

# China | U.S.

## Energy Efficiency Alliance | 中美能效聯盟

*Protecting the global environment by working with China to harness efficiency as a viable energy resource*

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## A Note from the Alliance President



I am writing this letter after having recently returned from the UN climate negotiations in Cancun, Mexico, thinking about all the exciting developments during the past six months as we progress towards scaling up solutions to address climate change and, in particular, the roles of China and the US in these efforts.

By far, the most exciting news is that China's central government in November enacted national energy efficiency regulations calling for utility demand-side management, or DSM, programs, similar to those that the Alliance has been helping to develop at the provincial level for the past five years.

These are truly game-changing regulations containing two key elements: they set specific savings targets that all of China's power grid companies must achieve; and they authorize grid companies to use a portion of their electricity revenues to develop large-scale programs for helping China's factories, businesses and homes invest in energy efficiency. These regulations essentially put into place a national Energy Efficiency Resource Standard for China, and will go a long way in helping China to achieve its national climate and energy targets. (see "NDRDC releases nationwide DSM regulations", p. 4)

I want to thank everyone who has supported the work of the Alliance — your

contributions and efforts have certainly contributed to this major breakthrough. Along with our colleagues at NRDC, we have been pushing for more than a decade for a national policy to involve grid companies in energy efficiency implementation in China, and we are delighted that our efforts have finally paid off. If China's new regulations sound familiar to readers from California, it is because they are in many ways patterned on policies innovated in California.

The key now, of course, is implementing the regulations. The Alliance will be working closely with NRDC and other collaborators to organize training programs throughout the country to share government and utility officials' practical experiences for putting DSM programs into place. We welcome additional support for these efforts.

Of course, there are still major challenges ahead in getting countries to agree on a long-term framework for addressing rising global greenhouse gas emissions. However, I think that there are a number of positive developments resulting from the negotiations among countries and I am hopeful that these will lead to progress in the future. So, while the media focuses on the roles of China and the US, suggesting that there remain large differences in their negotiating positions, both countries are continuing to address climate change through bilateral and subnational activities to improve energy efficiency and clean energy deployment.

Some of you participated in the Governors' Global Climate Summit hosted by California Governor Arnold Schwarzenegger in November. There were a number of side events highlighting the cooperation between China and the US including work undertaken as part of two agreements between the state of California and its sister province, Jiangsu. The Alliance has been

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## DSM Training in China: Efficiency Power Plants, EM&V and Energy Auditing

During 2010, the Alliance cooperated with the Natural Resources Defense Council (NRDC) to organize a series of training events covering energy efficiency topics of interest to Chinese industrial firms, utility firms, and regulators.

The first training in a three-part series, "Planning and Constructing an Efficiency Power Plant" was held in Beijing in June through a collaboration with the Energy Foundation and the Regulatory Assistance Project.

The training focused on developing a portfolio of energy efficiency programs into a reliable and cost-effective "efficiency power plant," with presentations on: portfolio planning; program design and selection; cost effectiveness calculations; evaluation, measurement and verification (EM&V); portfolio and program management practices; and technology-specific training.

Chen Jianghua of the China State Grid National DSM Instruction Center began the training with an introduction to the China DSM Program Procedures Manual published in 2009; this document was developed by the Alliance and NRDC with support from the Energy Foundation, EPA, REEEP, CPUC, Southern California Edison and Pacific Gas and Electric. [For more information on the Manual see the Fall 2009 Alliance newsletter].

The training also featured a hands-on introduction to Efficiency Power Plant modeling software by the China team of San Francisco firm E3: Energy + Environmental Economics. In months following this efficiency power plant training, experts at Nanjing's Southeastern University and State Grid's DSM center have been adapting the software to fully reflect China's energy economy, and Jiangsu's circumstances in particular.

A second training event, the "International Forum on Energy Efficiency Savings Evaluation, Measurement and Verification (EM&V) Methodologies," was held in Beijing in September and was organized in collaboration with the National Institute of Standardization (CNIS). It was supported by the Energy Foundation, the Regulatory Assistance Project and the China Energy Conservation

Association. September's DSM Forum was designed to meet trainees' interest in concrete, technology-focused trainings on EM&V. As requested by attendees at the June conference, the September Forum featured detailed information including case studies and software tutorials.

