



US-China Clean Energy Research Center

Advanced Coal Technology Consortium

(US-China ACTC)

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Background: As the world searches for solutions to energy security, climate change and the environment, one of the most pressing issues is coal. Coal is an important source of electricity today and its use is likely to grow in coming decades as more than one billion people who don't have electricity emerge from extreme energy poverty.

The US and China are the biggest coal consumers, using more than 60% of the world's coal and generating more than 40% of global greenhouse gas emissions. Both countries want strong economic growth, cleaner air to breathe, reliable energy supplies, and low energy costs.

To help create an energy rich, low-carbon future, the two countries have established a joint Clean Energy Research Center (CERC), Signed by Presidents Obama and Hu, the purpose is to accelerate the development and deployment of clean technologies in three areas: advanced coal, including carbon dioxide capture and storage (CCS); efficient buildings; and efficient vehicles. CERC offers an historic opportunity to combine the brains and budgets of the world's two largest coal users to develop practical solutions that can be deployed in the next few years, such as carbon dioxide capture, more efficient coal combustion technologies, and Research & Development that will pave the way for longer-term solutions, such as CO₂ storage and re-use.

Scaling up to meet the challenge: ACTC, the official bilateral advanced coal technology team, brings together an extraordinary team of scientists dedicated to working together and with our international counterparts to accelerate emissions reductions and commercialization of advanced coal and carbon capture technology at substantially lower costs that are possible today. All the consortium partners have experience working bilaterally, as evidenced by sustained long-lived relationships with major companies, universities, and research institutions. These relationships and a deliberate, professionally-managed communications program will help ensure both rapid technical success and a harmonious partnership between the US and Chinese teams.

The China CERC-ACTC Team

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Chief Scientist: Yao Qiang		
Research Institutions	Universities	China Companies
Huaneng Clean Energy Research Institute	Huazhong University of Science and Technology	China Huaneng Group
Research Center for Clean Energy and Power, Chinese Academy of Sciences	Tsinghua University	Shenhua Group
Institute of Rock and Soil Mechanics, Chinese Academy of Science	Zhejiang University	ENN
	China U. of Mining and Technology	China Power Investment Corp. Group
	Shanghai Jiao Tong University	China Power Engineering Consulting Corp.
	Harbin Institute of Technology	Shaanxi Yanchang Petroleum (Group) Co., LTD.
	Northwest University	

The US ACTC-CERC Team

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Technical Program Lead: Dr. S. Julio Friedmann, Lawrence Livermore National Laboratory			
Universities And Geological Surveys	National Labs	Non-governmental organizations	US Companies
West Virginia University	Lawrence Livermore National Lab	US-China Clean Energy Forum	Babcock & Wilcox
University of Wyoming	Los Alamos National Lab	World Resources Institute (WRI)	Duke Energy, Inc.
University of Kentucky	National Energy Tech. Lab		LP Amina
Wyoming State Geological Survey			GE
Indiana Geological Survey			Great Point Energy

R&D for near-term commercialization and long-term solutions: CERC-ACTC focus on emerging commercial, field, and development projects in the US and China to achieve rapid progress in advanced coal/CCS technology development, demonstration, and enhancement. These projects serve as the platforms for collaboration and focus attention on accelerated R&D and commercialization. The research program consists of research that will be conducted by leading researchers in both countries along nine research themes, as described in the Figure below:



A New International Collaboration The U.S. and Chinese governments have been cooperating on clean energy technologies for decades, but the CERC program represents a fundamentally new way of working together. In the past, collaboration on clean energy has taken place on a government-to-government, academic-to-academic, and business-to-business basis. But this program integrates activities into what both sides have said they wanted for a long time – a genuine public-private partnership. The US and China both stand to benefit from this unique, results-oriented collaboration.

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