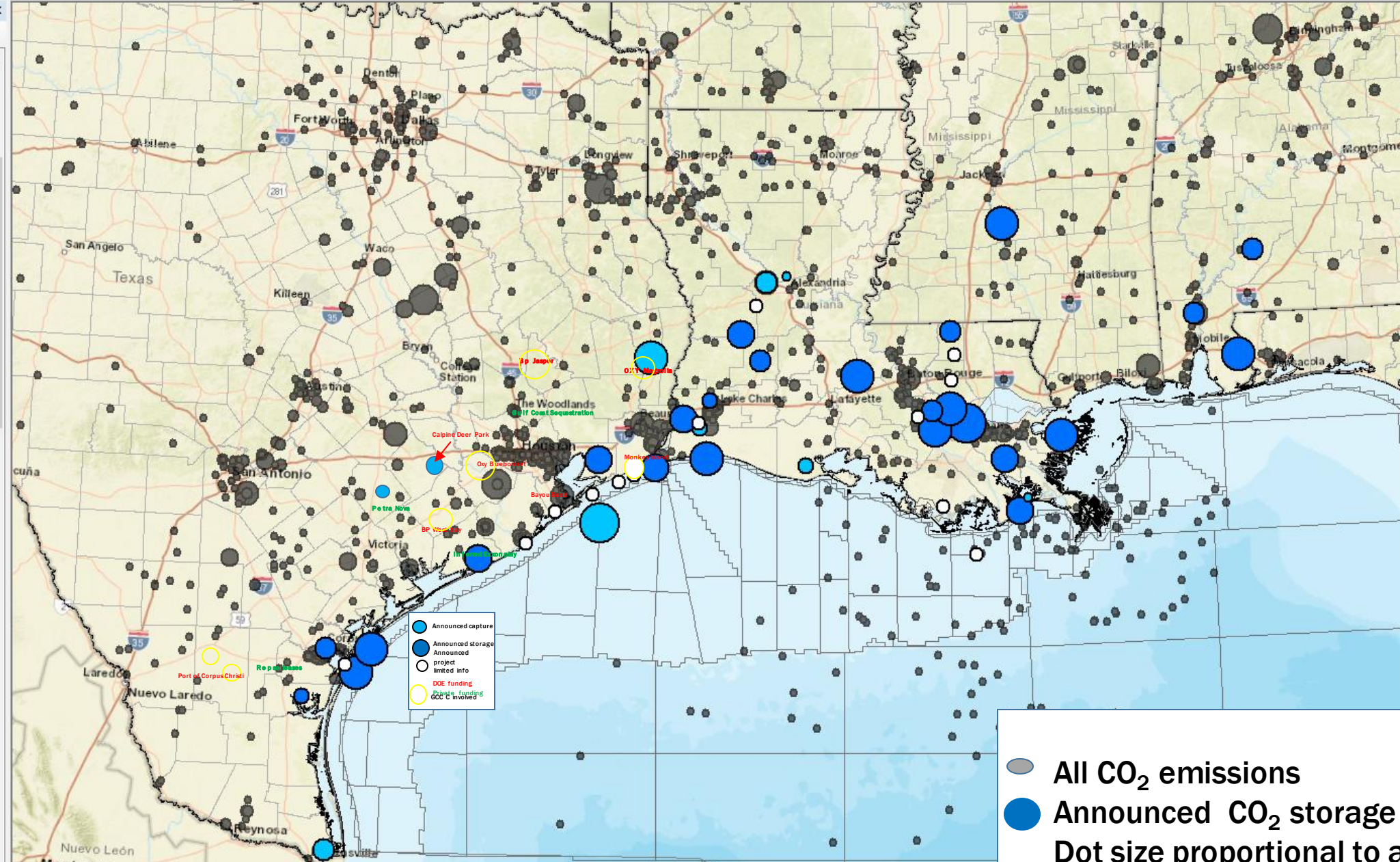
Presented at the 7<sup>th</sup> International Offshore workshop, Port Arthur, TX , Sept 18, 2024



*GCCC Sponsors' Meeting  
September 22, 2023  
[www.gulfcoastcarbon.org](http://www.gulfcoastcarbon.org)*

