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NORTH DAKOTA



Critical Challenges. Practical Solutions.



Energy & Environmental Research Center (EERC)

THE FUTURE OF CARBON CAPTURE FOR ALASKA

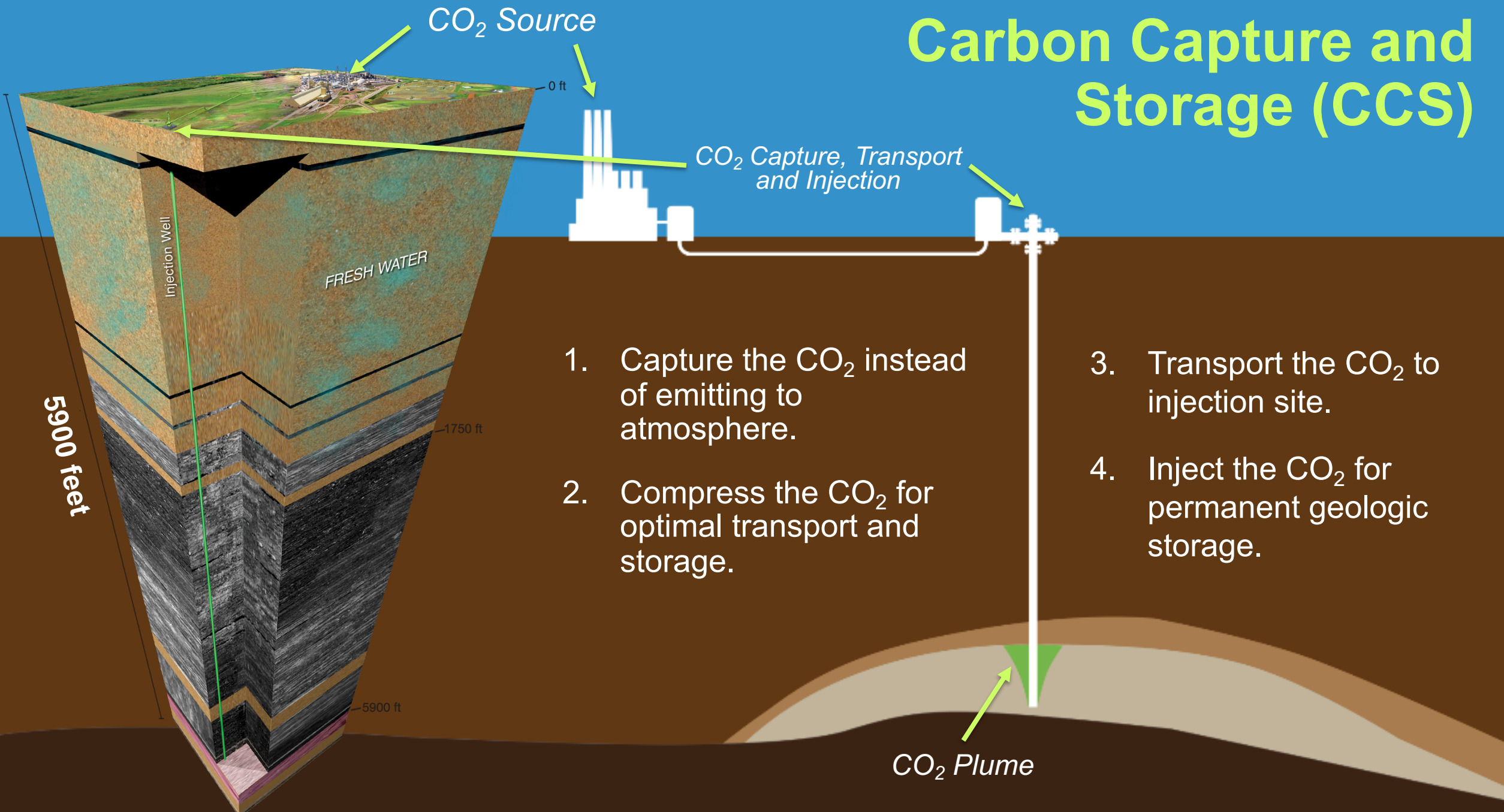
Resource Development Council Conference
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Carbon Capture and Storage (CCS)