The Forum's first day of training sessions included presentations on US experience with efficiency EM&V by: Steven McCarty, Director of Demand Response for Pacific Gas and Electric and Alliance Leadership Council member; and Marian V. Brown, Manager of Measurement and Evaluation at the Energy Efficiency Division of Southern California Edison. The Forum concluded with a two-hour question and answer session that gave a further opportunity to apply presenters' expertise to attendees' individual circumstances.

The last 2010 training activity, held on November 30 – December 2 and co-organized by NRDC, the Regulatory Assistance Project and the Alliance, focused on international best practices for investment-grade energy audits. Our Chinese partners in organizing the training included the Shanghai Energy Efficiency Center (SEEC) and the Shanghai Energy Conservation Supervision Center. More than 100 participants from nine provinces and municipalities attended the training. Participant feedback was very positive; this feedback will help the Alliance and our partners assess the effectiveness of our training activities and customize future training programs to meet the specific needs of target audience. Look for updates on 2011 efficiency training sessions in the next issue of the Alliance newsletter.



**November 16 E2 EcoSalon/Alliance Roundtable reception** (l to r): Patrick Burt, Palo Alto City Council; Nan Zhou, Lawrence Berkeley National Lab; Terry Fry, China-US Energy Efficiency Alliance/Nexant; Nick Sternhagen, China-US Energy Efficiency Alliance; Tony Bernhardt, E2. Photo: Christine Luong

## Alliance Leaders in the Field: Steve Kline

*The China-US Energy Efficiency Alliance "team" — technical experts, members of the Board and Leadership Council, Partners, employees, volunteers and others — enables our organization to effect positive change in Chinese and American energy systems. Each newsletter features Alliance team members who are making significant contributions to our organization and the the energy efficiency sector in general.*



Steve Kline, Vice President of Corporate Environmental and Federal Affairs and Chief Sustainability Officer for PG&E Corporation, has been a member of the Alliance Board of Directors since it was established. PG&E—which serves Northern California and is one of the largest utility firms in the US—was a founding Corporate Partner of the

Alliance and continues to provide support and technical assistance for Alliance activities. As a result of Kline's leadership, the Alliance has benefited from PG&E's experience in developing and implementing energy efficiency programs.

Kline has been personally involved with the work of the Alliance through his work on the Board and contributions to a number of conferences organized by the Alliance and our colleague organizations. Most recently, he spoke on the June 21 "Global Voices, Local Choices" panel co-hosted by the Natural Resources Defense Council and HOK at the Shanghai World Expo, with co-presenters Dr. Dajian Zhu, Dr. Hongbo Chen, and frequent Alliance collaborator Jin Ruidong. Kline's willingness to share PG&E's experience in implementing energy efficiency has provided strong encouragement for the Chinese side to create incentives for energy efficiency.

Kline explains that it's in "PG&E's natural interest to embrace the Alliance as the vehicle to spread knowledge and technology to China." He noted that the rapid emissions growth in China has a great impact on the Central Valley of California. Emissions originating from China add to the growth of harmful ozone, carbon dioxide, and particulate pollution in the atmosphere of California; these emissions directly influence peoples' daily lives and

health, and the global climate.

He emphasizes the improvements to the welfare of Californians that result from support for the Alliance mission—reducing energy use in China helps to clean the air in California. Referring to the first Alliance pilot project, Steve mentioned that the east coast province of Jiangsu has a huge demand for energy, which has been increasing at a 10% annual rate. The works of the Alliance and its partnering with officials and utilities in Jiangsu Province resulted in significant improvements in energy efficiency: Jiangsu is now saving 3.5 terawatt hours of electricity through DSM annually, and these efficiency programs are reducing the province's CO<sub>2</sub> emissions by about 3.4 million tons every year.

