# Time's Ticking" Embarking on the Wyoming Trails Carbon Hub | Project "WyoTCH"

Presented by Tracey Ziev, Carbon Solutions LLC 2024 FECM/NETL Carbon Management Conference DE-FOA-0002730



# **Acknowledgement & Disclaimer**

Acknowledgment: "This material is based upon work supported by the Department of Energy under Award Number DEFE0032347."

Disclaimer: "This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof."



# **Project Overview**

**Objective:** This project will kick off development of a commercial-scale pipeline to transport anthropogenic  $CO_2$  in support of the Wyoming Trails Carbon Hub "WyoTCH". This FEED study will enable the planning of a transformative, statewide pipeline system capable of transporting up to approximately 14 MtCO<sub>2</sub>/yr, with a final buildout (outside of the scope of this project in design) for up to 45 MtCO<sub>2</sub>/yr.

## **Performance Dates:**

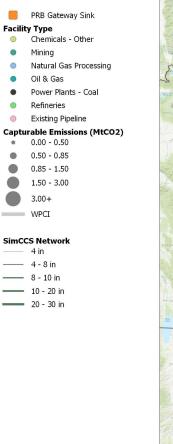
Oct 2023 – Mar 2025

**Funding:** Total: \$4,966,023 DOE - \$3,000,000 Cost share - \$1,966,023

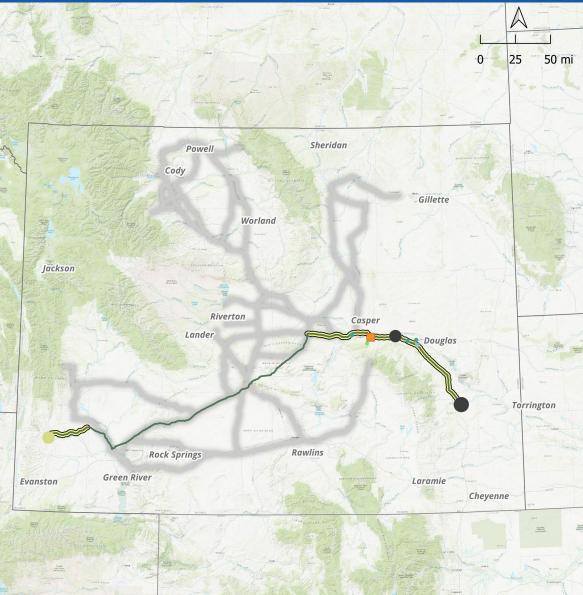




#### WyoTCH Pipeline



CARBON SOLUTIONS



# Project Background

## Why Wyoming?

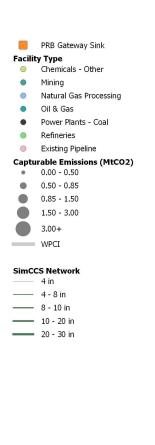
- Wyoming Pipeline Corridor Initiative
- Class VI primacy
- State & federal investments including CarbonSAFE storage projects & direct air capture (DAC) hubs.
- Private industry projects.

## **Project Benefits**

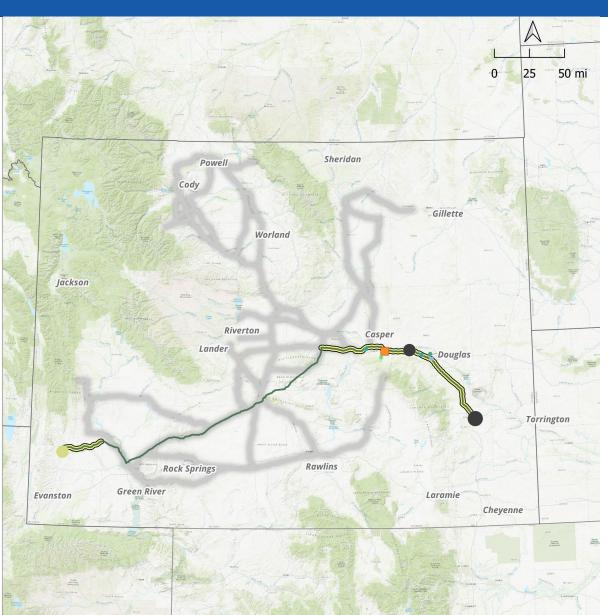
Carbon Solutions

- Open-access pipeline to support statewide carbon management.
- Accelerate Wyoming net-zero economy.
- Sustainable job creation.

