

● NOVEMBER 2022

CHINA ENERGY POLICY NEWSLETTER

China Energy Transformation Programme

1. Project activities

CETO 2023 Special Report for COP27 launched in Egypt

On November 16, 2022, the Energy Research Institute of the Chinese Academy of Macroeconomic Research (ERI of AMR) hosted a COP27 side event, "Challenges and Solutions for Energy Transition towards Carbon Neutrality", in Sharm El-Sheikh, Egypt. The event invites senior experts, governmental representatives and industry leaders from China, Denmark, the United States, and international organisations to discuss China's and global energy pathway towards carbon neutrality through technology advances, policies and international cooperation while dealing with the challenges on energy security as well as mitigation of climate change. The event also releases the *China Energy Transformation Outlook 2023: Special Report for COP27* with a status for the energy transformation progress in China, Denmark and internationally.



The [Chinese](#) and [English](#) versions of the *Special Report* are now ready to download on the China Energy Transformation (CET) programme's website.

At ERI's COP27 side event, the China Special Envoy for Climate Change, Xie Zhenhua, the Minister of Climate, Energy and Utilities in Denmark, Dan Jørgensen, and the Deputy Executive Director of the International Energy Agency (IEA), Mary Warlick, gave the welcome speeches. Followed by a keynote section, Associate Professor An Qi from the ERI of AMR, and Director General Ulrik Eversbusch from the Danish Energy Agency, presented the status and outlook of China's and Denmark's energy transition towards carbon neutrality, respectively.

Kaare Sandholt, the International Chief Expert of the CET programme from the ERI of AMR, introduced the main conclusions of the *Special Report* online and answered the key questions of global audiences.

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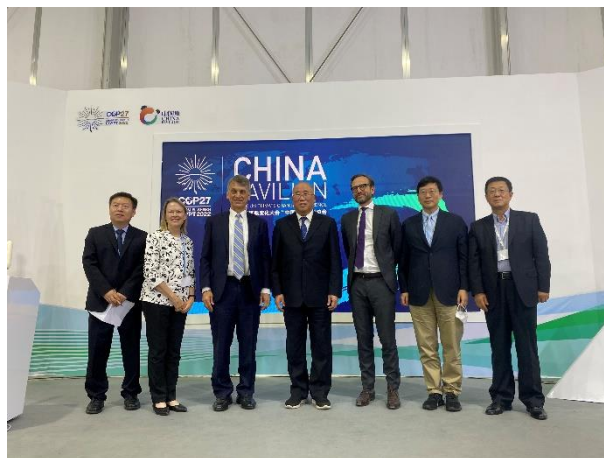


Mary Warlick, Deputy Executive Director IEA (left); Xie Zhenhua, China Special Envoy for Climate Change (middle); Dan Jørgensen, Minister of Climate, Energy and Utilities in Denmark (right).



Ulrik Eversbusch, Director of Centre for Global Cooperation DEA (left); An Qi, Associate Professor ERI of AMR (middle); Kaare Sandholt, International Chief Expert of the CET programme ERI of AMR (right).

During the panel discussion moderated by the Inaugural Fellow David Sandalow from the Center on Global Energy Policy (CGEP) of Columbia University, government officials, academics and experts from the National Development and Reform Commission (NDRC), Chinese Academy of Sciences (CAS), IEA, UNFCCC, National Center for Climate Change Strategy and International Cooperation, Tsinghua University, China New Energy Chamber of Commerce, and ERI of AMR jointly discussed the critical topic of driving energy transition while promoting energy security.



