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NORTH DAKOTA



Critical Challenges. Practical Solutions.



Energy & Environmental Research Center (EERC)

**Plains CO₂ Reduction (PCOR)
Partnership Initiative
No. DE-FE0031838**

U.S. Department of Energy National Energy Technology Laboratory
Carbon Storage Virtual Project Review Meeting
August 17, 2020, 11:00 a.m. EDT

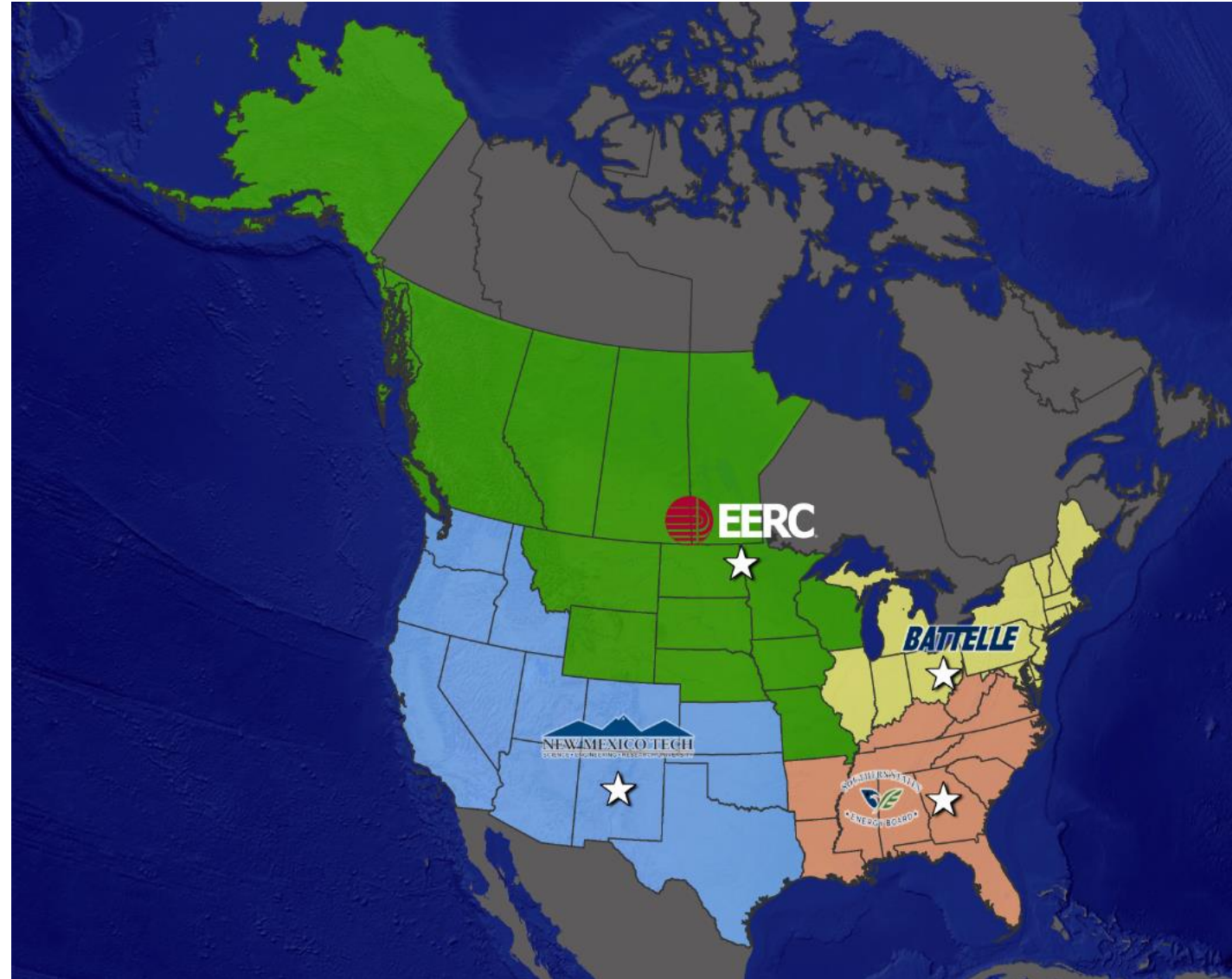
Kevin Connors
PCOR Partnership Project Manager

REGIONAL CARBON SEQUESTRATION PARTNERSHIPS (RCSP)

RCSP Initiative Goal:

Identify and address regional storage and transport challenges facing commercial CCUS deployment.

