

ADVANCING AMERICA *through* TECHNOLOGY TRANSFER

# NATIONAL ENERGY TECHNOLOGY LABORATORY

*DEFINING PATHWAYS to a  
LOW CARBON ECONOMY*

CCSI and CCSI<sup>2</sup>

**ACCELERATING COMMERCIALIZATION**  
*of* **LARGE-SCALE CARBON CAPTURE**  
**TECHNOLOGIES**



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
**TECHNOLOGY TRANSITIONS**



## How do we navigate a long-term path to reduced emissions?

Carbon capture technologies are among the most promising means to manage carbon dioxide emissions and the most challenging to commercialize given the extreme complexity, scale, expense, and duration of pilots and demonstrations required to deploy real-world solutions. In response, the National Energy Technology Laboratory (NETL) launched the Carbon Capture Simulation Initiative (CCSI) – a collaboration to develop a suite of computational tools that reduces technical risk, reveals optimal pathways to market earlier, and accelerates the scalable implementation of carbon capture technologies.

Carbon Capture Simulation for Industry Impact (CCSI<sup>2</sup>) works to ensure the success of costly large-scale demonstrations by pairing CCSI's capabilities with smaller experimental pilots to better understand and eliminate technical risk. Together, CCSI and CCSI<sup>2</sup> reduce costs and accelerate commercialization of carbon capture technology that benefits all mankind.

### NETL at a Glance

With facilities from sea to shining sea, NETL has a 100-year history of serving America's energy needs as the only National Laboratory that is both government-owned and operated. In fulfilling a two-part mission to enhance the Nation's energy foundation and protect the environment for future generations, NETL continues to advance energy technology solutions for short-term deployment and long-term development. Boasting state-of-the-art facilities and a world-class workforce, NETL powers the future of U.S. energy by leading coal, oil, natural gas, and energy technology research.

### U.S. Department of Energy National Laboratories

The 17 U.S. Department of Energy (DOE) National Laboratories comprise a preeminent federal research system that executes long-term government scientific and technological missions, often with complex security, safety, project management, or other operational challenges. The National Laboratory system produces the scientific research needed to develop national energy policy and solutions allowing DOE to be one of the largest supporters of technology transfer in the federal government.

### Technology Transitions

The mission of the Office of Technology Transitions (OTT) is to expand the commercial impact of the DOE's research and development portfolio to advance the economic, energy, and national security interests of the Nation. The office develops the Department's policy and vision for expanding the commercial impact of its research investments, and streamlines information and access to DOE's National Labs and sites to foster partnerships that will move innovations from the labs into the marketplace.

[www.energy.gov/technologytransitions](http://www.energy.gov/technologytransitions)

## CCSI optimizes 7 cutting-edge carbon capture technologies

### Industry

CCSI is deployed in 10 federally-funded projects worth more than \$60 million.

### Collaboration

CCSI and CCSI<sup>2</sup> bring together 5 National Labs, 5 universities, and several industry partners.

### Awards

The CCSI Toolset won a 2016 R&D 100 Award.

### Contact Us

The scientific discovery highlighted on this poster is just one of DOE's many successes advancing America.

Learn more about available resources and partnering opportunities with the National Labs by visiting:

[www.energy.gov/technologytransitions](http://www.energy.gov/technologytransitions)

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