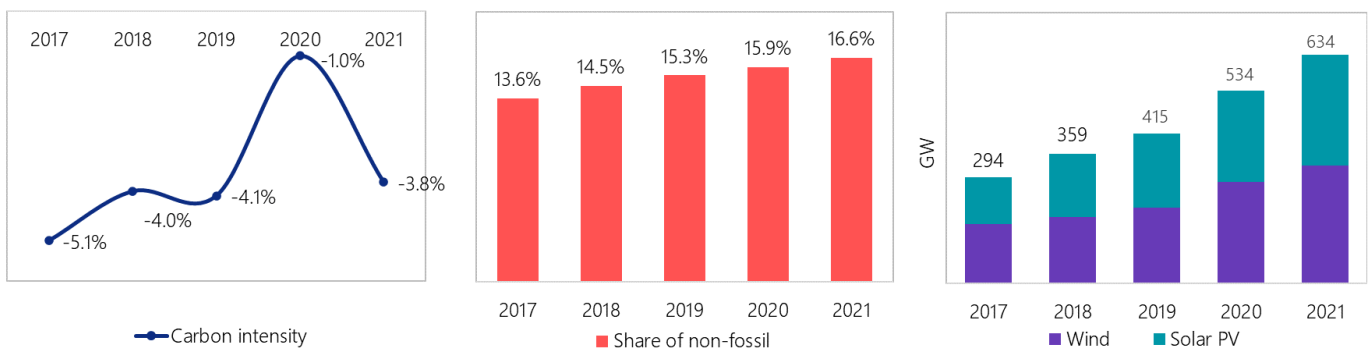
Panel discussion led by David Sandalow, Inaugural Fellow CGEP (left); Group photo of key guests (right).

2. China energy transition updates

MEE releases China's 2022 annual report on climate change

The Ministry of Ecology and Environment (MEE) recently released the *2022 Annual Report on China's Policies and Actions on Climate Change*¹, summarising China's major achievements in addressing climate change in 2021 (see the figure below), and reviewing new deployments and policy actions. In terms of policy, in 2021, China issued the *Outline of China's 14th Five-Year Plan for Economic and Social Development and the Long-term Objectives Through 2035*, which set an 18% reduction in CO₂ emissions per unit of GDP in 2025 compared to 2020 as a binding target (see [here](#) for details). In addition, China formally submitted two documents to the UNFCCC, *China's Achievements, New Goals and New Measures for Nationally Determined Contributions* and *China's Mid-Century Long-Term Low Greenhouse Gas Emission Development Strategy and Enhanced Actions to Climate Change: China's Intended Nationally Determined Contributions*. The documents updated China's nationally determined contribution (NDC) targets, aiming to peak carbon dioxide emissions by 2030 and achieve carbon neutrality by 2060.

2017-2021 Annual carbon intensity reduction rate (left), the share of non-fossil fuel in total primary energy consumption (middle), and total installed wind power and solar PV capacity (right)



Source: National Bureau of Statistics (NBS), National Energy Administration (NEA), accessed in November 2022

The 20th CPC National Congress proposed the concept of building a new-type energy system for the first time

In November 2017 (during the 13th Five-Year Plan period), the report of the 19th CPC National Congress proposed the target of building a clean, low-carbon, safe and efficient modern energy system for the first time. According to the analysis of the report series of *China Energy Transformation Outlook* (see [here](#) for more details) by the Energy Research Institute of the National Development and Reform Commission (ERI of NDRC), the roadmap to achieve this goal includes reducing coal consumption and import dependence on fossil energy, improving energy efficiency and electrification rates, increasing renewable energy supply, hydrogen, and carbon capture, and utilisation and storage (CCUS) utilisation and other major measures. After five years of development, in the report of the 20th CPC National Congress released in October 2022, the concept of accelerating the planning and construction of a new-type energy system was proposed for the first time.² No official interpretation of this has been released yet. According to the content of the official press conference of the 20th CPC National Congress and the analysis of energy experts, the concept of the new-type energy system can be referred to in the following explanation. It includes two core parts, *ensuring energy security and steady development* and *continuing to promote the leap-forward development of new energy*.³

¹ “生态环境部发布《中国应对气候变化的政策与行动2022年度报告》”, Ministry of Ecology and Environment, 27 October 2022, accessed at https://www.mee.gov.cn/ywdt/xwfb/202210/t20221027_998171.shtml.

² “擘画能源高质量发展壮美蓝图”, China Energy News, 17 October 2022, accessed at <https://baijiahao.baidu.com/s?id=1746927878664323673&wfr=spider&for=pc>.

³ “国家发展改革委负责同志出席二十大新闻中心第一场记者招待会并回答记者提问”, National Development and Reform Commission, 18 October 2022, accessed at <https://baijiahao.baidu.com/s?id=1746991583927404515&wfr=spider&for=pc>; “学习二十大 奋进新征程 | 加快规划建设新型能源体系”, China Power Enterprise Management, 28 October 2022, accessed at https://mp.weixin.qq.com/s/xgbzYH8WR_GQ1vRlhZvRQ.

