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Agencies	Project Title	Project Summary	Key Accomplishments	Contact
DOC └ *NOAA*	Variations of the Asian-Australian monsoons and the western Pacific warm pool and associated atmospheric teleconvection patterns	This is an activity under the NOAA-CMA bilateral program, agreed mutually at the JWG-14 (Joint Working Group – 14th Session). It is conducted to understand the variations of the Asian-Australian monsoons and the western Pacific warm pool and assess the performance of NOAA operational models for simulating and predicting the monsoon climate over Asia, Australia, the Indian Ocean, and the western Pacific Ocean.	At least two NOAA scientists have visited CMA and given lectures on monsoons, El Niño-Southern Oscillation, and other issues of short-term climate variability. Two CMA scientists are currently visiting NWS/NCEP Climate Prediction Center, 12 months each, and studying the variations of the Asian-Australian monsoons and the western Pacific warm pool in observations and NOAA operational models.	Climate Prediction Center James Laver jim.laver@noaa.gov Song Yang song.yang@noaa.gov
DOC └ *NOAA*	US and China droughts and impact of sea surface temperature bias in NCEP coupled models on climate prediction	NOAA and CMA scientists will conduct cooperative research to understand the cause of US and China droughts of different timescales using both observations and NCEP operational models. They will also analyze the bias of sea surface temperature and its impact on predictions of USand China droughts and other climate phenomena. Project staff will invite more CMA scientists to NOAA to work on drought research including the drought monitor at NOAA's Climate Prediction Center and the impacts of sea surface temperature bias in models on climate prediction.	A scientist from the NOAA Climate Prediction Center is visiting CMA for drought monitoring and a CMA scientist will visit NCEP and carry out research on US and China droughts.	Climate Prediction Center James Laver jim.laver@noaa.gov Song Yang song.yang@noaa.gov
DOC └ *NOAA*	Measuring Surface Water pCO_2 in the Polar Oceans: Outfitting and Initial Operation of a pCO_2 System on the Chinese Icebreaker *Xue Long* (*Snow Dragon)*	An automated system to measure surface water carbon dioxide levels was installed on the Chinese icebreaker *Xue Long* (*Snow Dragon)* in support of mutual objectives during the International Polar Year (IPY). Our partners in the Chinese Polar institute are operating the system. The system was purchased and installed by NOAA investigators who have trained personnel in system operation and protocol. The effort will greatly improve our knowledge on carbon sources and sinks at high latitude.	Drs. Wanninkhof and Cai visited Beijing, Shanghai and Xiamen in July 2006 to discuss the collaboration with Chinese counterparts and visit the icebreaker *Xue Long*. Detailed agreements were established and the US investigators provided key input on the design of the seawater intake that will be patterned after those on US icebreakers. Two Chinese partners were trained in Georgia and Miami in Fall 2006. Installation of systems on Xue Long began Summer 2007. Cruises to Arctic & Antarctic were undertaken in Fall 2007/Spring 2008.	Dr. Rik Wanninkhof, NOAA/AOML Prof. Wei-Jun Cai, U. Georgia
DOC └ *NOAA*	Partnership with the International Research Institute for Climate Prediction (IRI)	The US and China will explore opportunities for Chinese partnership with the NOAA-funded IRI, based at Columbia University in New York. Possibilities include: (a) participation in programmatic activities such as joint research in climate modeling, forecasting and applications, both at the IRI and in China; and (b) participation in NOAA/IRI training activities. Both sides will explore an opportunity for a visit by appropriate CMA officials to the IRI at their earliest convenience.	Future project	Candyce Clark Candyce.Clark@noaa.gov

