



● AUGUST 2024

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# CHINA ENERGY POLICY NEWSLETTER

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China Energy Transformation Programme

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## 1. China energy transition updates

### The Chinese government proposes reform priorities in the energy sector

In July 2024, the central government issued a document on further deepening reforms in an all-round way at the Third Plenary Session of the 20th CPC Central Committee, proposing more than 300 reform measures. The following are the key points related to the energy sector<sup>1</sup>:

1. **Deepen the reform of state-owned assets and state-owned enterprises in the energy sector**, promote the independent operation of natural monopoly industries (e.g. power grids, oil and gas pipelines) and the market-oriented reform of competitive industries (e.g. energy exploitation and sales), and improve the regulatory mechanism;
2. **Promote price reform in the energy sector**, optimise the multistep residential water, electricity, and gas pricing system, and improve the pricing mechanism for refined oil products;
3. **Optimise the reform of the energy management system**, build a unified national power market system, and optimise the operation and dispatching mechanism of oil and gas pipelines;
4. **Improve the development policy and governance system of new energy industries**, support enterprises to upgrade traditional industries through digital technology and green technology transition, and strengthen environmental protection and safety constraints;
5. **Improve the opening-up mechanism**, improve the construction of multilateral energy cooperation platforms;
6. **Improve the green development mechanism**, clean and efficient coal utilisation mechanism, accelerate the planning and construction of the new type of energy system, and improve new energy consumption and regulation policies and measures.

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<sup>1</sup>“中共中央关于进一步全面深化改革 推进中国式现代化的决定,” Xinhua News Agency, 22 July 2024, accessed at <http://cpc.people.com.cn/n1/2024/0722/c64387-40282390.html>; “三中全会决定中的能源改革与机遇,” nengyuanjie.net, 23 July 2024, accessed at <https://www.nengyuanjie.net/article/94700.html>.

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## The State Council clarifies the plan for building a dual-control system for carbon emissions

China is transforming from dual-control of energy consumption to dual-control of carbon emissions, and building a dual-control system for carbon emissions is a long-term task. The State Council recently issued a document to clarify the three stages' development goals and key tasks. During the *14th Five-Year Plan* period (by 2025), efforts will be made to improve the statistical accounting system for carbon emissions and enhance the measurement, statistics, and monitoring capabilities to lay a solid foundation for implementing dual control of carbon emissions. During the *15th Five-Year Plan* period (2026-2030), a dual-control system for carbon emissions will be implemented with carbon intensity control as the main focus and total emission control as the supplementary focus. After the peak in carbon emissions, total emission control will be the main focus, and intensity control will be the supplementary focus. The total carbon emissions will stabilise and decline with further strengthening carbon emission control requirements. The document requires incorporating carbon emission indicators into the national economic development plan. It proposes six key tasks to improve the carbon management mechanism at the local government, industry, enterprise, project, and product levels.<sup>2</sup>

1. **Improve the carbon emission planning system:** reasonably determine the five-year carbon emission target, refine the action plan, and improve the laws and regulations;
2. **Establish a carbon emission assessment system for the local governments:** reasonably decompose the national carbon emission target into provinces and formulate a comprehensive assessment method; promote the establishment of carbon emission budget management systems at provincial and municipal levels;
3. **Explore the early warning mechanism on carbon emission for key industries:** improve the carbon emission accounting mechanism for key industries and carry out regular monitoring and early warning;
4. **Improve the carbon management system of enterprises:** formulate carbon reduction management methods for key energy-consuming and carbon emission units, and improve the carbon market, CCER, and green certificate market mechanisms;
5. **Carry out carbon emission evaluation over fixed asset investment:** include carbon emissions in the energy-saving review of fixed asset investment projects, and formulate technical specifications for GHG environmental impact assessment for key industries;
6. **Establish a product carbon footprint management system:** formulate product carbon footprint accounting rules, strengthen related database construction, and establish a carbon labelling certification system.

## MEE proposes a carbon allowance allocation plan for 2023-2024

The Ministry of Ecology and Environment (MEE) recently issued the *Total Carbon Allowance and Allocation Plan for the Power Generation Industry in the National Carbon Emission Trading in 2023 and 2024 (Draft for Comments)* (CHN: 2023、2024年度全国碳排放权交易发电行业碳配额总量和分配方案（征求意见稿））。As shown in the table below, in 2023, the benchmark value of coal-fired units (i.e. carbon allowance per unit covered by the ETS) decreased by 0.4%-0.8% compared with the balance value (i.e. verified carbon emission per unit covered by the ETS), and the benchmark value of heating decreased by 0.3%. A benchmark value lower than the balance value means that the total amount of carbon allowance is lower than the expected total carbon emissions, implying there will be a slight shortage of carbon allowance supply in the carbon market in 2023, which will encourage thermal power generation enterprises to carry out emission reduction actions.

