

Summary of the Initial Assistance & Validation Meeting

Regional Resource Assessment for CO₂ Storage in New Mexico and Surrounding Areas: Identification, Characterization, and Evaluation of In-Situ Mineralization Site/Complex



Societal Considerations & Impact (SCI)
Community Benefits Plan (CBP) Overview and Assessment

December 12, 2023



Regional Resource Assessment for CO₂ Storage in New Mexico and Surrounding Areas: Identification, Characterization, and Evaluation of In-Situ Mineralization Site/Complex

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Project Description

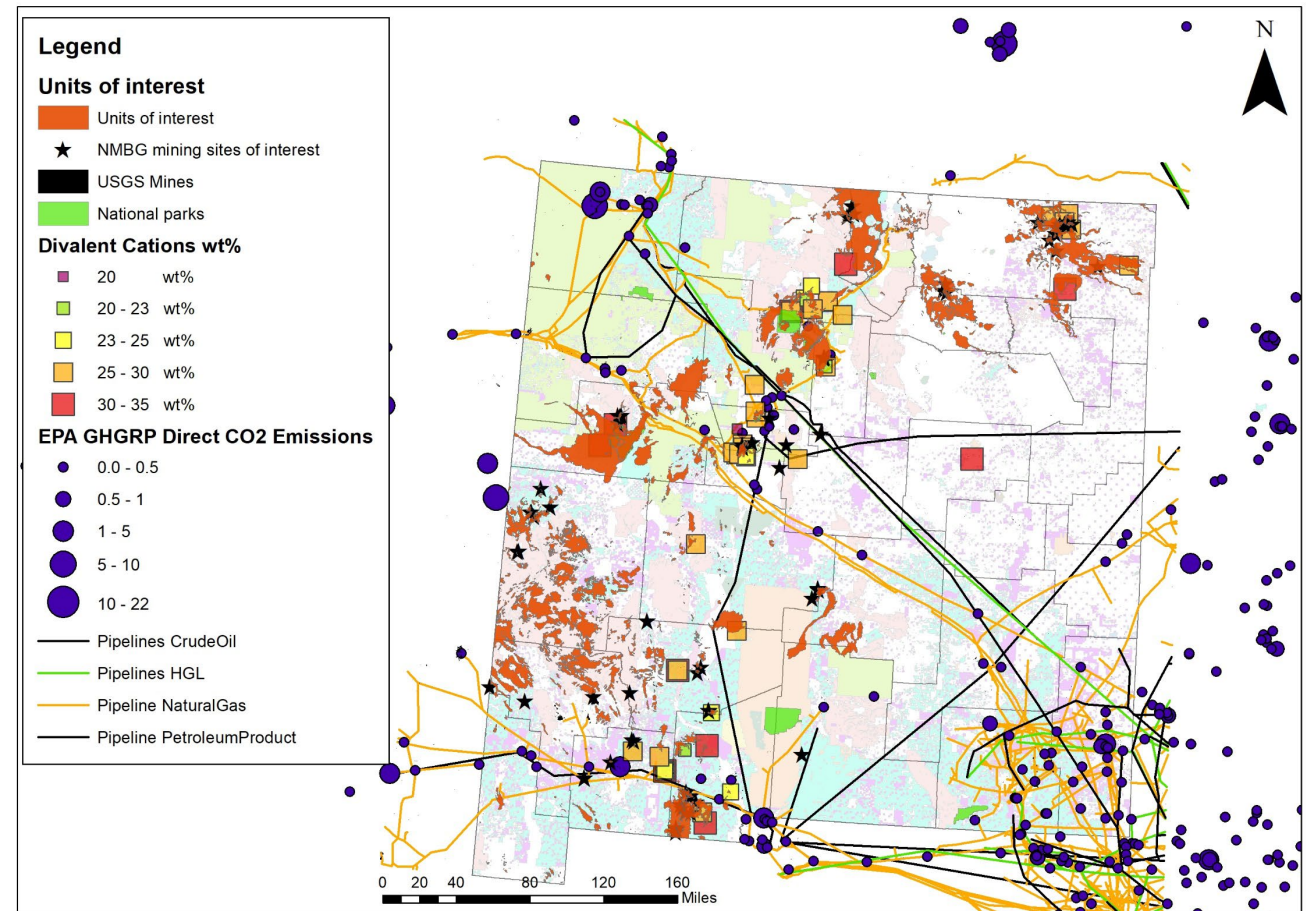
Project Overview

Overall Objective:

Identify and access statewide resources for potential CO₂ storage via mineralization processes, including mafic/ultramafic formations (basalts), stratigraphic units, and mining wastes in New Mexico.

Targeted Storage Sites:

Identify and characterize potential storage sites/complexes to determine storage capacity.



Project Description

Key Project Tasks

Task 1.0: Project Management and Planning

Ensure effective project organization and planning.

Task 2.0: Site Screening and Characterization

Identify potential CO₂ mineralization storage sites.

Task 3.0: Resource Rock Sample Characterization

Analyze properties of resource rock at target site(s).

