# Wyoming CarbonSAFE: Accelerating commercial deployment

Regional Carbon Management, Applicant Education Workshops

April 26<sup>th,</sup> Salt Lake City

Scott Quillinan scottyq@uwyo.edu



#### Disclaimer

<u>Acknowledgment</u>: This portion of the presentation is based upon work supported by the Department of Energy under Award Number DE-FE0031624 and DE-FE0031624

<u>Disclaimer</u>: This portion of the presentation was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.



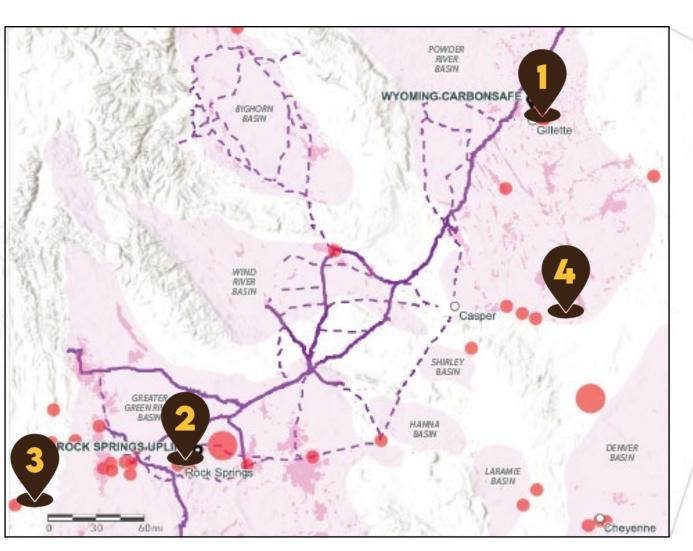


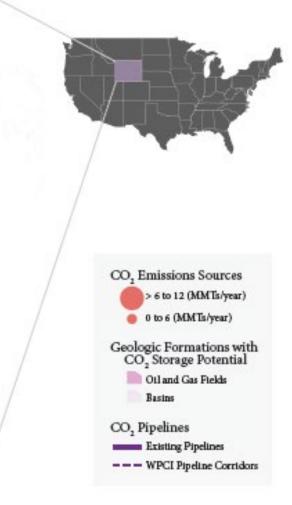
## **UWyo/SER CCUS Projects**

#### Carbon Capture and Storage (CCS) projects in Wyoming

- 1. Wyoming CarbonSAFE Project at Dry Fork Station
- 2. Rock Springs Uplift-Regional CCUS Hub
- Depleted Gas Fields (Transition of fossil assets)
- 4. Project Blue Bison (Blue Hydrogen)
- 5. Plains CO<sub>2</sub> Reduction Partnership (PCO<sub>2</sub>R)



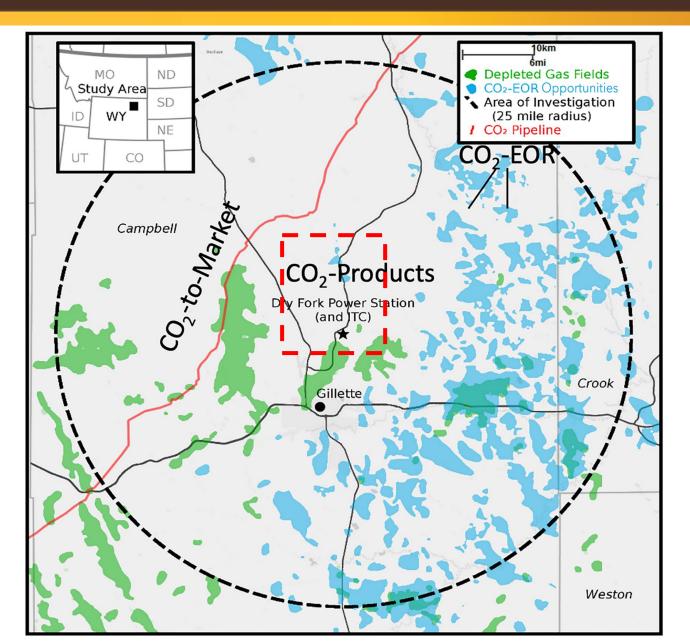




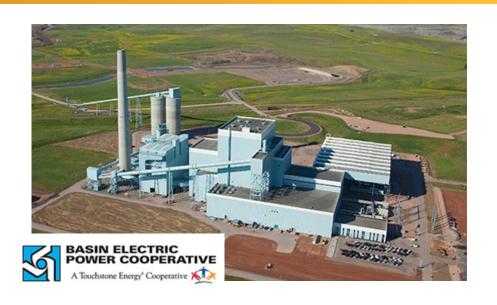
#### The Wyoming CarbonSAFE Storage Hub

- Located within Carbon Valley, the site of:
  - Existing intrastate CO<sub>2</sub> transportation network
  - Multiple utilization industries
    - Carbon to products
    - CO<sub>2</sub>-EOR
  - Experienced carbon/energy workforce
  - Multiple CO<sub>2</sub> point sources
- Wyoming statewide CCUS support:
  - CO<sub>2</sub> friendly legal framework
  - Class VI primacy
  - Long-term CCUS liability fund
  - Educated and supportive public
  - Burgeoning CCUS industry