- *Ensuring energy security and steady development:* Coal will remain China's main energy source for a certain period of time in the future. On the one hand, it is necessary to continue to reduce inefficient coal consumption, such as phasing out loose coal (*sanmei*) and deepening electricity substitution, and on the other hand, to improve the coal utilisation rate and reduce carbon emissions through technological innovation and industrial policies; oil and gas resources are of the important pillars of China's energy system, but at present, their dependence on importing is relatively high. Therefore, domestic exploitation and reserves should be increased to replace import demand.
- *Continuing to promote the leap-forward development of new energy:* New energy power generation is one of the important ways to achieve incremental and stock replacement of fossil energy. To build a new-type power system with new energy as the main body, on the one hand, it is necessary to promote the construction of large-scale wind power and solar PV bases, major hydropower and nuclear power projects. On the other hand, it is necessary to investigate and improve the flexibility of the power system. At the technical level, the retrofit of coal power units will effectively enhance the resilience of the power system and the ability of regional mutual assistance; in terms of the market, it is necessary to improve the cost-sharing mechanism in the spot power markets and ancillary service markets, to increase the feasibility and enthusiasm of participating in power system flexibility services; In terms of financial support, to establish a normalised low-carbon power transition financial system to provide financial support for the coordinated development of power resources.

The government further clarifies the scope of total energy consumption control

In December 2021, the Central Economic Work Conference clearly stated that the energy consumption of raw materials during the 14th Five-Year Plan period should not be included in the national and local total energy consumption and energy intensity (energy consumption/GDP) control assessment.⁴ Recently, the NDRC and the National Bureau of Statistics (NBS) have clarified the scope of energy consumption for raw materials. It refers to the energy consumption for the production of raw materials, that is, the consumption of coal, oil, natural gas, and their products in the production of non-fuel and non-power products, such as olefins, aromatic hydrocarbons, alkynes, alcohols, and synthetic ammonia. Their energy consumption will be deducted from each province's total annual energy consumption, and the local energy intensity reduction will be calculated based on the deduction.⁵ According to the NDRC's explanation, this does not mean energy can be consumed unrestricted and inefficiently on raw materials. The energy-saving reviews and energy-saving standards will still put forward requirements for the energy consumption of raw materials.⁶

The third batch of large-scale wind power and solar PV bases declaration has been launched

By October 2022, the government has released the project lists of two batches of large-scale wind power and solar PV bases. The first batch of bases are mainly located in the desert and Gobi areas of 19 provinces including Inner Mongolia, Qinghai, and Gansu, with a total installed capacity of 97 GW, all of which have already started construction; the second batch of bases are mainly located in Inner Mongolia, Ningxia, Xinjiang, Qinghai, and Gansu in the Three Norths, with the focus of four major deserts in Inner Mongolia, coal mining subsidence area, and other deserts and Gobi areas. The declaration of the third batch of bases has been launched recently. According to the declaration requirements published by some provinces, the third batch of bases will continue to focus on desert and Gobi areas, while extending to suitable oil and gas fields, coal mining subsidence areas, stony desertification areas and saline-alkali land. Compared with the first two batches of bases, the third batch of bases will give priority to two types of projects: 1) Off-grid wind-solar-gas-hydrogen projects, that is, projects using natural gas pipelines to transport hydrogen energy produced by renewable energy; 2) Generation-grid-load-storage integration project of wind and solar power that capable for 100% independent peak shaving or self-consumption.⁷

⁴ “中央经济工作会议在北京举行 习近平李克强作重要讲话 栗战书汪洋王沪宁赵乐际韩正出席会议,” Xinhua News, 10 December 2021, accessed at http://www.news.cn/politics/leaders/2021-12/10/c_1128152219.htm.

⁵ “国家发展改革委 国家统计局关于进一步做好原料用能不纳入能源消费总量控制有关工作的通知,发改环资〔2022〕803号,” National Development and Reform Commission, National Bureau of Statistics, 27 October 2022, accessed at https://www.ndrc.gov.cn/xxgk/zcfb/tz/202211/t20221101_1340642.html?code=&state=123.

⁶ “发改委、统计局：进一步做好原料用能不纳入能源消费总量控制有关工作,” Securities Daily, 2 November 2022, accessed at <https://baijiahao.baidu.com/s?id=1748340500804307711&wfr=spider&for=pc>.

