International Agreements/Collaborations

US-China Clean Energy Research Center

US-India Joint Clean Energy R&D Center

Japan-US Clean Energy Technologies Action Plan

US-China CERC

- There are three, subject matter distinct, US-China Clean Energy Research Centers:

- Advanced Coal; DOE Prime: WVU
- Clean Vehicles; DOE Prime: U. of Michigan
- Building Energy Efficiency; DOE Prime: LBNL

- Each has formed teams of private participants, cost-sharing 50%
- Factor of four leveraging of USDOE R&D dollars

Advanced Coal CERC

- Among key participants:
- WVU, GE, Duke Energy, NETL, LANL, U of Wyoming, LLNL, U of Kentucky, PNNL, Babcock & Wilcox, LP Amina, Alstom
- China Power Engineering Consulting Group Corp., Huaneng Power Int'l Inc., Tsingua Univ., Chinese Academy of Science, Yanchang Petroleum, China Univ. of Mining Tech.

- Projects Include:
- Advanced Gasification with CO2 Capture
- CO2 – Algae Bio-fixation and Use
- Oxy-fuel firing combustion for power plants
- Coal co-generation with CO2 Capture

Clean Vehicles CERC

- Among key participants:
- U of Michigan, MIT, ANL, ORNL, Ford, GM, Toyota, Sandia NL, Ohio State U.
- Beijing Institute of Technology; Chinese Academy of Sciences, Tsinghua Univ.

- Projects include:
- Advanced Batteries and Energy Conversion
- Advanced Biofuels and Clean Combustion
- Advanced lightweight materials
- Vehicle-Grid Interactions
- Vehicle electrification

Building Energy Efficiency CERC

- Among key participants:

- LBNL, Honeywell, ORNL, Dow Chemical, Schneider Electric, MIT, ICF International

- Tsinghua Univ., China Academy of Building Research, MOHURD Center for Building Energy Efficiency

- Projects include:
- Monitoring, Simulation and Building Performance
- Building Insulation materials and systems
- Cool roofs and urban heat islands
- Ground source heat pumps
- Integrated design for natural ventilation

- International Agreement/Protocol, including an IPR Annex, signed by respective government agencies in Nov 2009, and approved by State Dept and USTR.

- IPR Annex sets forth some basic IPR parameters, and contemplates a Technology Management Plan (TMP) for projects, to set forth further IPR allocation details.

- DOE initially attempted to negotiate a “framework” TMP that might apply to all projects under all CERC’s

- We invited input from DOE’s awardees and their participant team members, prior to engaging China

- Chinese govt., however, did not wish to discuss these issues, but preferred having the research participants develop the TMP, to be ratified/approved by the respective governments.

- After months of negotiation, and with the assistance of the Advanced Coal Technologies Consortium, the Advanced Coal participants have agreed on a TMP

TECHNOLOGY MANAGEMENT PLAN
(Regarding the exploitation of Intellectual Property Rights)
for the Clean Energy Research Center Advanced Coal Technology Consortium (ACTC)
中美清洁能源研究中心清洁煤技术联盟（ACTC）
关于知识产权利用的
技术管理计划

I. PREAMBLE
一、前言

1 The Chinese members of the ACTC (hereinafter, China ACTC) and the United States of America members of the ACTC (hereinafter, U.S. ACTC) agree to the following Technology Management Plan (TMP) regarding the exploitation of intellectual property rights pursuant to paragraph II.B.2.(d) of Annex I - Intellectual Property (hereinafter "IP Annex") of the Protocol for Cooperation on a Clean Energy Research Center (hereinafter "CERC Protocol"), signed on the 17th day of November, 2009, by the Department of Energy (DOE) of the United States of America, the Ministry of Science and Technology (MOST) and the National Energy Administration (NEA) of the People's Republic of China, (hereinafter "Signatories to the CERC Protocol").

1. 清洁煤技术联盟中方成员（以下简称"中方ACTC"）和清洁煤技术联盟美方成员（以下简称"美方ACTC"）根据美利坚合众国能源局（DOE），中华人民共和国科学技术部（MOST）和国家能源局（NEA）（以下简称"CERC议定书缔约双方"），于2009年11月17日签署的关于中美清洁能源联合研究中心合作议定书（简称"CERC议定书"）以及附件I知识产权（简称"IP附件"）第二节第2条第2款第4项就以下技术管理计划（TMP）关于利用知识产权的条款达成共识。

2. This TMP is applicable to all CERC-ACTC Cooperative Activities undertaken pursuant to the CERC Protocol and its IP Annex, except as otherwise agreed to by the Signatories to the CERC Protocol or their respective designees in writing.

2. 本计划适用于根据CERC议定书以及IP附件开展的所有CERC-ACTC合作活动，但CERC议定书缔约双方或其书面指定的各自代表机构另有专门协议除外。

- Some elements of CERC TMP:
- No obligation to provide background IP to other side's participants
- For foreground inventions, Party/participant making the invention, owns it, worldwide. If jointly invented, jointly owned.
- For jointly-funded projects, commercial licenses at "favorable" rates are guaranteed to participants in a particular project
- If others are licensed commercially, license must be on commercial terms
- For projects under CERC not involving funding from both countries, the other side's participants are guaranteed only an R&D license, and, in addition, are to receive early access to technical reports

US- India Joint Clean Energy R&D Center (JCERDC)

- International Agreement between DOE and corresponding Govt of India Agency for JCERDC signed in Nov. 2010
- In May 2011, the respective Governments jointly issued a Financial Opportunity Announcement (FOA)
- Application closing date for FOA: August 16, 2011.
- Applications/proposals being jointly reviewed/evaluated by both respective Governments

- Unlike US-China CERC, which potentially involves many projects (as many as 40 or more projects have been estimated), US-India JCERDC envisions three awards for three jointly-funded projects.

- Each project 50% cost-shared with private entities, in three distinct subject matter areas:
- Solar energy
- Second generation bio-fuels
- Energy efficiency of buildings

- Intellectual property allocation is similarly to be determined in a Technology Management Plan, which would envision cross-licensing obligations.

Japan –US Clean Energy Technologies Action Plan

- Signed by Japan's Ministry of Economy, Trade and Industry (METI) and DOE, in Nov 2009
- Japan's National Institute of Advanced Industrial Science & Technology (AIST), affiliated with METI, has signed MOU's with at least five DOE national labs, including NREL, SNL, LANL, LLNL and LBNL, and others are contemplated, including with SRNL and ANL

- Among areas of research mentioned in the US-Japan Clean Energy Technologies Action Plan:
- Novel Energy Storage or Conversion Devices utilizing Nanotechnology
- Computational Science for Energy Related Materials
- Electric vehicles
- Carbon capture & storage
- Smart grid
- Concentrating photovoltaic systems
- Nuclear waste vitrification R&D
- Gas-cooled reactor technology

- Unlike for US-China CERC and US-India JCERDC, there is no applicable international agreement/IPR annex for US-Japan Clean Energy Action Plan Activity

- Accordingly, since much/most of this work will involve CRADA's at our national labs, we would need to find creative ways to accommodate this collaboration, within the scope of our CRADA authorities, but without the flexibility that might otherwise be available under an international agreement

- One possibility for a more equitable sharing of IP rights arising from these CRADA's that might be appropriate for this collaboration, would be to invoke one of the permissible options set forth in the CRADA manual for IP allocation, i.e., a cross-licensing provision.

- Each Party would agree to grant the other Party a nonexclusive license to subject inventions, with the right to sublicense.