Task 4.0: Reaction Dynamic Study

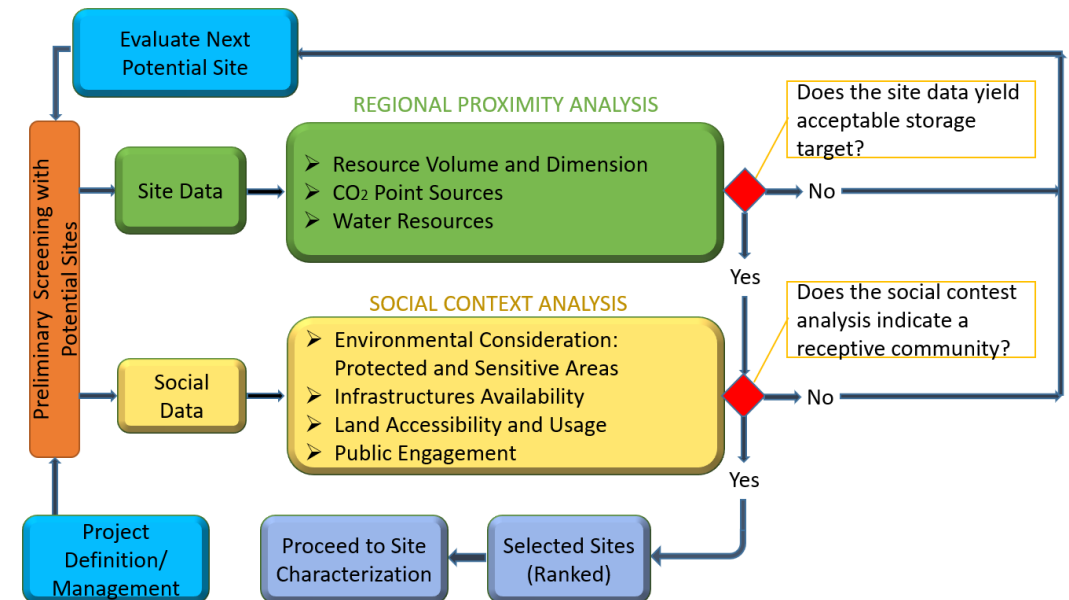
Study CO₂ mineralization process dynamics on localized resource rock.

Task 5.0: CO₂ Storage Capacity Estimation

Understand CO₂ storage potential through reservoir-scale simulation and economic analysis.

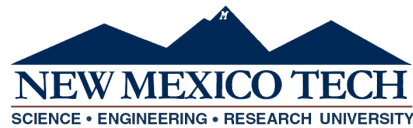
Task 6.0: Stakeholder Outreach Activities and Education

Studies of the potential impacts of the Project, analysis of Project benefits on local communities, and strategy to ensure all DEIA objectives are met.



Project Partners and Resources

Partners



Resources

Personnel responsible for executing CB scope:

- Mr. Fonquergne Jean-Lucien (Task lead)
- Dr. Sai Wang (PI)
- Dr. Matthew Zimmerer (Co-PI)
- Dr. Wei Jia
- Dr. William Ampomah
- Mr. George El-kaseeh
- Mr. Jason Simmons
- Ms. Bonnie Frey

CB funding, not including labor cost

Societal Considerations and Impacts (SCI)	Budget
FY 2024	\$ 1500
FY 2025	\$ 6660
Workshop	\$ 2500
Total	\$ 10,660