⁷ “第三批风光大基地正式启动申报，部分省份文件已下发,” Pvmen, 8 October 2022, accessed at

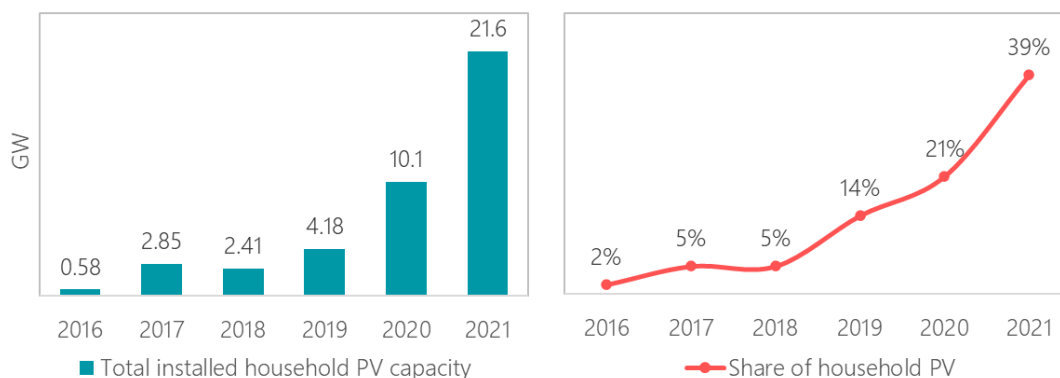
MEE Releases 2021-2022 carbon allowance plan (draft)

In November 2022, MEE released the carbon allowance plan (draft) for the second compliance cycle (2021~2022) of the national carbon market and solicited public opinion.⁸ The *Plan (draft)* proposes total quota, quota accounting and distributing methods, as well as detailed rules for issuance, adjustment, and payment. In general, it continues the idea of the first compliance cycle (2019~2020). The allocation of allowances will continue to be based on the benchmark value of carbon emission intensity. The power generation industry remains the main body of compliance, and the workflow of allowance allocation will remain unchanged. The central bodies of compliance need to complete the payment of allowances before December 31, 2023 (inclusive), and those with insufficient allowances need to purchase allowances in the carbon market. But the difference is that the total amount of carbon allowances issued in 2019 and 2020 was based on the same carbon emission intensity benchmark, while the benchmark in 2021 and 2022 is expected to decrease year by year. This means that power generation enterprises are to receive fewer and fewer free carbon allowances, while the demand for purchased allowances may increase. Since the national carbon market launch in July 2021, the listed price of carbon allowances has been fluctuating between RMB 41/ton and RMB 61/ton.⁹

The government is to study building household solar PVs into CCER

In 2012, the national climate change administrative department issued the *Interim Measures for the Administration of Trading on Voluntary Emission Reduction of Greenhouse Gases* (hereinafter referred to as *Administrative Measures (Interim)*), establishing a voluntary greenhouse gas emission reduction trading mechanism. The document refers to the emission reductions including renewable energy and forestry carbon sinks as Chinese Certified Emission Reduction (CCERs) and can be traded in the carbon market to offset carbon emissions. In 2020, MEE further stipulated that the offset ratio of CCER shall not exceed 5% of the total carbon emission quota for a compliance cycle. In the first compliance cycle after the launch of the national carbon market in 2021 (January 1, 2021, to December 31, 2021), emission enterprises have already used CCER. Currently, MEE is revising the *Administrative Measures (Interim)*, aiming to bring more eligible renewable power generation projects into the CCER category. In recent years, thanks to the feed-in tariff subsidy policy, the development of household solar PVs has accelerated, and by 2021, it has accounted for 39% of the newly installed solar PV capacity, and has become a significant growth pole of renewable power generation. The National Energy Administration (NEA) recently made it clear that the next step will be to study the incorporation of household solar PV into the carbon market to better play the role of CCER.¹⁰

2016-2021 Total installed household PV capacity (left); 2016-2021 The share of household PV in total installed solar PV capacity (right)



Source: NEA and PV-perspective, October 2022

<https://mp.weixin.qq.com/s/bTElhVfmTGNq9Ctt0fBDxw>.

