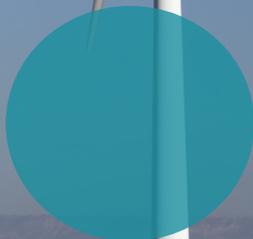




Danish Energy
Agency

The joint
Danish-Chinese
cooperation
on climate, energy
and building





China and Denmark cooperate on climate, energy and building

Greening our energy production and consumption is crucial in order to keep providing a reliable energy supply, sustaining economic growth and meeting the future energy challenges at the same time. Increased use of renewable energy sources as well as making energy efficiency an integrated part of the energy system is essential to sustain our modern society.

China has experienced a staggering industrial and economic development since the early 1980s, which has made China a key player when it comes to tackling

carbon emissions. Denmark is a pioneer on greening the energy system and has shown that through persistent and active policy-development, it is possible to sustain economic growth, while simultaneously reducing the use of and dependence on fossil fuels.

Joint effort to accelerate green development

In order to stay on the right track and at the forefront of renewable energy and energy efficiency development, the Danish Ministry of Climate, Energy and Building has signed

five official Memorandums of Understandings with the Chinese authorities:

- The National Development and Reform Commission (NDRC).
- The National Energy Conservation Centre (NECC).
- The National Energy Administration (NEA).
- The Ministry of Housing and Urban-Rural Development (MOHURD).
- The Ministry of Science and Technology (MoST).

Moreover Denmark and China have signed a bilateral intergovernmental cooperation in which the focal point is the China National Renewable Centre (CNREC). Here Danish and Chinese experts work together to analyse the possibilities of for expanding renewable energy within Chinese energy system using the many decades of Danish experience within the field. Also, joint Danish/Chinese partnerships in energy research institutions and private companies have been established. Mitigation of greenhouse gases, expanded use of renewables and energy efficiency in buildings are core elements in the Sino-Danish co-operation.

Green tech has also proved a remarkable business opportunity and Danish and Chinese companies are deeply engaged in providing the needed technical solutions on the ground, which is essential in achieving a successful green energy transition. Here the cooperation agreements speak

to public- private partnerships seeking to improve the cooperation between Danish and Chinese companies, organisations and institutions. The agreements aim to facilitate the establishment of strong Sino-Danish networks that can lay the foundation for future collaborations between Denmark and China within renewable energy.

Joint Sino-Danish program on renewable energy

From 2009 to 2014 the Danish supported Renewable Energy Development (RED) program has involved Danish and Chinese parties in the development of renewable energy. The RED program featured two components. The first focused on the establishment and operation of the Chinese Centre for renewable energy, CNREC. The second involved the initiation of 12 projects between Danish and Chinese companies and institutions about research and development within renewable energy. The projects aimed to encourage joint innovation projects and business cooperation and covered activities within offshore wind, biomass, bioethanol, solar cells, planning and integration of renewable energy.

The RED program was finalised at the end of 2014. From January 2015, CNREC has reached an agreement with the British Children's Investment Fund Foundation (CIFF) for support from 2015-2019. The investment from the British charity in CNREC is initiated through the five-year

Maximising Renewable Energy in the Energy System Program and is technically supported by DEA and the US National Renewable Energy Laboratory (NREL).

The China National Renewable Energy Centre in Beijing

On the 23rd of February 2012 the Danish Energy Agency (DEA) signed a cooperation agreement with China National Renewable Energy Centre in Beijing that aims to strengthen Chinese capacity at the institutional level. The centre falls under the National Energy Administration as a part of the Chinese energy authorities and contributes to the development of strategies, action plans and legislations for renewable energy.

A focal point in the cooperation between DEA and CNREC is to prepare Chinese 2050 scenario analysis based on the Danish experiences in system solutions, where scenarios form the basis for assessing the future energy demands. The specific purpose of the scenario project is to clarify challenges

and solutions emerging from an extensive expansion in renewable energy in China. Based on the scenarios, roadmaps for different renewable energies will be prepared to contribute to the overall development of the energy sector and define priority areas for the implementation of renewable energy.

The five Sino-Danish agreements

The five Memorandums of Understandings are:

1. Agreement with National Energy Administration of the People's Republic of China (NEA)

- Cooperation on capacity building and knowledge exchange within renewable energy. Collaboration on the development of instruments and methods regarding an extensive expansion with renewable energy in China.
- Strengthening the Sino-Danish cooperation on encouragement of renewable energy, which inter alia contributes to



encourage the application of Danish renewable energy technological solutions and experiences in China.

- Adds to the promising cooperation with China National Renewable Energy Centre (CNREC) and will leverage the already existing cooperation, which includes the extension and grid integration of renewable energy, scenario analyses, research and development etc.