- Wisconsin, Iowa: Coordinating with Battelle.
- Montana: Coordinating with New Mexico Institute of Technology.
- Missouri: Coordinating with Battelle and the Southern States Energy Board.



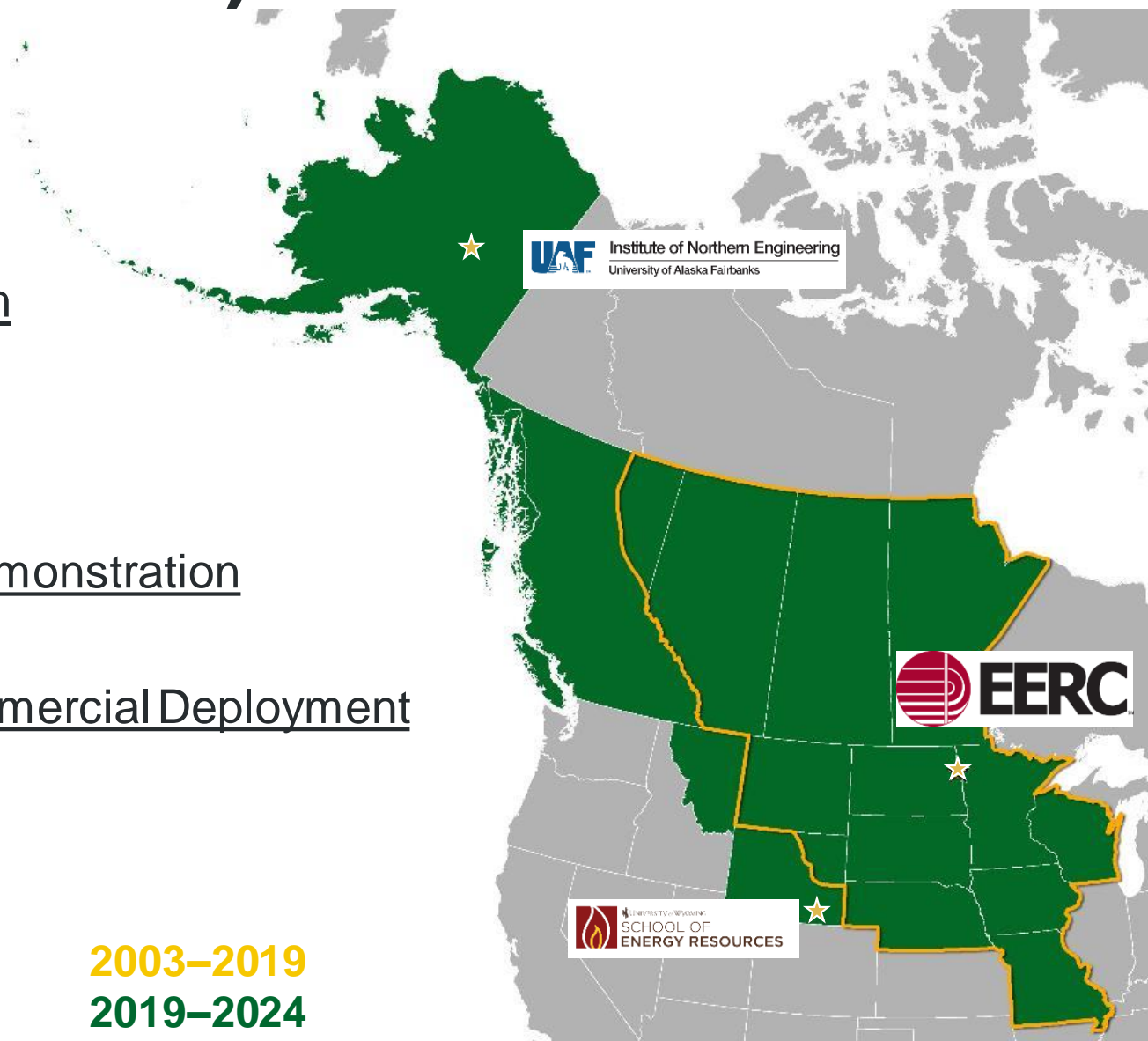
PLAINS CO₂ REDUCTION (PCOR) PARTNERSHIP

2003–2005 – PCOR Partnership: Characterization

2005–2008 – PCOR Partnership: Field Validation

2007–2019 – PCOR Partnership: Commercial Demonstration

2019–2024 – PCOR Partnership Initiative: Commercial Deployment

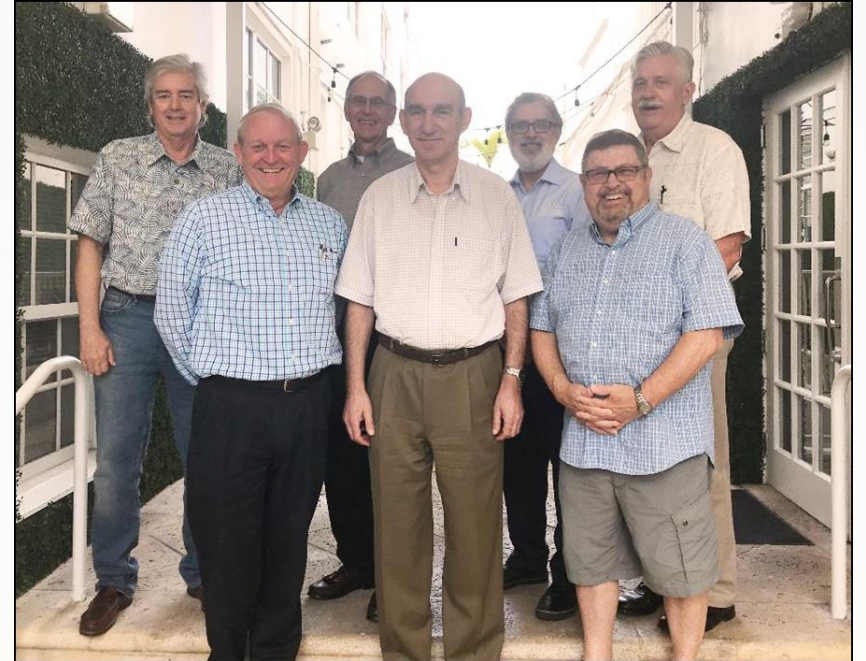




PCOR PARTNERSHIP PHASES I-III

Five key messages relate to:

1. Our engaged membership.
2. Outstanding regional CCUS potential.
3. CCUS works! We have demonstrated:
 - a) Low risks of storage.
 - b) Successful MVA.
4. Economic and environmental benefits.
5. Active public engagement and outreach.



PCOR PARTNERSHIP INITIATIVE

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.
- 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.



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PCOR PARTNERSHIP INITIATIVE TASK OVERVIEW

Technical Challenges

- Geologic Characterization
- Storage Performance and Optimization
- MVA Strategies
- Risk Management

