



# Gulf Coast Decarb System

**DOE Project Number: FE0032345**

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FECM/NETL Carbon Management Research Project  
Review Meeting

August 7, 2024

Pittsburgh, PA

Elena Subia Melchert

President, Energia Consulting, LLC

Bipartisan Infrastructure Law  
Carbon Capture Technology  
Program Front-End Engineering  
and Design (FEED) for Carbon  
Dioxide (CO<sub>2</sub>) Transport

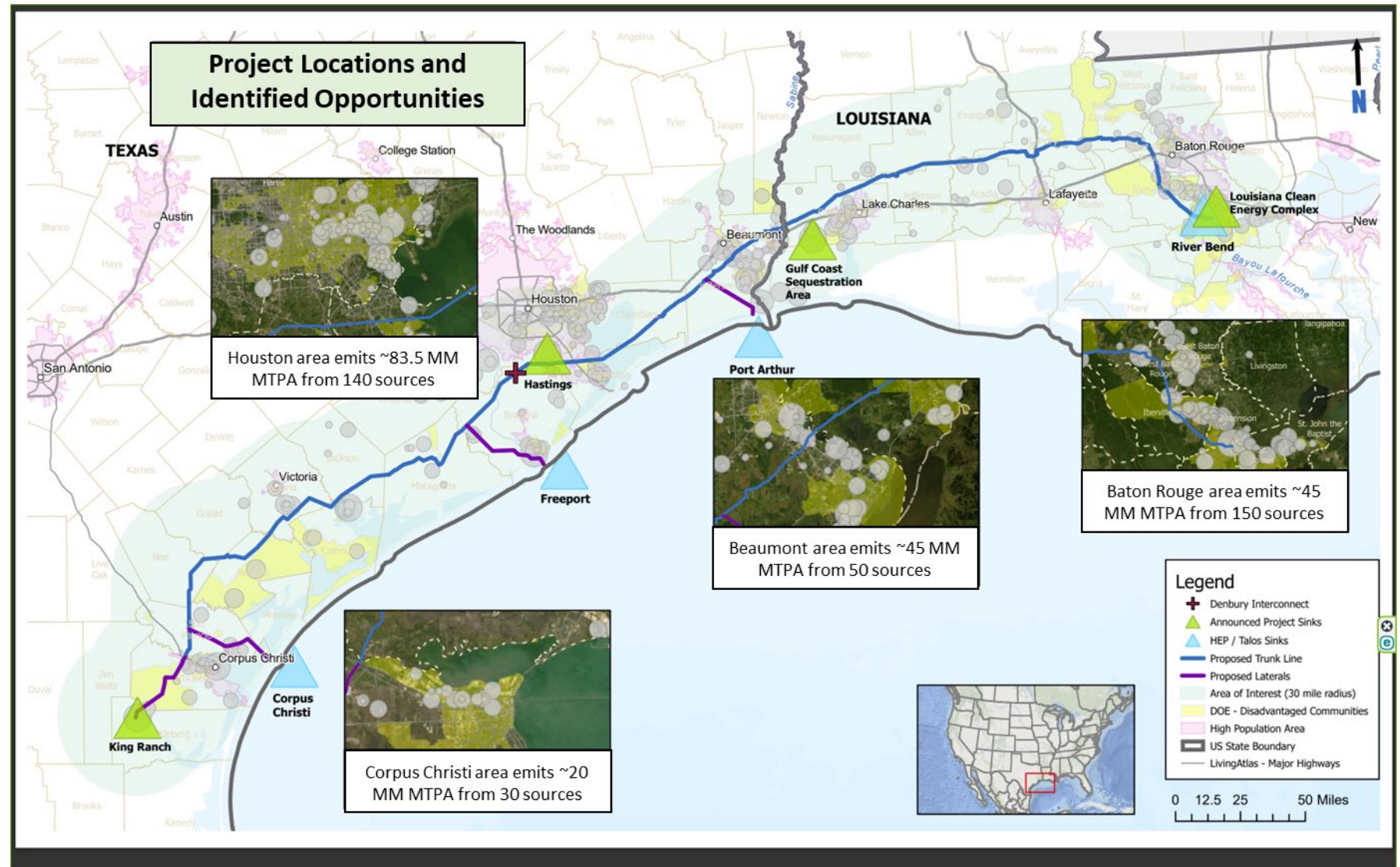
# Gulf Coast Decarb System Project Overview

## Objective

- Assess commercial viability to connect CO<sub>2</sub> sources with geologic sinks on- and off-shore along the Gulf Coast corridor from Corpus Christi, TX to Donaldsonville, LA.

