



THE OHIO STATE UNIVERSITY

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# **DE-FE0032467: Engineering-Scale Testing of Transformational Membrane Technology for CO<sub>2</sub> Capture from Natural Gas Combined Cycle (NGCC) Flue Gas**

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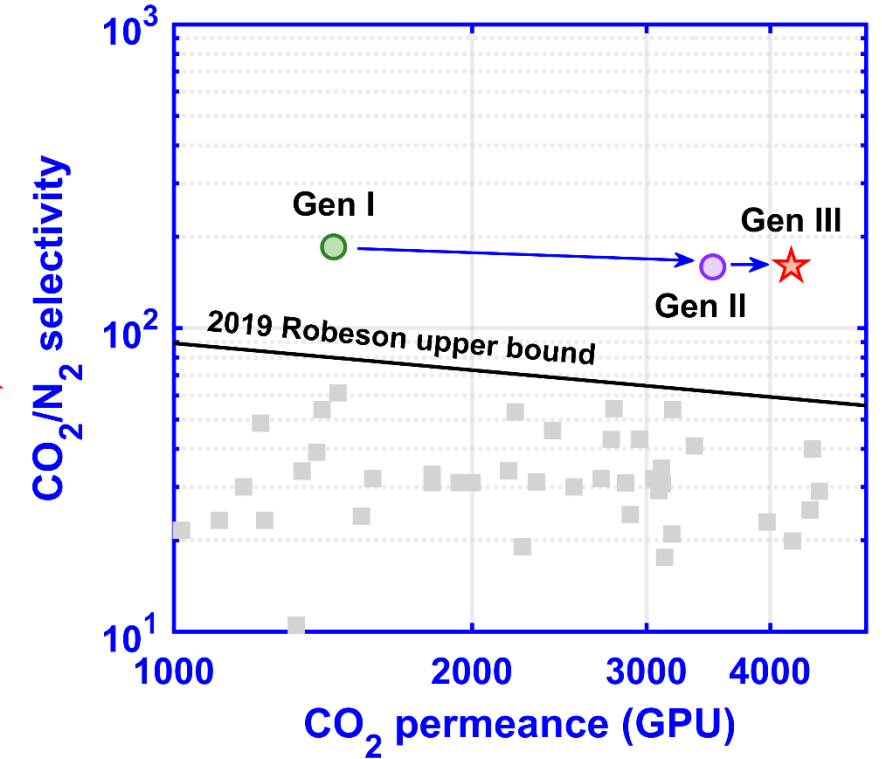
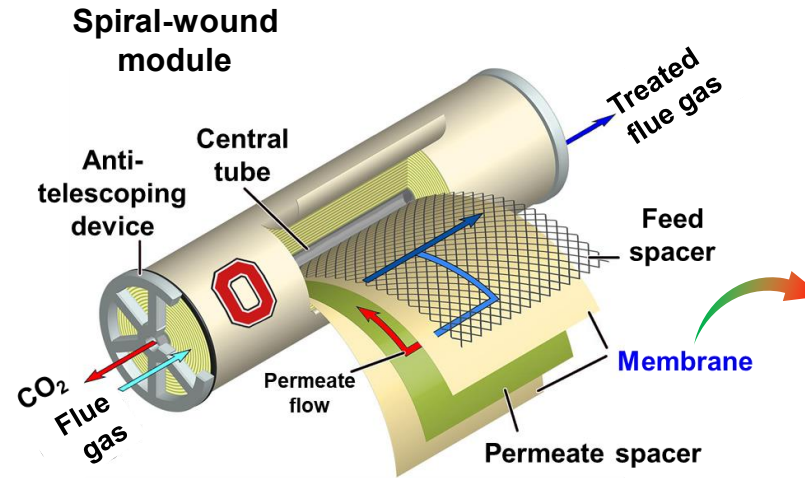
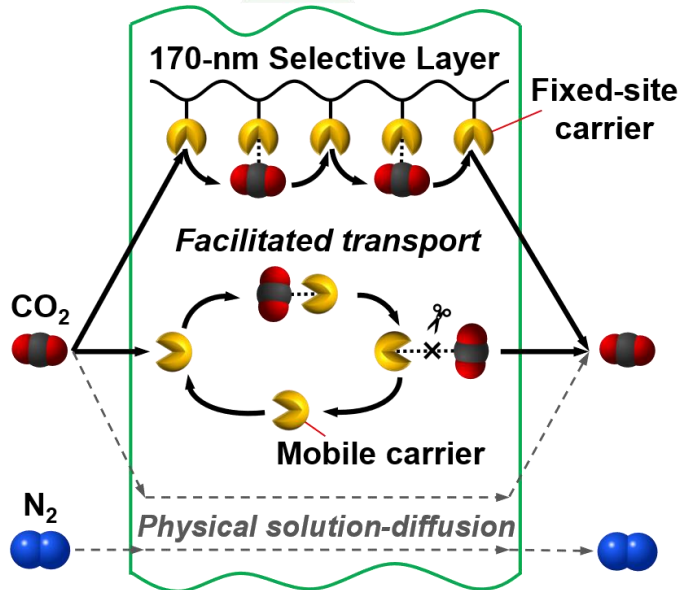
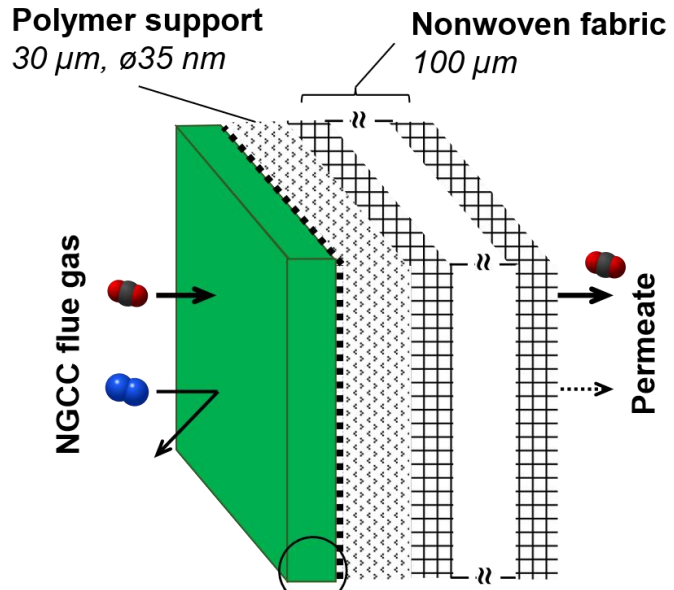
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The Ohio State University, Columbus, Ohio