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DOC └ *NOAA*	Upgrading Aerosol Measurements at the Global Atmosphere Watch (GAW) Station at Mt. Waliguan, China	The NOAA/ESRL/GMD aerosol laboratory (Boulder, Colorado), the GAW World Calibration Centre for Physical Aerosols (Leipzig, Germany) and the GAW World Optical Depth Research and Calibration Centre (Davos, Switzerland) are working to improve or to implement instrumental measurements at the Mt. Waliguan GAW station in China. Funding is provided through GCOS. A follow-up quality assurance site audit was planned for 2006. A precision filter radiometer sun photometer on a sun tracking platform was planned for installation via cooperation with the Swiss GAW program in mid-2007 for measuring aerosol optical depth.	Funding ($150K) was transferred to the Global Atmosphere Watch office of the WMO in March 2004 for the Mt. Waliguan aerosol upgrade. Instruments were purchased and aerosol observing system was built by NOAA/ESRL/GMD in 2005. Aerosol observing system was installed at the Mt. Waliguan GAW station in August, 2005 and site operators were trained in its operation. Routine QA and checking is ongoing via remote access and feedback to the station staff. The station is operating smoothly for aerosol scattering and black carbon. A continuous aerosol mass instrument has been installed and is working well.	Howard Diamond howard.diamond@noaa.gov Dr. John Ogren, NOAA/ESRL/GMD Boulder, CO john.a.ogren@noaa.gov
DOC └ *NOAA*	U.S.-China Panel on Polar Science	A new Panel on Polar Science has been formed between NOAA and the Chinese Arctic and Antarctic Administration and Chinese Polar Research Institute, as part of the Marine and Fishery Science and Technology Protocol of the US-China Science and Technology Agreement. The Panel serves to promote exchange of information on polar science issues and to identify opportunities for collaboration research. A planning meeting for IPY activities was scheduled for 2006.	Two workshops have been held in China to bring US and Chinese scientists together. Several collaborative projects have been initiated, and the US and China are working toward a joint plan for the International Polar Year.	Climate Program Office John Calder 301-427-2348
DOC └ *NOAA* └ CMDL	Observation/ Measurement: Expansion of carbon cycle atmospheric measurement programs	The US and China have a decade long record of cooperative carbon cycle measurements. Expansion of these cooperative measurements will be undertaken in a number of areas. Installation of carbon dioxide sampling equipment on a Chinese tall tower was planned.	China collected CMDL carbon cycle flasks on a ship transecting to Antarctica and back early in 2003. Samples were analyzed by NOAA/CMDL in April. Some problems were observed in the NOAA supplied sampling apparatus. A new analyzer and flasks were sent to China and were exposed on a Chinese ship conducting research in the Arctic Ocean, 2003. Similarly, samples were collected in November 2004 on transects to and from Antarctica. China received two Aethalometers from CMDL for the measurement of aerosol black carbon from combustion and the instruments are installed and operating in China. Two CMA scientists spent a week in Boulder, Colorado in March 2004 exchanging ideas on carbon cycle sampling from tall towers. China selected a site for tall tower greenhouse gas measurement program and constructing a tall tower. NOAA/CMDL purchased equipment for this tower and installed same in Spring of 2005 in China. Three additional CMA scientists came to NOAA/CMDL for training in January 2005. Weekly cooperative GHG flask sampling at Mt. Waliguan continues. NOAA/GMD scientists installed a multi-instrument aerosol monitoring system at the Mt. Waliguan Baseline Station, China in August 2005. This system is a carbon copy of instrumentation at the Mauna Loa, Hawaii, Baseline station and was funded by WMO and NOAA. A NOAA/GMD scientist visited CMA China in March 2005 and October 2005 to continue planning for the tower and ground sampling programs.	Russ Schnell Russell.C.Schnell@noaa.gov

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DOC └ *NOAA* └ CMDL	Baseline Surface Radiation Network (BSRN)	The World Climate Research Program operates a Baseline Surface Radiation Network (BSRN) that has also recently (2004) become the GCOS Global Surface Radiation Network. These sites are operated to provide the best possible surface solar and terrestrial infrared radiation observations for various applications in international climate research, General Circulation Model and Satellite product validation in particular. The site will serve as a training facility for young Chinese scientists that will hopefully expand and spread the BSRN technology into the region.	A new BSRN site was established in Xianghe, China in October 2004 under the bi-lateral agreement between the US and China. This became the first Chinese BSRN site and one of only three in all of Asia.	Ellsworth G. Dutton Ells.Dutton@noaa.gov 303-497-6660
DOE	Carbon Sequestration Leadership Forum	21 developed and developing countries plus the European Commission are working to coordinate international research, development and demonstration of carbon capture and storage (CCS) technologies as well as identify and address key legal, regulatory, financial, public perception, institutional-related or other issues associated with CCS. CSLF meetings were scheduled for November 2006 in London and April 2007 in Paris.	China and the US are charter members of the CSLF. China participated in the first Ministerial meeting of the CSLF in Tyson's Corner, VA (June 2003), meetings of the CSLF Policy and Technical Groups in Rome (January 2004), the second Ministerial meeting in Melbourne (September 2004), meetings of the CSLF Policy and Technical Groups in Berlin (September 2005) and meetings of the CSLF Policy and Technical Groups in Delhi (April 2006). CSLF-recognized projects that have been co-sponsored by China include "Development of China's Coalbed Methane Technology / Carbon Dioxide Sequestration Project" and "Regional Opportunities for CO2 Capture and Storage in China".	Office of Fossil Energy Barbara McKee barbara.mckee@hq.doe.gov Richard Lynch richard.lynch@hq.doe.gov
DOE	WSSD Type II Project Development	The US and China will engage in a dialogue on sustainable development that leads to identification of potential WSSD type II projects in energy and environment sectors. The US and China plan to exchange information and experts.	US and China officials met in February and June 2003 to consider the opportunities for developing type II projects. Both sides exchanged views regarding interests and goals regarding WSSD. MOST officials are developing one or more proposals for consideration with US partners.	Office of Policy and International Affairs Office of Air and Radiation Dennis Leaflea Leaflea.dennis@epa.gov