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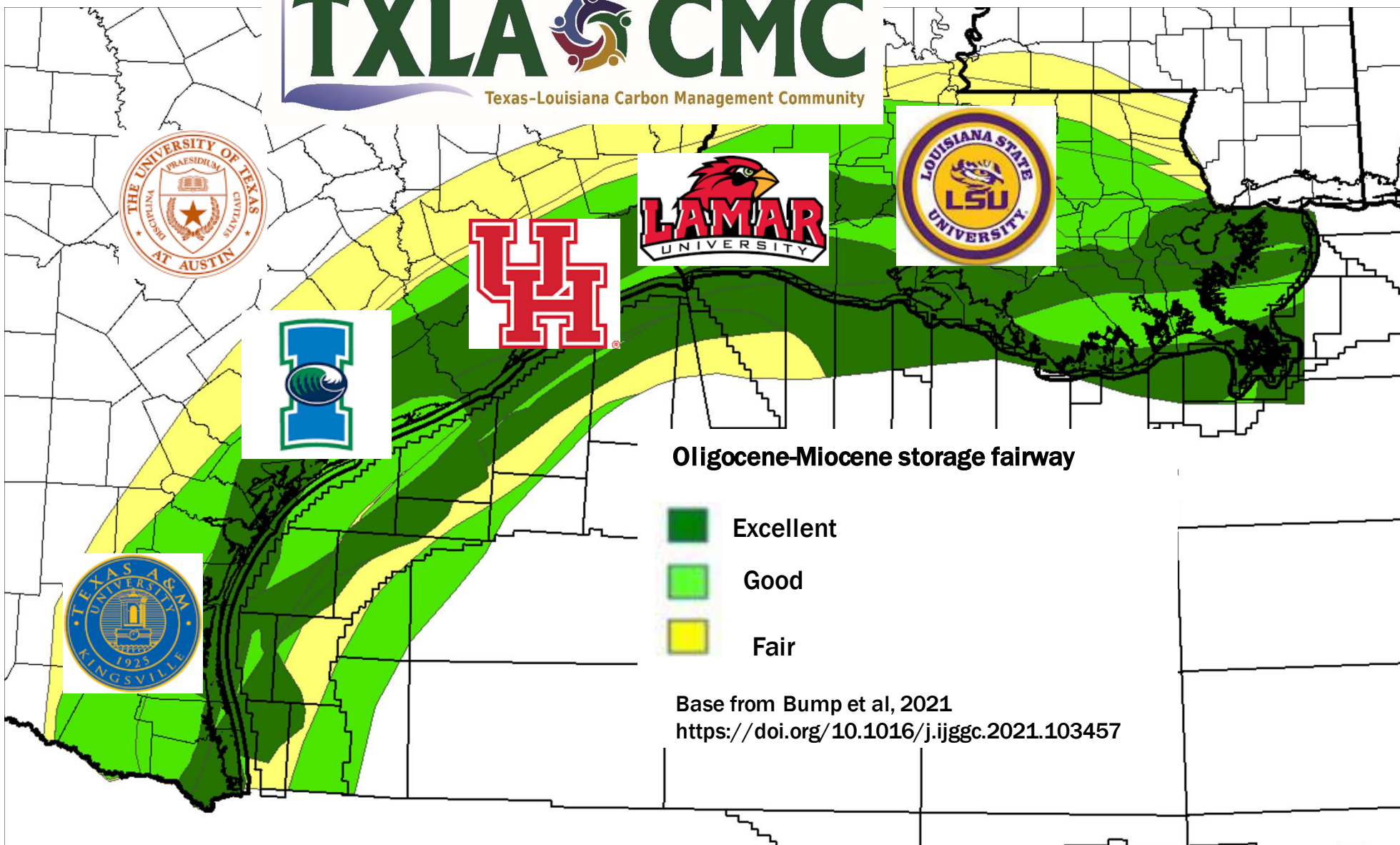
- Announced capture
- Announced storage
- Announced project limited info
- DOE funding
- Private funding
- GCC involved

- All CO<sub>2</sub> emissions
- Announced CO<sub>2</sub> storage
- Dot size proportional to a



