

International CCS Symposium

Wyoming Pipeline Corridor Initiative

*Planning Ahead for CO₂
Pipeline Infrastructure*

March 25, 2025



UNIVERSITY
OF WYOMING

School of
Energy Resources

THE WORLD NEEDS MORE COWBOYS.

Current CO2 Pipeline Siting Challenges

- Lack of Information
- Misinformation
- Political Division
- Perceived Safety Issues
- Costs
- Lack of Market Incentives for Landowners
- Land Ownership Patterns
- No Uniform Siting Authority
- NO PLANNING...

CO2 Industrial and Power Capture Opportunities

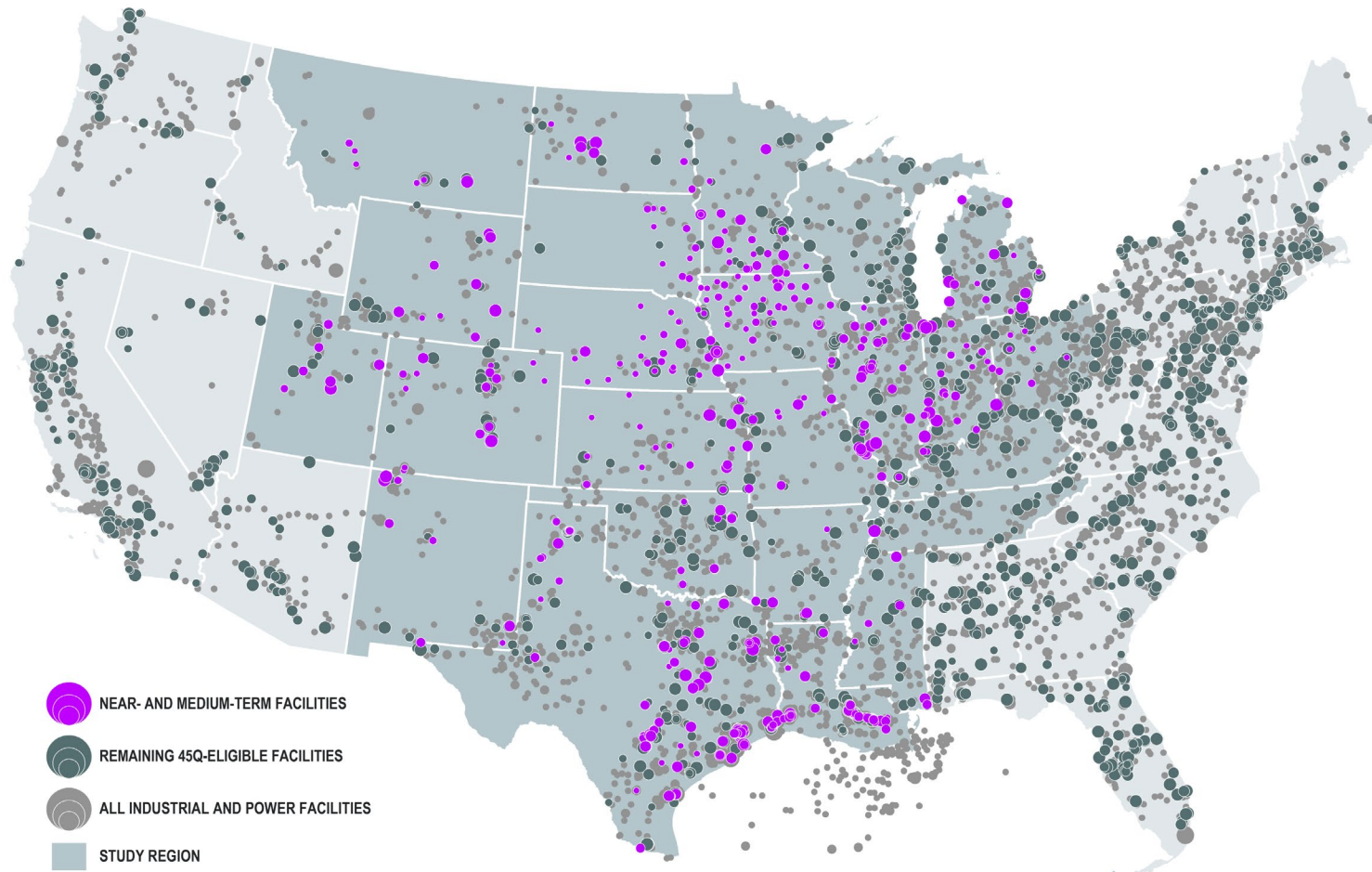


Figure authored by
Elizabeth Abramson,
GPI, March 2020.

Facilities identified by
Jeff Brown, 2019.