Kline points out that since California has a long and successful record of improving energy efficiency, other countries can greatly benefit from considering California's approach to efficiency policy. He further explains that development of energy efficiency is a main focus for PG&E, and that the company is fully willing to share technology and information with China. "Greenhouse emission pollution is a transnational issue," he said, "that people really need to work together to deal with."

"It is gratifying to work with the Alliance in China and see how the mindset of policymakers has changed," Kline says of his several visits to China for Alliance meetings and training programs. On the first trip to China, American delegates spent most of their time persuading policy makers why energy efficiency would be a desirable policy goal for China; concrete implementation of efficiency improvements was discussed only briefly. On the later trips, however, more and more time was spent discussing how to improve energy efficiency and implement DSM.

Kline explains that China's growing enthusiasm for low-carbon technology, changing policy mindsets, and the established credibility of the Alliance in China are all good signs for continued progress in accomplishing the Alliance's mission, and that PG&E would continue its support for the Alliance to see the Chinese energy transformation fully succeed.

*Summer Zhao contributed to this article as part of her 2010 Alliance internship. Summer is pursuing a bachelor's degree at Washington University in St. Louis, MO.*

## China releases nationwide DSM regulations

China's main economic planning body, the National Development and Reform Commission, has released nationwide "implementation measures" for power Demand-Side Management (DSM). These regulations require local governments to set annual power saving targets which will be pursued through a specific set of policies and incentives. The document represents a major step toward the China-US Energy Efficiency Alliance's vision of comprehensive, consistent and properly incentivized efficiency promotion policies throughout China.

The measures were released in China November 1. Alliance President and NRDC China Program Director Barbara Finamore presented the Alliance's take on this policy development to an invited audience of Governors' Global Climate Summit delegates on November 15. According to Finamore, work in Jiangsu Province and other pilot provinces by the Alliance and its American and Chinese partners helped convince China's national leadership that utility-funded DSM was an important tool for China to achieve its national energy goals.

Specific provisions of the law include: priority of

efficiency and conservation over the construction of new generation capacity; specific DSM responsibilities for power grid companies; emphasis on development of peak-valley pricing rules; and ongoing consultation arrangements between large consumers of electricity, grid company DSM experts, and energy service companies. Power grid companies are also charged with establishing a DSM information system "to collect and analyze power use information of the major users, and provide technical support and information services for users' DSM implementation," according to an informal translation published by NRDC.

A particularly salient feature of the rules is the setting of specific targets associated with DSM; the measures require that "[p]rovincial power authorities together with other responsible bodies shall set local grid companies' power saving goals, and strengthen the assessment process. Power grid companies at provincial level shall achieve a saving of 0.3% in sales volume and 0.3% in maximum sales load compared with the previous year through self-action or purchasing service." Additionally,

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proud to be part of the team helping to implement the agreements. The efforts in Jiangsu have led to significant reductions in the need for new power generation. It is estimated that during the years of our cooperation, Jiangsu has avoided building more than 680 MW of new power and is now saving 3.5 terawatt hours of electricity annually, reducing CO<sub>2</sub> emissions by about 3.4 million tons a year.

These efforts in California-China cooperation, as well as other cooperative and subnational activities, clearly demonstrate that there are concrete ways to move forward on climate change even as global negotiations stall.

Changing the subject, I am pleased to announce that Mona Yew (who was profiled in our Spring 2009 newsletter) has agreed to stay on for a second year as Director of the China DSM and Energy Efficiency Project at the Natural Resources Defense Council. Her knowledge, experience, and tireless efforts are invaluable to the work we are doing. We want to express our appreciation to PG&E Corp, an Alliance Founding Partner, for allowing Mona to spend another year working in China. We are truly grateful for all the support provided by our Alliance Partners, and others in our network, which allow us to make great strides in achieving our mission: protecting the global environment by working with China to harness energy efficiency as a viable energy resource.