Data Collection, Sharing, and Analysis

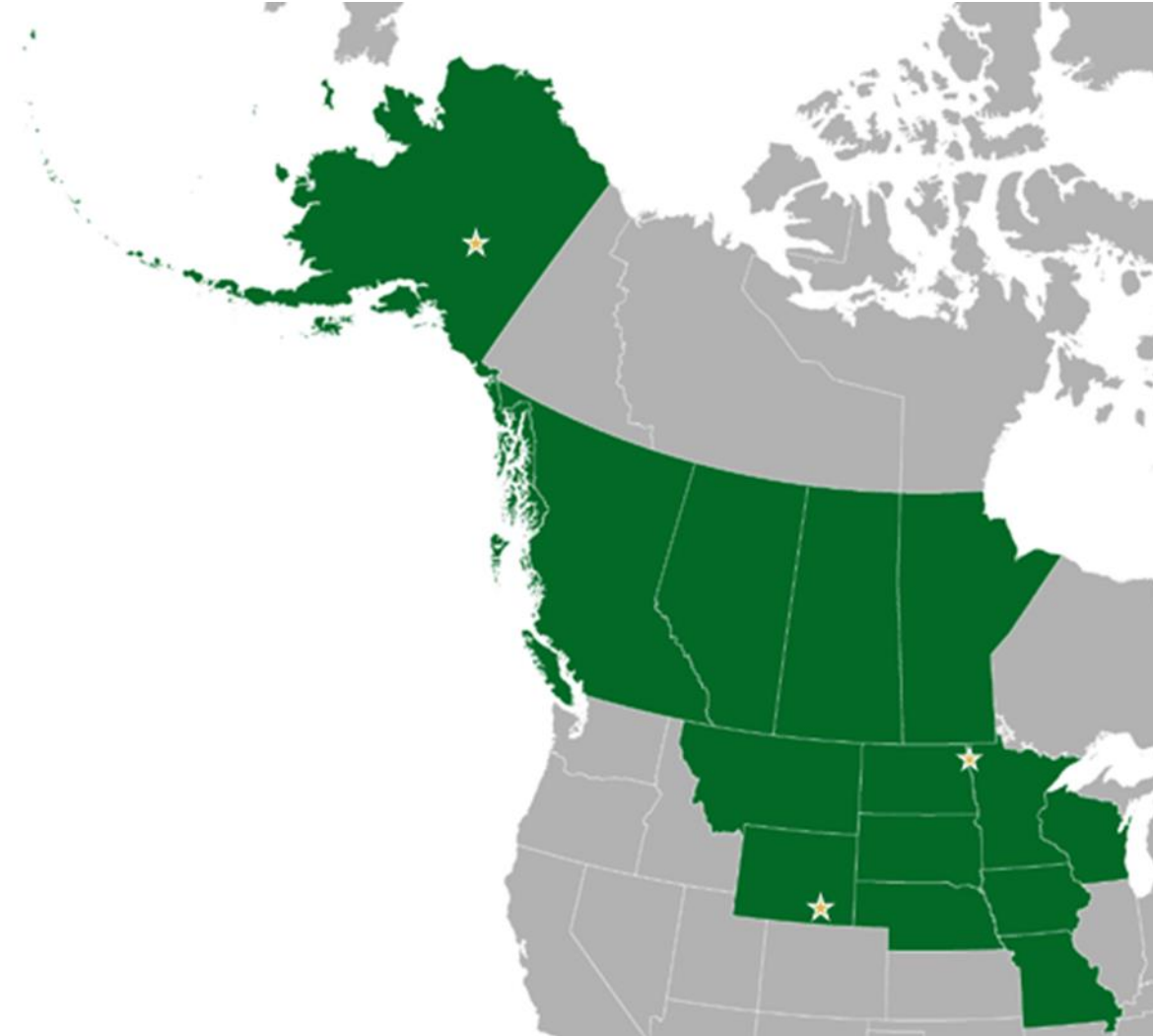
- NRAP Validation
- Machine Learning
- Risk-Based Area of Review (AOR)

Regional Infrastructure

- Techno-Economic Analysis
- Infrastructure Scale-Up Challenges
- Socioeconomic Impacts
- Public and Industry Outreach

Nontechnical Challenges

- Policy and Regulatory Challenges
- Business Models
- Pathways to Commercial Deployment



PCOR PARTNERSHIP: CCUS ACTIVITIES



PCOR PARTNERSHIP INITIATIVE SUMMARY

Building on over 16 years of applied research in CCUS

Active region developing commercial CCUS projects.

Engaged and motivated partners

Well-equipped project team





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A wide-angle photograph of a university campus at sunset. The sun is low on the left, 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, likely university halls or administrative buildings. A parking lot with several cars is visible in front of the buildings. The sky is a mix of orange, yellow, and blue.