<sup>2</sup> “国务院办公厅关于印发《加快构建碳排放双控制度体系工作方案》的通知, 国办发〔2024〕39号,” State Council, 30 July 2024, accessed at [https://www.gov.cn/zhengce/content/202408/content\\_6966079.htm](https://www.gov.cn/zhengce/content/202408/content_6966079.htm); “国家发展改革委有关负责同志就《加快构建碳排放双控制度体系工作方案》答记者问,” National Development and Reform Commission, 3 August 2024, accessed at [https://www.gov.cn/zhengce/202408/content\\_6966321.htm](https://www.gov.cn/zhengce/202408/content_6966321.htm).



## 2023-2024 Carbon emission benchmarks by thermal power unit type

	Unit Type	Power generation benchmark (tCO <sub>2</sub> /MWh)			Heat generation benchmark (tCO <sub>2</sub> /GJ)		
		Balance value in 2023 *	Benchmark in 2023	Benchmark in 2024	Balance value in 2023 *	Benchmark in 2023	Benchmark in 2024
I	Conventional coal-fired units above 300 MW	0.7892	0.7861	0.7822	0.1041	0.1038	0.1033
II	Conventional coal-fired units 300 MW and below	0.8048	0.7984	0.7944			
III	Unconventional coal-fired units such as coal gangue and coal-water slurry (including coal-fired circulating fluidised bed units)	0.8146	0.8082	0.8042			
IV	Gas units	0.3239	0.3305	0.3288	0.0525	0.0536	0.0533

Note: \* The balance value refers to the total amount of verified carbon emissions covered by the carbon market, calculated based on the reported data of all emitting enterprises. A benchmark value lower than the balance value means that the total amount of carbon allowance is lower than the expected total carbon emissions. Source: Ministry of Ecology and Environment (MEE), June 2024

There are several major changes in the 2023-2024 allocation plan. First, the compliance period will be shortened from the previous two years to one year; that is, the compliance of 2023 carbon emissions should be completed in 2024, and the compliance of 2024 in 2025, it will help to improve market liquidity. Second, the carbon allowances of the current year and previous years can be used for the fulfilment of the commitment in 2023-2024, and the surplus allowances can be transferred to the 2025 fulfilment period, but the non-transferred allowances will be invalidated, aiming to avoid allowance hoarding effectively. Third, the allowance issuance basis is changed from based on the amount of power supply to power generation, preventing the calculation of power plants' own consumption, further simplifying the carbon market monitoring, reporting, and verification (MRV) process. Fourth, in the carbon allowance calculation formula, the load factor of the unit is adjusted to the peak load correction factor, which clarifies the allowance compensation for carbon emissions generated by providing peak-load shaving services, it will be conducive to the low-load operation of thermal power plants in the future.<sup>3</sup>

## NDRC proposes nine actions to build a new type of power system

To promote the construction of a new type of power system, the National Development and Reform Commission (NDRC), the National Energy Administration (NEA), and the National Bureau of Data (NBD) jointly issued the *Action Plan for Accelerating the Construction of a New Type of Power System (2024-2027)* (CHN: 加快构建新型电力系统行动方案 (2024—2027年)). The action plan deploys nine particular actions that should be carried out in the power sector, striving to solve critical problems in the near future.<sup>4</sup>

	Key problems	Action plans
1	<ul style="list-style-type: none"> <li>A high proportion of renewable energy and power electronic equipment makes the stable operation of the power system face bigger risks</li> </ul>	<ul style="list-style-type: none"> <li>Optimise and strengthen backbone power grids, including improving the grid access performance of new entities (e.g. energy storage, virtual power plants), promoting the application of grid-building technologies (i.e. entities with voltage sources that can be connected to the grid and operated independently), and continuously improving the quality of electricity</li> </ul>
2	<ul style="list-style-type: none"> <li>A low proportion of new energy electricity in cross-regional power transmission requires the new energy power transmission and export to be strengthened</li> </ul>	<ul style="list-style-type: none"> <li>To realise the high proportion of new energy transmission from existing and newly added transmission lines by relying on advanced power generation, regulation, and control technologies</li> </ul>

<sup>3</sup> “关于公开征求《2023、2024年度全国碳排放权交易发电行业配额总量和分配方案（征求意见稿）》意见的通知，环办便函〔2024〕216号，” Ministry of Ecology and Environment, 2 July 2024, accessed at [https://www.mee.gov.cn/xgk2018/xxgk/xxgk06/202407/t20240702\\_1080579.html](https://www.mee.gov.cn/xgk2018/xxgk/xxgk06/202407/t20240702_1080579.html); “观点 | 2023-2024配额分配方案出炉 对碳市场影响如何？”，bjx.com.cn, 3 July 2024, accessed at <https://mp.weixin.qq.com/s/pbMJIXzAcE2a9kn2vd-Tew>.