I also want to welcome Nick Sternhagen, who joined the Alliance in September as our Program Manager. Before coming to the Alliance, Nick worked with the Woodrow Wilson International Center for Scholars in Washington, DC as a research assistant to the China Environment Forum. Please feel free to contact Nick, or Fran Schulberg (our Director of Operations) if you have any questions about the Alliance or are interested in joining our Alliance network.

With best wishes,




Barbara Finamore at the Nov. 16 E2 Ecosalon/Alliance Roundtable

## Alliance President Barbara Finamore at UNFCCC talks in Tianjin and Cancun

As world governments continued negotiations on a global policy for addressing climate change under the United Nations Framework Convention on Climate Change (UNFCCC) process, Alliance President Barbara Finamore participated in the two most recent UNFCCC meetings in Tianjin and Cancun, helping to facilitate information exchange between the US and China and providing insights on the negotiations to an international audience through her NRDC blog (<http://trunc.it/e6era>).

At the October UN Climate Change Conference in Tianjin, Finamore participated in an official side event sponsored by NRDC on China's climate actions, presenting her work with the Alliance and the Natural Resources Defense Council to an international audience of journalists and conference participants, and giving an overview of China's current renewable energy and energy efficiency initiatives, including industrial efficiency and building efficiency programs.

Finamore also participated in an NGO meeting with China's chief climate negotiator, Minister Xie Zhenhua. Minister Xie discussed China's efforts to address climate change and noted that China is currently preparing its Second National Communication on Climate Change, which will be more comprehensive and thorough in its analysis of China's mitigation actions and greenhouse gas emissions. Finamore predicted that China's efforts to improve communication on their climate change policies and emissions would improve the international negotiat-

ing climate, as these reports will include accounts of China's major efforts to meet challenging energy goals. China's policies and communications could even serve as useful models for other developing countries. Barbara Finamore's post on this exchange with Minister Xie is available on her blog.

Finamore and her NRDC colleagues also attended the 16th Conference of the Parties (COP 16) November 29 to December 10 in Cancun, Mexico. At the Conference, delegations issued a set of recommendations for improving developed and developing countries' reporting on mitigation actions and inventories under the UN system, while NGO observers provided media briefings, blogged on the state of the negotiations, and signed an "Agreement on Long-Term Cooperative Action Between Members of the Civil Societies of China and the United States" to boost cooperation between US and Chinese NGOs on climate change. Despite pessimistic media coverage leading up to COP 16, countries succeeded in approving the Cancun Agreement, which affirmed commitments made under the Copenhagen Accord and set forth a more detailed work plan for further progress this year. The agreement's treatment of technical matters such as emission reporting is encouraging, but equally promising is the renewed atmosphere of cooperation that prevailed in Cancun. As Finamore wrote in her blog, "In the end, neither the US nor China got everything they wanted, but they put aside national differences in order to work together."

## Efficiency in Practice: Implementing DSM in Hebei Province

Friends of the Alliance may know that the highly industrialized province of Hebei is on the front lines of China's battle to save energy. In late 2010, local officials in some of this northeastern province's cities resorted to disconnecting non-solar-powered traffic lights in their jurisdictions as a last-ditch effort to meet government energy targets. Following a worldwide storm of negative media coverage and a policy clarification from national authorities, the traffic lights were soon reconnected.

This incident shows that an energy policy is only as good as its implementation. The Alliance's partners are working in Hebei to ensure that a 600 MW Efficiency Power Plant is implemented correctly in the next 5 years. Operating under a 2009 MOU signed by Hebei provincial officials,

the Alliance, NRDC and USAID Eco-Asia, NRDC's China DSM team recently visited a pharmaceutical manufacturing plant in Shijiazhuang City to evaluate planned installation of a new industrial air compressor at the factory.

The questions this project poses to the DSM team—such as whether changing the motor-driven axial flow air compressor into a steam turbine-driven axial flow compressor really reduce energy intensity or just save money by shifting the load—are complex and detailed, but this level of technical work is creating a future where saving energy in Hebei won't require unplugging of stoplights.

The DSM team was invited to make this visit by Hebei Fakai Company. You can read the full history of Alliance cooperation with Hebei Fakai at (<http://trunc.it/e9ua8>).