## Key Participants

- **PI:** Scot McClure  
*Howard Energy Partners (HEP)*
- **Co-PI:** Elena Subia Melchert  
*Energia Consulting, LLC*
- **Engineering Design:**  
David Martinkewiz, *HEP*
- **Regulatory Plan:**  
James Townsley, *HEP*
- **Community Benefits Plan:**  
James Townsley, *HEP*
- **Geologic Storage:** Dr. Tip Meckel  
*UT Austin, BEG*



# Gulf Coast Decarb System Technical Scope/ Approach

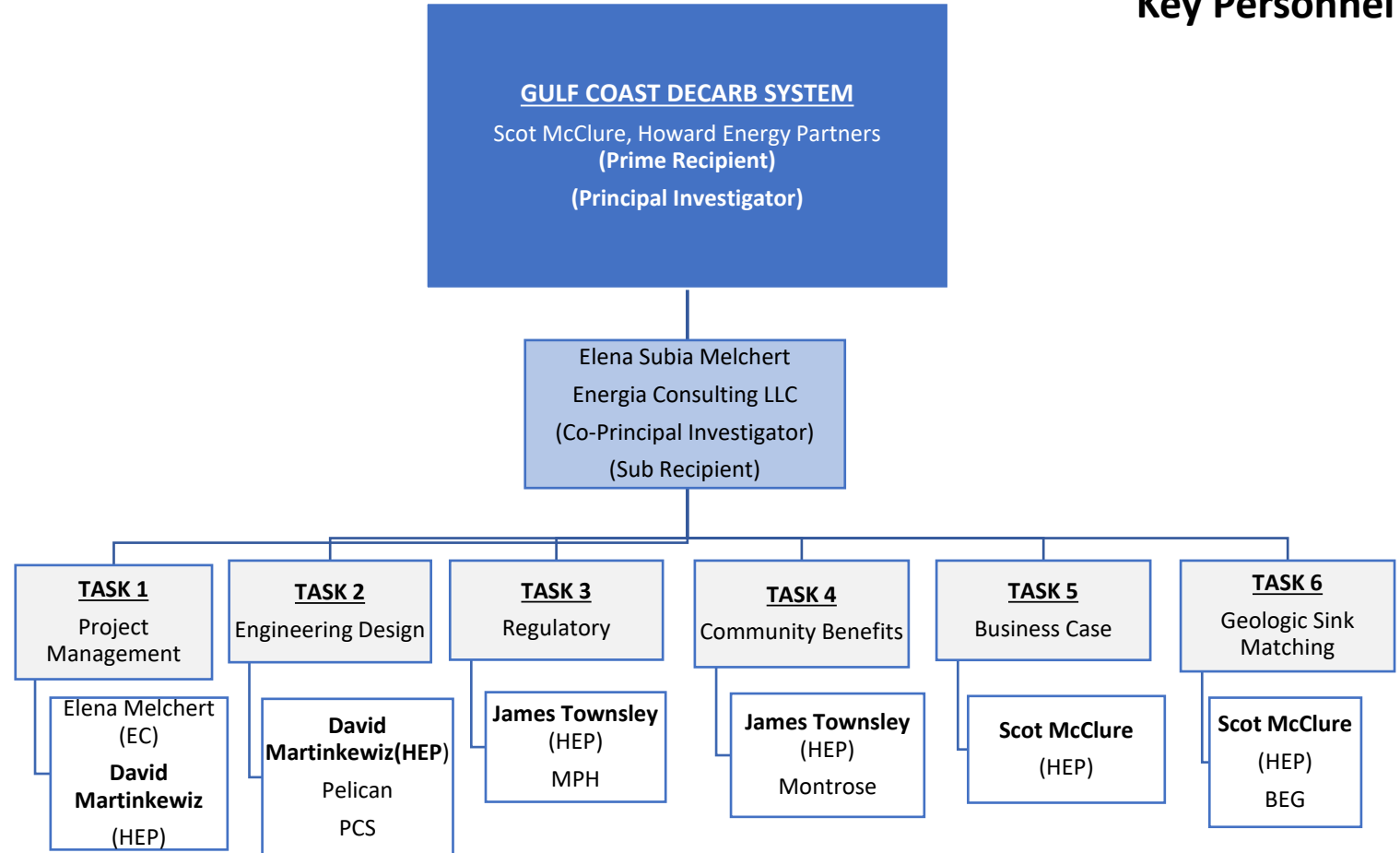
## Technical Scope

- ~600-mile, regional, commercial-scale, common carrier, CO<sub>2</sub> pipeline system
- 36-inch trunkline with laterals connecting at strategically located storage sites
- 50MM metric tpa straight line capacity
- 386 anthropogenic CO<sub>2</sub> sources located within 30-mile radius of trunkline
- To extent possible, use existing rights-of-way, including those of CO<sub>2</sub> pipelines
- Use standard AACE International Recommended Practices Methodology