<sup>4</sup> “关于印发《加快构建新型电力系统行动方案（2024—2027年）》的通知，发改能源〔2024〕1128号，” National Development and Reform Commission, National Energy Administration, National Statistics Bureau, 6 August 2024, accessed at [https://www.ndrc.gov.cn/xwdt/tzgg/202408/t20240806\\_1392260.html](https://www.ndrc.gov.cn/xwdt/tzgg/202408/t20240806_1392260.html); 国家能源局电力司主要负责同志就《加快构建新型电力系统行动方案（2024—2027年）》答记者问，” National Energy Administration, 6 August 2024, accessed at [https://www.nea.gov.cn/2024-08/06/c\\_1212386607.htm](https://www.nea.gov.cn/2024-08/06/c_1212386607.htm).

3	<ul style="list-style-type: none"> <li>Frequent extreme weather and large-scale grid connection of distributed facilities need the improvement of distribution grid carrying capability</li> </ul>	<ul style="list-style-type: none"> <li>Formulate distribution grid construction and retrofit plans, improve the whole process management of distribution grids, revise distribution grid standards, and establish a distribution grid development indicator evaluation system</li> </ul>
4	<ul style="list-style-type: none"> <li>The dispatchable entities of the power system have expanded from power source to all aspects of source-grid-load-storage, the intelligent dispatching system needs an urgent upgrade</li> </ul>	<ul style="list-style-type: none"> <li>Strengthen the design of intelligent dispatching systems, and focus on innovating the dispatching mode of active distribution grids (i.e. grids with power sources)</li> </ul>
5	<ul style="list-style-type: none"> <li>A low participation proportion of wind power and solar PV in balancing during power planning and evening peak load hours, respectively, making the complementary performance of new energy source-grid-load-storage facilities need improvement</li> </ul>	<ul style="list-style-type: none"> <li>Implement a number of data computing and power supply synergy projects to increase the proportion of green power consumption in data centres (i.e. non-real-time computing data centres operate during periods of high wind power and solar PV output), build smart microgrids to increase the proportion of new energy self-consumption, and aim to increase the confidence output of new energy to more than 10%</li> </ul>
6	<ul style="list-style-type: none"> <li>Coal-fired power will still be an essential supporting power source for some time to come, therefore it is necessary to accelerate the low-carbon retrofit of coal-fired power units and upgrade the flexibility of operation</li> </ul>	<ul style="list-style-type: none"> <li>Apply zero-carbon or low-carbon fuel blending (e.g. biomass, synthetic ammonia) and carbon capture, utilisation, and storage (CCUS) technology to significantly reduce carbon emissions from coal-fired power units; improve the system design and equipment selection standards of new coal-fired power units and carry out experimental demonstration projects</li> </ul>
7	<ul style="list-style-type: none"> <li>The scale and timing of flexible resource development in some regions do not match that of new energy, and the pressure on new energy consumption increases, it is necessary to optimise the regulation capability of the power system</li> </ul>	<ul style="list-style-type: none"> <li>Give full play to the regulation capabilities of new types of energy storage, including building shared energy storage stations, exploring emerging energy storage technologies, accelerating the large-scale application of new types of energy storage, and improving the dispatching and market-oriented operation mechanisms</li> </ul>
8	<ul style="list-style-type: none"> <li>The number of electric vehicles has increased significantly, and the demand for large-scale charging facilities as a storage resource has increased</li> </ul>	<ul style="list-style-type: none"> <li>Improve the layout of the charging infrastructure network and improve the construction of the standard system</li> </ul>
9	<ul style="list-style-type: none"> <li>To alleviate the peak load problem and promote the consumption of new energy during the off-peak period, it is necessary to improve the regulation capacity of demand-side resources</li> </ul>	<ul style="list-style-type: none"> <li>Stimulate demand-side response in typical areas, reaching more than 5% of the peak power load and about 10% in qualified areas; build a number of virtual power plants to enhance the local consumption capacity of new energy</li> </ul>

Source: National Development and Reform Commission (NDRC), National Energy Administration (NEA), and National Bureau of Data (NBD), July 2024