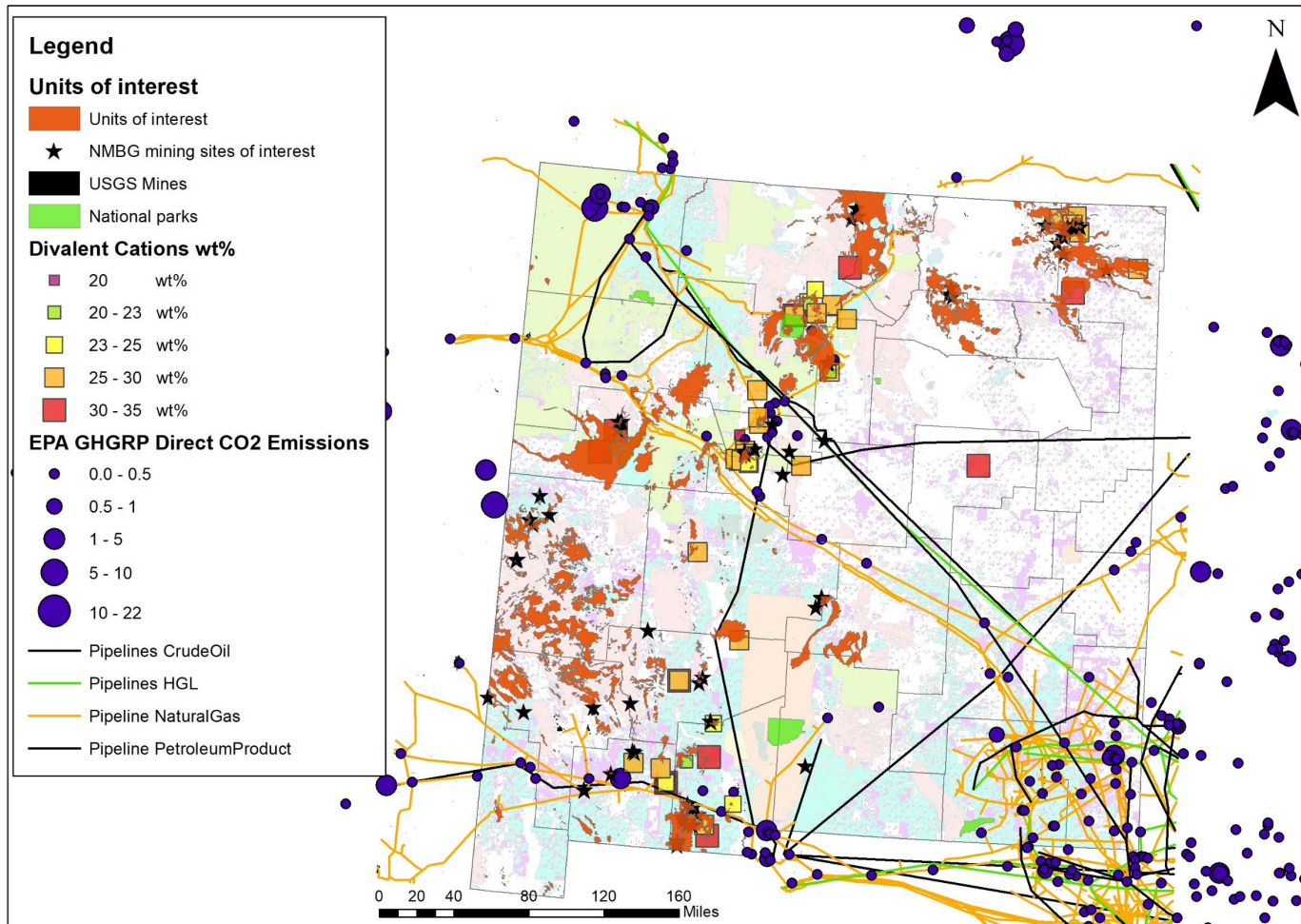
Community Benefits Plan (CBP*) Overview

1. Best CO₂ storage site selection and baseline analysis (Energy and Environmental justice considerations)
2. Studies of the potential impacts and analysis of project benefits on local communities
3. Community Engagement and A strategy to ensure all Diversity, Equity, Inclusion, and Accessibility (DEIA) objectives are met → DEIA Plan

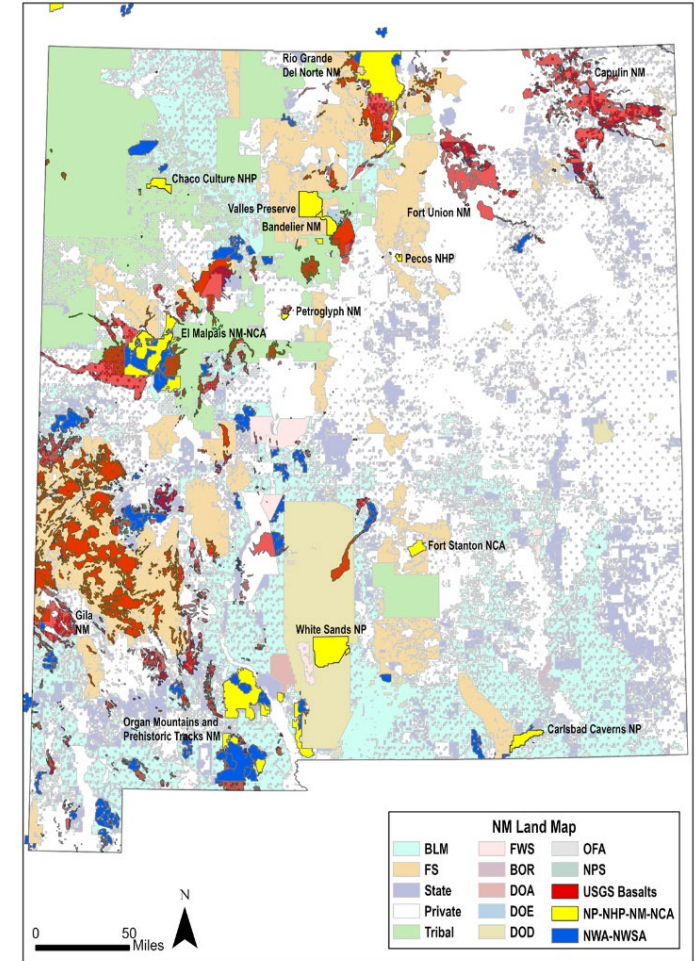
*CBP Plans: SCI Plans for this project include the Diversity, Equity, Inclusion, and Accessibility Plan.

