



GTI ENERGY

solutions that transform

Sutter Co. CO2 Capture and Storage Project, Northern California (FE0032239)

Jordan Ciezobka

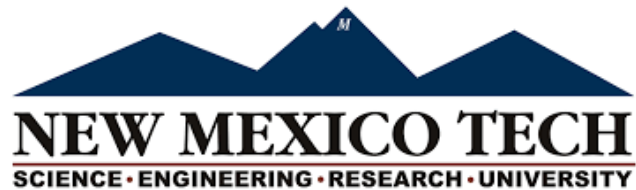
2024 FECM Carbon Management Research Project Review Meetings

August 8, 2024

Project Overview

- **Summary:** This CarbonSAFE Phase-II project seeks to determine the storage complex feasibility of the central Sacramento basin in northern California to store 50 million metric tons of anthropogenic CO₂ from a nearby natural gas combined-cycle power plant.
- **Project performance dates:** 24 months project, Start Date: 10/1/2023
- **Funding summary:** \$9 million DOE, \$2.9 million recipient cost share
- **Current Status:** Strat well permitting, vendor selection, community engagement

Project Team



Relevance to DOE CO2 Program Objectives

- The Proposed Project:
 - Enables and supports the rapid, widespread deployment of CCS to help address the Nation's decarbonization goals.
 - Assesses geologic resources along the pathway of becoming contingent carbon storage resources.
 - Targets a site having commercial-scale CO2 geological storage in a geographic areas/geologic settings lacking previously supported geologic carbon storage projects.
 - Creates a public engagement plan specifically addressing Diversity, Equity, Inclusion & Accessibility, Justice40 Initiative, Community and Stakeholder Engagement, and Economic Revitalization and Job Creation.

Key Project Activities

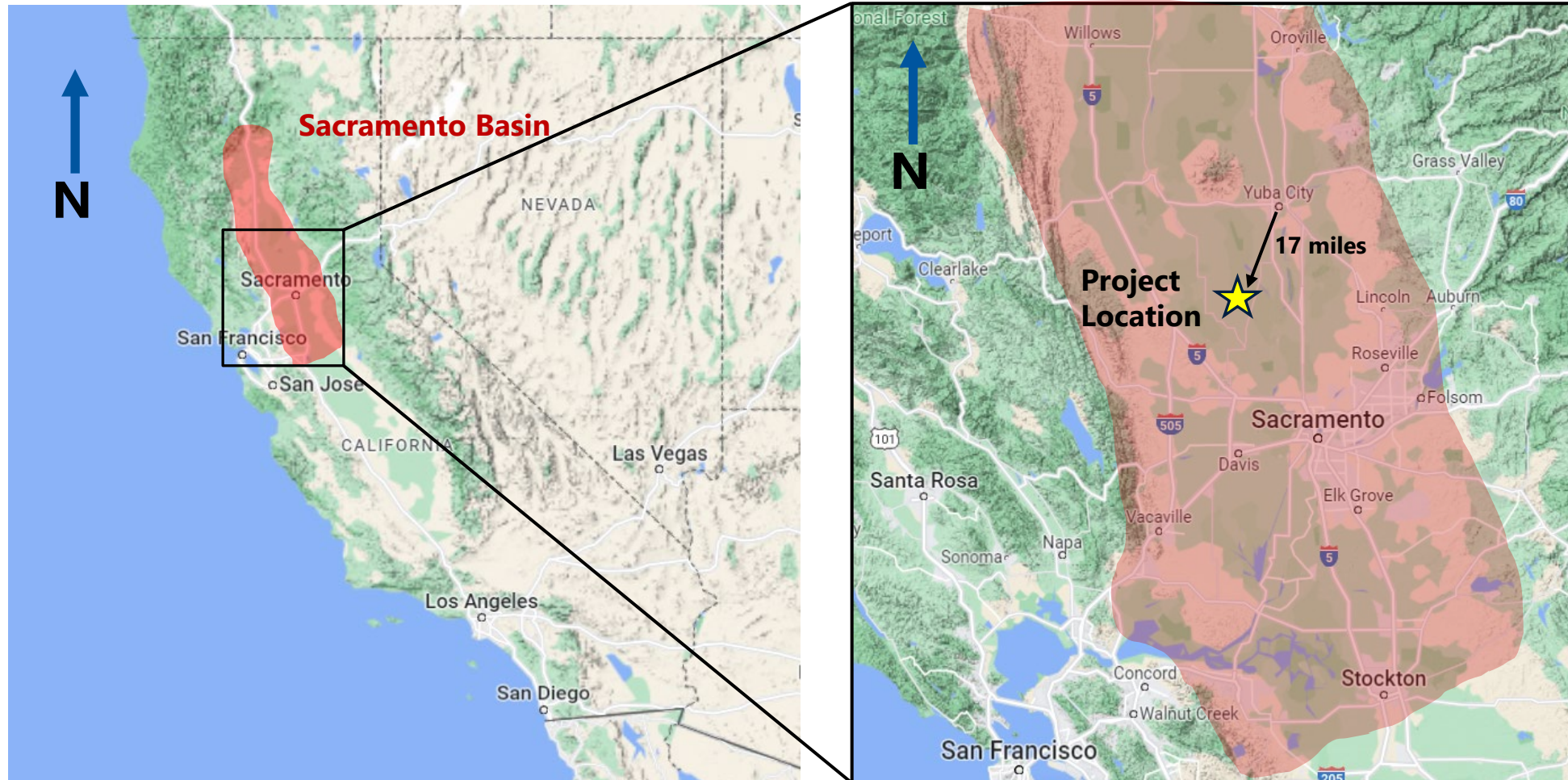
- Data collection to supplement key missing geologic and reservoir data (i.e., drilling of a stratigraphic test well within the AOI and associated testing)
- Geologic, Reservoir and Geomechanical Modeling
- Risk Assessment and Mitigation/Monitoring Planning
- CO2 Source and Transport Planning
- Analysis of Contractual and Regulatory Requirements
- Technical and Economic Feasibility Assessment
- Phase-III and UIC Class VI Application Planning and Verification