### WyoTCH Pipeline



CARBON SOLUTIONS



## **Technical Project Scope & Milestones**

- Task 1: Project Management
- Task 2: Engineering Design Package
  - Engineering Design Due Mar 2025
  - Cost Estimate Due Mar 2025
- Task 3: Regulatory Plan
  - Initial plan due Jan 2024
  - Final plan due Mar 2024

- Task 5: Business Case Analysis
  - Feasibility Plan Due Aug 2024
  - Initial Business Case & Market Analysis Due Aug 2024\*
  - Final Business Case & Market Analysis Due Mar 2025
  - Full Concept Study Due Mar 2025
- Task 6: Environmental Heath & Safety
  - ES&H Initial Analysis Due Jan 2024
  - ES&H Final Analysis Due Mar 2024
  - Environmental Questionaire Due Nov 2024



# **Community Benefits Scope & Milestones**

- Task 4.1: Community & Labor Engagement
  - ADR process description Due Jun 2024
  - Learning/resource/information needs assessment – Due Mar 2025
- Task 4.2: Job Quality & Skilled Workforce
  - Apprenticeship tracking system Due Jun 2024
  - Identify partners for CCUS workforce development – Due Jan 2024
  - Template for employee satisfaction survey – Due March 2025

# • Task 4.3: Diversity, Equity, Inclusion, & Accessibility

- DEIA Accessibility training Due Jan 2024
- Universal design checklist & training Due Jun 2024
- Create a list of diverse subcontractors and vendors and recommendations for expanding supplier diversity.

## • Task 4.4: Justice40

- Develop stakeholder geodatabase Due Jun 2024
- Create presentation of project risks & benefits – Due Mar 2025



# **Project Success Criteria**

- Final pipeline route that minimizes project execution risks including land access, natural hazards, and impacted communities.
- FEED study for the pipeline with costs, materials, and logistics to satisfy capital-raising requirements and begin pipeline construction at the earliest possible date.
- Regulatory Plan that develops material to submit regulatory documents to the State and Federal governments at the earliest possible date after project completion.
- Outreach and engagement plan that develops trust/social license with impacted communities and stakeholders, and highlights the social, economic, and environmental opportunities and challenges of the pipeline.
- Business case that supports business development including attracting near- and long-term capital investors—for the first-stage pipeline and the greater Project WyoTCH—as well as support/buy-in from the State government.
- ES&H Plan that addresses all major environmental safety and health issues for the project, including addressing NEPA requirements, hazardous materials, and emergency preparedness.
- CO<sub>2</sub> source commitment letters, potentially including offtake agreements, that commit to 10–25 MtCO<sub>2</sub>/yr of supply for the first-stage Project WyoTCH.
- CO2 sink commitment letters that commit to storing all CO<sub>2</sub> provided by source commitment (i.e., at least 10-25 MtCO<sub>2</sub>/yr.).



# **Project Status & Accomplishments**

## • Task 1: Project Management

- Revised SOPO and CBP to incorporate SOPO
- Execute risk mitigation plans for project challenges
- Monitor impact of project delays for overall schedule & budget impact

## • Task 2: Engineering Design Package

- Rebaselined EDP schedule to accommodate delayed initial route selection
- Completed miscellaneous engineering deliverables (3)
- Engineering route review and hydraulic analysis for one segment completed, other segments in progress

## • Task 3: Regulatory Plan

- Completed initial regulatory plan
- Research state & county level regulatory issues for final regulatory plan
- Some local issues on hold until engineering route evaluation is complete

## • Task 4: Community Benefits Plan

- Completed document outlining alternative dispute resolution processes
- Completed DEIA accessibility training
- Developed accessible design guidance & training
- Developed apprenticeship program tracker
- Developed initial stakeholder database
- First community engagement planned this week

## • Task 5: Business Case Analysis

- Feasibility Plan completed
- Initial Business Case & Market Analysis Due Aug 2024, currently in progress, expected this week.

## • Task 6: Environmental Heath & Safety

- ES&H Initial Analysis completed
- Several deliverables complete or near complete including hazardous material inventory & waste management plan.



## **Lessons Learned**

- A well thought out risk management plan helps keep the project moving when it encounter challenges.
- A lot can change in the CCUS landscape between proposal submission and project authorization re-examining route feasibility and adjusting can avoid unnecessary rework.
- Keeping all project team members informed of critical points in engineering design process helps manage expectation surrounding potential source or sink changes.



# **Questions?**

