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### Midwest Regional Carbon Initiative – Program Overview

#### <u>www.midwestccus.org</u> DOE Project – DE-FE0031836

DOE CM Applicant Workshop April 13, 2022, Columbus, Ohio

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## Battelle CCUS includes government, industry, & international projects on CO<sub>2</sub> storage over 25 years





# MRCI – Covering 20 States in Midwest, Northeast, and Mid-Atlantic

- Battelle and Illinois State Geological Survey combine expertise from MRCSP and MGSC
- Work with Regional State Geological Surveys and Universities to Accelerate CCUS deployment







#### Collaboration between Researchers, Industry, Government, and NGOs Critical for CCUS Deployment





#### **MRCI Leverages Extensive Past and Current Experience**

• Past pilot and full-scale projects help understand CCUS system characteristics



### **MRCI Region - Diversity of CO<sub>2</sub> Sources at Play**

- More than 1/3 of the nation's CO<sub>2</sub> point sources
- Regional emissions from various industrial sources with power plants accounting for ~3/4
- Concentration along east coast and Ohio River Valley
- Future emissions sources maybe different then present sources, e.g., hydrogen, DAC





## MRCI Team Approach – Redefining Regional Geology for CCS Storage Resources





# Industrial Collaborations to Enable Deployment and Scale-up

- MRCI is interacting with a range to industry to enable CCUS deployment
  - Regional oil and gas companies obtain legacy seismic and wellbore data for regional mapping
  - Brine Disposal Companies piggyback logging, monitoring, modeling operations to evaluate CO<sub>2</sub> storage
  - Existing and future CO<sub>2</sub> sources helping companies with site screening and regulatory roadmaps
    - Ethanol plants across the region
    - Planned ammonia plants
    - 21CPP in Pennsylvania
    - CarbonSAFE Illinois
    - Support utilities and independent producers
    - State agencies MD Energy Administration
    - CCS task forces across the region



Regional Injection Zones from Brine Disposal Wells



# MRCSP Phase II Demonstrated the Feasibility of CCUS in the MRCSP Region

- 3 geologic storage tests in different settings completed
- Up to 60,000 tons injected
- 4 terrestrial storage tests in croplands, mine lands, tidal and forested wetlands completed
- Set the stage for Phase III large-scale geologic storage test
- Collaboration Host companies, Universities, Geological Surveys, Service providers, NGOs



### Mid-Atlantic U.S. Offshore Carbon Storage Resource Assessment



SUPPORTED BY US DOE-NETL UNDER AGREEMENT DE-FE0026087

#### **Broad Collaborative Teams are Key to Success for IIJA Programs**

- Strong and enthusiastic participation from the host site
- Existing and ongoing work under DOE Regional Partnerships and Initiatives is a key resource of data, expertise, and outreach support
- Early engagement of community, EJ, and Jobs resources is useful
- Working with local experts and geological surveys can help avoid pitfalls.
- Keep an eye on supply chain and services backlog with upcoming projects.
- Scale of IIJA is very large and some coalitions (DAC Hubs and H2 Hubs) will be more complex than past projects.





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