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DOE └ *EE*	Continuation of Existing Clean Energy Protocols/ Annexes	The US and China have a long, rich history of clean energy (EE, RE, FE) cooperation under the bilateral S&T Agreement. All of these activities contribute to mutual interest in climate change cooperation and will continue. The US– China Protocol for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization covers the following projects: • Project 1: The Policy and Planning Annex under the Protocol supports rural electrification and policy. A Chinese training center will be accredited to international standards for renewable energy-based village power systems. In addition, the Chinese government has approved a new regulation stipulating mandatory levels of technician certification. Based on results from LEAP modeling analysis, renewable energy plans for Hunan and Xinjiang are being developed. • Project 2: The Geothermal Heat Pump Annex and the Renewable Energy Business Development Annex under the Protocol focus on developing renewable energy markets in China. A GHP market study is underway for high potential areas of China. In the near term, DOE and MOST are restarting Integrated Environmental Strategies, convening Roundtable on Grid Connected Wind Power, collaborating with Nike on Green Power in China and evaluating five to six Geothermal Heat Pump Projects.	A full portfolio of energy efficiency S&T cooperation activities continues. A number of tasks were completed under the Energy Efficiency (EE), Renewable Energy (RE) and Fossil Energy (FE) Annexes of the US-China S&T agreement. For example, technical assistance and cooperation missions to China were completed to advance EE, RE, and FE hardware deployment projects (clean coal, solar energy, wind energy) in various provinces of China. Chinese scientists and engineers continue cooperative work at DOE national laboratories. Officials of NETL visited China to advanced development of EE and RE projects. • Project 1: DOE/NREL and NDRC held a Village Power Sustainability Workshop in Beijing. In January 2003, a training and information manual was finalized and will be used by technicians responsible for operating and maintaining the 1061 renewable village power systems under the Chinese Township Electrification Program. • Project 2: Promotion of climate-friendly GHP technology in China through a DOE sponsored analysis of geothermal heat pump technology in Beijing, implemented by Beijing Jike Energy New Technology Development Company.	
DOE └ *EE*	Continuation of Existing Clean Energy Protocols/ Annexes (continued)	An EE/RE mission to China has been planned in response to a request for assistance. An action agenda and work program will be implemented throughout the year. A suite of further activities is being developed under the Fossil Energy Protocol.	The Annual US-China Clean Energy Conference took place November 17-19, 2003 in Washington D.C. The Fossil Energy Protocol was renewed during April 2005.	Barbara McKee Barbara.McKee@hq.doe.gov

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DOE └ *EE*	Hydrogen & Fuel Cell Technology	Commercialization of hydrogen fuels and fuel cell technologies is a top priority. Cooperation in the transportation and electricity sectors will begin with the creation of a technology "roadmap' or strategy for development of these systems. IPHE activities will be implemented in various fora. Steering Committee meetings were planned for Brazil (April 2007), Italy (October 2007), and Russia (March 2008). ILC meetings were planned for the United Kingdom (January 2007), Korea (June 2007), Germany (January 2008) and Australia (June 2008).	China and the US are founding members of the IPHE, and both participated in the six Steering Committee (SC) and the six Implementation/Liaison Committee (ILC) meetings from November 2003 to September 2006. The SC has endorsed 23 international collaborative R&D projects. The ILC has initiated the process of ranking high-level critical objectives and more detailed technical objectives in order to efficiently and effectively identify areas where new international collaboration could provide the most benefits to the most members of IPHE. The Implementation/Liaison Committee organized international workshops on storage (Italy, Summer 2005) and renewable production (October 2005). The IPHE held meetings on the margins of the IPHE Ministerial to discuss a hydrogen roadmap. PNNL scientists visited China (May 2004) to facilitate a workshop on the roadmap. DOE and MOST were major sponsors of an international hydrogen technology congress. Senior DOE and MOST officials spoke at the HYFORUM conference in May 2004.	Graham Pugh Graham.pugh@ee.doe.gov Michael Mills Michael.mills@ee.doe.gov
DOE └ *Office of Science*	Climate Science	The US and China will continue long-standing cooperation in climate science, including research on analysis of general circulation models, climate data preparation and analysis, measurements of atmospheric trace constituents and the effect and impact of climate change on human and natural systems. This effort is under Annex V of the Protocol for Cooperation in the Field of Fossil Energy Technology Development and Utilization between USDOE and China's MOST, under the S&T umbrella agreement.	A 2000-years time series (with resolution of 10-30 years) of winter half-year temperature reconstruction for the middle and lower reaches of the Yellow River and Yangtze River was produced. Measurements were taken of CH4 emissions from agricultural systems over China and their effects on the carbon cycle. A Science Team meeting took place in October 26-30, 2003 in Beijing, China.	Mike Riches Mike.Riches@science.doe.gov

