



China, a leader of renewable energy expansion worldwide and a key country for global energy transitions

The IEA works on policy design and implementation with Chinese government entities and experts across the energy sector



Tangible impact on policy reforms: China's Basic Rules for Electricity Spot Markets aligned closely with IEA recommendations



Support to Chinese government agencies on energy efficiency, the national power market and policies on renewables



IEA recommendations reflected in China's 14th Five-Year Plan and national policy documents

Key facts



China's **power system**, the largest in the world, accounts for

around **17%**

of **global energy sector CO₂ emissions**



over **50%**

of **China's energy-related CO₂ emissions**

1 out of 3 tonnes of coal used in the world is burnt in a coal power plant in China



In 2022, China accounted for almost **half** of all new **renewable power capacity** worldwide

By 2024, China will deliver



almost **70%**

of all new **offshore wind** projects globally

over **60%**

of new **onshore wind**



50%

of all new **solar PV** projects

► Power markets

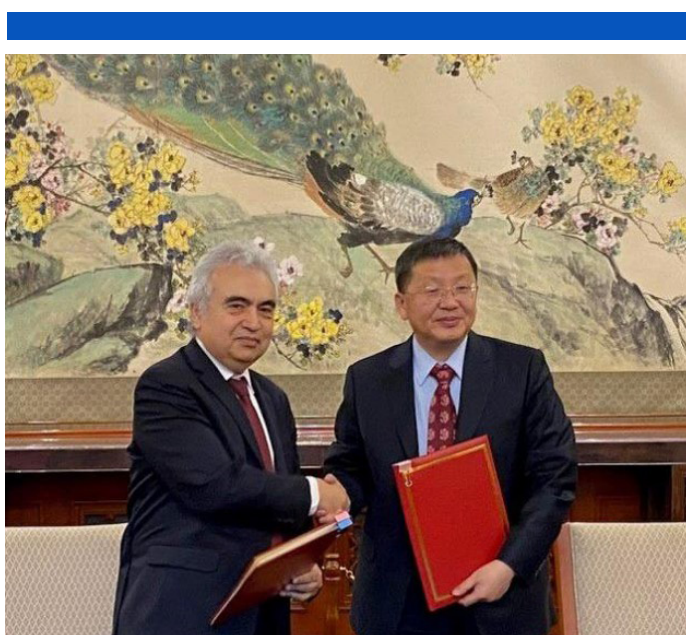
The IEA report, *Building a Unified National Power Market System in China* (2023) provided recommendations to improve the coordination of markets across the country and within provinces. It had a tangible impact on policy reform in China – some of the recommendations of the report were reflected in a national policy, Basic Rules for Electricity Spot Markets, announced in September 2023 by the National Energy Administration (NEA) and the National Development and Reform Commission (NDRC).

► Renewable energy policy

Following the inclusion of references to IEA recommendations in China's 14th Five-Year Plan for Renewable Energy Development (2021-2025) and national policy documents, exchanges between the IEA and the New and Renewable Energy Department of the NEA have continued. They support the implementation of China's ambitious 14th Five Year Plan targets and focus on bioenergy and renewable heat applications, international approaches to green certificates, and best practices in renewable energy development.

► Groundbreaking carbon neutrality roadmap

The 2021 IEA report, *An Energy Sector Roadmap to Carbon Neutrality in China*, became a blueprint for national roadmaps for other countries. The report was well received by Chinese officials and experts and featured in several key publications and energy periodicals. The livestreamed launch was watched by over 670,000 people across China and was referenced by stakeholders outside China, especially in the leadup to the COP26 climate summit. The report laid the groundwork for ongoing collaboration and catalysed a wave of collaborative projects.



— Dr. Fatih Birol with Minister Zhang Jianhua, Energy Minister, in Beijing in July 2023

► Energy efficiency

The IEA continues to strengthen cooperation with China on energy efficiency and demand-side flexibility. We provided policy advice on energy efficiency in public buildings and the deployment of heat pumps to the NDRC's Department of Resource Conservation and Environmental Protection. This dialogue led to the signing of a new four-year MoU by IEA Executive Director Fatih Birol and the NDRC Vice Chairman Zhao Chenxin during the IEA's 8th Annual Global Conference on Energy Efficiency in 2023. The IEA also focused on the building sector through a detailed analysis of China's building code, exchanges with the Chinese Academy of Sciences on grid-interactive efficient buildings and ways to accelerate the deployment of heat pumps. The IEA also worked closely with the China Council for an Energy-Efficient Economy to produce a [full Chinese translation](#) of the *Energy Efficiency 2023* report.

► Accelerating sustainable investment in China

The IEA actively explores and promotes clean energy investment in China, analysing market dynamics and fostering international collaboration to advance sustainable finance for energy transitions. This work was exemplified by a virtual workshop in May 2024, where policymakers and experts from China and ASEAN shared strategies for financing clean energy projects with sustainable debt instruments. Previous IEA analysis examined China's leading role in the sustainable debt market, particularly in green bonds. It provided valuable insights into China's state-led market expansion, offering lessons for emerging markets and strengthening the global dialogue on sustainable finance. This in-depth analysis, a first for the IEA, fed into the *World Energy Investment 2024* report.

Opportunities for engagement

- Flexibility of power markets and integration of renewable energy**

The IEA is working with China's NEA to continue to inform policies related to power market reform that will support flexibility as China introduces more renewable energy sources into the power system.
- Preparations for the macro-economic 15th Five Year Plan (2026-2030) will be starting soon**

The IEA aims to provide analysis and policy advice to China on the cost-effective integration of distributed energy resources and strengthening energy efficiency policies.
- Heat pump deployment**

Following the publication of [The Future of Heat Pumps in China](#), a joint report with Tsinghua University and with support from the NDRC, the IEA is continuing to inform national and regional policymaking to enable this technology to be rolled out nationally.

This work is supported by the **Clean Energy Transitions Programme**, the IEA's flagship programme for taking action to achieve a clean energy transformation worldwide.

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