CBP Overview – Site selection and Environmental Justice

Site selection

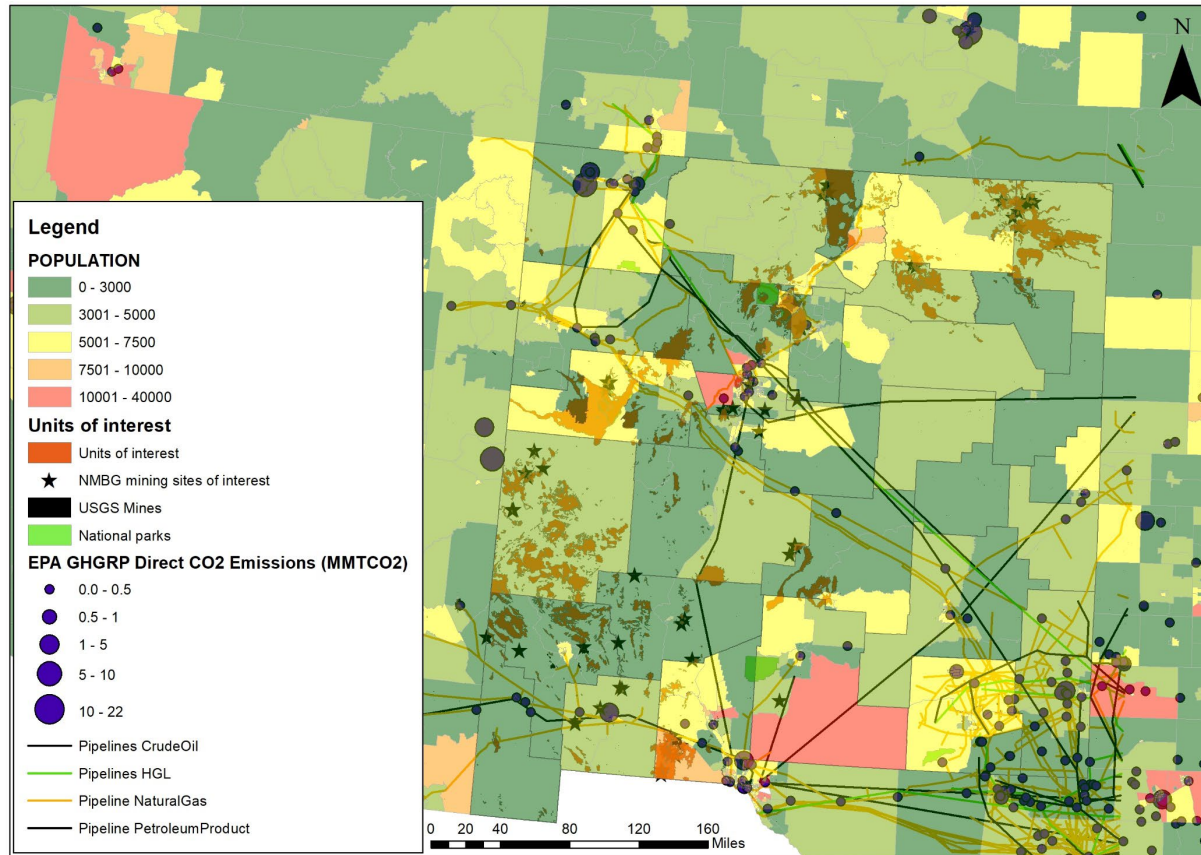


EJ consideration

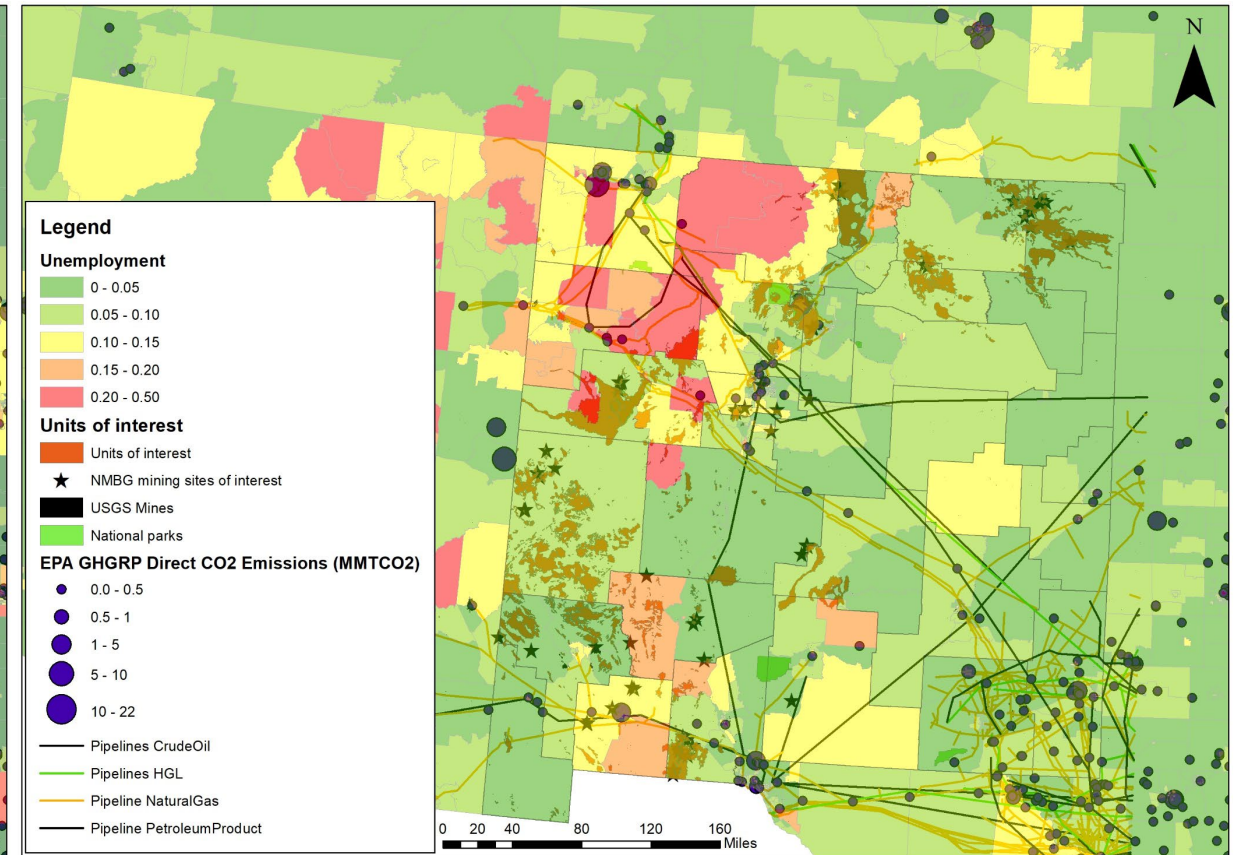


CBP Overview – Social and impact analysis, community engagement

Population density



Unemployment

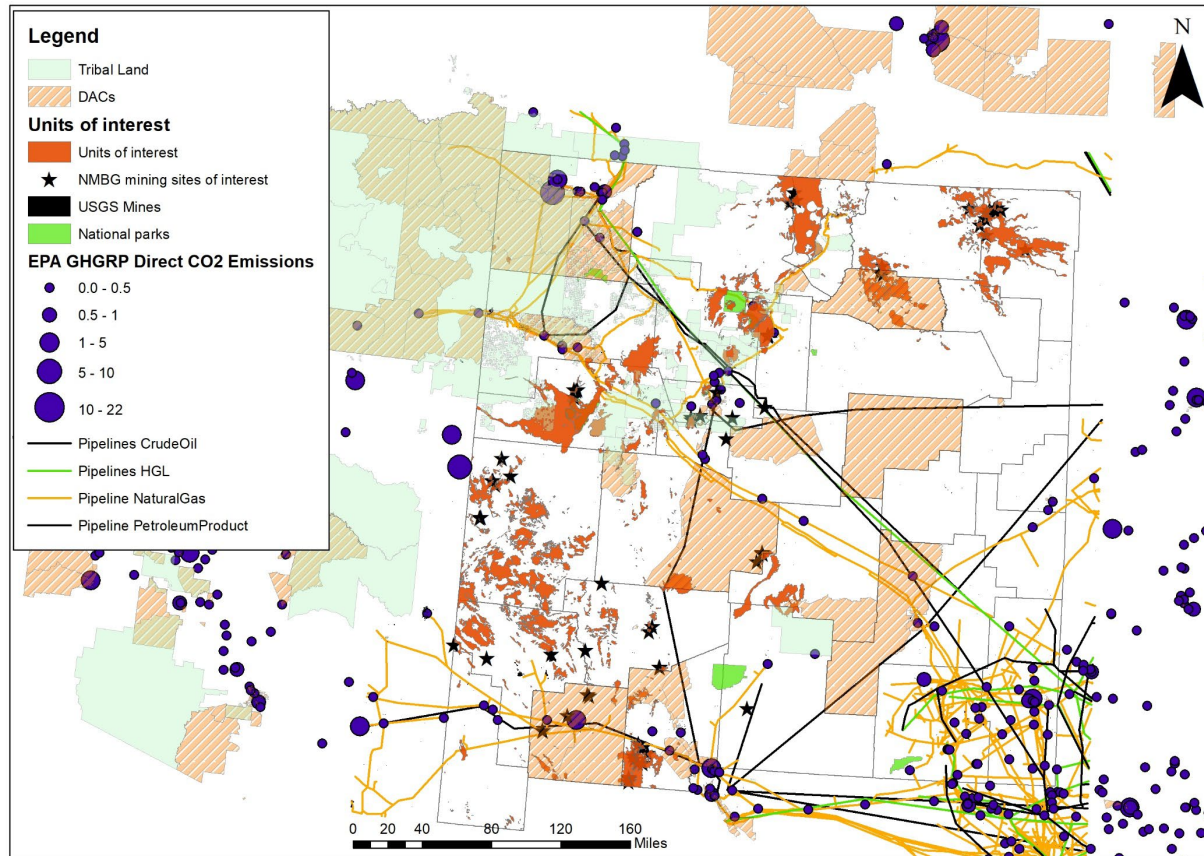


DEIA Plan Overview

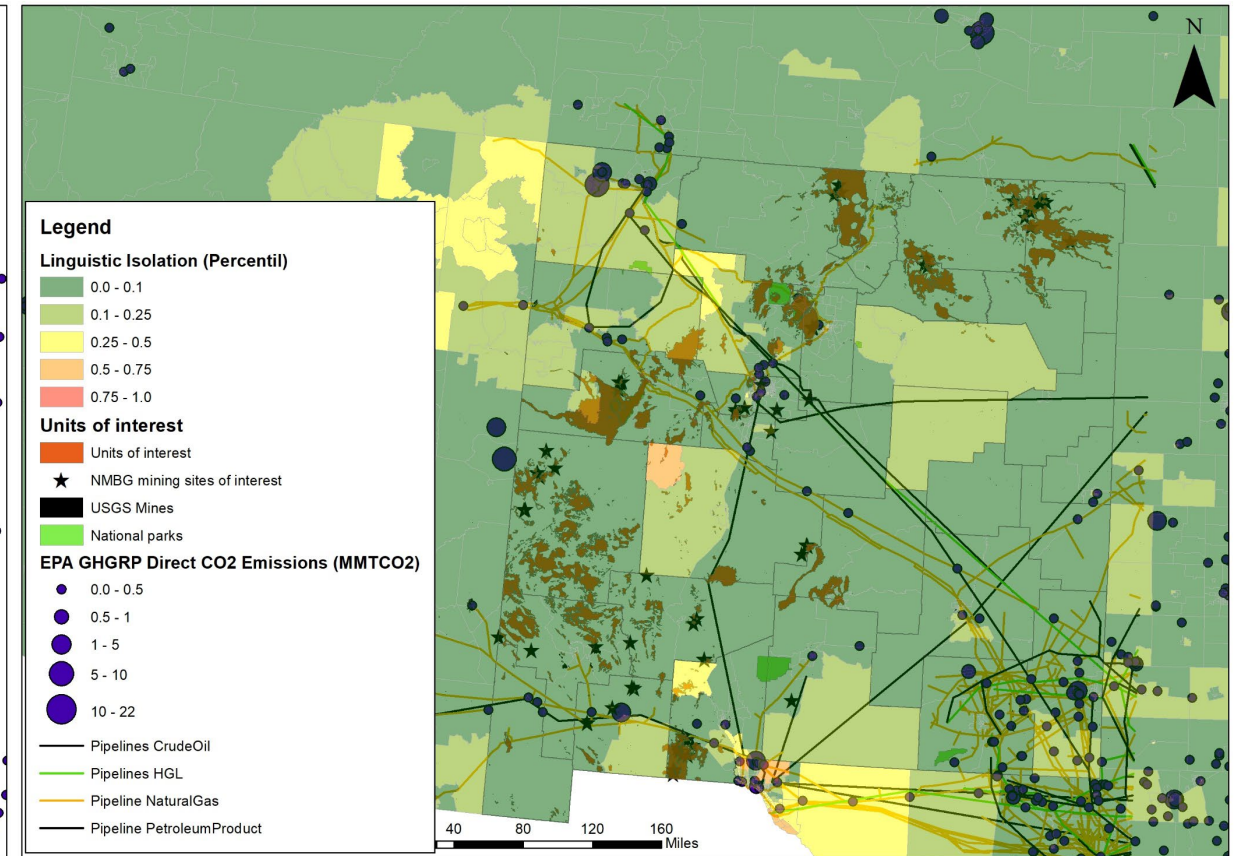
- Identification of stakeholders, DACs, MSIs potentially impacted by the project;
- Identification of associations and non-profit organizations promoting DEIA;
- Promoting DEIA during stakeholder workshops;
- Develop outreach materials to engage the communities sharing key messages via websites, blogs, fact sheets, brochures, FAQ, and surveys.
- Engaging MSIs to implement educational opportunities;
- Engaging students from minorities groups;
- Public engagement with stakeholder audiences (workshops)