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DOS (via NAS)	US-Chinese Cooperation on Electricity from Renewable Resources Cooperation on Electricity from Renewable Resources	The US National Academies, in collaboration with Chinese Academy of Sciences and the Chinese Academy of Engineering, will conduct a joint study to assist each country in developing strategies to meet renewable energy goals, to highlight prospects for technology transfer between countries and to identify areas ripe for future cooperation. This study is intended to aid the national governments, their relevant agencies/ministries and private industries in assigning priorities for substantial and meaningful cooperation in developing and utilizing electricity from renewable energy. The joint study will pursue three separate but related goals. The three goals include comparatively assessing resource potential in China and the US for significantly increasing electricity generation from wind, solar, and biomass; exploring near-term market opportunities in China as well as Chinese-developed technologies which may be appropriate in the United States; and recommending priorities for enhanced collaboration, focusing on opportunities to reduce technology costs, improve efficiencies, increase grid connectivity and reliability and develop storage capabilities.	Future Project.	Griff Thompson ThompsonGM@state.gov
DOS (via NRDC)	Building the Capacity to Expand our DSM Success to a Nationwide Scale	This project will develop a Demand Side Management (DSM) and Efficient Power Plants (EPP) Best Practices Center based in NRDC's Beijing office. The Center will fill a critical gap in international assistance to China by serving as a technical resource on international best practices for Chinese central and provincial government decision makers, utility officials, factory managers, ESCOs and energy conservation centers. The Center will bring together the lessons learned from the most successful DSM/EPP programs in the world and help China adapt them to Chinese conditions. In addition, the Center's experts will conduct comprehensive energy and environmental audits to identify opportunities; provide top-quality research and analysis; help craft detailed policies, laws and regulations; and provide hands-on training in the development of large-scale DSM/EPP programs.	Future Project.	Griff Thompson ThompsonGM@state.gov

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DOS └ *Eco Partnership*	Tulane University (Louisiana) and East China Normal University (Shanghai)	This thriving EcoPartnership's programmatic goal is to create a global framework model of coastal/delta city sustainability, which includes wetland restoration, conservation, and enhancement. The geographic foci of the Tulane-East China Normal University (ECNU) EcoPartnership are the Mississippi Delta and the Yangzi River Delta. This EcoPartnership formalizes and institutionalizes activity that had hitherto stalled in the conceptual phase for an unspecified duration. Many disparate but related entities and projects have been assembled under the umbrella of this EcoPartnership. The EcoPartnership is proceeding with extensive activity without the need for ongoing USG oversight. On the Chinese side, two projects under the Ministry of Science and Technology and the State Natural Science Funds Commission will be led by ECNU and include researchers from at least three other Chinese universities and will investigate wetlands ecosystems and the impacts of global change on coastal cities and wetlands. At the same time, the ECNU will seek linkages with NGOs and the private sector to determine sustainable wetland development strategies. On the US side, the EcoPartnership will coordinate and synthesize research ongoing by consortia of over a dozen entities from the federal government, education and private sectors. Chinese researchers will join these efforts. Included in this coordination of work will be work conducted under UNESCO's Urban Biosphere (URBIS) network of cities, of which both New Orleans and Shanghai are members. The New Orleans URBIS coordinator is a co-lead researcher on the US EcoPartnership side.	EcoPartnership offices have been set up and staffed at both Tulane and ECNU. Academic faculty exchanges focusing on wetland sciences, sustainable estuary and coast development, and coast city risk control are ongoing; ECNU representatives came to the United States in May 2009, and a Tulane delegation will travel to China in December. Within the next year the universities' wetlands research bases will be enhanced through partnership with other ongoing efforts and scale-up of both responsibilities and profile.	Griff Thompson ThompsonGM@state.gov
DOS └ *Eco Partnership*	Wichita, Kansas and Wuxi City, Jiangsu Province	Under this thriving EcoPartnership Wuxi and Wichita will exchange best practices in clean air and clean water between municipal and industry personnel. The EcoPartnership activity will demonstrate how clean air and clean water technologies can be utilized to better protect the environment in a cost-effective way that promotes sustainable development. This EcoPartnership is in the advanced planning stages. A Wuxi EcoPartnership delegation including high-level municipal and science and industry personnel was scheduled for August 2009 arrival in Wichita. Wichita and Wuxi delegations planned to visit Wichita's water treatment center, as well as both Cesna and Beechcraft facilities. A letter of intent signing ceremony at the Wichita City Hall between the Wichita Mayor and Wuxi representatives was scheduled to take place there.	Following the terms of the Wichita/Wuxi EcoPartnership Statement of Intent (SOI), Team Leaders have been identified, Task Forces have been convened. In addition, Wichita completed a comprehensive Action Plan under the terms of the SOI, which awaits only comparison with a Wuxi Action Plan submission, anticipated in August. In May 2009 a City of Wichita Resolution was passed permitting expansion of the EcoPartnership to address development and sustainable growth in energy, agriculture, and aviation. (Aviation represents a significant portion of Wichita's industrial base.)	Griff Thompson ThompsonGM@state.gov