Potential Saline Storage Opportunities

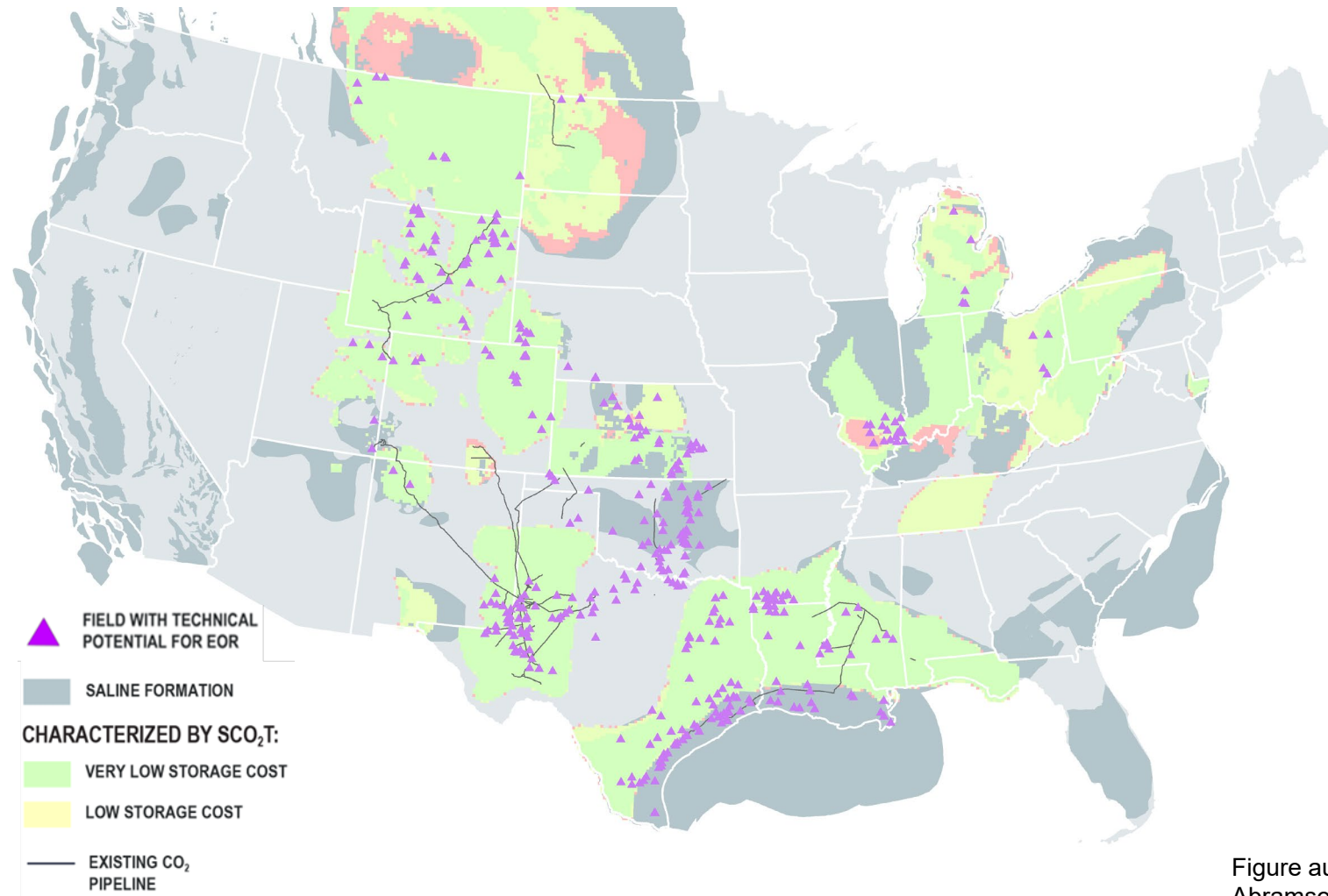
