

## Overview

### International DSM Forum – July 2007

The China-U.S. Energy Efficiency Alliance was instrumental in conceiving and organizing the International Forum on Demand Side Management (DSM), held in Beijing on July 24, 2007, , along with a workshop on the Development of a DSM Implementation Manual and related follow-up activities. This was the most important event in China's DSM history, in terms of both the level and extent of participation, according to the Minister of China's National Development and Reform Commission (NDRC) who spoke at the opening session of the event.

Officially hosted by China's National Development and Reform Commission (NDRC) and Ministry of Finance (MOF), and cosponsored by the Natural Resources Defense Council (NRDC) and China's two giant (and only) grid companies - State Grid and Southern Power Grid - the Forum brought together over 300 participants from China representing government agencies, electric utilities, energy service companies and research institutions. The Alliance arranged for presentations by a number of US and international experts.<sup>1</sup>

#### Presentations at the Forum

China's Vice Premier Zeng Peiyan sent a congratulatory letter to the Forum stating that the Chinese government has attached great importance to demand side management in order to deal with rising energy demands and environmental problems resulting from power generation. Vice Premier Zeng said that the Forum would provide a platform for China to learn from other countries' experience in power management.

Ms. Ou Xinqian, Vice Minister of NDRC, spoke at the opening session of the event emphasizing the importance of DSM in saving energy, reducing emissions and pursuing sustainable development in China. She indicated that the Government of China will make great efforts to further strengthen the country's DSM activities through: (1) giving a higher priority to promoting DSM; (2) fully utilizing taxes, financing, pricing and government investments as effective leverage to support DSM; (3) developing pilot projects that can be expanded throughout China; (4) strengthening the rules and regulations governing DSM and energy efficiency; and (5) improving public awareness and promoting wider participation in DSM.

Peter Lehner, Executive Director of NRDC, delivered a keynote speech at the Forum. He reviewed the alarming reality of China's reliance on coal for meeting unsustainable increases in energy demand. He talked about the country's energy future and the enormous, urgent need for energy efficiency measures in China. He introduced the experience NRDC has had in collaborating with China's central and provincial governments on promoting the widespread adoption of cleaner, more efficient power plants, vehicles, and buildings. Lehner also discussed the recent efforts by NRDC to work with Chinese partners to identify opportunities for substantial

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<sup>1</sup> NRDC and the Alliance wish to thank the China Sustainable Energy Program (CSEP) of the Energy Foundation and David and Lucille Packard Foundation for its strong and longstanding support of, and partnership in, promoting DSM in China. Funding for other U.S. experts to participate in the Forum and DSM Manual activities was provided by the Renewable Energy and Energy Efficiency Partnership, PG&E Corporation, Southern California Edison Company, the Regulatory Assistance Project and the National Association of Regulatory Utility Commissioners.

energy savings through DSM, and to develop specific incentive programs that would best capture these efficiency opportunities in a way that fits China's context.

In his opening speech, Mr. Zhu Guangyao, Vice Minister of China's Ministry of Finance, proposed a series of measures aimed at building a resource-saving and environment- friendly society. These measures include, among others: (1) waiving or reducing business income taxes for revenue generated from qualified projects that help save energy/water and protect the environment; (2) providing proportional tax deductions for investment in energy efficiency and environmental protection equipment; (3) increasing resource taxes and reforming fuel taxes; (4) removing or reducing export tax rebates for export of energy intensive, heavily polluting and resource consuming products; (5) developing new tax incentives for renewable energy resources; and (6) providing new tax incentives for building retrofits and new constructions that save energy and reduce land use.

Vice Minister Zhu indicated that the focus of China's public finance will be to: (1) support ten key energy saving programs; (2) close down factories that are energy intensive and heavily polluting; (3) disseminate energy efficient products including a plan to utilize central government funding to distribute 50 million highly efficient lighting products; (4) establish an energy efficiency labeling system that combines mandatory standards with voluntary measures that can qualify for financial subsidies; and (5) create a renewable energy development fund through central government funding.

Executives from China's two grid companies introduced their efforts to promote DSM and discussed the challenges they are facing in the harmonious development of the power industry and China's national economy. Officials from provincial governments including Hebei, Jiangsu and Guangdong introduced the experience of their respective DSM programs, describing the organizational structures, funding mechanisms, program implementation methods, program outcomes, and issues that need to be addressed. A representative from the China's Energy Service Industry Association assessed the development of the ESCO industry in China, pointing out barriers to adopting energy performance contracting, and discussing opportunities and challenges for the energy service industry in China.