⁸ “关于公开征求《2021、2022年度全国碳排放权交易配额总量设定与分配实施方案（发电行业）》（征求意见稿）意见的函，环办便函（2022）375号,” Ministry of Ecology and Environment, 31 October 2022, accessed at https://www.mee.gov.cn/xxgk/xxgk06/202211/t20221103_999595.html.

⁹ “生态环境部将减少全国碳市场的配额发放,” Ministry of Ecology and Environment, 3 November 2022, accessed at <https://www.163.com/dy/article/HLBRFE3D0552NZ11.html>.

¹⁰ “国家能源局：研究将户用光伏纳入碳排放权交易市场,” PV-perspective, 11 October 2022, accessed at https://mp.weixin.qq.com/s/qQN_HjLbw5hyvedAM8ld-A.

4. Policy monitoring

2022-10-26

https://www.ndrc.gov.cn/xqk/zcfb/fzggwl/202210/t20221028_1339662.html?code=&state=123

The government expands the range of industries in which foreign investment is encouraged

Catalogue of Industries Encouraged for Foreign Investment (2022 Edition), NDRC MoC Order No.52

This is a new update of China's *Catalogue of Industries Encouraged for Foreign Investment* after 2020. The *2022 Edition* has a net increase of 239 items, and continues to expand the range of industries that encourage foreign investment. Manufacturing continues to be a key direction, aiming to improve the level of the national industrial chain and speed up technological iteration. At the same time, the *2022 Edition* guides foreign investment in the producer service industry, aiming to promote the integrated development of the service industry and the manufacturing industry, adding items such as offshore wind power and marine energy equipment design and R&D. From a geographical point of view, the *2022 Edition* optimises the investment potential of the central, western and northeastern regions. According to the interpretation of the NDRC¹¹, with the continuous improvement of infrastructures, the logistics costs of these regions have been further reduced. With their own advantages in labour and land costs, they have been able to build labour-intensive industrial clusters, but there are currently few relevant incentive policies. This adjustment to the catalogue clarifies the policy signal, which will be conducive to promoting local employment and promoting coordinated regional development.

2022-10-18

<https://gkml.samr.gov.cn/nsgj/jls/202210/t20221031351180.html>

The government releases the timetable for the construction of the metering system of the dual carbon target

Notice on Issuing the Implementation Plan for Establishing and Improving the Standard Measurement System of Carbon Peaking and Carbon Neutrality, SAMR Metrology Development [2022] No.92

A sound measurement system is an important part of supporting the realisation of the dual carbon target. The government aims to basically establish carbon-related measuring benchmarks and standards by 2025, and achieve full coverage of carbon accounting and verification standards in major industries; by 2030, to fully upgrade the non-fossil energy standard system and gradually improve the CCUS and ecological carbon sink standards; by 2060, to fully complete a measuring system of the dual carbon target. In terms of establishing non-fossil energy technical standards, the government requires the development and revision of standards for the design, manufacture, maintenance, and recycling of key equipment and systems of the entire industrial chain of wind power and solar PV power generation. At the same time, to establish a standard system of hydrogen energy covering all aspects of production, storage, transport, and utilisation, accelerate the improvement of standard systems of biomass energy and hydropower generation, and promote the development of standards for multi-energy complementarity systems and comprehensive energy services.

¹¹ “《鼓励外商投资产业目录（2022年版）》解读 | 推进高水平对外开放 助力高质量吸引外资,” National Development and Reform Commission, 31 October 2022, accessed at <https://baijiahao.baidu.com/s?id=1748206862189400423&wfr=spider&for=pc>.

2022-10-14

http://www.nea.gov.cn/2022-10/25/c_1310670958.htm

NEA clarifies key technical tasks in the energy sector during the 14th Five-Year Plan period

Notice on Establishing the Implementation Monitoring Mechanism of the 14th Five-Year Plan for Scientific and Technological Innovation in the Energy Sector

The NEA has clarified the critical technical tasks to be carried out in the energy sector during the 14th Five-Year Plan period. The government will establish a project database to monitor the implementation of the supporting projects. The document lists 16 specific technical tasks, such as the collaborative development and operation of hydropower bases and renewable energy, the preparation and industrial production of high-efficiency perovskite cells, the conversion and utilisation of biomass energy, the production, storage, transportation, and refuelling of hydrogen, as well as the integration of fuel cell equipment and system.