# TXLA CMC

Texas-Louisiana Carbon Management Community



Oligocene-Miocene storage fairway

- Excellent
- Good
- Fair

Base from Bump et al, 2021  
<https://doi.org/10.1016/j.ijggc.2021.103457>



Capture  
Storage  
Pipeline  
Onshore  
offshore

Regional  
Commercial  
Projects

Students-  
Pubic school  
Colleges  
Interns

Deepen information  
exchange via student  
learning

Community  
members

Diversity  
Inclusion  
Openness

Policy  
Subsurface pressure management  
Monitoring  
Marine and terrestrial ecosystem  
Characterization  
Social license to operate

Research and  
Development

Media and  
Press

Increase access to  
current  
and technical  
information  
across all media

CCS project investment  
Business investment  
Community investment  
Land Use  
Tax revenue

Finance

Property  
owners

Information  
and Education

Local  
decision-  
makers

CCS businesses  
Vendors and consultants  
Low carbon business growth  
opportunities

New businesses  
and sales

Policy and  
regulation

Training and  
Employment

Infrastructure

Community benefits to  
offset risk  
Roads, internet,  
emergency services

Incentives and permits

Energy transition  
jobs in fossil  
intensive region





- Information push to diverse groups who need information about CCS Gulf Coast focus
  - Add CCS info to each university's strong existing outreach programs
    - Trusted in-person contacts
  - Make needed outreach materials
  - Enlist formal and informal science and social studies programs as CCS providers
  - Harmonize with project-specific outreach efforts
  - Communication tools: newsletter to social media splashes,
  - Maintain global learning
- Gulf Coast CCS “Phone book”
  - Free membership, available to members only
  - Basic contact info and 100 word ‘blurb’ about what your do
  - To read more about the Phone Book and to join click this link to our form <https://forms.office.com/r/pcbQJqdALu> .
- R&D activities at each University across CCS spectrum



# 2024 Lamar Intro to Engineering (LITE)



❖ Hands On



❖ Fun with Dry Ice



❖ 70 junior high (7<sup>th</sup> & 8<sup>th</sup> graders)



BUREAU OF  
ECONOMIC  
GEOLOGY



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# 2024 ChemE Camp

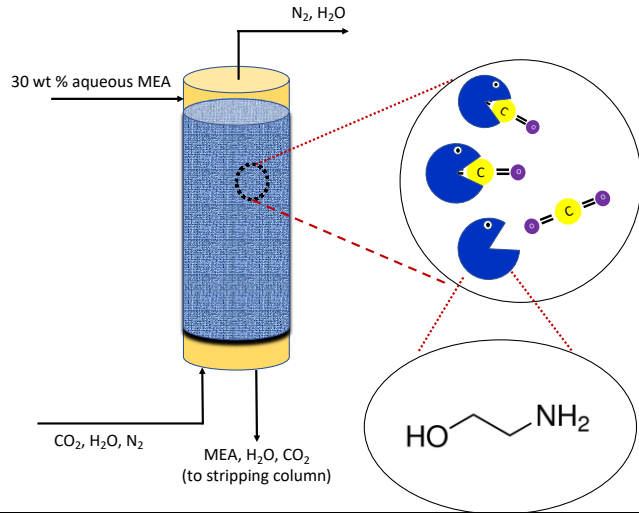
- 20 HS juniors & seniors
- 2 plant tours (Valero Refinery & BASF)
- 1 beautiful day on the Neches River