Expected Outcomes

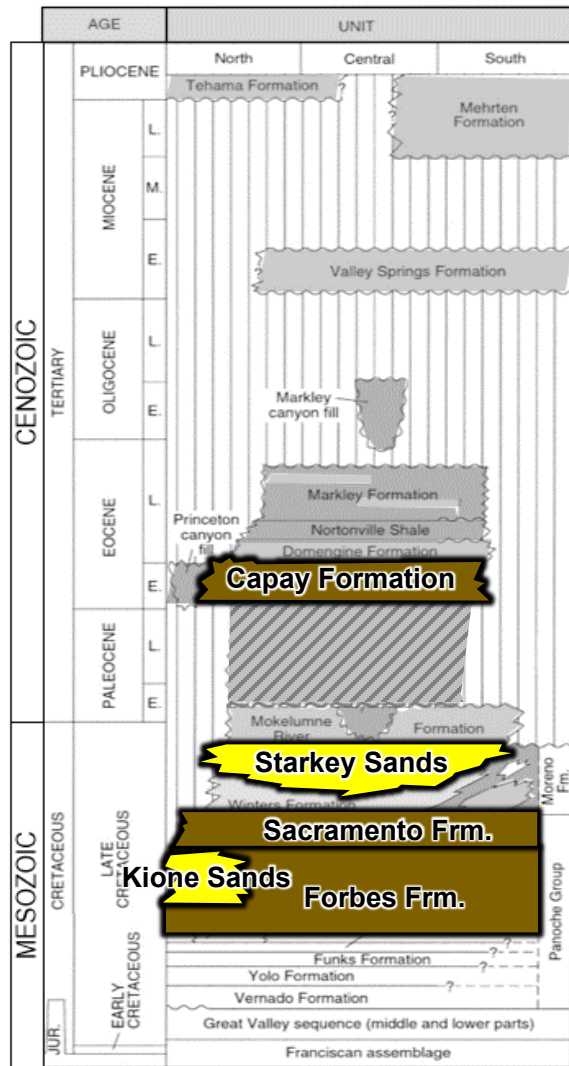
- Affirmation of Storage Complex Feasibility for 50-million metric tons of CO₂ within a 30-year time frame
- Clarification of projects risks including mitigation/monitoring planning
- CO₂ source and transport planning
- Understating of contractual and regulatory requirements, and assessment of technical and economic feasibility
- Phase-III work plan and UIC Class VI application verification and planning
- Demonstration of storage complex feasibility in a geographic region and a geologic setting not previously assessed