## 2024 H1 total installed capacity of wind power and solar PV exceeds coal power

In the first half of 2024, China's economic operation was generally stable, with GDP growth reaching 5.0%. Total primary energy consumption increased by 4.7% year-on-year, and the proportion of clean energy increased by 2.2 percentage points year-on-year. The total electricity consumption growth rate reached 8.1%, among which the service industry performed the best (11.7% y-o-y).<sup>5</sup> China added 134 GW of renewable energy installed capacity nationwide, an increase of 24% year-on-year, including 26 GW of wind power and 102 GW of solar PV. Solar PV continued to maintain high-speed development, with the proportion of newly added utility-scale, industrial and commercial distributed PV and household PV being 48:37:15. The total installed capacity of power generation nationwide reached 3,070 GW, with renewable energy accounting for 53.8%. The total installed capacity of wind power and solar PV (1,180 GW) exceeded coal power (1,170 GW) for the first time.<sup>6</sup>

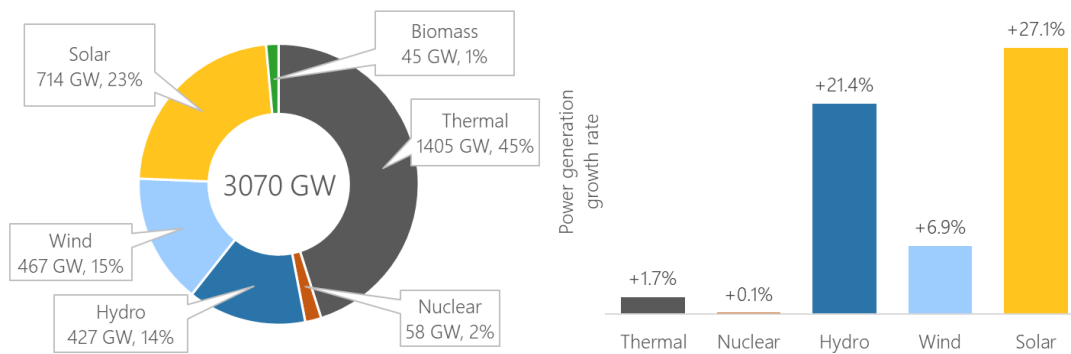
<sup>5</sup> “胡汉舟：上半年能源供应保持稳定 清洁能源消费占比显著提升,” National Bureau of Statistics, 15 July 2024, accessed at [https://www.stats.gov.cn/xxgk/jd/sjjd2020/202407/t20240715\\_1955613.html](https://www.stats.gov.cn/xxgk/jd/sjjd2020/202407/t20240715_1955613.html); “2024年二季度和上半年国内生产总值初步核算结果,” National Bureau of Statistics, 16 July 2024, accessed at [https://www.stats.gov.cn/sj/zxfb/202407/t20240716\\_1955649.html](https://www.stats.gov.cn/sj/zxfb/202407/t20240716_1955649.html); “国家能源局：2024年6月份全社会用电量同比增长5.8%,” National Energy Administration, 23 July 2024, accessed at [https://fjb.nea.gov.cn/dtyw/gjnyjdt/202407/t20240723\\_266823.html](https://fjb.nea.gov.cn/dtyw/gjnyjdt/202407/t20240723_266823.html).

<sup>6</sup> “我国风电光伏发电装机规模超过煤电,” National Energy Administration, 2 August 2024, accessed at [https://www.nea.gov.cn/2024-08/02/c\\_1310783697.htm](https://www.nea.gov.cn/2024-08/02/c_1310783697.htm); “国家能源局发布上半年光伏发电建设情况,” National Energy Administration, 2 August 2024, accessed at



The power generation of industrial enterprises above the designed scale<sup>7</sup> increased by 5.2% year-on-year, and the proportion of non-fossil energy reached 32.2%, an increase of 2.3 percentage points over the same period last year. Restoring the water supply has led to a significant increase in hydropower generation, and solar PV has maintained high growth in power generation. Wind power and solar PV jointly accounted for 20% of the total power generation, an increase of 23.5% year-on-year. The regulation capacity of the power system has been continuously enhanced, and the total installed capacity of the new type of energy storage has reached 44.4 GW/2.2hr, an increase of 40% from the end of 2023. The average utilisation hours of power generation units nationwide were 1,666 hours, a decrease of 71 hours year-on-year. The wind and solar curtailment rates were 3.9% and 3%, respectively.<sup>8</sup>

Total installed capacity (left) and year-on-year growth rate of power generation (right) in 2024 H1