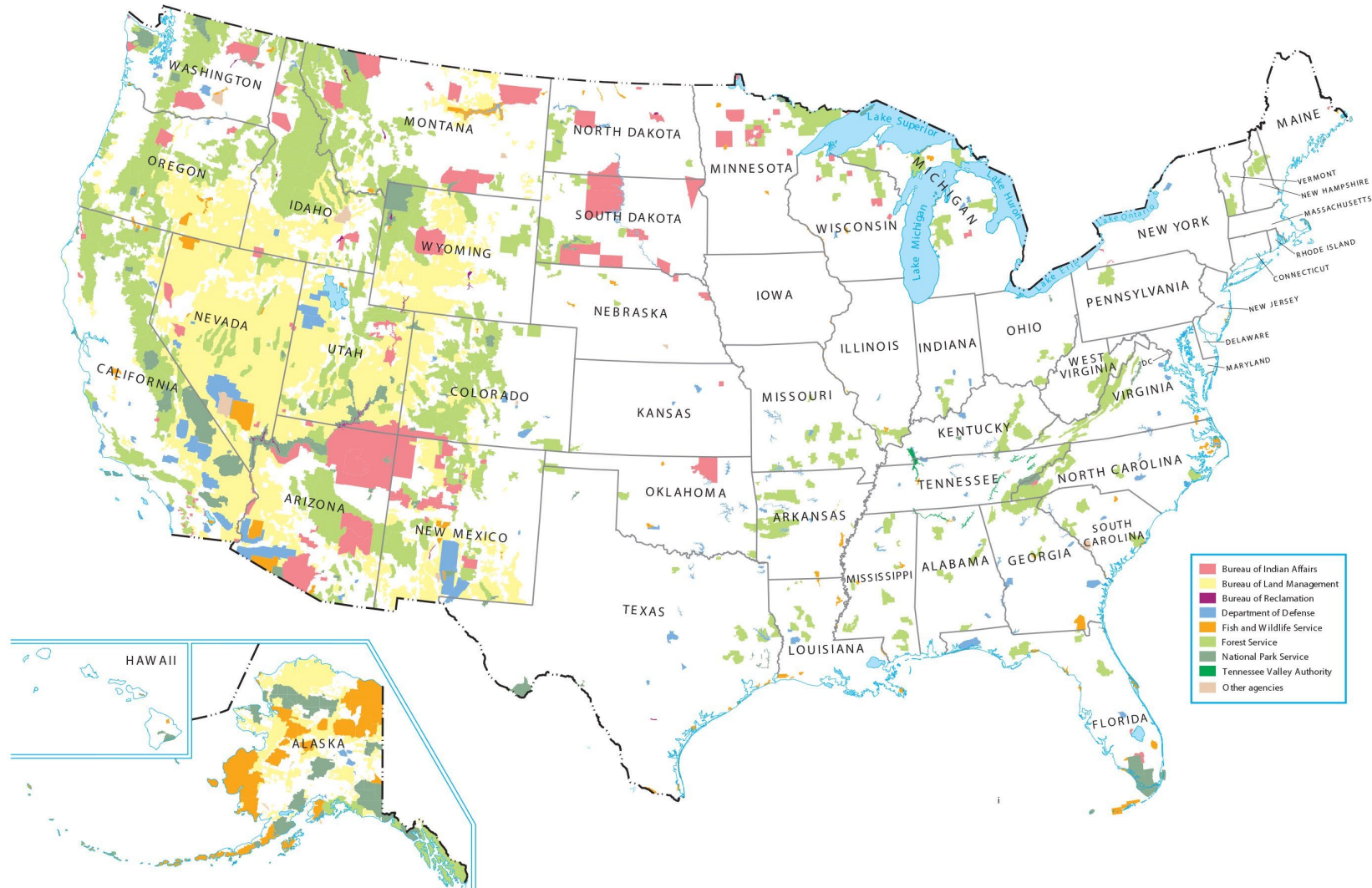