Project Location, Sutter Co. CA

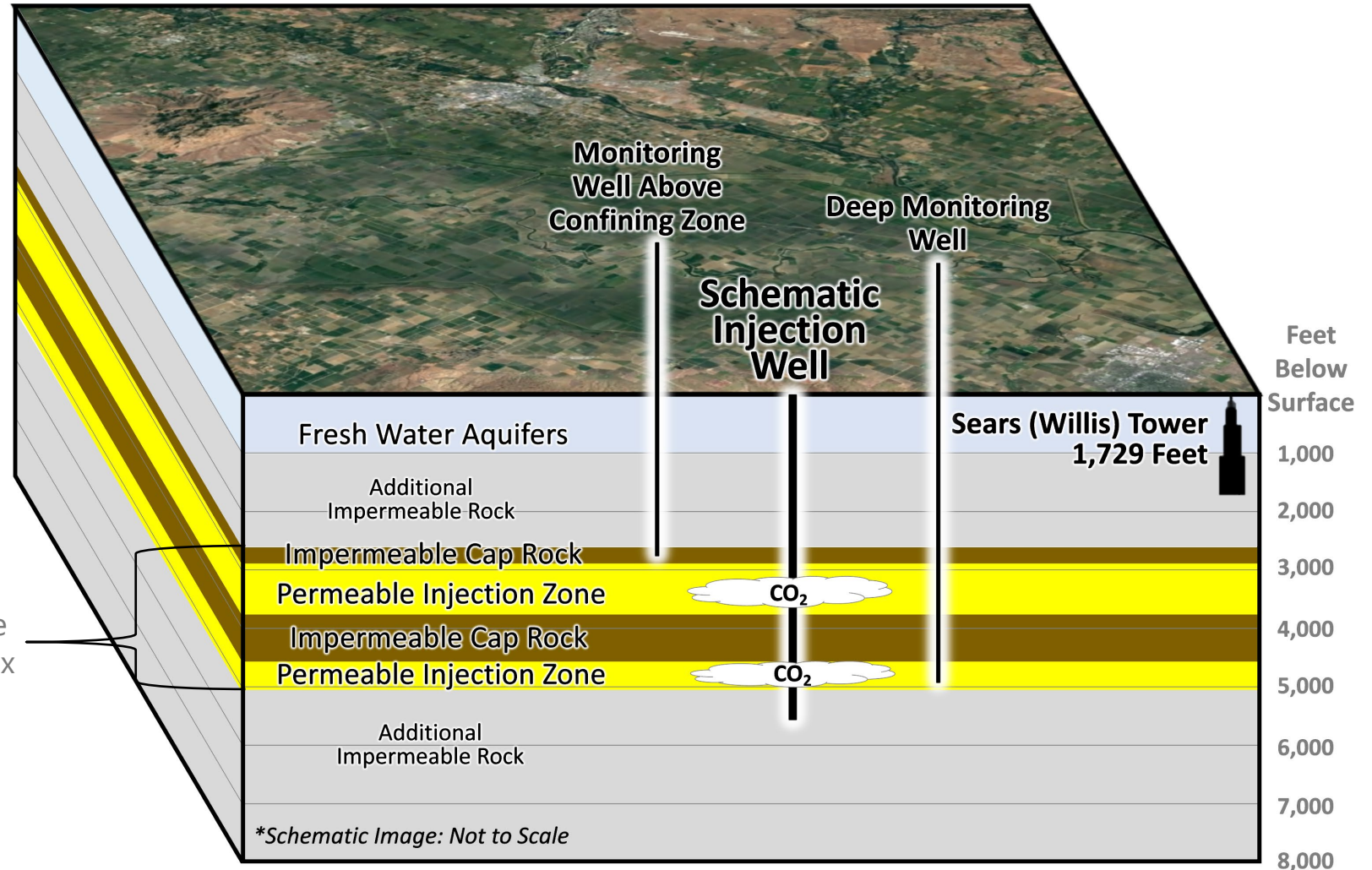
17 miles from Yuba City, 20 miles from Sacramento