DEIA Plan Overview

DACs // Tribal Lands

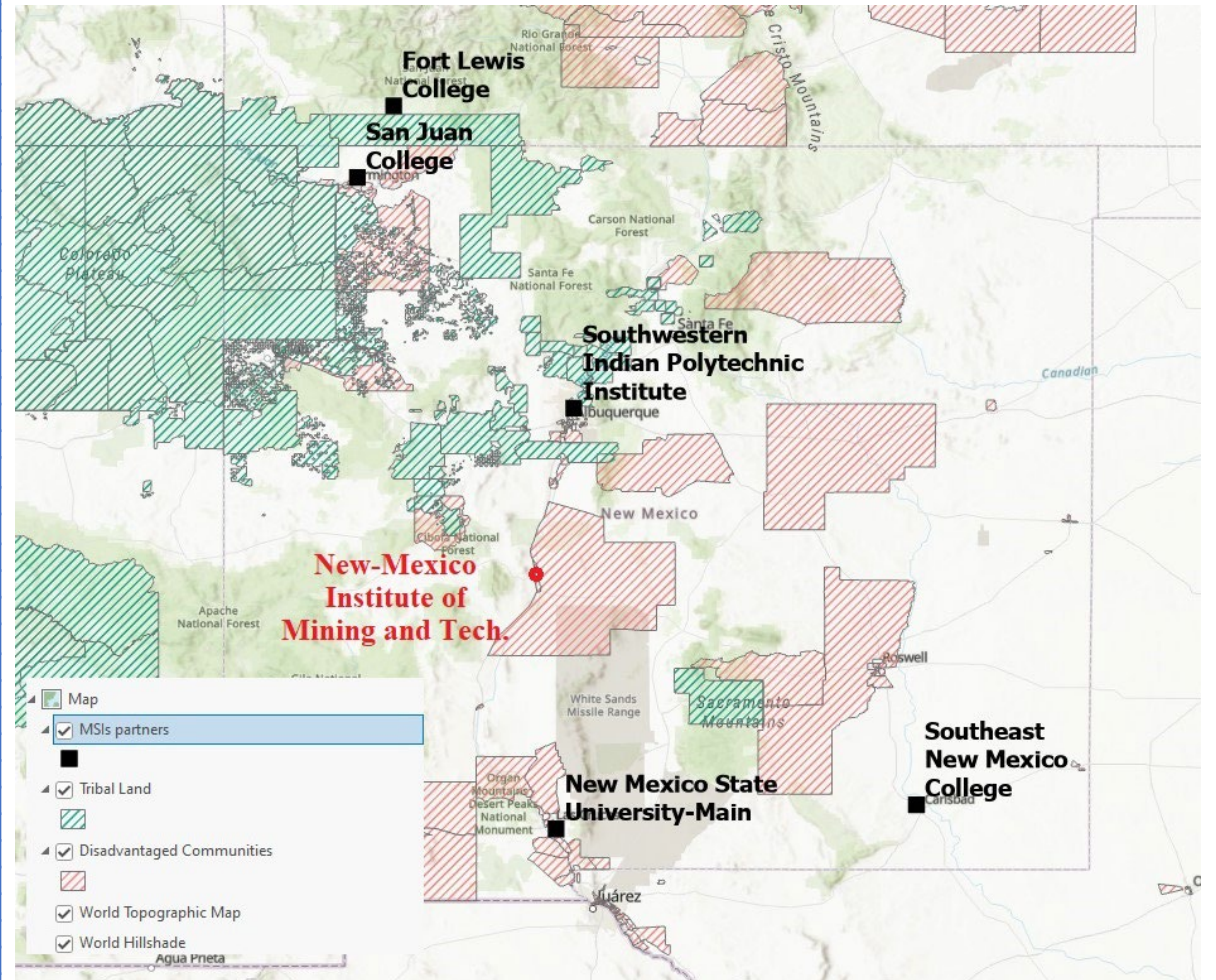


Linguistic Isolation

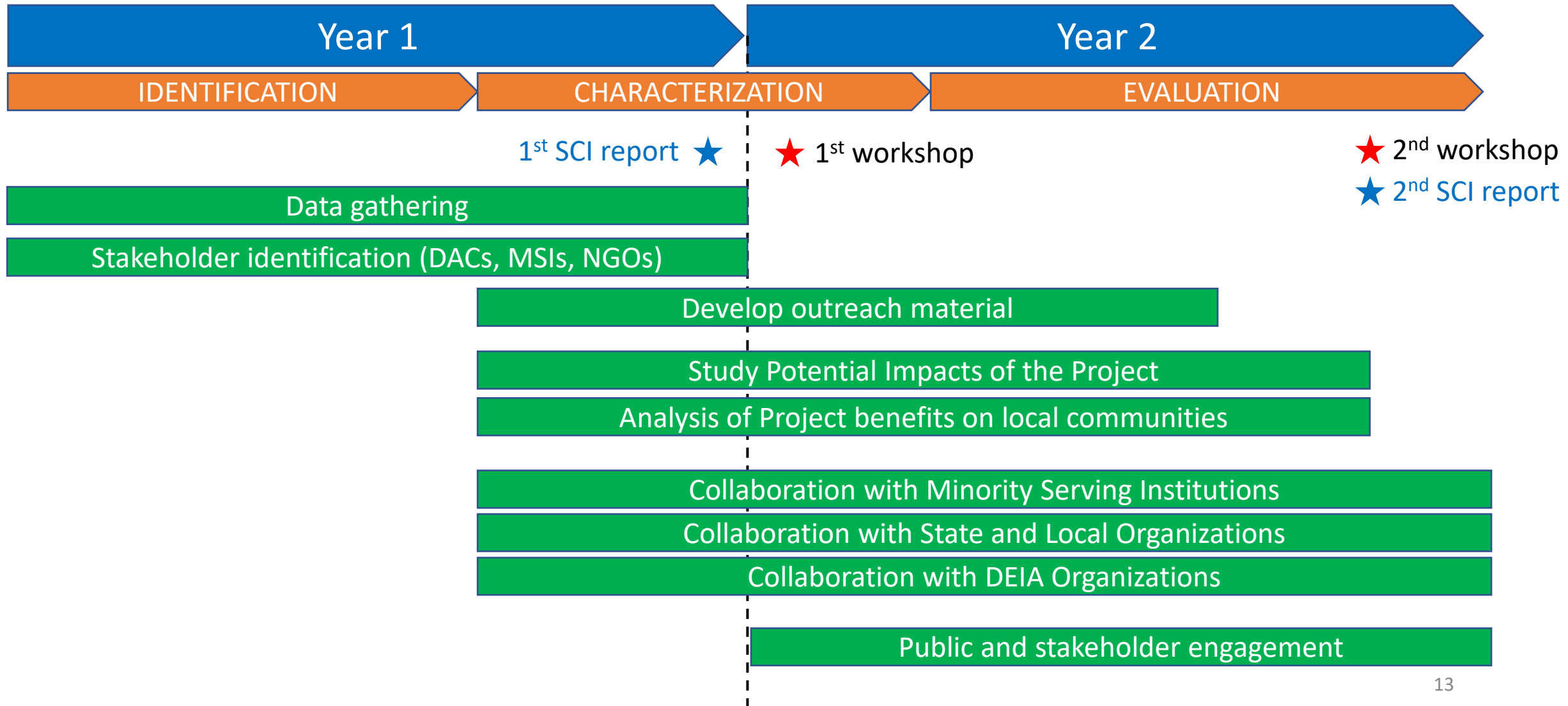


DEIA Plan Overview

Institution Name (Hispanic Serving Institution)	MSI Type	City
Central New Mexico Community College	HIS	Albuquerque
Eastern New Mexico University Ruidoso Branch Community College	HIS	Ruidoso
Eastern New Mexico University-Main Campus	HIS	Portales
Eastern New Mexico University-Roswell Campus	HIS	Roswell
New Mexico Highlands University	HIS	Las Vegas
New Mexico Institute of Mining and Technology	HIS	Socorro
New Mexico State University-Alamogordo	HIS	Alamogordo
New Mexico State University-Dona Ana	HIS	Las Cruces
New Mexico State University-Grants	HIS	Grants
New Mexico State University-Main Campus	HIS	Las Cruces
Northern New Mexico College	HIS	Espanola
Southeast New Mexico College	HIS	Carlsbad
University of New Mexico-Los Alamos Campus	HIS	Los Alamos
University of New Mexico-Main Campus	HIS	Albuquerque
University of New Mexico-Taos Campus	HIS	Ranchos de Taos
University of New Mexico-Valencia County Campus	HIS	Los Lunas
Western New Mexico University	HIS	Silver City
Institution Name (Native American-Serving Non-Tribal Institution)		City
San Juan College	NASNTI	Farmington
Institution Name (TCU - Tribal Colleges & Universities)		City
Institute of American Indian and Alaska Native Culture and Arts Development		Santa Fe
Navajo Technical University	TCU	Crownpoint
Southwestern Indian Polytechnic Institute	TCU	Albuquerque
Institution Name (SIP - Strengthening Institutions Program)		City
Central New Mexico Community College	SIP	Albuquerque
Clovis Community College	SIP	Clovis
Eastern New Mexico University Ruidoso Branch Community College	SIP	Ruidoso
Eastern New Mexico University-Main Campus	SIP	Portales
New Mexico Institute of Mining and Technology	SIP	Socorro
New Mexico State University-Alamogordo	SIP	Alamogordo
New Mexico State University-Grants	SIP	Grants
New Mexico State University-Main Campus	SIP	Las Cruces