CO₂ Source

0 ft

CO₂ Capture, Transport and Injection

Injection Well

FRESH WATER

1. Capture the CO₂ instead of emitting to atmosphere.

3. Transport the CO₂ to injection site.

2. Compress the CO₂ for optimal transport and storage.

4. Inject the CO₂ for permanent geologic storage.

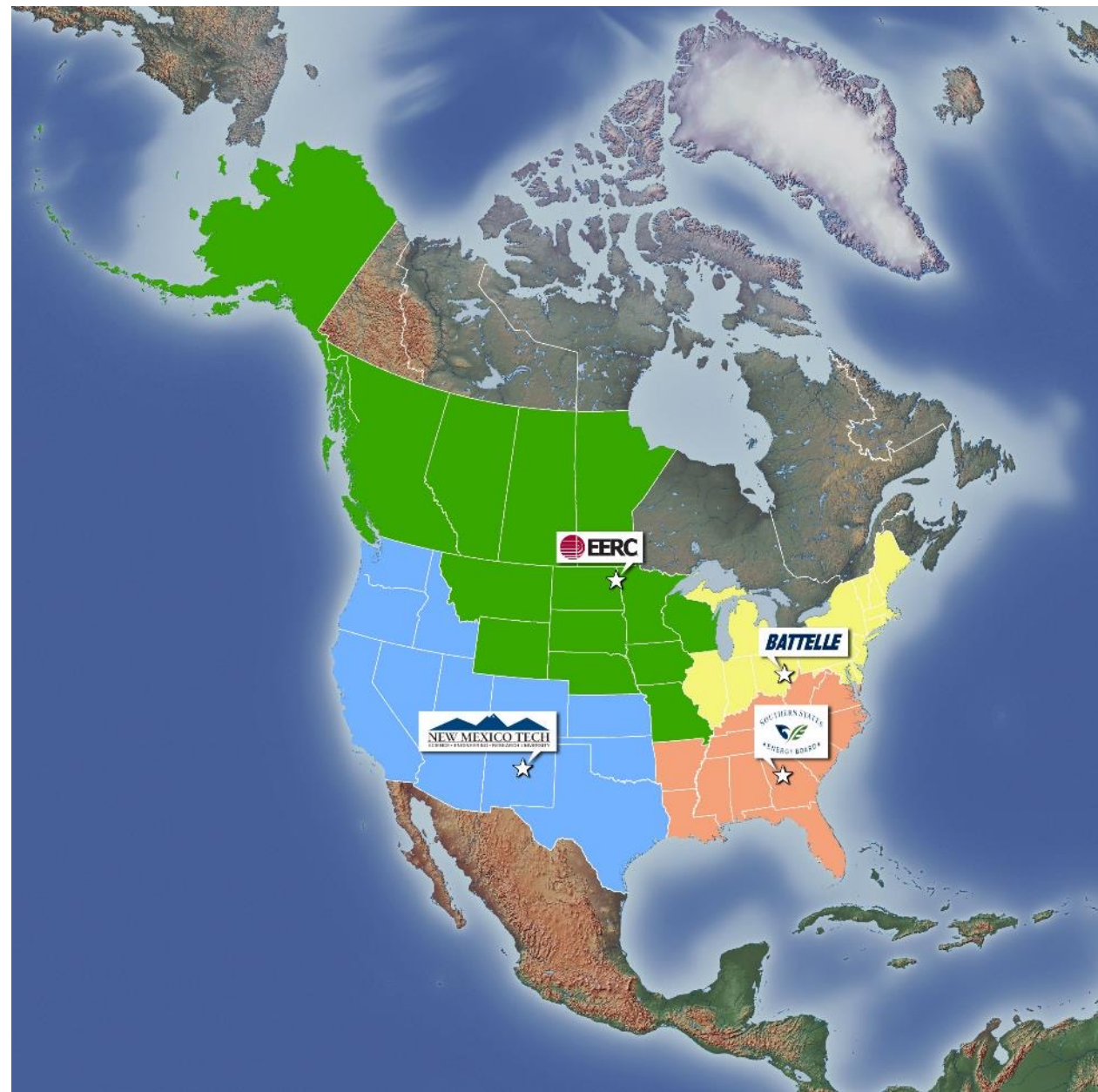
1750 ft

5900 ft

CO₂ Plume

5900 feet