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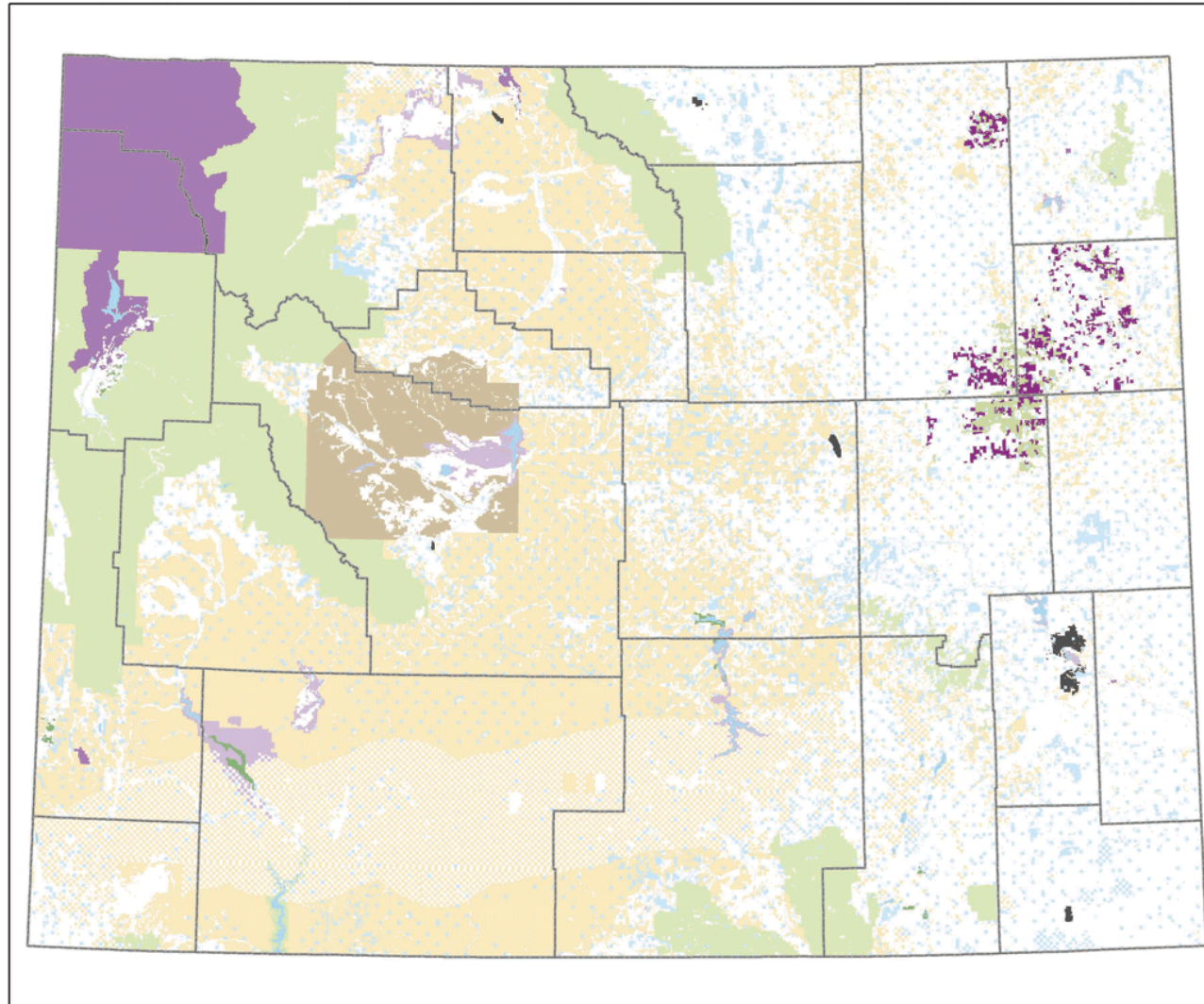
U.S. Surface Land Ownership