San Juan College	SIP	Farmington
Santa Fe Community College	SIP	Santa Fe
St. John's College	SIP	Santa Fe
University of New Mexico-Gallup Campus	SIP	Gallup
University of New Mexico-Los Alamos Campus	SIP	Los Alamos
University of New Mexico-Taos Campus	SIP	Ranchos de Taos
University of New Mexico-Valencia County Campus	SIP	Los Lunas
University of the Southwest	SIP	Hobbs
Western New Mexico University	SIP	Silver City



CBP Timeline / Implementation Roadmap



CBP Data and Metrics

<p>Economic Impact: (assessment)</p> <ul style="list-style-type: none"> • Potential jobs • Local Economy diversification • Local Business growth 	<p>Environmental Impact: (assessment)</p> <ul style="list-style-type: none"> • CO2 Emissions Reduction • Land Use Impact • Induced seismicity 	<p>Community Engagement: (number)</p> <ul style="list-style-type: none"> • Stakeholder Identification • Stakeholder Participation • Educational Initiatives • Complaint Resolution
<p>Health and Safety: (assessment)</p> <ul style="list-style-type: none"> • Air quality • Water quality 	<p>Community well-being: (assessment)</p> <ul style="list-style-type: none"> • Education • Healthcare • Preservation of local culture 	<p>Community Feedback: (assessment)</p> <ul style="list-style-type: none"> • Level of public awareness • Public Perception • Community Support • Media Coverage

Proposed Framework to Evaluate and Track Progress

1. Goal Setting and Objectives

Define clear, measurable objectives for the CBP.

2. Data Collection and Metrics

Identify the data and metrics, collect and store data

3. Baseline Assessment

Conduct an initial baseline assessment of relevant community and environmental factors

4. Social, Economic and Environmental Impact Assessment

Evaluate how the project contributes or impacts the community

5. Regular Monitoring and Reporting

Establish a reporting schedule (quarterly) for sharing progress updates

6. Community Engagement

Continuously engage with local stakeholders and community members.

