



New report shows the way for China's green energy transition

As the world's largest CO₂ emitter, China plays a crucial role in reducing global emissions. The country's massive expansion of solar and wind power is the right way to go, though energy efficiency and market mechanisms must be improved if the goal of carbon neutrality is to be achieved. This is according to a new Chinese report to which Danish experts have contributed significantly and which is actively used in the development of Chinese energy policy.

'China Energy Transformation Outlook 2024 - Executive Summary' (CETO-2024) is being launched today at COP29. The report has been prepared by the Chinese governmental think tank Energy Research Institute in close collaboration with experts from the Danish Energy Agency. The report takes stock of China's green energy transition. It shows how China can break the curve on the country's CO₂ emissions from the energy sector *before* 2030 and that China's energy supply can become carbon-neutral *before* 2060, which are China's latest announced climate targets. If China follows the CETO-2024 recommendations, the country's energy system can become green, secure and cost-effective, contributing to fulfil the goals of the Paris Agreement.

China's large share of global CO₂ emissions makes it essential that China reaches the goal of carbon neutrality as soon as possible. An important tool for illustrating the path to carbon neutrality is the preparation of CETO-24. The report shows scenarios for the development of the energy system ahead of 2060 and it is based on decades of Danish experience with long-term energy planning.

Relevant Chinese ministries use the results of CETO-24 in their daily work with energy policy development. In recent years, CETO reports have been presented by China's Special Climate Envoy at the UN Climate Change Conference, which shows the importance that the report is given from the

Chinese side.

10,000 gigawatt of solar and wind by 2050

China has massively expanded solar and wind power in recent years. In 2023 alone, 293 gigawatt of solar and wind power were installed, and up to 400 gigawatt of new capacity is expected in 2024.

CETO-2024 shows that this is the right way to go. The backbone of the future energy system must be electricity from solar and wind rather than coal. In comprehensively analyzed scenarios, the report shows that it will be possible to install more than 10,000 gigawatt of solar and wind in the Chinese energy system by 2050. This gives China the opportunity to transition to a carbon-neutral energy system before 2060, even in a scenario where the Chinese economy more than triples by 2060.

In addition to investments in solar and wind, the report points out the need for a massive effort to improve energy efficiency and electrify industry, buildings and the transport sector. The production of green hydrogen will also contribute to the necessary reduction of CO2 emissions. China should also continue to develop its electricity market, CO2 quotas and green certificate system to accelerate the transition to a green energy system.

[Read 'China Energy Transformation Outlook 2024 - Executive Summary' \(CETO-2024\)](#)

Facts

- The presentation of CETO '24 Executive Summary will take place at the Chinese Pavillion, blue zone, at 11.30 local time at COP29
- The Danish Energy Agency's energy cooperation with China is part of Denmark's Strategic Partnership with China, which was established in 2008.
- Denmark has had a cooperation on energy with China since 2005 and the collaboration is also based on specific cooperation agreements between the Danish Ministry of Climate, Energy and Utilities and relevant Chinese ministries. The current programme runs until the end of 2025.
- Green transition is the focal point of the bilateral cooperation, as stated in the [Green Joint Work Programme 2023-2026](#), which was signed last year between China and Denmark.
- The purpose of the energy cooperation is to accelerate China's green

transition to reduce global CO2 emissions and is part of Denmark's global climate effort.

- The Danish Energy Agency's contribution to CETO consists of building detailed models of the Chinese energy system, which the Chinese think tank, Energy Research Institute, uses in its analyses. The Danish Energy Agency has also contributed with Danish experiences in developing the electricity market, among other things.
- The Danish energy model is based on the experiences of more than 50 years of successful transition with ambitious political goals for renewable energy and a stable, flexible and efficient energy system. Through its practices, Denmark has shown that it is possible to combine continued economic growth with a reduction in CO2 emissions.
- Denmark has 25 energy partnerships with countries that collectively emit more than 70 per cent of the world's CO2 emissions. In addition, Denmark has a number of short-term country cooperations. By sharing and expanding knowledge and capacity in the partner countries' national authorities, policy makers are empowered to make sustainable and cost-effective energy policy decisions that support the global green transition.

Contacts

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