REGIONAL CARBON SEQUESTRATION PARTNERSHIP INITIATIVES



PCOR Partnership

- 2003–2005: **Phase I** – Characterization
- 2005–2009: **Phase II** – Field Validation
- 2007–2018: **Phase III** – Demonstration
- 2019–2024: **Initiative** – Deployment

(PCOR region expanded to include AK + all of BC, WY, and MT)

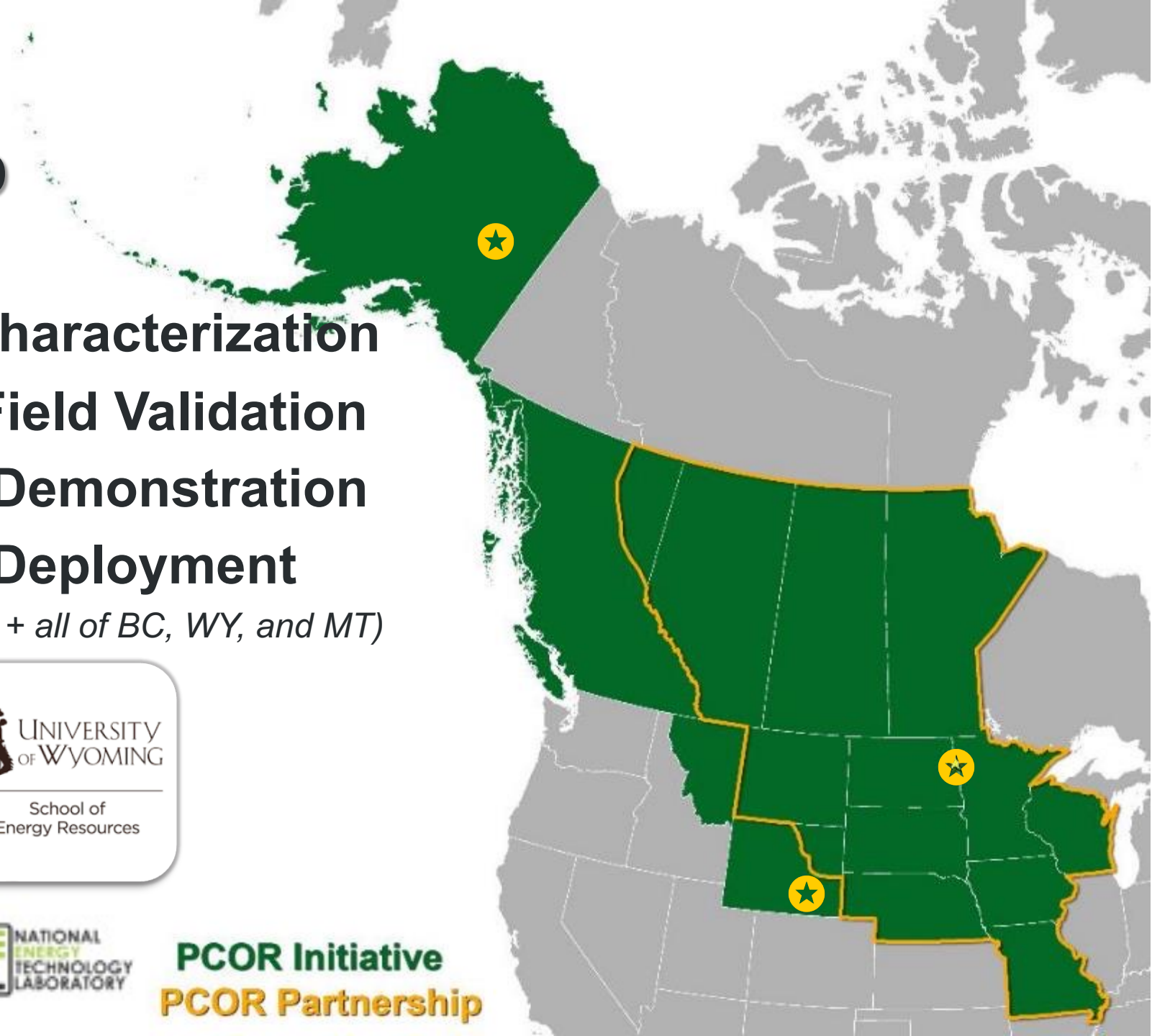
 Institute of Northern Engineering
University of Alaska Fairbanks