Next on the agenda were presentations from the team of U.S. experts organized by NRDC and the Alliance to come to China and introduce US experience at the federal and state levels in carrying out a variety of energy efficiency programs. These experts have extensive experience in utility rulemaking, project design, program implementation, and program monitoring, evaluation and verification.

The Honorable Marsha Smith, Idaho Public Utility Commissioner, upcoming President of the National Association of Regulatory Utility Commissioners (NARUC), and co-chair of the U.S. National Action Plan for Energy Efficiency, presented the regulatory structure for electric service in the U.S., and introduced the U.S. National Action Plan for Energy Efficiency.

Gene Rodrigues, Director of Energy Efficiency at Southern California Edison (SCE), discussed DSM models and practices in California. He described California's innovative energy policy framework, in which energy efficiency is specified as the first resource in the State's energy loading order and through which utilities' interests are aligned with the state policy objectives. He also discussed how utilities play the role of the resource portfolio manager by integrating DSM into their long-term resource plans. He also introduced SCE's industrial DSM programs. In addition, he described the important role of the China-US Energy Efficiency Alliance in

bringing both countries together to protect the global environment by harnessing energy efficiency as a valuable resource.

Michael Wickenden, the Vermont Energy Efficiency Utility Contractor Administrator, introduced a different model of conducting energy efficiency programs, *i.e.*, a program that is administered by an independent third party in accordance with a performance-based contract. Mr. Wickenden discussed the objectives and scope of Vermont's DSM program, its organizational structure, funding mechanism, and the impressive results of the program to date. He also reviewed the ways in which performance contracts are designed and managed and how results are evaluated and verified.

David Moskovitz, Director of the Regulatory Assistance Project, presented the concept of, and China's experience with, Energy Efficiency Power Plants (EPPs). He compared EPPs with conventional power plants (CPPs) in terms of resource consumption, emissions and costs. He then discussed several policy options aimed at bringing EPPs and CPPs to an equal footing through needed policy reforms.

Experts from Denmark and international agencies, including the International Energy Agency (IEA) and the Asian Development Bank (ADB), also gave presentations on their respective experiences with DSM. Mikeal Togeby from Denmark described how energy efficiency work is carried out in his country and, in particular, discussed the policy and financial leverage used to promote energy efficiency, including CO<sub>2</sub> quotas, taxes, efficiency standards, appliance labeling, and DSM-related tariffs. Hans Nilsson, the Head of IEA's DSM Program discussed DSM in general as well as recent activities supported by the IEA. Zheng Kangbin from the ADB discussed the importance of exploring innovative approaches to finance efficiency projects in China through greater participation of domestic ESCOs and local banks. He also reviewed ADB's energy sector strategy for China with specific instruments including project loans, technical assistance, knowledge products, and carbon market initiatives.

### **Compilation of DSM Implementation Manual**

On July 25<sup>th</sup>, as an immediate follow-up activity to the DSM Forum, a Workshop was held to launch the project to develop a DSM Implementation Manual. The Workshop was co-chaired by NRDC and the China-US Energy Efficiency Alliance, along with the relevant department of NDRC and the State Grid Company. Over 30 Chinese experts from central and provincial government agencies and from energy service companies attended the Workshop, along with a team of U.S. experts organized by NRDC and the Alliance.

This project brings together US and Chinese experts to develop a set of tools and criteria for implementing DSM policies and programs at the national and local levels, taking into account international best practices as adapted for use in China. The purpose of the Manual is to help to ensure that DSM implementation will produce intended energy efficiency and emission reduction results and to provide appropriate mechanisms for measuring and verifying results.

To kick off the substantive discussion, Steven Schiller, Vice Chair of the California Climate Action Registry and member of the Board of Directors and Treasurer of the Efficiency Valuation Organization (EVO), discussed how evaluation, monitoring, and verification (EM&V) of energy efficiency programs are conducted in the U.S. Officials from Hebei, Shanxi and Guangdong

Provinces then described their respective experience in managing and implementing their DSM programs.

At the meeting, attendees expressed various opinions regarding the purpose, scope, need for, and target audience for a national DSM Implementation Manual. The participants agreed that the initial scope should be focused on key programs such as industrial energy efficiency since it is China's top priority during the current Five Year Plan. They also agreed that the Manual should be practical, easy to understand and simple to follow, and that the Manual needs to be flexible and regularly updated to reflect policy changes and lessons learned.