U.S. Permitting Complexity

Authorizing Actions That May be Necessary to Construct Pipelines		
Agency	Nature of Authorizing Action	Authority
Federal Permits, Approvals, and Reviews		
Bureau of Land Management	Grant rights-of-way and issue temporary use permits	Section 28 of the Mineral Leasing Act of 1920
	Issue materials sales contracts	Materials Act of 1947, as amended; 30 U.S.C. 601, 602; 43 CFR 3600
	Issue antiquities and cultural resource use permit to excavate or remove cultural resources on federal lands	Antiquities Act of 1906, 16 U.S.C. Section 431-433; Archaeological Resources Public Protection Act of 1979, 16 U.S.C. Section 470aa-47011; 43 CFR Part 3
	Approve herbicide use on federal lands	BLM Manual 9011.1, Guidelines for Conducting Chemical Pest Control Program
U.S. Fish and Wildlife Service	Section 7 Consultation process for endangered or threatened species	Endangered Species Act of 1973; 16 U.S.C. 1531 et seq.
U.S. Forest Service	Grants special use authorizations for rights-of-way	30 CFR § 251.53
Federal Highway Administration	Issue permits to cross federal-aid highways	23 U.S.C. Sections 116, 123, 23 CFR Part 645 Subpart B
U.S. Army Corps of Engineers	Issue Section 404 permit (nationwide) for placement of dredged or filled material in waters of the U.S.	Section 404 of the Clean Water Act of 1972 (40 CFR 122-123); 33 U.S.C. Section 1344; 33 CFR Parts 323, 325
Bureau of Alcohol, Tobacco and Firearms	Issue permits to purchase, store, and use explosives	Section 1102(a) of the Organized Crime Control Act of 1970, 18 U.S.C. Section 841-848; 27 CFR Part 181
Advisory Council on Historic Preservation	Review and compliance activities related to cultural resources	Section 106 National Historic Preservation Act (16 U.S.C. 470) (36 CFR Part 80)
State and Local Authorizations		
Department of Environmental Quality – Water Quality Division	Issue National Pollution Discharge Elimination System (NPDES) Permit for discharges; approve Storm Water Pollution Prevention Plan	State Environmental Quality Statute
	401 Water Quality Certification	Section 401 of the Clean Water Act
Highway Department	Issue permits for oversize and overweight loads	State Transportation Dept.
	Issue encroachment permits for state highways	State Transportation Dept.
State Land Board	Issue easements to cross state lands	State Land Board Statute
State Engineer's Office	Grant permit to appropriate water for hydrostatic testing, dust control, and other uses	State Engineer Statute
State Historic Preservation Office	Review compliance activities related to cultural resources	Section 106 National Historic Preservation Act (16 U.S.C. 470) (36 CFR Part 80)
County Commissioners	Road crossing permits, land use permits, and licenses	County zoning regulations
County Health Departments	Temporary sanitation facilities	County sanitation regulations

