

# **Advanced Conversion Technologies Task Force Meeting**

Minutes

Friday, November 16, 2012

UW Conference Center – Hilton Garden

Laramie, Wyoming

**ACTTF Members Present:** Ron Harper, Tom Lockhart, Kit Jennings, Carl Bauer, Jeane Hull, Paul Lang, Jim Bowzer (phone), Rob Hurless

**ACTTF Members Absent:** Rob Wallace, Martha Wyrsh

**SER Staff in Attendance:**

Mark Northam, Mary Byrnes, Diana Hulme, Don Roth, Bob Ballard, Cath Harris, Nadia Kaliszewski, Abby Mellinger Scott

**Others Attending:** Ben Phillips (Emery Energy), Larry Baxter (Sustainable Energy Solutions), Wendy Lowe (Peabody Energy), Vijay Sethi (Western Research Institute)

**Agenda:**

- 1) Agenda Approval
- 2) Minutes from August 24, 2012 for Approval
- 3) ArcTech Revised Report – Discussion and Action
- 4) Update on Clean Coal Research Program Awards
- 5) Commercialization Discussion  
CCTF Successfully Completed Projects: Presentations
  - a. Ben Phillips, President, Emery Energy
  - b. Larry Baxter, President, Sustainable Energy Solutions
- 6) Other Business
- 7) Adjourn

**Summary of Action Items from Meeting:**

1. Agenda Approval – Approved unamended.
2. Minutes from August 24, 2012 – Approved unamended.
3. ArcTech Revised Report - A motion to accept the report with no further actions was made by Kit Jennings and seconded by Carl Bauer. The motion passed unanimously.
4. Update on Clean Coal Research Program Awards – Chairman Harper requested that Diana Hulme post the clean coal research project final summary reports that have been completed to date on the SER website. He also asked that additional final summary reports be forwarded to the Task Force for review as SER receives them.
5. Commercialization Discussion - No action taken.
6. Other Business - No action taken.
7. Adjourn – A motion to adjourn was made, seconded, and passed unanimously at 2:10 p.m.

## **MEETING DETAILS:**

### **1. Agenda Approval:**

*Action Taken:* A motion to accept the agenda for the November 16, 2012 meeting was made by Kit Jennings and seconded by Carl Bauer. There were no changes to the agenda and the motion passed unanimously.

### **2. Minutes from August 24, 2012:**

*Action Taken:* A motion to accept the minutes from the August 24, 2012 meeting was made by Kit Jennings and seconded by Jeane Hull. There were no changes to the minutes and the motion passed unanimously.

### **3. ArcTech Revised Report – Discussion and Action**

*Summary:* Mark Northam, Bob Ballard, and Diana Hulme reviewed the revised report submitted by ArcTech, and agreed that it addressed the criteria of the RFP in varying degrees of detail. The report did not provide sufficient economic or market analyses for the non-agricultural value-added products resulting from the process, i.e., synthetic jet fuel #8. The Task Force recommend acceptance of the report and approved payment of the remaining ArcTech invoices but would not support committing any future funds to this research.

*Comments:* Mark Northam, Carl Bauer, and Kit Jennings pointed out that the support given to ArcTech thus far has been beneficial by providing funding for research at a small scale and exploring the technology as an option for Wyoming even if it does not warrant additional investment by the State of Wyoming at this time.

*Action Taken:* A motion to accept the report with no further action was made by Kit Jennings and seconded by Carl Bauer. The motion passed unanimously.

### **4. Update on Clean Coal Research Program Awards:**

*Summary:* Diana Hulme reviewed the status of the clean coal research projects based on the summary spreadsheets provided in the meeting notebook. She asked the Task Force if they have reviewed the final summary reports that SER has received from completed projects and if they would like to move forward with making that information available to the public. Chairman Harper replied that SER should move forward with making this first group of final summary reports public. He requested that Diana send the Task Force new final summary reports as they come in and provide the Task Force with a deadline to review them.

*Comments:* The Task Force asked Diana to describe SER's approach to project management of Clean Coal/Advanced Conversion awards; Diana explained that SER tracks each project's semi-annual progress reports, schedule changes, and budget revisions, and carefully looks at their invoices.

*Action Taken:* No action taken.

**5. Commercialization Discussion:**

*Summary:* Two principal investigators presented the results of their successfully completed clean coal projects funded by the Task Force.

Ben Phillips, President of Emery Energy, presented his work on a flex-feed fixed-bed gasifier design, operation, and optimization; a two-part project funded by SER in 2007 and 2009. Emery Energy developed a fixed bed gasifier that overcomes traditional technical limitations of gasification and enables efficient and effective use of high moisture, high altitude Wyoming coals. Emery Energy has conducted extensive testing on the gasifier, using both coal and biomass feedstocks.

Larry Baxter, President of Sustainable Energy Solutions, presented his work on cryogenic carbon capture (CCC) at bench and skid scale; a two-part project funded by SER in 2009 and 2011. CCC cryogenically separates CO<sub>2</sub> from flue gas via desublimation and compresses the solid and liquid CO<sub>2</sub> products. The process eliminates the need for additional purification steps, saving large amounts of energy and cost.

*Action Taken:* No action taken.

**6. Other Business:**

*Summary:* No other business.

*Action Taken:* No action taken.

Motion to adjourn was made by Kit Jennings, seconded by Carl Bauer, and passed unanimously.

**Meeting adjourned at 2:10 p.m.**

Respectfully Submitted:

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Ron Harper  
Chairman

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Tom Lockhart  
Vice-Chairman