## Technical Approach

- Refine route
- Assess commercial viability
- Tailor Community Benefits
- Identify new storage sites

## Key Personnel



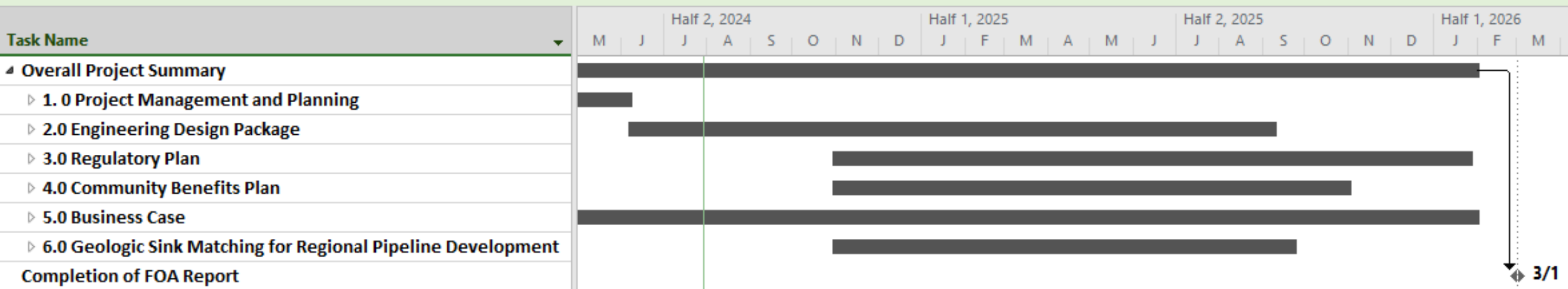
# Gulf Coast Decarb System Project Timeline – 24 months

Start Date 3-1-24

End Date 3-1-26

Total \$4.2 million


1 Budget Period



# Gulf Coast Decarb System Project – Risk Management Plan

Perceived Risk	Risk Rating			Mitigation/Response Strategy
	Probability	Impact	Overall	
	(Low, Med, High)			
Cost/Schedule Risk: inadequate funds to complete the project	Low	Med	Low	Increase cash cost share
Loss of key staff	Low	High	High	Ensure all team members are supported by their larger organizations, are aware of their team’s deliverables, and all team members have access to current and archived files
Timely communication and decision-making	Low	High	Low	Keep up the pace of meetings, reports, and regular communications.
Technical/Scope Risks: Route variance higher than expected leading to delays in route variance higher than expected leading to delays in route optimization	Low	Med	Low	Evaluate route options early and frequently to ensure that project team can reroute as necessary with minimum delay.
Lack of American Pipe Mills ability to produce economic large diameter pipe with adequate material characteristics unique to CO2 service (i.e. material hardness profiles (charpy values) for use in pipeline	Med	Med	Med	Engage all established domestic mills early to vet potential mill issues to avoid need for foreign pipe
Management, Planning, and Oversight Risks: Change in key staff within the Prime Recipient's organization	Med	Med	Med	Ensure all team members are aware of their team's deliverables and that all team members have access to current and archived files
Delay in sending management or other reports to DOE	Low	High	Low	Key activities include regular short reports that are relatively easy to maintain. These reports will feed into the larger reports.
External Factor Risk: impact of potential travel restrictions due to return of pandemic	Low	Low	Low	Maintain connectivity to internet for daily workflow, and delegate field or community site visits to other team members





# Gulf Coast Decarb System Proposed Community Benefits and Societal Considerations/ Impacts

*Sequester >250-400 Mtpa of CO<sub>2</sub> while integrating multiple engagement strategies and a blueprint to provide a voice to disadvantaged communities in a way that currently does not exist*

## COMMUNITY AND LABOR ENGAGEMENT

Repeatable, community-relevant processes for stakeholder engagement

## JUSTICE 40

Blueprint and tools to help identify meaningful benefits for DOE identified disadvantaged communities

## QUALITY JOBS SKILLED WORKFORCE

Potential >2.5K jobs with accelerated STEM and women- and minority-owned business opportunities after pipeline is constructed

## DIVERSITY, EQUITY, INCLUSION AND ACCESSIBILITY

Informed engagement leading to identification of benefits for DOE-identified disadvantaged communities