 UNIVERSITY
OF WYOMING

School of
Energy Resources



PCOR Initiative
PCOR Partnership



PCOR PARTNERSHIP

The PCOR Partnership Initiative is addressing regional capture, transport, use, and storage challenges facing commercial CCUS deployment. The Initiative is focusing on:

- Strengthening the technical foundation for geologic CO₂ storage and enhanced oil recovery (EOR).
- Advancing capture technology.
- Improving application of monitoring technologies.
- Promoting integration between capture, transportation, use, and storage industries.
- Facilitating regulatory frameworks.
- Providing scientific support to policy makers.

Our Partners inform our priorities



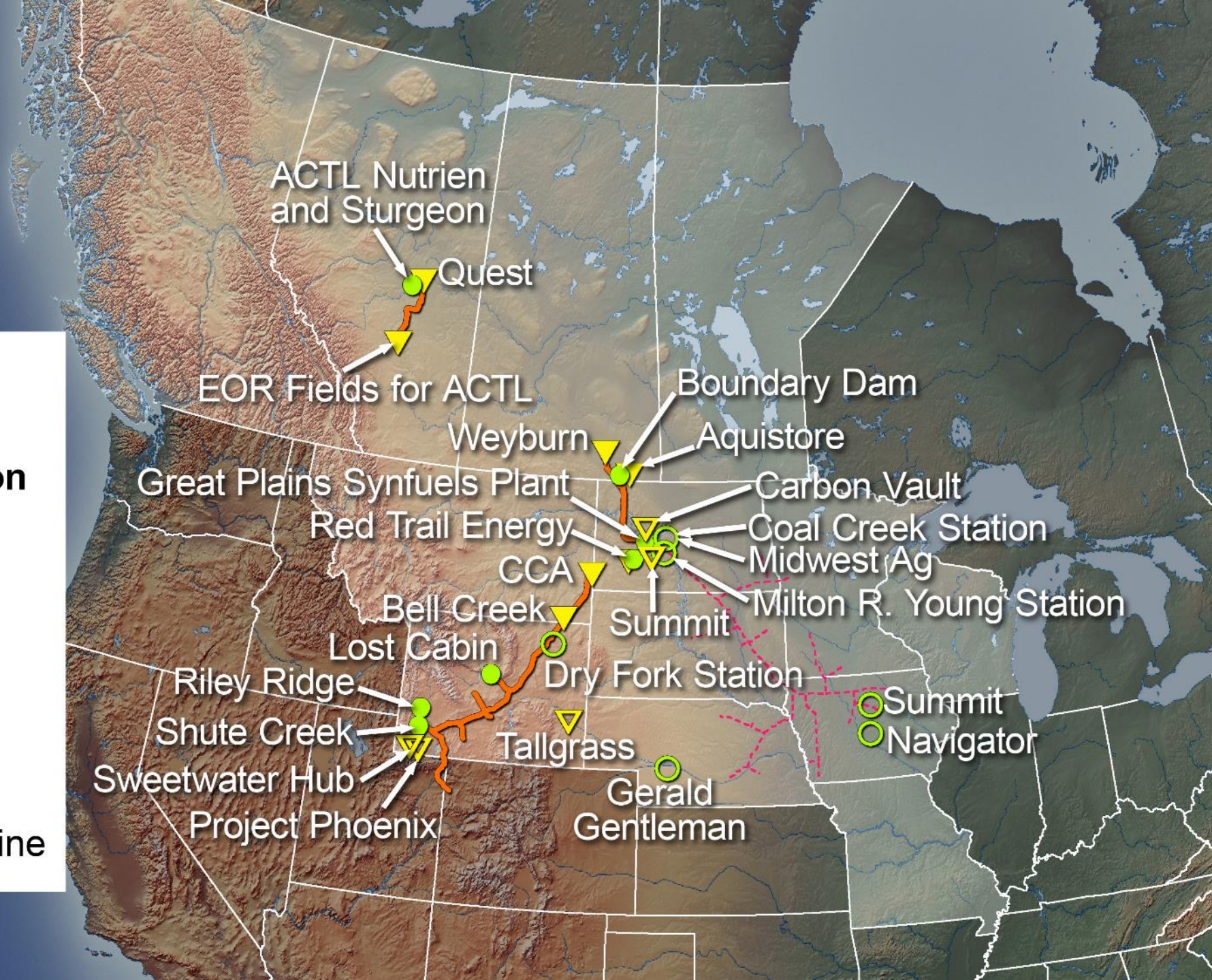


PARTNERSHIP MEMBERS



Active and Developing CCUS Projects in the PCOR Partnership Region

- Active Capture
- ▼ Active Injection
- Developing Capture
- ▽ Developing Injection
- CO₂ Pipeline
- - - Proposed CO₂ Pipeline



U.S. INCENTIVES

Internal Revenue Code §45Q

Tax Credits*

- Qualifying projects beginning construction before January 1, 2033, can claim credits for 12 years after operations begin.
- Direct payment option for receiving the credit.
- Transferability of all or a portion of the credit value to any third-party, tax-paying entity in exchange for cash value during 12-year credit window.
- Tax credit for CO₂ stored in a qualified EOR project (\$50/tonne).
- Tax credit for CO₂ stored in a saline formation (\$85/tonne).

West Coast LCFS+ Markets

- Credits trading up to \$60–\$150 per ton (Jan. 2022 – Oct. 2022)
- Stacked with 45Q

State Incentives

- State tax (e.g., no sales tax on capture-related infrastructure)

*Inflation Reduction Act of 2022

+Low Carbon Fuel Standard



POLICY AND REGULATORY DEVELOPMENTS

- Pore space Law
- Long-term Responsibility
- Class VI primacy
- Regulatory program implementation
- Pathways to permit approval
- Policy/Regulatory Barriers