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DOS └ *Eco Partnership*	Denver, Colorado/Ford Motor Co. and the City of Chongqing/Chang'an Motors	This project focused on implementation of electric and plug-in hybrid vehicles. It had the potential to significantly advance the global development of electric and plug-in hybrid vehicles.		Griff Thompson ThompsonGM@state.gov
DOS └ *Eco Partnership*	Floating Windfarms Corp. (U.S.) and Tangshan Caofeidian New Development Area, Hebei Province	Floating Windfarms Corp. is partnering with the Tangshan Caofeidian New Development Area, which is on the coast of the Bohai Sea, in Northeast China. The purpose of this EcoPartnership is to develop an offshore wind farm utilizing vertical profile wind turbines, which due to their low center of gravity and the high average wind speed of the area make them a very efficient clean energy technology solution for this "circular economy" development zone. This EcoPartnership, like those above, is proceeding on its own steam. However, it requires a small amount of attention to be fully successful. Floating Windfarms lacks a committed financier for the Caofaidian project, however. Floating Windfarm's head, Dr. Pao, is focusing on finding Chinese capital sources rather than U.S.-based financing. The Caofeidian New Development Area Management Commission is currently working with Dr. Pao to locate local funding.	Recently, Floating Windfarms scaled up its project to include a no-carbon desalinization component. The EcoPartnership thus redefined has broadened its goals to demonstrating that the Floating Windfarms model can (1) produce offshore wind energy at less than half the cost of horizontal axis wind turbines, and (2) make law cost, zero carbon fresh water from sea water. The desalinization plant will also serve as a buffer protecting the power grid from power surges from the offshore wind farm.	Griff Thompson ThompsonGM@state.gov
DOS └ *Eco Partnership*	Greensburg, Kansas and Mianzhu City, Sichuan Province	Greensburg, KS was 95 percent destroyed by a tornado in May 2007 and made a commitment to sustainable redevelopment. Mianzhu City was one of the most heavily devastated areas in the May 2008 Sichuan earthquake. This EcoPartnership's objective is cooperation in the energy and environment fields, especially in the treatment of industrial waste, town planning, eco-buildings, eco-communities, environmental recovery, and post-disaster waste treatment. No Task Force has been convened for this EcoPartnership, and no Action Plans have been drafted. While there is no official Team Leader on the USside, Dan Wright, former Treasury Department SED and EcoPartnership advisor, has taken unofficial charge and is keeping this partnership afloat. Conference calls regarding this EcoPartnership on the US side continue between Greensburg and FEMA individuals. The value-added of this EcoPartnership is that it stands to offer sustainability knowledge in redevelopment and recovery from the US side and disaster relief expertise from the Chinese side.	Some activity has taken place under this EcoPartnership, but is reportedly running into hurdles within the Chinese bureaucracy that is stalling its progress. A hoped-for Chinese delegation arrival has not yet reached the planning stages due to what was described to the State Department as bureaucratic communication issues on the Chinese side.	Griff Thompson ThompsonGM@state.gov

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DOS └ *Eco Partnership*	Energy Future Holdings Corp. (U.S.) and China Huadian Corp. (China)	Both companies are pursuing development of sustainable business model for "clean energy" in the United States and China, particularly in the clean coal area. EFH expects to travel to China the end of this year to visit China Huadin Corp. projects.	Energy Future Holdings (EFH) has developed a work plan and will host China Huadian Corp. in the fall to show them some prospective new projects EFH is developing. The partnership is expected to share best practices in power plant management and will use the site visits as a way to promote the menu of best practices.	Griff Thompson ThompsonGM@state.gov
DOS └ *Eco Partnership*	Port of Seattle (Washington) and Dalian Port Corp. (Liaoning)	This partnership between two of the world's largest sea ports aimed to develop a global model for energy efficiency and environmentally sustainable ports.		Griff Thompson ThompsonGM@state.gov

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EPA	Methane to Markets Partnership	The Methane to Markets Partnership is an international initiative that focuses on advancing cost-effective, near-term methane recovery and use as a clean energy source. It includes 18 countries: Argentina, Australia, Brazil, Canada, China, Colombia, Ecuador, Germany, India, Italy, Japan, South Korea, Mexico, Nigeria, Russia, South Korea, Ukraine, United Kingdom, and United States. The Partnership's goal is to reduce global methane emissions to enhance economic growth, promote energy security, improve the environment, and reduce greenhouse gases. The Partnership was launched on 16 November 2004 The Partnership targets four major methane sources: landfills, underground coal mines, natural gas and oil systems, and agriculture (specifically animal waste management). Technical subcommittees that focus on each sector meet semi annually. EPA is providing technical assistance to investigate the feasibility of landfills supplying energy towards "Greening 2008 Olympics" in Beijing Each of the technical subcommittees will implement the activities outlined in their action plans, and will meet at least once to assess their progress and define next steps. China participates in the following subcommittees: • Coal • Landfill In the landfill sector, steps are underway to identify 1-2 landfills to evaluate for landfill gas capture and use project opportunities. Moreover, EPA is working in partnership with the Italian Ministry of Environment to advance the initiative	China serves as the Vice Chair and the US serves as the Co-Chair of the Coal Subcommittee, which met in April 2005, November 2005, May 2006, and October 2006. The next meeting is tentatively scheduled for March 2007. The Landfill Subcommittee and the Oil and Gas Subcommittee have also met several times. The Steering and all subcommittees met at the 2nd Annual Methane to Markets Partnership meeting in November 2005 and presented their action plans and first year progress reports to the Steering Committee. Major decisions at the meeting include: • Accepting Ecuador as a Partner • Accepting Canada, Ecuador and South Korea as Steering Committee Members • Adding an agriculture subcommittee which will focus specifically animal waste management • Development of a project and technology expo in 2007. A taskforce was created to develop a work plan for this project. The Partnership in China builds on a number of cooperative activities over the last few years: • September 2003 workshop to explore options for implementing coal mine methane recovery and utilization projects. • November 2003 - 3rd International CH4 & N2O Conference held in Beijing, • Initiated a 2-year cooperative agreement with the China Coal Information Institute to identify and implement coalmine methane recovery and use opportunities. A series of cooperative agreements between US EPA and the China Coal Information Institute to establish and support the capacity-building work of the China Coalbed Methane Clearinghouse, including a new four-year cooperative agreement launched under the Methane to Markets Partnership in fall 2006. The focus of these efforts is to identify and implement coal mine methane recovery and use opportunities through technical training, technology transfer activities and project analytical work including pre-feasibility studies. China hosted the 2007 M2M Partnership Expo in Beijing on October 29 through November 1.	Office of Air and Radiation Erin Birgfeld birgfeld.erinl@epa.gov