Maintain open channels of communication for feedback and concerns.

7. Feedback Mechanisms

Implement feedback mechanisms, such as public meetings and complaint resolution processes. Use feedback to inform project adjustments and improvements.

Potential Challenges to Successful Outcome

- **Technical Challenges**

- Storage Site Selection (geological, hydrogeological, and regulatory considerations)
 - Ensuring proximity with the infrastructure and transportation systems for CO₂

- **Regulatory and Compliance Challenges:**

- Navigating evolving state and federal regulations related to CCS.
 - Addressing legal responsibilities, liability, and insurance concerns.

- **Community Acceptance and Public Perception**

- Overcoming resistance or skepticism from the local community regarding CCS.
 - Addressing potential environmental concerns, such as: leakage, seismicity or water contamination.
 - Demonstrate Economic Viability of CCS

- Managing conflicts and addressing concerns among various stakeholders, including local residents, environmental groups, and industry representatives.

Effective public outreach within the Project's local communities, focusing on disadvantaged communities, allows for identification of values and concerns, as well as the perceived benefits and risks of the proposed CCUS project for each local communities. This understanding will foster public acceptance and promote DEIA by addressing the issues of relevance to a particular community.

Initial Assistance and Validation (A&V) Meeting

Meeting Agenda:

- Introductions (10 minutes)
- Project Overview (5 minutes)
- Community Benefits Plan Presentation / Q&A (60 minutes)
- Additional Questions (10 minutes)
- Next Steps (5 minutes)

Initial A&V Meeting Overview

Potential challenges discussed during A&V meeting:

- Tracking the hours of a large Project Team specific to implementation of the CBP.

→ Implementation of a CBP Action and time tracking system

To Do List

Project: Regional Resource Assessment for CO2 Storage in New Mexico and Surrounding Areas: Identification, Characterization, and Evaluation of In-Situ Mineralization Site/Complex

Action	Description	Status	Priority	Timeline, Targets, and Metrics	Due Date	Notes
Action 1	Identification of stakeholders, DACs, MSIs potentially impacted by the project, and associations and non-profit organizations promoting DEIA	Plannig	2	Stakeholder identification and site level outreach to MSIs, associations, and non-profits	Mid-project	Provide Map and list of Stakeholders
Action 2	Develop outreach materials to engage the communities sharing key messages via websites, blogs, fact sheets, brochures, FAQ, and surveys.	In progress	3	Outreach materials will begin to be developed after the first six months of the project and will be completed several months prior to project completion.	Several months prior to project completion	Website pages, factsheets, and surveys
Action 3	Engage HSIs and MSIs to offer educational opportunities that engage students underrepresented in STEM.	In progress	1	Outreach to local MSIs will take place once sites have been identified	Within the first six months of the project	
Action 4	Public engagement with stakeholder audiences through workshops that promote DEIA.	Plannig	1	The first workshop will take place within the first year of the project and the second will take place before the end of the project.	Mid-project / End of Project	
Action 5	Other CB Planning and implementation	Plannig	NA			General outreach activities, planning and implementation

Initial A&V Outcomes

→ Implementation of a CBP Action and time tracking system

Time Tracking							
Date	Personnel	Time (h)	Action	Description	Note		Personnel List
11/2/2023	Mr. Fonquergne Jean-Lucien	4	Action 5	Initial A&V CBP powerpoint presentation creation			Mr. Fonquergne Jean-Lucien
11/2/2023	Dr. Sai Wang	1	Action 5	Initial A&V CBP powerpoint presentation creation			Dr. Sai Wang
11/9/2023	Mr. Fonquergne Jean-Lucien	1	Action 5	Initial A&V meeting			Dr. Matthew Zimmerer
11/9/2023	Dr. Sai Wang	1	Action 5	Initial A&V meeting			Dr. Wei Jia
12/6/2023	Mr. Fonquergne Jean-Lucien	4	Action 5	Review of CBP, initial A&V and creation of the CBP task and time tracking file	Shared the CBP time tracking file with the CBP team		Dr. William Ampomah
12/6/2023	Dr. Sai Wang	1	Action 5	Review of CBP, initial A&V and creation of the CBP task and time tracking file	Shared the CBP time tracking file with the CBP team		Mr. George El-kaseeh
							Mr. Jason Simmons
							Ms. Bonnie Frey
							Team

Initial A&V Outcomes

Gaps Identified and Recommendations for Improvement that will be implemented by NMT:

- Creation of a list of goals and timeline for each actions
- Research best practices for gathering diversity statistics
- Develop a system to track each member hours spent working on implementation of the CBP (Done)

Next Steps to be Completed by Interim A&V

- Provide an overview of progress made towards SMART milestones and DEIA actions.
- Share an update on the suggestions listed above.
- Prepare a description of the DEIA training for the Project Team as described in the CBP.
- Prepare a full list of university resources utilized to promote student researcher opportunities to students underrepresented in STEM as described in the CBP.
- Share a list of data points that will be applied when mapping communities and evaluating the potential for quality jobs, reduction in environmental harm, and other environmental justice concerns.
- Share a preliminary list of impacts on and benefits to communities.
- Share a list of the data sources that were used for community mapping.
- Share a list of the MSIs, associations, and non-profit organizations that have been engaged.
- Share a list of other CCUS projects in the area that will collaborate on outreach strategies.
- Determine whether Spanish translation is needed for the in-person workshops.
- Prepare to share details of the mechanisms for feedback at workshops.

Next Steps

- Assistance and Validation Timeline
 - Initial Meeting – Nov. 9, 2023
 - Interim Meeting – at the midpoint of the project
 - Final Meeting – prior to the conclusion of the project
- Assistance and Validation Report