

US-China Clean Energy Research Center Advanced Coal Technology Consortium Joint Technical Meeting in San Francisco, CA, USA

On January 7 to 8, 2013, leading Scientists from both US and China Clean Energy Research Center Advanced Coal Technology Consortium (CERC-ACTC) had a joint meeting in San Francisco, CA, USA.

There were eleven representatives from China, including: Mr. LIU Zhiming, Counselor (Deputy Secretary) of the Department of International Cooperation of the People's Republic of China Ministry of Science and Technology and Director of China CERC; Dr. XU Shisen, Chief Engineer, China CERC-ACTC; Dr. YAO Qiang, Chief Scientist, China CERC-ACTC; and other attendees from Huazhong University, Tsinghua University, Huaneng Group, Zhejiang University, Wuhan Institute of Rock and Soil Mechanics of Chinese Academy of Sciences and XinAo Group (ENN). About thirty people from the United States attended the meeting, including United States Department of Energy representative Dr. George Guthrie, US CERC-ACTC Director Dr. Jerald J. Fletcher, Associate Director Dr. Qingyun Sun, Chief Scientist Dr. S. Julio Friedman and others from West Virginia University, University of Wyoming, University of Kentucky, Lawrence Livermore National Laboratory, Los Alamos National Laboratory, the World Resources Institute, the US-China Clean Energy Forum, Duke Energy, LP Amina and Babcock & Wilcox.

In the morning of January 7, all participants visited Lawrence Livermore National Laboratory, followed by parallel group discussions in the afternoon. Each technical group summarized the project progress of 2012, discussed the work plan of 2013, and generated a powerpoint report. In addition, each technical group showcased the research highlights at a poster session, which provoked great interest in some topics and led to further discussions.

The opening ceremony and plenary session took place in the morning of January 8. The opening ceremony was chaired by Prof. Dr. Jerald J. Fletcher, US CERC-ACTC Director. Counselor LIU Zhiming and Dr. George Guthrie made speeches on behalf of the People's Republic of China Ministry of Science and Technology and the United States Department of Energy respectively. The group photos were taken after the opening ceremony.

Then, Dr. YAO Qiang and Dr. Julio Friedman on behalf of respective team made presentations reviewing project progress for the year 2012. Each gave a general review and summary of the project at the consortium level, described highlights of cooperation and proposed the work plan of 2013. Dr. Yao's report emphasized the milestones of China side, including: research and development of energy saving and emission reduction technologies in coal-fired plant; 30MWth IGCC-based CO₂ capture technique comparison and modular simulation; fundamental and applied research of organic amine-based CO₂ absorption and desorption; test evaluation and data collection of 3MW oxy-combustion carbon capture process test platform; CO₂-EOR pilot selection and 50,000 t/year of coal-chemical CO₂ capture project; the Qinshui basin geological databases and CO₂ leakage onsite monitoring; efficient, low pollution and low cost new

technologies of coal-direct-to-alternative natural gas; etc. Meanwhile, Dr. Julio Friedman's report addressed intellectual property issues and suggested that the two parties develop joint intellectual property rights in the future.

Regarding the 2013 CERC-ACTC work plan, the main task is to effectively advance each technical theme, including: to establish power plant upgrading implements applicable to both US and China; to improve coal and biomass conversion system; to initiate civil construction of IGCC-based CO₂ capture system; to optimize Gibson-3 power plant carbon capture model; to establish 35MW Oxy-combustion demo system; to complete sub-basin salt water capacity evaluation in Ordos basin using USDOE methodology; to nurture mutant algae strains of excellent performance in tubular cultivation and conduct comprehensive evaluation; to analyze coupled dynamic characteristics of carbon capture unit and coal-fired power plant.

After the overall reports of both parties, the participants split up again to conduct group discussions and finalize unified progress report of each theme. From the morning to the afternoon of January 8, the theme leads from both parties jointly reported the work progress, the details of research accomplishments and encountered problems in 2012, and the plan for 2013 according to the specific circumstances of each collaborative team. The current technical themes are: advanced power generation, coal conversion, pre-combustion CO₂ capture, post-combustion CO₂ capture, Oxy-combustion, CO₂ Utilization, CO₂ sequestration and system simulation and integration. Question and answer sections followed each technical presentation.

After theme level presentations, each technical team gathered again to discuss group reports. At the same time, the key executives of both US and China parties had a meeting to discuss the annual report of the consortium and the items for the US-China Steering Committee Meeting to take place on January 10, 2013 in Washington DC.

At 3:30 p.m., the US-China Consortium Chief Scientists Prof. YAO Qiang and Dr. Julio Friedman chaired a technical discussion section. Participants had many constructive comments both on technical aspects of mutual interest and need-to-pay-attention items during collaboration. How to develop and protect common IP once again became one of the topics. Last, US Director Prof. Fletcher provided a summary and concluded the meeting. As per the meeting requirement each party will recently submit the consortium's 2012 Annual Report, of the same content in different language, to its government, respectively.

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Advanced Coal Technology Consortium

January, 2013