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EPA	Non-CO2 Gases	The US and China will explore opportunities to work cooperatively on inventories and process optimization techniques in the aluminum and magnesium industry. The EPA wishes to explore expanded cooperation on reducing PFC emissions from the Electronics sector (i.e., Semiconductor and LCD manufacturing). The EPA, CMA, and the International Mg Association (IMA) have begun discussing a global Mg industry partnership to eliminate SF6 emissions. Note: Other activities under this project have been re-designated as falling under the Methane to Markets Partnership and Asia-Pacific Partnership.	The EPA met with China's ERI in May 2006 to discuss increased cooperation on developing inventories of high GWP emissions and expanding climate protection partnerships. ERI is collecting China's preliminary SF6 production data for presentation at the 4th International Conference on SF6 and Environment – Nov. 28-30, 2006. The EPA, the Chinese Magnesium Association (CMA) and others developed and published a technical brochure on alternative magnesium melt protection technologies in English, Japanese, and Chinese languages. EPA, CMA, and global industry partners introduced and began distributing the brochures at the 63rd Annual World Mg Conference in Beijing – May 2006.	Sally Rand Rand.Sally@epa.gov
EPA	Economic/ Environmental Modeling	The US and China will continue to cooperate on economic modeling. A series of bilateral and multilateral workshops will help build capacity to more reliably model climate policy scenarios with emphasis on co-benefits and co-control modeling. Through EPA's Integrated Environmental Strategies (IES) program, the countries will explore application of AIM (ERI) and other models (NDRC) to co-control measures that support China's new energy intensity goals and Total Emissions Control (TEC) policy.	A modeling workshop was completed in Beijing in April 2006. Chinese modelers from ERI, SEPA, and Tsinghua University participated. High-level Chinese policymakers took part in the policymakers' session. Additionally, Korean and Japanese modelers also participated in the workshop. A summary report is available at http://www.pnl.gov/aisu/pubs/#model. Additionally, a preliminary assessment of China's climate economic modeling capacity was conducted.	Office of Air and Radiation Kong Chiu chiu.kong@epa.gov
EPA **DOC** └ *NOAA*	Integrated Assessment of the Potential Consequences of Climate Change to Support Improved Resource Management	The US and China will exchange and apply methods and tools to jointly conduct case-study, place-based and issue-specific assessments. Emphasis will be placed on multidisciplinary activities aimed at improved management of climate-sensitive resources (e.g. agriculture, water supplies, air quality, ecosystems, etc.), and the provision of timely and useful information to decision-makers.	The partners held an International Workshop on the Development of Health Scenarios, necessary for the assessment of climate change impacts on human health (July 21-22, 2003). The EPA's Office of Research and Development funded a project with the World Health Organization (WHO) to support work in China in 2005-2006 to prepare white papers on climate-sensitive systems that have implications for human health within different regions of China; hold a workshop in China to introduce assessment methods and define an assessment work plan; support scientific groups within China to carry out assessments and prepare draft reports; and hold a synthesis workshop to review the assessments. The EPA's Office of Research and Development funded a project with the World Health Organization (WHO) to support work in China in 2005-2006 to prepare white papers on climate-sensitive systems that have implications for human health within different regions of China; hold a workshop in China to introduce assessment methods and define an assessment work plan; support scientific groups within China to carry out assessments and prepare draft reports; and hold a synthesis workshop to review the assessments and make recommendations for future research.	Office of Research and Development Joel Scheraga Scheraga.joel@epamail.epa.gov