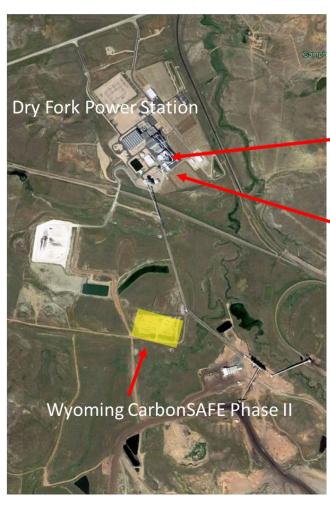


# Wyoming CarbonSAFE: CO<sub>2</sub> capture and storage innovation



#### **Dry Fork Station**

- ✓ Built in 2007
- √ 385 MW Power Plant
- ✓ 3.3 Million tons of CO<sub>2</sub>/year
- ✓ ZERO H<sub>2</sub>O discharge
- ✓ Newest, cleanest, PC plant



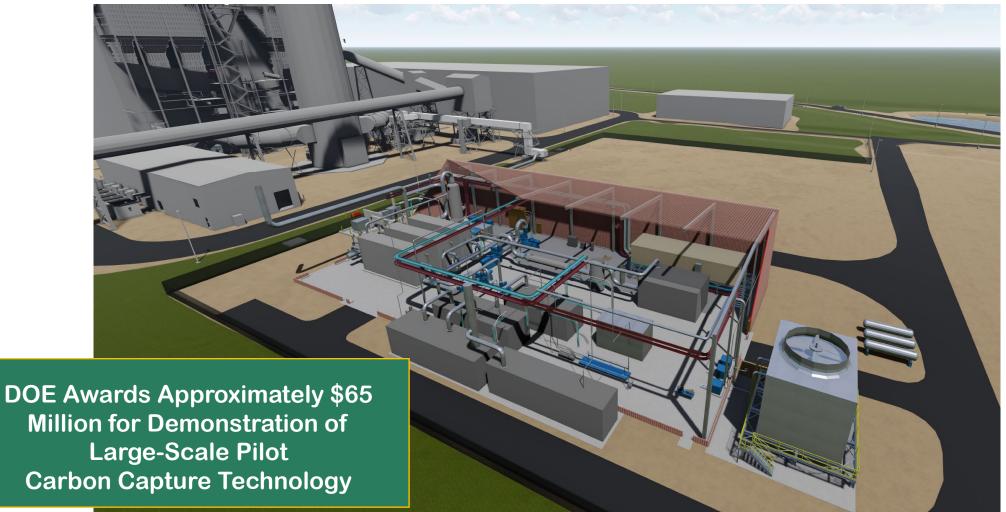






## Carbon Capture Program at the ITC

#### Membrane Technology Research FEED And Large-Scale Capture Pilot





DE-FE0031587





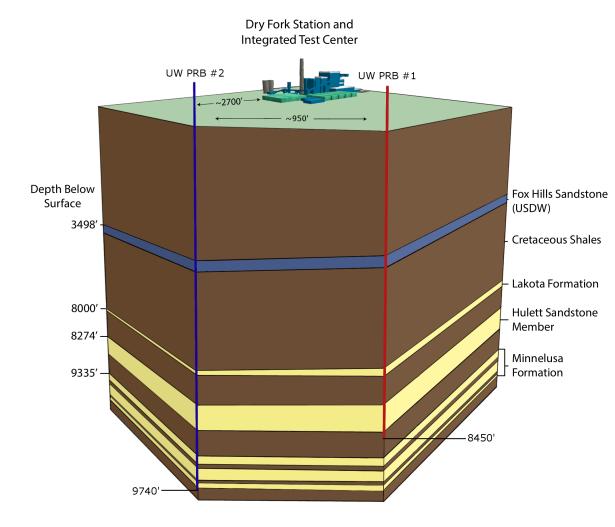






### **Wyoming CarbonSAFE Storage Site**

- Designed to test and optimize stacked storage CO<sub>2</sub> injection
- Provides a "template" to design other sites within the storage hub
- Finalizing site specific lessons learned and permitting





## Wyoming CarbonSAFE Storage Hub

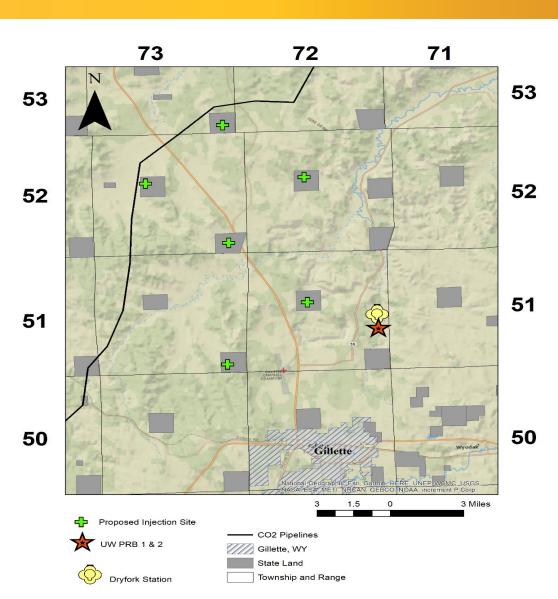
#### Work to date:

- ✓ Site characterization (2 wells, 3-D seismic, high resolution, well logs, geologic models)
- ✓ Shallow monitoring network (groundwater and soil gas)
- ✓ Model agreements (pore space, off-take)
- ✓ Economic models
- ✓ Permitting (in progress)
- ✓ NEPA
- ✓ Public outreach (Social license to operate)

#### Future work:

- ✓ Deep monitoring network
- ✓ CO<sub>2</sub> Hub build-out
- ✓ Finalize permitting





# Wyoming CarbonSAFE: Accelerating commercial deployment

Regional Carbon Management, Applicant Education Workshops

April 26<sup>th,</sup> Salt Lake City

Scott Quillinan scottyq@uwyo.edu