## Fry and Finamore bring EE to E2

On November 16th, Environmental Entrepreneurs (E2) and the Alliance held a joint EcoSalon and Roundtable event, "Curbing China's Skyrocketing Energy Use and Carbon Emissions." Featured presenters included Barbara Finamore (Alliance President and Director of NRDC's China Program), Terry Fry (Alliance Board Member, and Senior VP at Nexant), and Nan Zhou (Staff Research Associate, China Energy Group, Lawrence Berkeley National Laboratory). Barbara Finamore detailed her experiences observing the October 2010 United Nations Climate Change Conference in Tianjin, China.

Although the lack of a binding agreement proceeding from the conference led some media commentators to brand the meeting a failure, Finamore felt that the Tianjin talks displayed an improved sense of cooperation compared with earlier meetings, and that progress in areas like climate adaptation finance have improved the outlook for future UNFCCC talks. Finamore's predictions were largely borne out by successful negotiations at Cancun. The US and China were indeed able to convert positive momentum from the Tianjin summit into concrete results at COP 16. (See "Alliance President Barbara Finamore at UNFCCC talks in Tianjin and Cancun" in this issue)

Alliance Board Member Terry Fry presented his take on Chinese leaders' motivation for pursuing both continued

economic growth and pollution mitigation. In his view, China's leadership sees sustainable low-carbon development as a matter of survival. He also reminded the audience to consider the economic underpinnings of China's domestic energy indicators, such as carbon intensity. According to Fry, to fully understand the energy-efficiency of China's economy, observers trying to interpret China's "energy intensity" measure (which is defined as energy consumed per unit of GDP) should consider unofficial measures of Chinese GDP when tracking energy intensity figures, as the nominal RMB figures are not always reflective of real GDP values.

Nan Zhou delivered an overview of China's energy economy and policies. Ms. Zhou used a series of graphs and charts to present research by Lawrence Berkeley National Laboratory's China Energy Group, which is widely regarded as some of the best work in the field.



*Tony Bernhardt introducing Barbara Finamore and Nan Zhou at the November 16 E2 EcoSalon/Alliance Roundtable in Palo Alto. Photo: Christine Luong*

## Alliance Signs New MOU with Shanghai

Following the success of our agreements with the provincial governments of Jiangsu and Hebei, the Alliance recently signed a Memorandum of Understanding to expand our work in Shanghai Municipality. Following several rounds of discussion, the Alliance, NRDC, and the Shanghai Energy Efficiency Center (SEEC) signed the document on September 11, 2010.

Under the terms of this Memorandum, the Alliance and NRDC will provide technical assistance to the SEEC by establishing an expert advisory committee, assisting the Center in formulating energy efficiency policies and standards, and designing ongoing training and capacity building programs. Alliance Board member William Kissinger had met with representatives of the Shanghai Municipal Economic and Information Commission's Department of Energy, Shanghai Energy Conservation and Comprehensive Utilization Department, SEEC, Shanghai Municipal Electric Power Company, and Shanghai Research Institute of Electric Apparatus (SEARI) in discussions that preceded the MOU.

## Alliance Team Members at Governors' Global Climate Summit III

The China-US Energy Efficiency Alliance team was well-represented in presentations at the Governors' Global Climate Summit 3, held in November in Sacramento and Davis, California. Members of the Alliance Board, Leadership Council, and the Alliance President all gave remarks at the summit, which was attended by over 1500 international delegates, including governors and other subnational leaders from around the world.



*Alliance Team Members at GGCS3 (l to r): Gene Rodrigues, Fran Schulberg, Nick Sternhagen, Barbara Finamore*

Alliance President Barbara Finamore spoke about China's new national DSM regulations at a VIP lunch event on November 15 (see p. 4 for more on the regulations). Board Member Terry Fry spoke at an official side event during the China Roundtable pre-summit sessions on November 14. The China Roundtable comprised a full day of panel discussions on climate and energy issues in China, and was the largest nationally-focused event associated with the summit. A lunch panel on the implementation of 2009's California-Jiangsu DSM agreement included talks by Board member Terry Fry as well as Alliance colleagues from the Natural Resources Defense Council and Ms. Wang Xuejun of the China Singapore Suzhou Industrial Park. The Park is in the process of developing a pilot low-carbon zone.