There was also a consensus among participants that in some areas, such as program selection, program financing, and program design and implementation, the Manual should provide various options rather than a one-size-fits-all solution so that each province can choose among options based on their unique situation. In other areas, such as measurement and verification of savings, the Manual should provide a consistent means for measuring performance and enable comparisons among provisions and compilation of national statistics.

Attendees also agreed that the Manual should clearly define government roles and responsibilities at each step of the process so that DSM implementation will always receive appropriate guidance from the responsible authorities. Participants also concluded that the Manual should evaluate best practices and provide successful case studies — both international and domestic. They agreed that these best practices would serve as a useful guidance for provinces that do not yet have a DSM program.

At the end of the Workshop, NDRC officials asked the NRDC/Alliance experts to work with the State Grid Corporation DSM Center in Jiangsu to develop an outline for the Manual.

### **Development of Manual Outline**

On July 26<sup>th</sup>, the Jiangsu DSM Center staff held a whole day meeting with U.S. experts, during which they completed an annotated draft outline. The draft outline addressed the following ten chapters: introduction; indicators of program success; institutional structure for program implementation; portfolio composition and program design; program implementation process flow and procedures for one or more program design options; project process flow and procedures for each program option; evaluation, measurement and verification of savings; DSM cost-effectiveness (best practices); and program data tracking and reporting. The outline also included appendices addressing case studies, resources for program and project implementation, references for technical information, a glossary, standard forms, and software tools. It was estimated that the Manual will be approximately 200-pages long.

On July 30<sup>th</sup> and August 1<sup>st</sup>, the Jiangsu DSM Center staff held several additional meetings in Nanjing with the U.S. expert team to further elaborate the outline. John Plunkett, an NRDC/Alliance consultant, completed the final draft of the outline based on the DSM Center's analysis and comments. Since Jiangsu DSM Center staff has indicated that China does not currently have the expertise and experience to develop a DSM Manual, they asked the US experts to produce a draft and a team of Chinese experts will work with the Americans experts to make appropriate modifications.

Six people from the U.S. team will participate in the compilation of the Manual. The targeted date for completing the first draft Manual is June 2008.

## **Next Steps for the Alliance**

There is no doubt that the 2007 International Forum on DSM was a milestone event in China. As several ministers indicated in their opening speeches, the Chinese government is determined to push DSM to a higher level. The presentation made by the U.S. experts stimulated great interest on the part of Chinese officials. They would now like to learn more about how to utilize the U.S. experience to best capture the enormous efficiency opportunities in China in a way that fits China's unique situation. As result of this Forum, Chinese officials are looking to NRDC and the Alliance for further help.

The development of the DSM Manual is an important first step, as it will provide a comprehensive guideline on implementing DSM programs leading to measurable results that are consistent and verifiable. NRDC and the Alliance expect to be involved in other cooperative activities with the Chinese in order to facilitate the effective implementation of DSM policies and programs. For example, we will host a 20-person high-level delegation of Chinese government decisionmakers to come to the U.S. for three weeks in October to learn more about DSM. Among other things, they want to learn more about California's success in producing robust economic growth over the last three decades without any growth in per capita energy use. In addition, through visits to other key states and Washington, DC, the delegation will analyze the advantages and disadvantages of different types of funding and administrative mechanisms for DSM programs in China. We hope to follow up this exchange with a visit by Commissioners Dian Grueneich and Art Rosenfeld to China in December.

We are also continuing to work with Jiangsu on all aspects of their DSM pilot program design including: the type, structure and level of financial incentive and other (e.g., technical) assistance to be offered to participants; marketing approaches to attract segments of the target audiences; efficiency thresholds to determine eligible measures and equipment; administrative, diagnostic and quality control procedures; the number and kinds of customers eligible to participate; and specifications, protocols, and timing for process and impact evaluation.

The Alliance also serves as an Implementing Party to an Agreement on Cooperation between the California Public Utilities Commission, the California Energy Commission, and the Jiangsu Provincial Economic and Trade Commission. The purpose of this Agreement is to facilitate and establish cooperative activities to advance the common interests of the Parties and their industries in DSM and renewable energy policy and implementation, and to help remove market barriers opening up China's market for clean and energy efficient technologies and products.