Background



Land Ownership

Legend

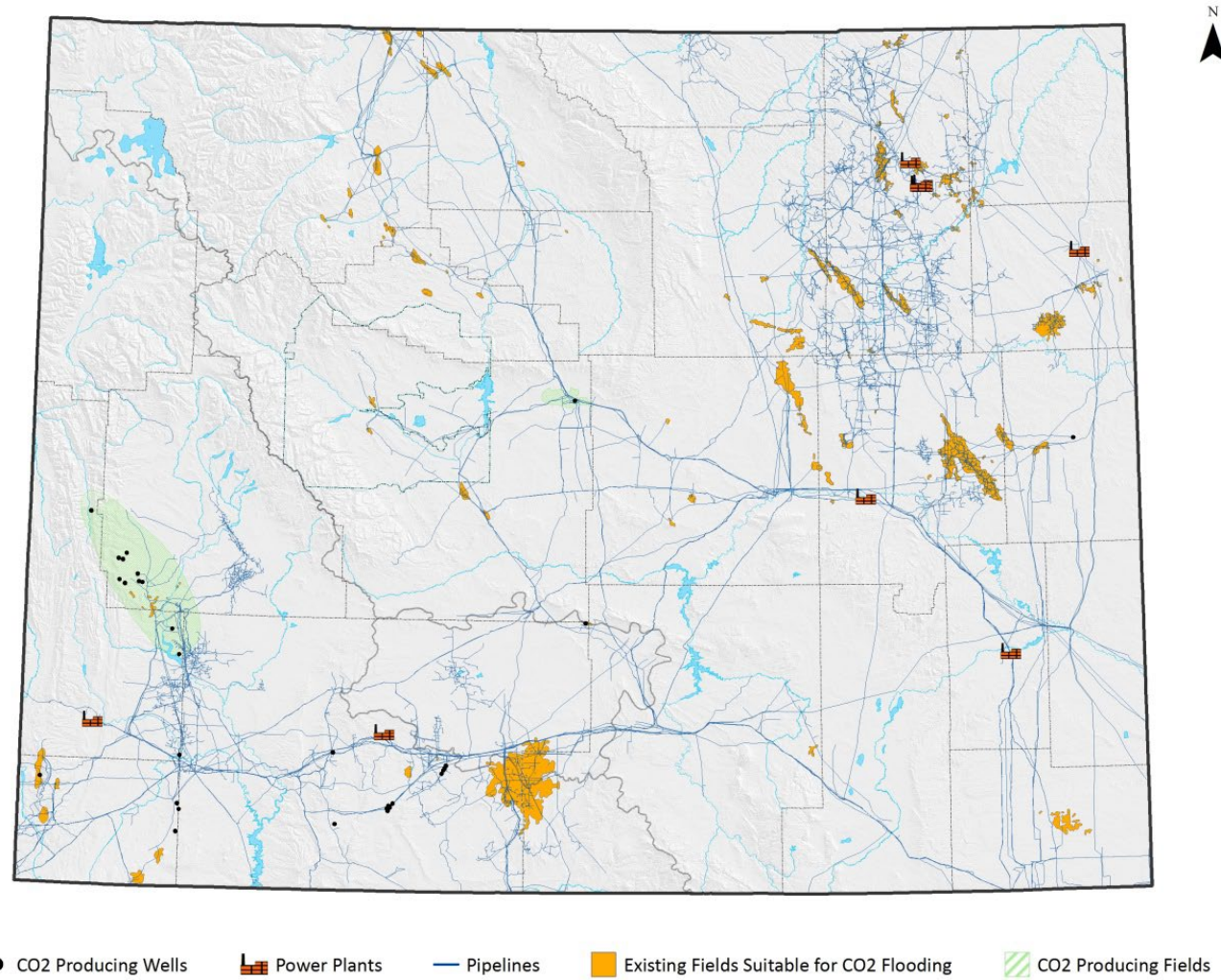
- County Boundaries
- Bankhead Jones
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- US Army Corps of Engineers
- Department of Energy
- Department of Defense
- US Fish and Wildlife Service
- US Forest Service
- National Grasslands
- National Park Service
- Private
- State
- Hydrography



