Danish Energy Agency

China: China Renewable Energy Integration Group organizes meeting in Beijing about Flexibility in the Power System

The great participation and lively discussion at the CVIG meeting indicates that flexibility holds an increasingly important spot on the political agenda when key stakeholders in the power sector get together in China.

China Renewable Energy Integration Group (CVIG) arranged an international seminar about flexibility in the Chinese power system in Beijing on the 29th of April, 2015. Flexibility in the Chinese power system was treated from various perspectives through 12 presentations mainly from Chinese experts, but also international, including Danish, representatives. The seminar was well-attended with nearly 100 participants, and moderated by Bai Jinhua from State Grid Renewable Energy Committee.

Measuring and Assessing the Flexibility of the Power System

The topic of discussion during the morning sessions revolved around measuring and assessing the flexibility of the power system. Those presentations were made by Chinese Institutes and Universities demonstrating that the issue of flexibility is now receiving large attention in research and applied research institutions. This is encouraging in terms of the future prospects of increasing the power system flexibility in China and integrating more renewable energy into the system.

Professor Lu from Tsinghua University described how the market mechanism already has been adopted in pilot projects: Introduction of penalties when the power plants are deviating from their schedules and payments for up- and downward regulation power.

Unexploited Potential

From NREL in the US, Michael Miligan presented the challenges for the 21st

century power system when the amounts of variable renewable energy production have increased and a significant reduction of the use of coal has been achieved. A market based power system will ensure flexible technology and a flexible operations manner. We will also see a closer coupling of the various subsectors as power system, transportation and heat.

One key message from these sessions was that a large technical potential for flexibility already exists in China, but it is not yet exploited. An example is that the curtailment of wind power has been reduced from nearly 20% in 2012 to 11% in 2013 and now 8% in 2013 by changing the central dispatch orders. Likewise the technologies on the transmission side exist to allow for flexible operations of the grid.

Incentives and Remuneration for Flexible Behavior

The afternoon sessions were devoted to the institutional issues related to releasing the potential for flexibility in the power system, i.e. creating the incentives and remuneration for flexible behavior by the participants in the power market, and how can it be valued.Chinese researchers presented case studies of the impact and efficiency gains that can be obtained by flexible operations of power plants and cogenerations schemes.

Torsten Lund from the Danish TSO, Energinet.dk, presented the Danish and European challenges in relation to flexibility and the solutions: The reinforcements of the transmission systems, the flexible power plants, the integrated markets and standard products, the common European network codes and the advanced scheduling and forecasting systems.

Marcus Steigenberger from Germany presented a few extreme cases from Germany. One was a follow-up on the solar eclipse in March 2015. He demonstrated how the market successfully had managed this extreme situation without jeopardizing the security of supply. The power system had adapted to the steep declines and rapid increases in the load due to changes in power production from solar PV in Germany.
Flexibility is really coming part of the agenda for the power sector in China.

[About the Danish-Chinese cooperation]

Niels Bisgaard Pedersen
Fuldmægtig
Center for Global Rådgivning og Forhandling

Tlf.: 23 39 36 66
nbp@ens.dk

Contacts

Ture Falbe-Hansen
Head of Press (+45) 2513 7846 tfh@ens.dk