Stratigraphy of Sacramento Basin AOI



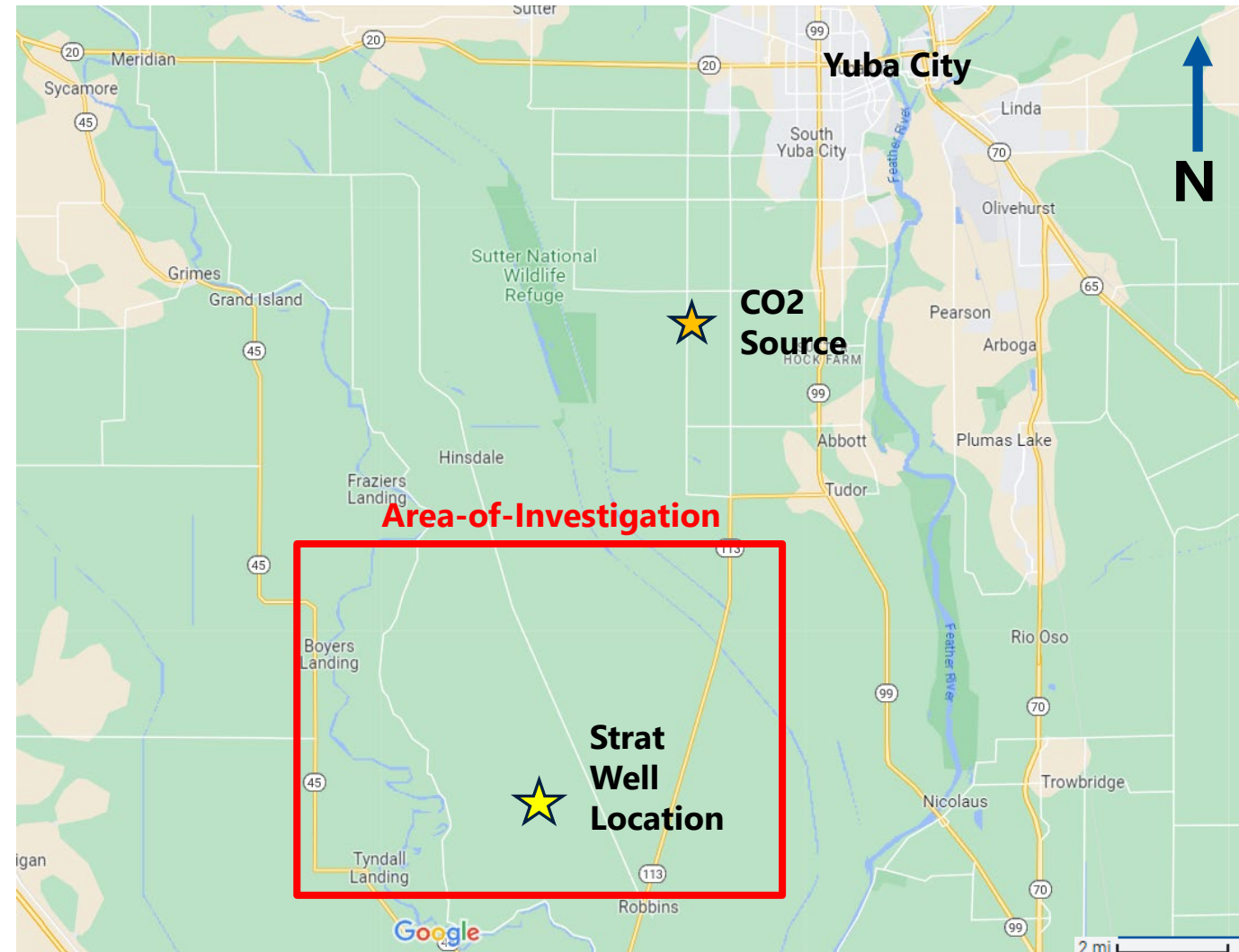
Storage Complex



Images courtesy of 1PointFive

Area-of-Investigation

- 6x7 mile storage complex AOI ~17 miles from Yuba city
 - Legacy oil/gas wells
- New stratigraphic well
 - Logs and cores
- CO2 Source 10 miles SW of Yuba City
 - NG combined cycle power plant



Community Benefits Plan (CBP)

- Project Team is committed to developing and implementing a Community Benefits Plan which is tailored to the project area and is inclusive of the following:
 - Community and Labor Engagement
 - Investing in Job Quality and a Skilled Workforce
 - Diversity, Equity, Inclusion, and Accessibility
 - Justice40 Initiative