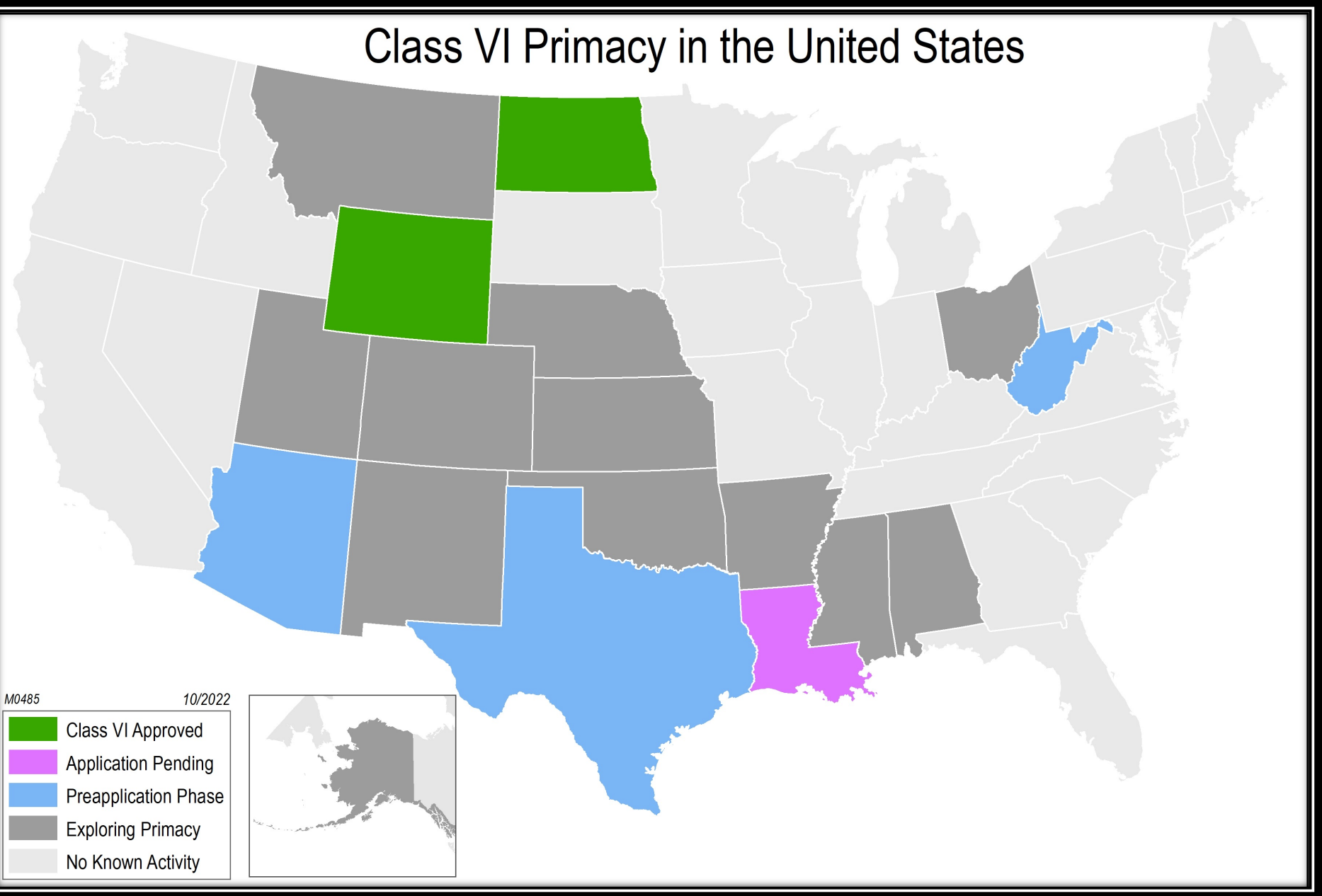


Class VI Primacy in the United States

CURRENT CLASS VI PRIMACY ACTIVITY

M0485 10/2022

- Class VI Approved
- Application Pending
- Preapplication Phase
- Exploring Primacy
- No Known Activity



PCOR PARTNERSHIP

- Building on over 19 years of applied research in CCUS.
- Active region developing commercial CCUS projects.
- Engaged and motivated partners.
- Engaged regulators.
- PCOR is a catalyst for CCUS projects in the region.
- Focused on infrastructure development strategies.
- Ethanol industry in the region accelerating CCUS.
- Expanding CO₂ EOR opportunities in the region.





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A wide-angle photograph of a university campus at sunset. The sun is low on the horizon, casting a warm glow over the scene. In the foreground, there are trees with yellowing leaves. In the background, there are several large, multi-story brick buildings and a parking lot filled with cars.

THANK YOU

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