Source: National Bureau of Statistics (NBS), NEA, and China Electricity Council (CEC), accessed in August 2023

## NDRC releases renewable power consumption targets for 2024-2025

The NDRC and the NEA jointly issued renewable power consumption targets by province for 2024 and 2025, that is, the proportion of renewable energy (RE) and non-hydro RE in the annual electricity consumption of each province. 2024 has a binding target, each province should conduct assessments based on the actual quantity of consumption, and the unfinished amount can be transferred to the next year; 2025 has an indicative target, and each province should carry out project reserves accordingly. In previous years, the non-hydro RE consumption target increased by about 1.5% each year, but 24 of the 30 provinces in 2024 have increased their targets by 2%-7% compared with 2023, among which Heilongjiang, Henan, and Hainan have the largest increase of more than 7%. It is expected that provinces will significantly increase wind power, solar PV, and biomass power consumption.<sup>9</sup>

### Green power consumption target for the electrolytic aluminium industry released for the first time

In May 2024, the State Council issued the *2024-2025 Energy Conservation and Carbon Reduction Action Plan*, it required the decomposition of the national carbon reduction target to each province and key sectors and the inclusion of non-fossil energy consumption into provincial assessments.<sup>10</sup> To promote the decomposition of renewable power consumption to key energy-consuming units, in the policy of issuing the RE electricity consumption targets mentioned above, the government proposed the green power consumption target for the electrolytic aluminium industry for the first time. The actual consumption of each province is calculated based on green certificates. In 2024, it will only be monitored but not assessed. The expected consumption ratios of all provinces in 2025 will increase by 10% compared with 2024. The 2024 consumption targets of Sichuan, Qinghai, and Yunnan are as high as 70%, and the lowest target is for Shandong, at 21%.

[https://xbj.nea.gov.cn/dtyw/hyxx/202407/t20240731\\_267288.html](https://xbj.nea.gov.cn/dtyw/hyxx/202407/t20240731_267288.html).

<sup>7</sup> Industries enterprises above the designated scale refer to power generation enterprises with an annual primary business income of 20 million RMB and above.

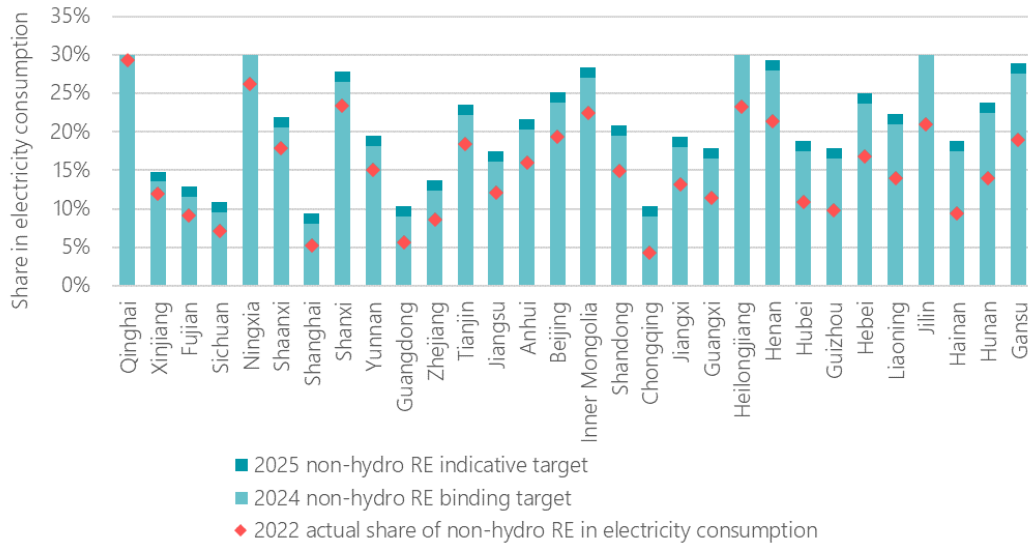
<sup>8</sup> “我国风电光伏发电装机规模超过煤电,” National Energy Administration, 2 August 2024, accessed at [https://www.nea.gov.cn/2024-08/02/c\\_1310783697.htm](https://www.nea.gov.cn/2024-08/02/c_1310783697.htm); “国家能源局发布2024年1-6月份全国电力工业统计数据,” National Energy Administration, 22 July 2024, accessed at <https://cec.org.cn/detail/index.html?3-335290>; “胡汉舟：上半年能源供应保持稳定 清洁能源消费占比显著提升,” National Bureau of Statistics, 15 July 2024, accessed at [https://www.stats.gov.cn/xgk/jd/sjjd2020/202407/t20240715\\_1955613.html](https://www.stats.gov.cn/xgk/jd/sjjd2020/202407/t20240715_1955613.html).