0 12.5 25 50 75 100 Miles

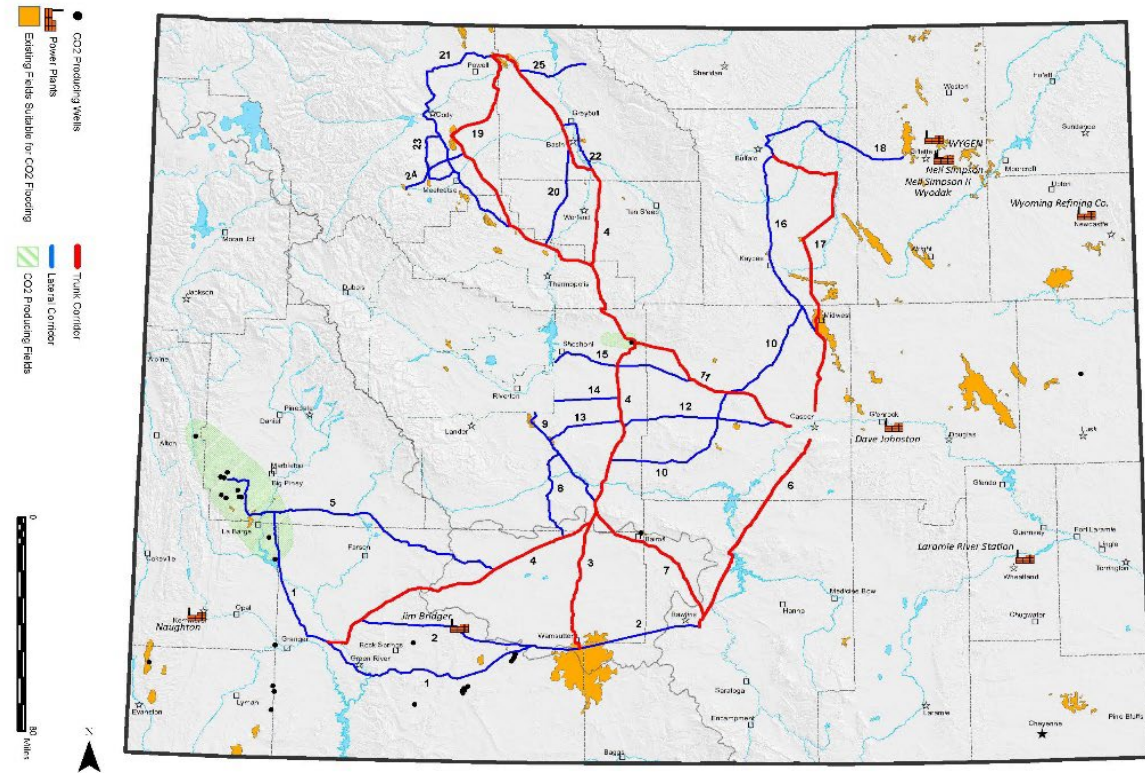
Background

- CURRENT PIPELINE INFRASTRUCTURE DESIGN IS CHAOTIC
- LONG TERM INFRASTRUCTURE SYSTEM NOT WELL CONSIDERED
- POTENTIAL INEFFICIENCIES AND ENVIRONMENTAL IMPACTS



Wyoming Pipeline Corridor Initiative (WPCI)

- GOAL WAS TO FACILITATE DEVELOPMENT BY A COORDINATED PLANNING APPROACH
- CONNECT SOURCES OF CO₂ TO COMPATIBLE OIL FIELDS AND GEOLOGIC STORAGE
- TRUNK AND LATERAL CORRIDORS
- ANALYZE TO CARRY CO₂ AND PRODUCTS
- ANALYZE FOR BROADBAND INFRASTRUCTURE