2. Agreement with the National Energy Conservation Centre, People's Republic of China (NECC)

- Constitutes the framework for the implementation of energy efficient activities based on the agreement with NDRC, including exchange of experiences on administration, technology, promotion of Sino-Danish projects, organization of workshops and meetings etc.
- Promotes the exchange of political studies within energy efficiency and enables discussions on design and implementation of energy efficiency

strategies.

- Supports demonstration projects and promotes advanced technology and experiences within energy efficiency in China.
- Encourages exploration of financing models in the energy efficiency sector with a special focus on companies, and promotes the implementation of energy saving projects through the exchange of experience on ESCO-models.

3. Agreement with Ministry of Science and Technology of the People's Republic of China (MoST)

- Encourages Sino-Danish partnerships within research and development in relation to renewable energy, energy efficiency and smart grids.
- Paves the way for seminars and workshops across borders and sectors and encouragement of research, development and demonstration projects consisting of public-private partnerships.
- Establishes joint projects between the Danish Energy Technology Develop-

At the moment the cooperation with CNREC particularly focuses on the following issues:

- 2050 scenario analyses and technology catalogues.
- Roadmaps for expansion with renewable energy (solar, biogas, biomass and bio fuels).
- Integration of renewable energy and flexible electricity systems.
- Establishing a pilot project in Yilan County near Harbin.
- Research and technological demonstration (RED Component 2).

The Danish Energy Agency's cooperation with China National Renewable Energy Centre.



ment and Demonstration Programme (EUDP) and the Department of International Cooperation of MoST.

- Makes it possible to scope the opportunities for establishing a joint innovation centre for renewable energy, energy efficiency and smart grids.

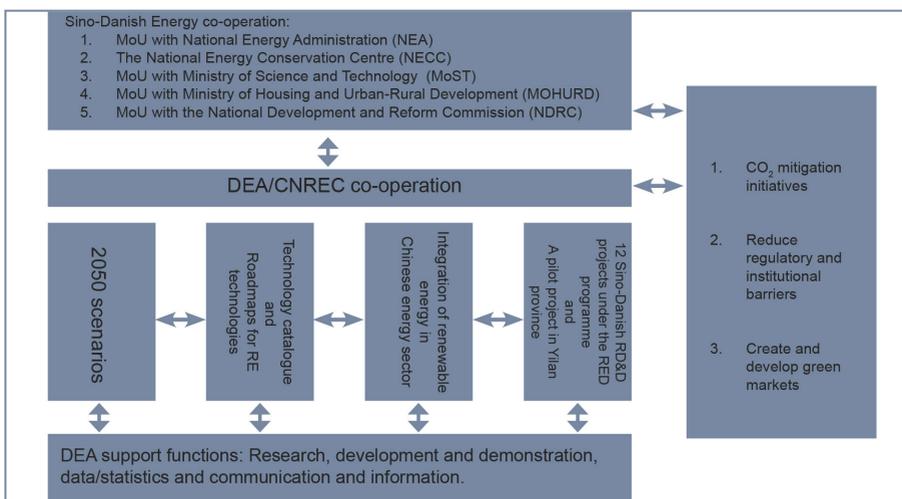
4. Agreement with Ministry of Housing and Urban-Rural Development of the People's Republic of China (MoHURD)

- The agreement strengthens the cooperation between China and Denmark regarding low-energy building, including development and promotion of energy efficiency, sustainable building and energy efficient building materials.
- A working group under the agreement will consider the possibilities for establishing a cooperation on low-energy demonstration building in China. Under the agreement seminars, courses of

development etc. will be arranged, where Chinese authorities can be informed about Danish experiences with low-energy building, e.g. requirements and regulations within energy efficient building in Denmark.

5. Agreement with the National Development and Reform Commission, People's Republic of China (NDRC)

- The agreement's objective is to promote a mutually beneficial partnership between Denmark and China in the field of climate and energy planning, and to promote the transition to low carbon economies, enhance efforts to mitigate climate change and enhance opportunities for green growth.
- The two parties will cooperate and exchange views on various areas of interest, e.g.:





- Low carbon and energy efficiency plans
- Best practice in support schemes for green technology research, development, demonstration, test and certification.
- Energy efficiency policy e.g. energy standards and labelling, energy saving schemes and measures of pricing and taxation of energy.
- Promotion of energy efficient and low carbon community, including efficient district energy, clean and smart solutions and partnerships in low carbon cities, low carbon industrial parks, buildings and energy efficient building materials.

The Danish Energy Agency's Centre for Global Cooperation supports emerging economies to combine sustainable future energy supplies with economic growth. The initiative is based on four decades of Danish experience with renewable energy and energy efficiency, transforming the energy sectors to deploy increasingly more low-carbon technologies.

Learn more on our website:
www.ens.dk/global-cooperation

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