Alliance team members also contributed to Summit plenary sessions. Gene Rodrigues, Director of Energy Efficiency at Southern California Edison Company and Alliance Board member participated in "Innovative Solutions: A Conversation" with Dr. Thomas Becker, Vice President of Government Affairs at BMW Group; and Jim Davis, President of Chevron Energy Solutions. The panel was moderated by Bryan Walsh, columnist for Time magazine. In responding to Walsh's questions about whether California's efficiency expertise was applicable elsewhere, Rodrigues replied that the principles of California's program are simple and universal. "What we're doing in California isn't rocket science," he said.

"This is just a common sense business approach to solving the problem." When Walsh asked whether California's success in energy efficiency provided a model for imitation in other countries, Rodrigues responded, "can [this policy] be exported? Absolutely. Must it be exported? Absolutely times two."

Alliance Leadership Council member and former member of the California Energy Commission Dr. Arthur Rosenfeld discussed "Energy Efficiency: How California Continues to Beat the Rest of the US." In March 2010 the open-access electronic journal Environmental Research Letters proposed creation of "the Rosenfeld" as a standard unit of measurement for electricity savings. At the Governors' Summit Dr. Rosenfeld also received a lifetime achievement award from Governor Schwarzenegger at the Governor's Economic and Environmental Leadership Awards Ceremony and Reception on November 15. These honors are certainly well-deserved by a distinguished scientist who has earned the nickname "Father of Energy Efficiency," and we congratulate him on his achievements.

In his Summit presentation, which was one of the only single-speaker sessions at the conference, Rosenfeld discussed collaboration between relevant California agencies, building and appliance efficiency standards, and the evolution of California's regulatory strategies. These include "decoupling" utility profits from quantity of electricity sold, "decoupling plus" which allows utilities to finance efficiency through fees and compensates utilities for meeting savings targets, and California's "loading order," which sets statewide priorities for the development of different energy resources, including efficiency. Dr. Rosenfeld also promoted an elegantly simple new approach to saving energy: white-colored roofs for buildings in hot climates.

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the rules require annual provincial-level plans for energy use, and regular publication of power grid statistics.

The rules also provide specific incentives for grid companies' adoption of DSM programs. It states that: "[t]he DSM fund shall come from the public utility surcharge beyond the electricity rate, revenue from the differentiated electricity prices, and other government budget allocations;" "[t]he DSM fund shall be used for construction, operation and maintenance of power load management system, subsidies to implement pilot, demonstration and key projects, subsidies to implement orderly power consumption and promotion, training and evaluation related costs;" and finally, "[l]egitimate expenses in DSM implementation by power grid companies may be incorporated into power supply cost."

## About the Alliance

The China-US Energy Efficiency Alliance is a non-profit organization dedicated to combating global climate change by promoting energy efficiency as the cleanest and least expensive energy resource in China. The Alliance works with experts, officials, and other key stakeholders in china and the United States to pool financial and technical resources to help China design and implement large-scale energy efficiency incentive systems known as demand-side management (DSM) programs. We are able to achieve substantial and concrete results by working directly with key Chinese officials at national and provincial levels who have invited the Alliance to provide regulatory and technical advice and training related to DSM design and imple-

mentation. In addition to our direct assistance, the Alliance is also building a network of stakeholders interested in promoting energy efficiency in China. We engage key US and Chinese experts through our Leadership Council and Technical Advisory Group, and work in cooperation with other leading governmental and non-governmental organizations to help achieve our mission. the Alliance also hosts conferences and other events to engage a diverse group of leaders, believing that it is only through a comprehensive, multi-disciplinary approach to efficiency that China and the US can collectively work towards providing environmentally sound energy options.

## Our Partners

The Alliance would like to acknowledge our Partners for their technical, financial, and in-kind support.