<sup>9</sup> “关于2024年可再生能源电力消纳责任权重及有关事项的通知,发改办能源〔2024〕598号,” National Development and Reform Commission and National Energy Administration, 10 July 2024, accessed at [https://www.ndrc.gov.cn/xwdt/tzgg/202408/t20240802\\_1392178\\_ext.html](https://www.ndrc.gov.cn/xwdt/tzgg/202408/t20240802_1392178_ext.html).

<sup>10</sup> “国务院关于印发《2024—2025年节能降碳行动方案》的通知,国发〔2024〕12号,” State Council, 29 May 2024, accessed at [https://www.gov.cn/zhengce/zhengceku/202405/content\\_6954323.htm](https://www.gov.cn/zhengce/zhengceku/202405/content_6954323.htm).

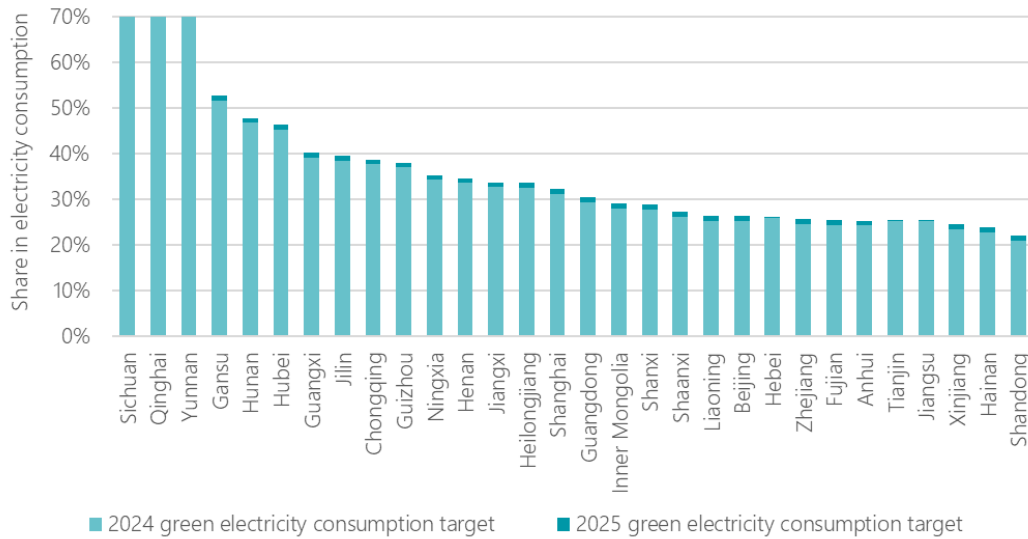


Renewable power consumption targets for 2024-2025 and actual completion in 2022 by province



Source: NEA, July 2024

2024-2025 Green power consumption targets of the electrolytic aluminium industry by province



Source: NEA, July 2024

All renewable power projects receive a unique identity code

Starting from June 2024, the NEA has published a monthly list of newly grid-connected wind power, solar PV, and biomass power projects in the previous month. Each new project receives a unique identity code, which records the information of project type, energy source type, approval time and geographical location, laying the foundation for the information management of green certificate issuance and trading. By the end of June 2024, the utility-scale wind and solar power, conventional hydropower, pumped storage and biomass power projects in operation across the country have basically completed information registration.<sup>11</sup>

<sup>11</sup> “新能源发电项目建档立卡小知识,” National Energy Administration, 31 July 2024, accessed at [https://www.nea.gov.cn/2024-07/31/c\\_1310783429.htm](https://www.nea.gov.cn/2024-07/31/c_1310783429.htm); “国家能源局综合司关于进一步做好可再生能源发电项目建档立卡有关工作的通知,” National Energy Administration, 24 July 2024, accessed at [https://zfxgk.nea.gov.cn/2024-07/24/c\\_1310783438.htm](https://zfxgk.nea.gov.cn/2024-07/24/c_1310783438.htm).