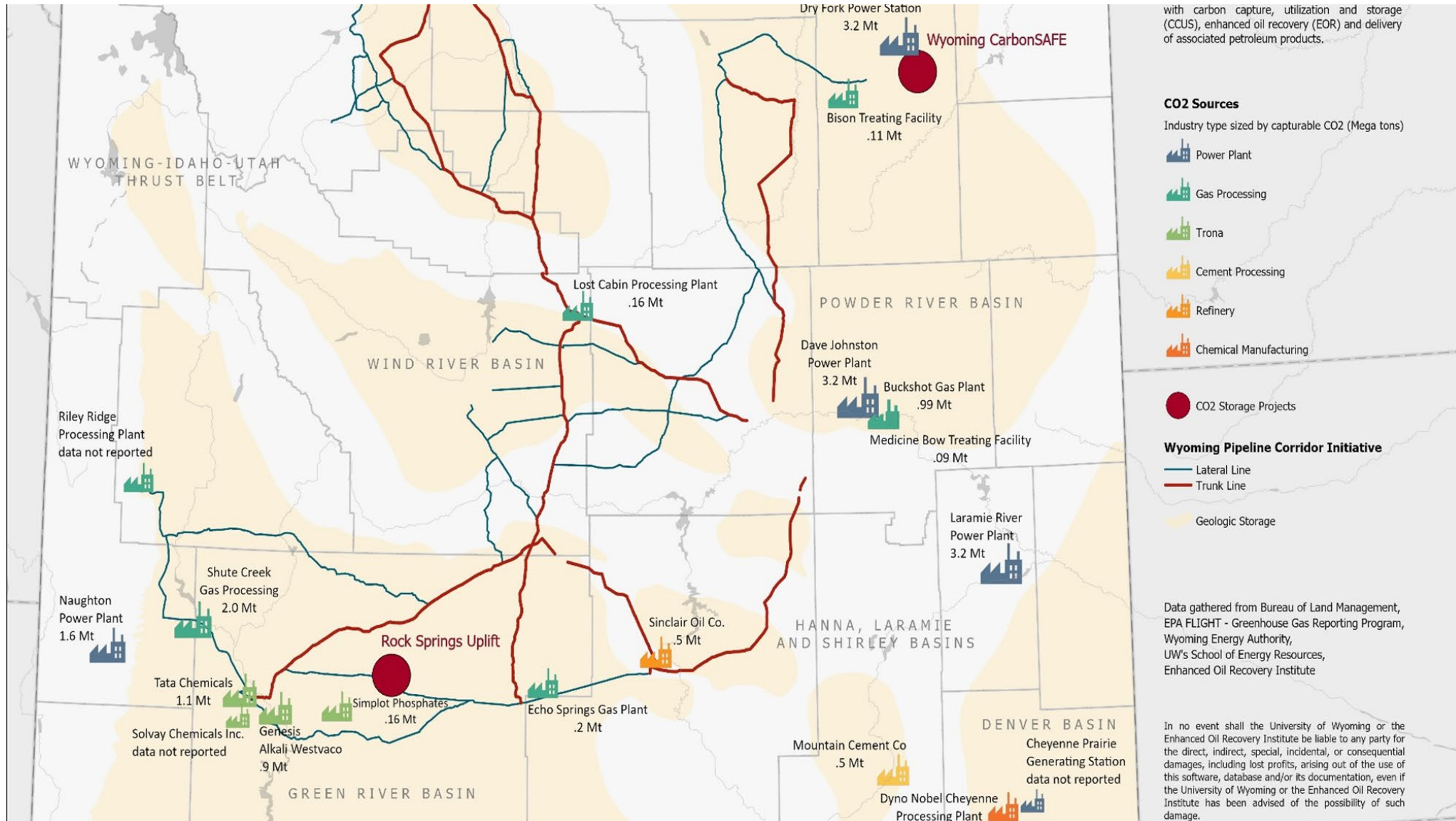
Benefits

- EFFECIENCIES
 - Expedited Federal Permitting for Project Proponents
 - Reduced Project Planning and Permitting Costs
 - Upfront Engagement Opportunities



- ENVIRONMENTAL BENEFITS
 - Focused Development Corridors
 - Reduced Disturbance Footprints
 - Permanently Stored CO₂

The WPCI



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QUESTIONS?

Matt Fry
mfry2@uwyo.edu



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