

U.S. Department of Energy Office of Fossil Energy and the National Energy Technology Laboratory 2014 Transformational Carbon Capture Technology Workshop

Location: Westin Crystal City Hotel, Arlington, Virginia

Agenda

DAY 1: Tuesday, September 23, 2014

7:00 – 8:00 Registration & Continental Breakfast – Crystal V Foyer

General Session - Jefferson 3

8:00 – 8:30 Keynote – Julio Friedmann, U.S. DOE Deputy Assistant Secretary for Clean Coal and Carbon Management

8:30 – 9:50 Session 1: Defining Motivators for Transformational Carbon Capture Development

- *Interpreting “Transformational”* [NETL – Michael Matuszewski]
- *Perspectives from the CURC/EPRI Roadmap* [CURC – Ben Yamagata]
- *Applicable Markets and Drivers* [NRECA – Michael Casper]

9:50 – 10:10 BREAK – Crystal V Foyer

10:10 – 11:30 Session 2: Advanced Exploration of Transformational Capture Technologies

- Computational Exploration [CCSI – David Miller]
- Experimental Exploration [PNNL – David Heldebrant]
- Advanced Manufacturing for Gas Separation Processes [LLNL – Chris Spadaccini]
- Cost Considerations [CMU – Ed Rubin]

11:30 – 12:00 Session 3: Transformational Capture Approaches

- APRA-E Portfolio [ARPA-E – Dane Boysen]

12:00 – 1:00 LUNCH – Crystal V

1:00 – 2:40 Session 3: Transformational Capture Approaches (continued)

- CO₂ Desublimation [ATK – Daniel Tilmont]
- Solvent-Enabling Enzymes [Akermin – Alex Zaks]
- Pre-Combustion Process Intensification: Membrane Reactors [Techverse – Ashok Damle]



- Electrochemical-Based Capture [FCE – Hossein Ghezel-Ayagh]
- Future Directions for Capture Technology [NETL – David Luebke]

2:40 – 2:55 Break – Crystal V Foyer

2:55 – 4:15 Session 4: Transformational Technology Considerations

- From Lab Scale to Pilot Testing [NCCC – Roxann Laird]
- Commercialization of R&D Technologies [GE – Phil DiPietro]
- Challenges with Transformational Approaches [UT Austin – Gary Rochelle]
- Understanding Capture Technology [EPRI – Abhoyjit Bhowan]

4:15 – 5:15 Session 5: Evolution of Low Carbon Power Generation

- Oxygen Transport Membrane Applications [Praxair – Sean Kelly]
- Chemical Looping [Alstom – John Marion]
- Transformational Power Generation [NETL – Geo Richards]

5:15 – 5:30 Breakout Team Assembly [LTI]

- Purpose of Breakout
- Specific Input Sought
- Topics for Discussion
- Organize panel facilitators, members, and assign debate topics

5:30 – 6:00 BREAK – Crystal V Foyer

6:00 – 7:30 Reception & Poster Session - Atrium

DAY 2: Wednesday, September 24, 2014

7:00 -8:00 Continental Breakfast – Crystal V Foyer

8:00 – 11:30 Breakout Sessions [LTI] – *Day 1 Discussions to Refine Topics* –

1. Economic Metrics and Market Pull – Jefferson 3
2. Strategies for Performance Improvements – Crystal II
3. Strategies for Cost Improvements – Crystal V

11:30 – 12:30 Wrap Up & Path Forward – Jefferson 3

- Summary of breakout sessions with attendees/stakeholders proposing roadmaps based on lessons learned in the workshop

12:30 WORKSHOP CONCLUSION