# 2024 STEM Teacher Workshop

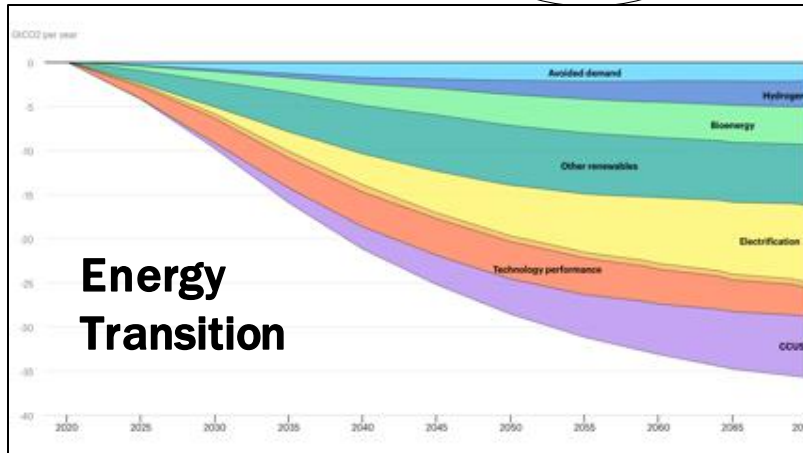
Enhanced Oil Recovery



61 teachers from the SE TX area



Reverse Acid-Base Titration





# CCS – Public Engagement Meeting



- ❖ 18-mile CO<sub>2</sub> pipeline
- ❖ 13,000 acres storage
- ❖ Public Meeting (Aug. 19<sup>th</sup>) (Health, Safety, Emergency Response and Property Values)
- ❖ Leak detection (monitor CO<sub>2</sub> concentrations and inform public in real time)

Rose Carbon Capture & Storage Project

ExxonMobil

Positioning Southeast Texas as a leader  
In a low carbon energy future



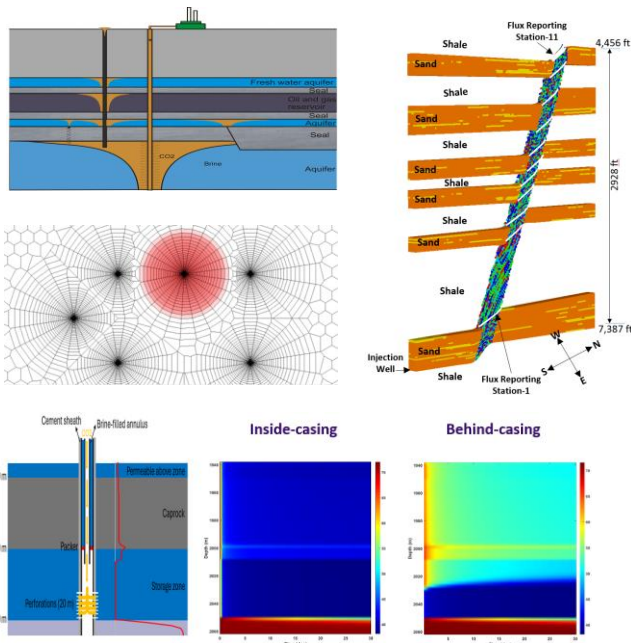
<https://lowcarbon.exxonmobil.com/-/media/lcs/files/fact-sheets/lcs-rose-project-fact-sheet-2024.pdf>

Mehdi Zeidouni, Sarah Becker

## Research

Major areas of research contributions:

- CCS site screening, evaluation, and characterization
- CCS monitoring, verification, and accounting (MVA) technologies
- Integrity evaluation of faults, legacy wells and caprock
- Storage capacity and injectivity assessment
- Improved CO<sub>2</sub> displacement efficiency



## Training

This Fall 2024 semester, Dr. Zeidouni is offering senior/graduate-level course on CCS titled PETE 4320 Subsurface CO<sub>2</sub> Storage.

The goal of this course is to introduce and address the major challenges of CO<sub>2</sub> geological storage as related to storage capacity, injectivity, and containment. The main learning objectives are to (1) differentiate the mechanism of CO<sub>2</sub> immobilization in the subsurface, (2) model CO<sub>2</sub> flow and interactions with the rock-fluid system, and identify implications for pressure buildup, injectivity and storage capacity, (3) evaluate storage containment effectiveness considering wells and faults intersecting the storage formation, and (4) identify monitoring, verification, and accounting tools required to monitor the storage operation, (5) Understand CCS impacts and communicate those impacts with relevant community(ies).

## Outreach

- Community outreach goals are integrated into PETE4320 course where students can design individualized projects sharing CCS data and impact information with community partners
- Outcomes will be assessed in Fall 2024 and the approach re-designed for re-implementation in the 2024-25 academic year
- We hosted a CCS event on LSU campus to facilitate technical discussions between industry, regulators, and other stakeholders.
- We participate in public forums discussing local impacts of CCS in Louisiana
- Through LSU Discover, create undergraduate research opportunities
- Engage with the wider community through students-led service-learning projects