CBP Partners and Resources

CBP Lead: Jack Ding



CBP Project Partner & Staffing Resource	CBP Role
<p><u>GTI Energy (in coordination with the Sutter Decarbonization Project)</u></p> <ul style="list-style-type: none"> • Ke “Jack” Ding, Senior Technical Analyst • Eric Boria, Senior Technical Analyst & Project Manager • Cynthia Medina, EJ Analyst 	<p>CBP Lead IAW Lead DEIA Lead</p>
<p>Calpine</p> <ul style="list-style-type: none"> • Emily Turkel, Government Affairs Analyst • Barbara Levake, Local Community & Government Relations Consultant • Alfred Torres, Governmental & Community Affairs Manager 	<p>CBP Coordination</p>
<p>Frontier Energy</p> <ul style="list-style-type: none"> • Rich Myhre • Evan White 	<p>CLE Lead EJ Fellow Intern</p>
<p>Carbon Solutions</p> <ul style="list-style-type: none"> • Erin Middleton, Director of Energy Equity • Qasim Mehdi, Research Scientist 	<p>J40 Lead</p>
<p>1POINTFIVE</p> <ul style="list-style-type: none"> • Julie Coleman, Stakeholder Relations Manager • Telbe Storbeck, External Affairs Manager 	<p>CBP Support</p>



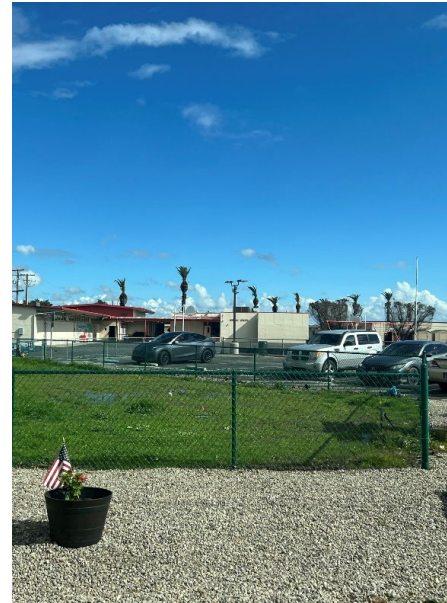
Project Updates – Sutter CS2 project

Major accomplishments

- Community Opportunities Panel established with Robbins community
- Completed J40 literature review for the project
- Hosted a public outreach event for nearby community members

What's next

- Robbins Science Festival at the Robbins School in August
- J40 database to track progress for tracking DOE priorities
- Identify energy assistance programs and opportunities for disadvantaged communities



Next Steps

- Complete Strat well permitting process
- Build well pad and spud well
- Continue executing CBP

Questions



For more information, please contact:

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Tentative Project Schedule and Tasks

Task	Description	2023			2024									2025											
		Q4			Q1			Q2			Q3			Q4			Q1			Q2			Q3		
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1.0	Project Management and Planning		A																						FR
1.1	Integration with Related DOE Initiatives																								
2.0	SCI Assessment and Planning				B																				
2.1	DEIA, Justice 40, Community Engag. Plan				C																				
2.2	Public Engagement				D																				
3.0	Data Collection														E										
3.1	Strat Well Design																								
3.2	Strat Well Permitting																								
3.3	Strat Well Drilling																								
3.4	Strat Well Core Analysis																								
4.0	Geologic and Reservoir Modeling																								F
4.1	Update Geologic Model																								
4.2	Reservoir Modeling																								
4.3	Geomechanical Modeling																								
5.0	Risk Assessment & Mitigation/Monitoring Planning																								
5.1	Risk Assessment																								
5.2	Mitigation/Monitoring Planning																								
6.0	CO2 Source and Transport Planning																								H
7.0	Analysis of Contractual & Reg. Requirements																								I
8.0	Technical and Economic Feasibility Assessment																								J
9.0	Phase III & UIC Class VI Application Planning																								K

Community Benefits Plan Approach

Build a framework to engage community stakeholders, develop a ready workforce, and optimize project benefits

Community and Labor Engagement

- COP Panel building on Calpine's existing relationships
- CLE communication & engagement strategy
- Community and stakeholder analysis

Investing in Job Quality & Skilled Workforce

- Skills, certification, educational needs analysis for future CCS jobs and local workforce hiring needs
- Health & safety (HSE) plans for CCS-related work
- CCS training & education partnership pipeline

DEIA

- Diverse hiring and contracting strategy
- Accessible CCS-skills training & education pipeline
- Public dissemination of project information on website

Justice40

- CCUS J40 data gathering
- Identification of J40 metrics for CCS
- Database development on CCS J40 data to facilitate future work