# Gulf Coast Decarb System Proposed Next Steps and Scale-up Potential

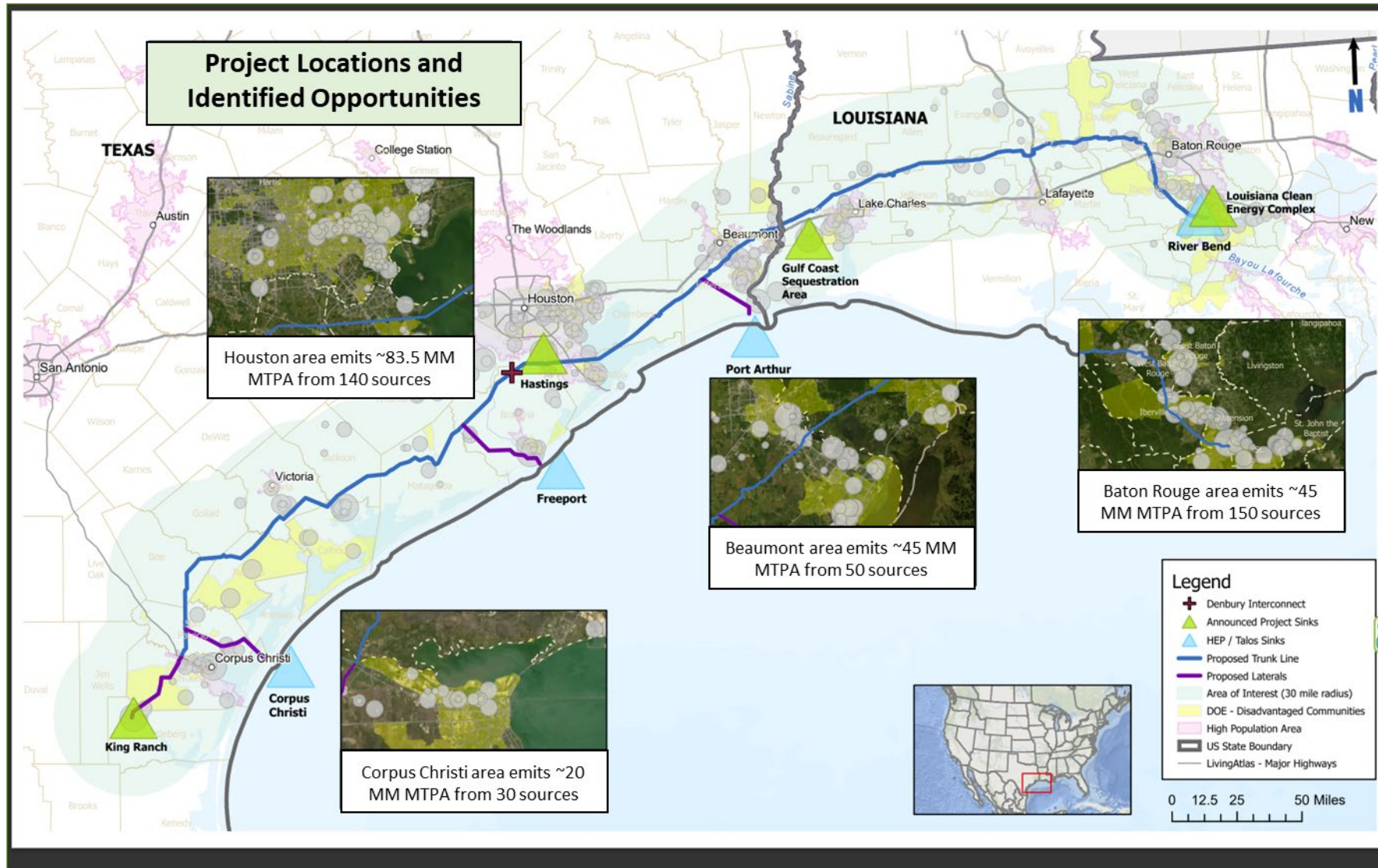
***If project benefits and viability prove true, Howard Energy Partners and Talos Energy propose to link these and other projects into the Gulf Coast Decarb System to ensure the efficient and equitable development of CO<sub>2</sub> transport and geologic storage as a service.***

## **Scale-up Potential Opportunities Post Project**

Interconnect with announced CCS projects and other major emission sources such as:

- Coastal Bend CCS Sequestration Hub – Corpus Christi, TX
- Harvest Bend CCS project to capture and store CO<sub>2</sub> from the Mississippi River industrial corridor
- Bayou Bend CCS project (awarded the first Texas General Land Office lease for CO<sub>2</sub> in Texas for land off-shore from Port Arthur, TX)
- Louisiana Clean Energy Complex
- Gulf Coast Sequestration Area
- Hastings
- King Ranch

# Gulf Coast Decarb System Project Overview



## Expected Outcomes

- Assess the commercial viability of integrating multiple CO<sub>2</sub> source hubs and clusters creating access to on- and offshore geological storage sites that would not otherwise exist
- Assess the commercial viability of connecting CO<sub>2</sub> sources, existing and pending, with multiple booster stations and multiple “on- and off-ramps” enabling transport of up to 450-500 Mtpa