## China's hydrogen energy development advanced steadily in 2023

In July 2024, the Science and Technology Department of the NEA released the *China Hydrogen Energy Development Report (2023)* (CHN: 中国氢能发展报告 (2023)). In 2023, China witnessed a stable hydrogen energy supply and demand balance and a noticeable trend of industrial cluster development. The national hydrogen productivity reached 49 million tons/year, and actual production reached 35 million tons/year, with year-on-year growth of 2.3%, respectively. Hydrogen production capacity is mainly concentrated in traditional heavy industrial areas such as China's northwestern, northern, and eastern regions. The country added 220 million tons of new green hydrogen productivity in 2023, making the annual productivity exceed 70,000 tons. In addition, the installed capacity of projects under construction has reached 900,000 tons. High-purity hydrogen is the main trading product, and hydrogen energy prices are stable and declining. In 2023, the average production and sales prices were 34 RMB/kg and 58 RMB/kg, respectively.

Hydrogen energy continued to promote the replacement of conventional fuels in industry, transport and power sectors in 2023. In the industrial sector, Inner Mongolia, Jilin, and Xinjiang were actively carrying out green hydrogen project construction, which was used for the synthesis of ammonia, methanol, and intermediate raw materials for refining; in the transportation sector, the number of fuel cell vehicles reached 180 million, and the number of hydrogen refuelling stations exceeded 450; in the power sector, the installed capacity of fuel cell power generation and combined heat and power (CHP) plants reached nearly 20 MW. In terms of technological innovation, China successfully developed a 15 MW electrolyser and rolled off the first civilian liquid hydrogen tanker.<sup>12</sup>

## China's first utility-scale offshore PV project connected to the grid

Shandong is the province with the largest total solar PV installed capacity in China, exceeding 63 GW, accounting for nearly 9% of the national total. At the end of 2023, China General Nuclear Power Group (CGNPG) started constructing the 400 MW Zhaoyuan offshore PV project in Penglai, Shandong. This is China's first large-scale offshore PV project. In July 2024, the first batch of 120 MW of PV panels was connected to the grid. The average annual power generation is expected to reach 690 GWh after all panels are connected, meeting the annual electricity demand of 400,000 households. The project can reduce energy consumption of 207,000 tons of standard coal and 532,000 tons of carbon emissions.<sup>13</sup>

## China's first independently developed DAC device passes reliability operation verification

Direct Air Capture (DAC) is an emerging carbon capture technology. In July 2024, a 600-ton DAC device named "Carbon Box" passed the reliability operation test in China. This is China's first entirely independently developed large-tonnage, high-concentration DAC device, jointly developed by the China Energy Engineering Group (CEEC) System Engineering Co., Ltd. and Shanghai Jiaotong University. Carbon Box can directly capture carbon dioxide from emission sources of different concentrations, and then directly output carbon dioxide of different concentrations according to the end-use application requirements. Its single-module carbon dioxide capture concentration reaches 99%, and the capture capacity exceeds 100 tons. Carbon Box consists of standard-sized carbon capture and processing modules, which can be assembled directly on site; at the same time, it can achieve cluster production through unit stacking and can be widely used in green methanol, green aviation fuel, and carbon market fields.<sup>14</sup>

<sup>12</sup> “一图读懂《中国氢能发展报告（2023）》”, China Hydrogen Alliance, 29 July 2024, accessed at <https://mp.weixin.qq.com/s/wR3OeyGb1TYCHBY3h3XB5g>.

<sup>13</sup> “全国首座集中式海上光伏项目在山东并网发电,” Qilu Evening News, 4 July 2024, accessed at <https://baijiahao.baidu.com/s?id=1803637867426467666&wfr=spider&for=pc>.

<sup>14</sup> “中国首台、亚洲最大工业级二氧化碳直接空气捕集装置中试成功, chinapower.com, 23 July 2024, accessed at <https://finance.sina.com.cn/esg/2024-07-23/doc-incfchwz0266679.shtml>.



## 2. Policy monitoring

2024-07-15

[https://www.ndrc.gov.cn/xgk/zcfb/tz/202407/t20240715\\_1391663\\_ext.html](https://www.ndrc.gov.cn/xgk/zcfb/tz/202407/t20240715_1391663_ext.html)

### NDRC defines three technologies for low-carbon development of coal power

*Notice on Issuing the Action Plan for Low-Carbon Transition of Coal-fired Power (2024-2027), NDRC Environment and Resource [2024] No.972*

To improve the clean use of coal, China will carry out low-carbon retrofit of existing coal-fired power units, and new projects will be built according to low-carbon requirements. Low-carbonisation of coal-fired power units is mainly achieved through three technologies: 1) Biomass co-firing, coal-fired power units should have the ability to co-firing more than 10% biomass fuel; 2) Green ammonia co-firing, using surplus renewable energy electricity to electrolyse water to produce hydrogen and synthesise ammonia, coal-fired power units can co-firing more than 10% green ammonia; 3) Carbon capture, utilisation and storage (CCUS), collect carbon dioxide from coal-fired boiler flue gas through physical or chemical methods, purify and compress it for geological storage or as a production raw material in the chemical and geological fields. By 2025, the first batch of low-carbon coal power projects should all be started construction, and carbon emissions per kilowatt-hour should be reduced by 20% compared with similar units in 2023; by 2027, carbon emissions/kWh will be reduced by about 50% compared with 2023, approaching the carbon emission level of gas-fired power units.<sup>15</sup>