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Agencies	Project Title	Project Summary	Key Accomplishments	Contact
EPA **DOC** └ *NOAA*	Evaluation of Adaptation Strategies to increase resilience to climate variability and climate change	The US and China will exchange and apply methodologies for seasonal-to-interannual climate forecasts, techniques for applying forecast information, and decision-support tools to evaluate alternative strategies for adapting to climate variability and climate change across different timescales. The EPA and NOAA continue to work with their Chinese counterparts to schedule the proposed planning workshop. Also, see China/US Integrated Assessment Project		Office of Research and Development Joel Scheraga Scheraga.joel@epamail.epa.gov
EPA **DOE** └ *EIA*	GHG Intensity Analysis	The project will provide an analysis of historical greenhouse gas intensity trends in China and will compare trends among large developing countries and developed countries. Assessment of future intensity scenarios will also be carried out. DOE, EIA and EPA (OAR) officials identified a workshop opportunity in early 2004 that coincided with a workshop on modeling, which would serve as a venue for analysts from both sides to collaborate regarding GHG emissions intensity analysis. China and US analysts and modelers continue to cooperate informally at appropriate international meetings and workshops.	A project scope of work has been developed and refined. Funding to support GHG Intensity analysis by Chinese experts (modelers and analysts) was identified. Project partners participated in the World Renewable Energy Congress, Denver, Colorado in August 2004.	Steve Eule Stephen.Eule@hq.doe.gov John Conti John.Conti@eia.doe.gov Maurice LeFranc lefranc.maurice@epa.gov
USAID	Financing for Energy-Efficiency Programs	During a workshop in Hebei Province, China, provincial officials requested assistance from USAID's ECO-Asia Clean Development and Climate Program (ECO-Asia) to support Hebei's energy-saving program. Hebei Province, which has a high concentration of energy-intensive industries, is aggressively pursuing efforts to reduce its growing energy consumption in order to meet China's ambitious national energy-saving targets. Hebei's Electric Power Office and Demand-Side Management (DSM) and Instruction Center are planning to establish a public energy service company ("Super ESCO") that will promote development of efficiency services and financing of energy-efficiency projects in Hebei. Initially, ECO-Asia will help develop a strategy for Hebei's Super ESCO as well as a training plan to support Hebei energy-saving programs. ECO-Asia's support to Hebei will be provided in collaboration with the Natural Resources Defense Council's China Energy Program.		Winston Bowman wbowman@usaid.gov
USAID	Clean Energy Financing Partnerships	On July 15 in Beijing, USAID's ECO-Asia Clean Development and Climate Program (ECO-Asia) established partnership agreements with two leading firms in China's clean energy sector. Cleanergy Investment Service Company is a subsidiary of Hanergy, China's largest private power investment group, and Accord Global Environment Technology Company is one of China's leading developers of greenhouse gas mitigation projects.	The two firms agreed to work with USAID to strengthen and expand the Private Financing Advisory Network (PFAN) in China by identifying promising clean energy projects that need financing, assisting with project mentoring, helping to identify additional network members, and planning and promoting joint events in China. PFAN is a multilateral public-private partnership initiated by Climate Technology Initiative (CTI) in connection with the UN climate change convention. USAID is supporting PFAN in Asia through the ECO-Asia program.	Winston Bowman wbowman@usaid.gov

*See back page for Glossary of Acronyms.

Current and Recent U.S.-China Climate and Energy Cooperation Projects – 10/21/2009

Agencies	Project Title	Project Summary	Key Accomplishments	Contact
USAID	US-China Sustainable Buildings Partnership	On June 16, USAID's US-China Sustainable Buildings Partnership (SBP) launched a new collaboration with the Chengdu Property Management Association (CDPMA) with a full-day workshop for its members. In total, CDPMA's members represent over 4 million square meters of building space in Chengdu, equivalent to the commercial office space of mid-town Manhattan. Over the next year, the SBP will work with CDPMA and its members to conduct assessments of selected Chengdu properties, provide technical consultations, document savings, and publicly recognize green building leaders.	The kick-off event addressed green building management strategies, the financial value of efficient building operations, no-cost and low-cost energy-saving strategies, and energy performance monitoring. As a result of the workshop, CDPMA is committing to helping its members 'go green' and establish a Green Property Management Industry in Chengdu. CDPMA members could save an estimated $16.3 million dollars and 127,900 metric tons of carbon dioxide emissions if they were to adopt basic green buildings practices.	Winston Bowman wbowman@usaid.gov
USAID	National EHS Certification Protocol	On July 11, the leadership of the Guangdong Bureau of Labor and Social Security (BLSS) joined the Bureau of Work Safety, Sun Yat-sen University, and USAID's Guangdong Environmental Partnership (GEP) at a special summit to begin drafting China's first-ever national certification protocol for environment, health, and safety (EHS) professionals. The effort is part of GEP's EHS Academy initiative, working to establish EHS as a recognized profession in China and increase the pool of qualified EHS managers serving China's industrial facilities. While giving Guangdong national-level recognition, the protocol will define uniform professional operating standards to validate the qualifications of EHS professionals—a critical component in strengthening China's environmental governance and addressing its growing EHS compliance challenges.	Expressing strong support for the EHS Academy and citing the urgency of the issue, the Director-General of BLSS pledged to finalize the protocol in just six months in coordination with Beijing.	Winston Bowman wbowman@usaid.gov
USDA └ *Forest Service*	United States China Carbon Consortium (USCCC) -- multi-ecosystem carbon flux project	The objective of the project is to assess carbon and water flux from over 12 towers sites (including agriculture, forest, grassland, and wetland ecosystems) located across China. Funding is being provided by NASA, USDA FS, and various Chinese Government agencies. A joint workshop was planned to be held in Beijing in the spring of 2007. A series of carbon flux papers was an intended result from the meeting. A Special Journal issue was planned to report research findings during the past 3 years.	Future Project	Steve McNulty smcnulty@fs.fed.us Tel: (919) 515-9489