THANK YOU

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ACKNOWLEDGMENT

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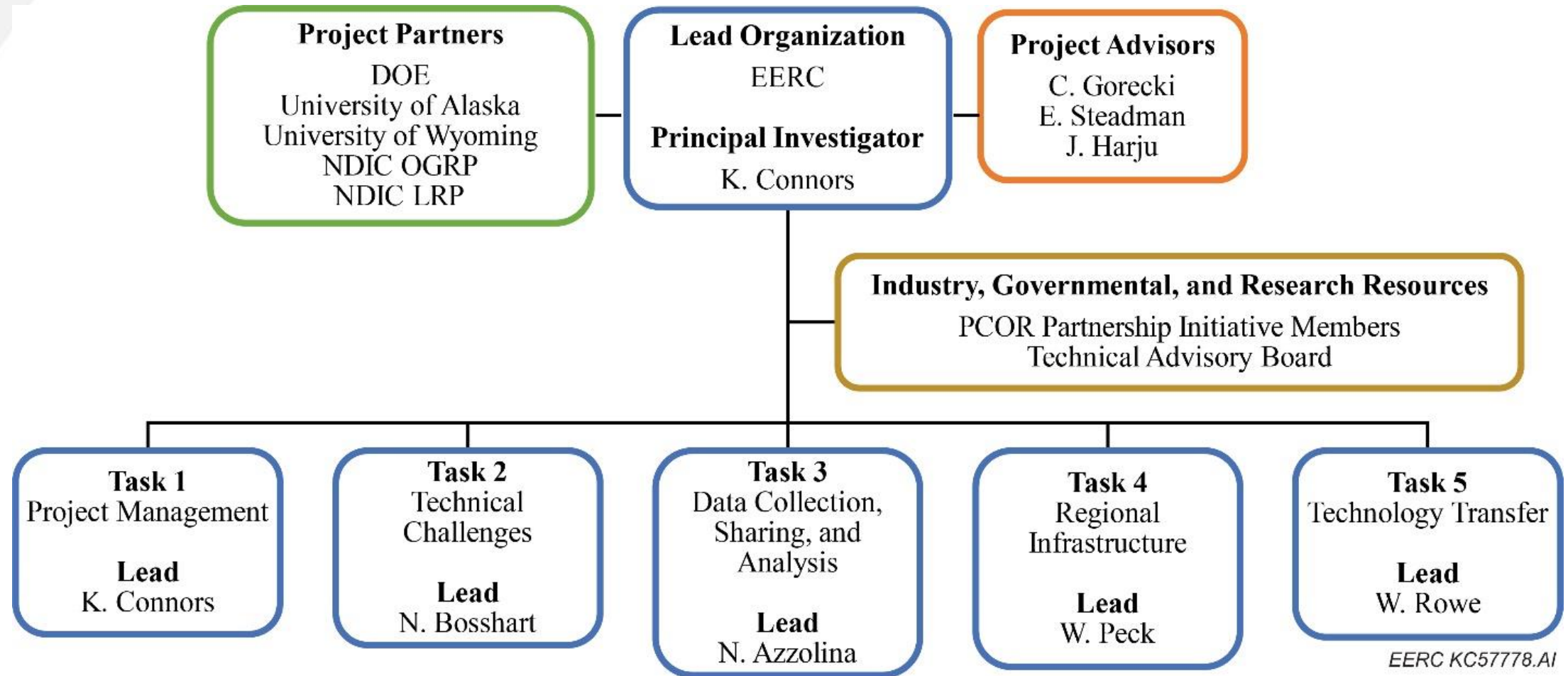
DISCLAIMER