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[https://www.gov.cn/zhengce/zhengceku/202407/content\\_6964165.htm](https://www.gov.cn/zhengce/zhengceku/202407/content_6964165.htm)

### NDRC releases data centre energy conservation and carbon reduction action plan

*Notice on Issuing the Special Action Plan for Green and Low-Carbon Development of Data Centers, NDRC Environment and Resource [2024] No.972*

Data centres in China face problems such as low energy efficiency, unreasonable layout, and low utilisation of renewable energy. The government requires optimisation of data centre layout and striction of building new projects; renovation of old and scattered projects, and promotion of energy-saving equipment application; strengthening the integrated utilisation of data centre waste heat and industrial waste cooling and steam; guiding the coordinated layout of data centres and renewable power projects, encouraging participation in green certificate trading, and exploring the direct supply of green electricity. The goal is that by the end of 2025, the average power utilisation efficiency (PUE)<sup>16</sup> of data centres nationwide will be reduced to below 1.5, the newly built and renovated large and super-large data centres will be within 1.25, and the national hub node data centres will be within 1.2. The utilisation rate of renewable energy aims to increase by 10% annually.

<sup>15</sup> “国家发展改革委 国家能源局关于印发《煤电低碳化改造建设行动方案（2024—2027年）》的通知，发改环资〔2024〕894号，” National Development and Reform Commission, 15 July 2024, accessed at [https://www.ndrc.gov.cn/xgk/zcfb/tz/202407/t20240715\\_1391663\\_ext.html](https://www.ndrc.gov.cn/xgk/zcfb/tz/202407/t20240715_1391663_ext.html).

<sup>16</sup> PUE = total energy consumption of the data centre/energy consumption of IT equipment. The closer the PUE is to 1, the higher the energy efficiency level.



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[https://www.gov.cn/zhengce/zhengceku/202407/content\\_6964214.htm](https://www.gov.cn/zhengce/zhengceku/202407/content_6964214.htm)

## NDRC releases action plan for energy conservation and carbon reduction in the electrolytic aluminium industry

*Notice on Issuing the Special Action Plan for Energy Conservation and Carbon Reduction in the Electrolytic Aluminum Industry, NDRC Environment and Resource [2024] No.972*

Electrolytic aluminium is an important raw material industry in China. The government is working hard to tap its energy conservation and carbon reduction potential to support the completion of the 14th Five-Year Plan (2021-2025) energy intensity reduction target. By 2025, the proportion of electrolytic aluminium production capacity above the energy efficiency benchmark level will reach 30%, the proportion of renewable energy utilisation in the industry will reach more than 25%, and the output of recycled aluminium will reach 11.5 million tons. From 2024 to 2025, energy-saving measures will help to save about 2.5 million tce of energy consumption, and the carbon dioxide emission will be reduced by about 6.5 million tons. The government requires strict implementation of the production capacity replacement policy of new projects, promotes the energy-saving retrofit of end-use equipment; implements non-fossil energy substitution, and no new captive coal power plants will be built, in principle; to support the development of the recycled aluminium industry, improve the aluminium product recycling system, and strengthen corporate energy management.

2024-06-03

[https://www.ndrc.gov.cn/xgk/zcfb/fzggwl/202406/t20240619\\_1387036.html](https://www.ndrc.gov.cn/xgk/zcfb/fzggwl/202406/t20240619_1387036.html)

## NEA updates the management measures for natural gas utilisation

*Administration Measures of Natural Gas Utilization, NDRC Order No.21*

Natural gas utilisation projects are divided into prioritised, restricted, prohibited, and permitted categories. Prioritised projects are mainly natural gas utilisation directions that are encouraged or prioritised, including residential and public service gas facilities, district heating, rural clean heating, interruptible industrial factories, peak-shaving power stations, CHP plants, CSP supplementary combustion, distributed energy projects, ocean-going and river LNG ships (incl. carriage, engineering, official duty and equipment ships), LNG vehicles (incl. trains, inter-city passenger cars, buses), oil-gas-power-hydrogen integrated projects, and natural gas hydrogen blending demonstration projects.



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