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Current and Recent U.S.-China Climate and Energy Cooperation Projects – 10/21/2009

Agencies	Project Title	Project Summary	Key Accomplishments	Contact
USDA └ *Forest Service*	A complete forest carbon budget for China	The purpose of this project is to develop compatible methodology for carbon cycle estimation and accounting in different countries.	Publications: *Fang, Jingyun; Piao, Shilong; Field, Christopher B.; Pan, Yude; Guo, Qinghua.; Zhou, Liming; Peng, Changhui; Tao, Shu. 2003. Increasing net primary production in China from 1982 to 1999. Frontiers in Ecology and the Environment. 1(6): 293-297.* *Luo, Tianxiang; Pan, Yude; Ouyang, Hua; Shi, Peili; Luo, Ji; Yu, Zhenliang; Lu, Qi. 2004. Leaf area index and net primary productivity along subtropical to alpine gradients in the Tibetan Plateau. Global Ecology and Biogeography. 13: 345-358.* *Pan, Yude; Luo, Tianxiang; Birdsey, Richard; Hom, John; Melillo, Jerry. 2004. New estimates of carbon storage and sequestration in China's forests: effects of age-class and method on inventory-based carbon estimation. Climatic Change. 67:211-236.*	Yude Pan and Richard Birdsey
USTDA	Energy Cooperation Program (ECP)	The ECP is a group being formed by US companies, with USTDA support, to leverage private sector resources for project development work, while simultaneously advancing US commercial interests in China.	Future Project	Lida M. Fitts lfitts@ustda.gov
USTDA	Integrated Gas Combined Cycle (IGCC) power plant	This is a feasibility Study to develop an 800-MW commercial-scale coal-fired Integrated Gas Combined Cycle (IGCC) power plant model design for China. This was a Chinese request under the December SED. IGCC is an alternative coal-to-power technology that can reduce emissions, increase efficiency, and provide a proven path to carbon capture and sequestration. IGCC converts coal into a cleaner burning fuel through a process known as gasification and has been identified as a priority by the Chinese government. Once this initial IGCC plant is shown to be feasible, more are expected to be developed across the country.	Future Project	Lida M. Fitts lfitts@ustda.gov
USTDA	Carbon Limiting Improvement Process (CLIP)	CLIP technology can reduce emissions at Chinese coal-fired power plants by 7.5 million tons/year. USTDA would provide a feasibility study for the Shanghai Electric Power Company to introduce and evaluate CLIP technology for installation at coal-fired power plants in China.	Future Project	Lida M. Fitts lfitts@ustda.gov
USTDA	Coal Mine Methane Gas Power Generation (CMM)	Implementing CMM in China would reduce emissions by 1.9 million tons/yr. The study would be conducted for the four provinces known for their rich coal resources: Xinjiang, Shanxi, Guizhou and Yunan. It would examine the potential of Coal Mine Methane Power Generation in China, market education, conduct site feasibility assessments and product demonstrations (training). Caterpillar, a CMM technology producer, will share study costs with USTDA.	Future Project	Lida M. Fitts lfitts@ustda.gov

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Glossary of Acronyms

BLSS-Bureau of Labor and Social Security
BSRN- Baseline Surface Radiation Network
CDPMA- Chengdu Property Management Association
CLIP-Carbon Limiting Improvement Process
CMA- Chinese Magnesium Association
CMDL – Climate Monitoring and Diagnostics Laboratory
CMM- Coal Mine Methane Gas Power Generation
CTI- Climate Technology Initiative
DOC – Department of Commerce
DOE-Department of Energy
DOS – Department of State
ECNU- East China Normal University
EFH-Energy Future Holdings
EIA-Energy Information Administration
EPA-Environmental Protection Agency
EPP- Efficient Power Plants
ERI – Energy Research Institute
ESCO – Energy Service Company
ESRL – Earth System Research Laboratory
FEMA-Federal Emergency Management Agency
GAW- Global Atmosphere Watch
GCOS – Global Climate Observing System
GEP-Guangdong Environmental Partnership
GMD – Global Monitoring Division
IES- Integrated Environmental Strategies
IGCC- Integrated Gas Combined Cycle
ILC- Implementation/Liaison Committee
IMA- International Mg Association
IPHE –International Partnership for the Hydrogen Economy
IRI- International Research Institute for Climate Prediction
MOST-Ministry of Science and Technology
NCEP-National Centers for Environmental Prediction
NDRC-The National Development and Reform Commission
NOAA-National Oceanic and Atmospheric Administration
NREL-National Renewable Energy Laboratory
PFAN- Private Financing Advisory Network
PNNL-Pacific Northwest National Laboratory
SEPA-State Environmental Protection Administration
WHO-World Health Organization
TEC- Total Emissions Control
UNESCO-United Nations Educational, Scientific and Cultural Organization
URBIS- Urban Biosphere
USAID-United States Agency for International Development
USCCC- United States China Carbon Consortium
USDA-United States Department of Agriculture
USTDA-United States Trade and Development Agency
WMO-World Meteorological Organization