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APPENDIX

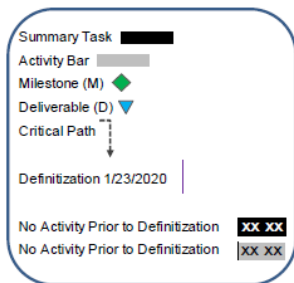
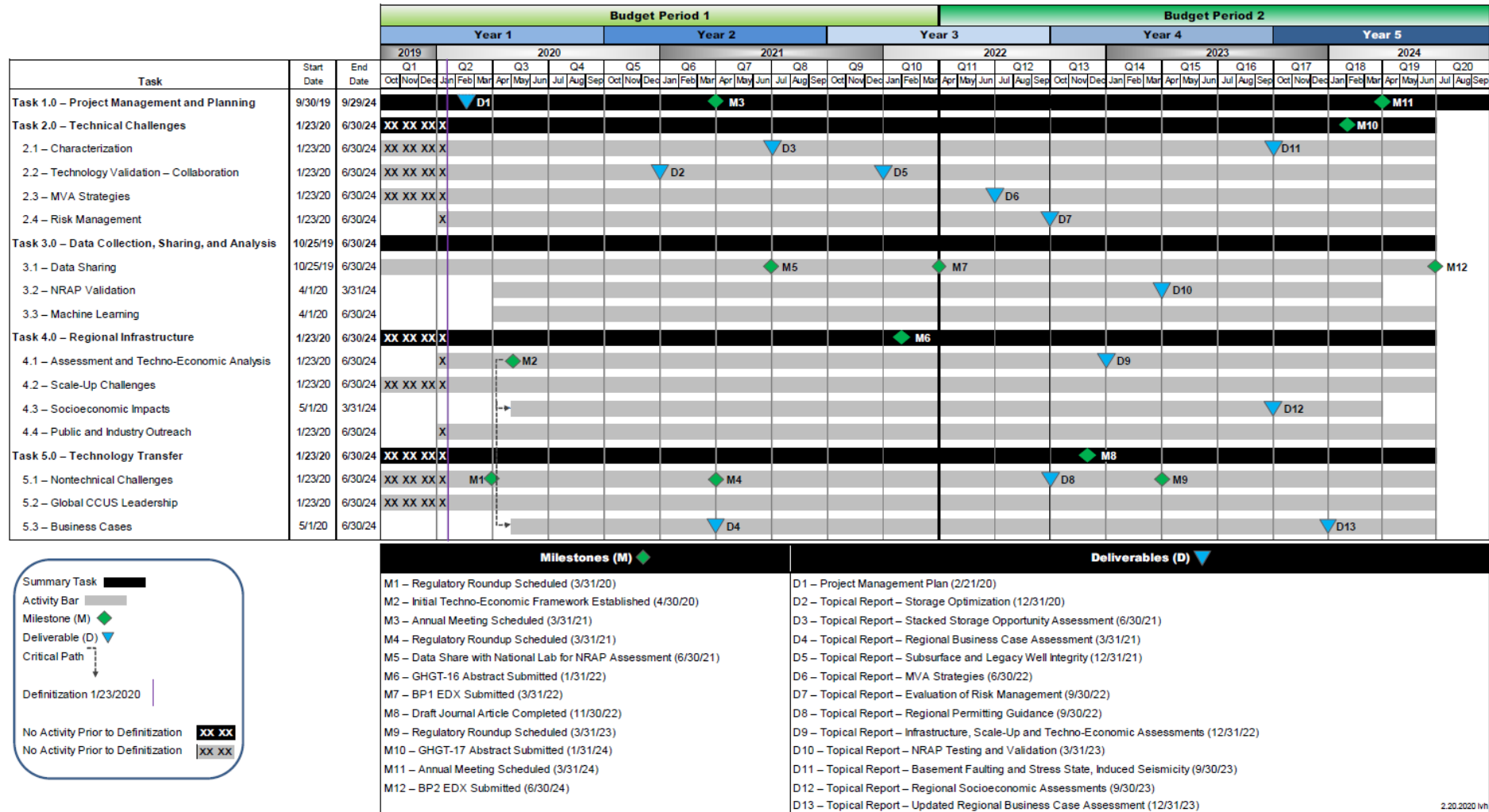
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PCOR PARTNERSHIP: ORGANIZATION CHART



EERC KC57778.AI

PCOR PARTNERSHIP: PROJECT GANTT CHART



PCOR MILESTONES

Task/ Subtask	Milestone (M) Title & Description
5.1	M1 – Regulatory Roundup Scheduled
4.1	M2 – Initial Techno-Economic Framework Established
1.0	M3 –Annual Meeting Scheduled
5.1	M4 – Regulatory Roundup Scheduled
3.1	M5 – Data Share with National Lab for NRAP Assessment
4.0	M6 – GHGT-16 Abstract Submitted
5.4	M7 – BP1 EDX Submitted
5.0	M8 – Draft Journal Article Completed
5.1	M9 – Regulatory Roundup Scheduled
2.0	M10 – GHGT-17 Abstract Submitted
1.0	M11 – Annual Meeting Scheduled
5.4	M12 – BP2 EDX Submitted

PCOR FUNDING

	BP1		BP2		Total	
	Federal	Nonfederal	Federal	Nonfederal	Federal	Nonfederal
DOE	\$3,306,096	\$—	\$1,693,904	\$—	\$5,000,000	\$—
NDIC	\$—	\$651,848	\$	\$348,152	\$—	\$1,000,000
UW	\$—	\$84,230	\$	\$44,593	\$—	\$128,823
UAF	\$—	\$91,812	\$	\$33,317	\$—	\$125,129
Total	\$3,306,096	\$827,890	\$1,693,904	\$426,062	\$5,000,000	\$1,253,952
Cost Share %	80%	20%	80%	20%	80%	20%