**2024 FECM/NETL Carbon Management Research Project Review Meeting**

August 7, 2024

# OSU's Facilitated Transport Membranes



# Wyoming ITC to Replicate NGCC Flue Gas

Wyoming Integrated Test Center



- Wyoming **I**ntegrated **T**est **C**enter (ITC) is the plant of choice:
  - A 20 TPD skid based on OSU's Gen II membrane is being constructed and will be tested at ITC with coal flue gas
  - The skid will be repurposed using OSU's Gen III membrane
  - ITC will install a dilution system at the skid tie-in to replicate NGCC flue gas:
    - 4.1 vol.% CO<sub>2</sub>
    - 15.0 vol.% O<sub>2</sub>
    - Sufficient FG to support 5 TPD testing



# Planned Approach

- Performance period: 8/1/2024 – 7/31/2027

## Skid Modification

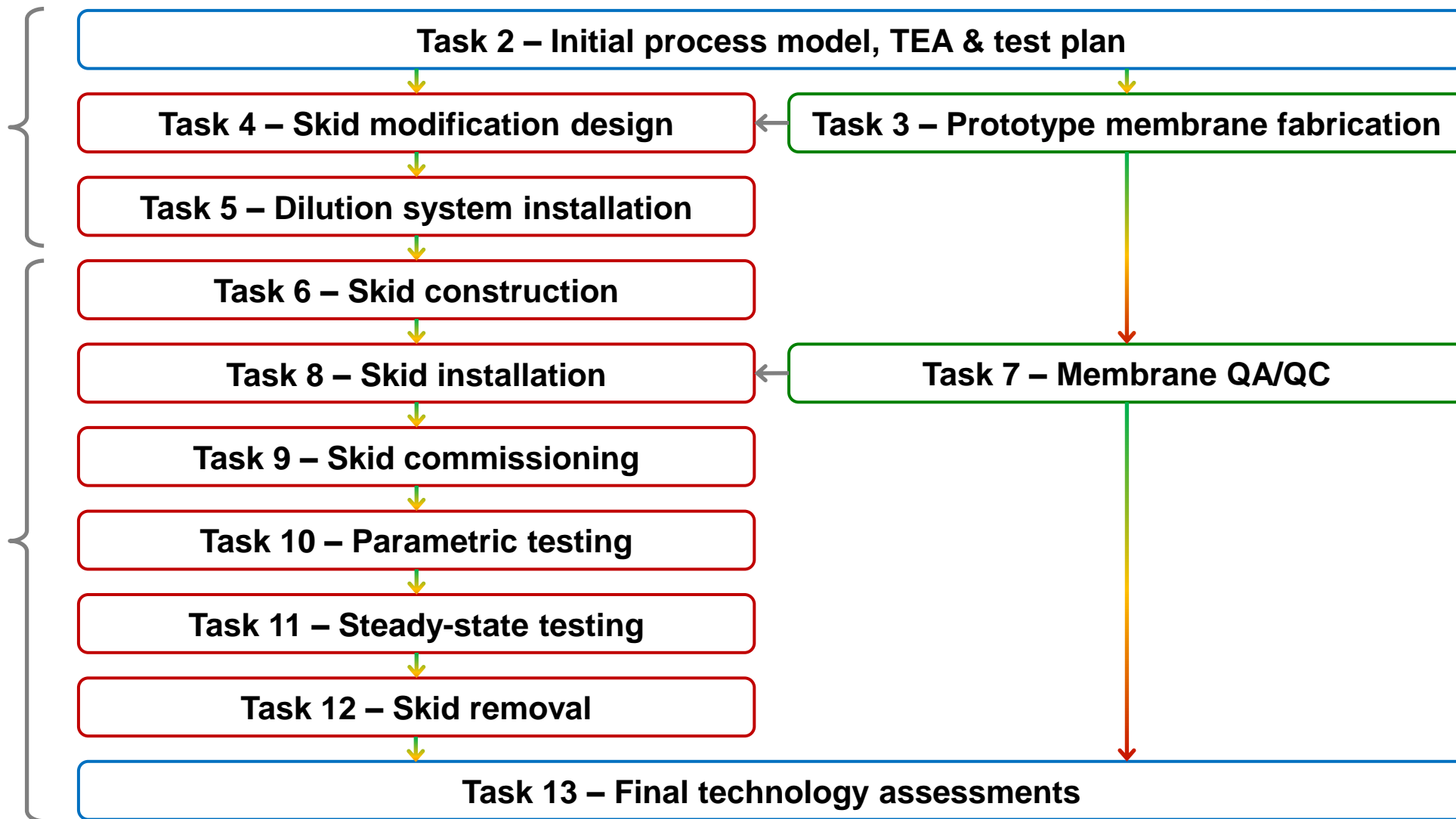
## Membrane Prototyping

### BP1 (8/1/24 – 1/31/26):

- Skid Modification Design
- Dilution System Installation
- Module Prototyping

### BP2 (2/1/26 – 7/31/27):

- Skid Modification
- Skid Installation
- Skid Testing
- Final Technology Assessments



# Acknowledgments

- **Financial**

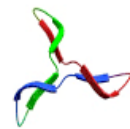
- DE-FE0032467



- **Project Management**

- Dylan Leary
  - Dan Hancu

- **Partners**



**TRIMERIC CORPORATION**

