MAY 2026

CHINA ENERGY POLICY

NEWSLETTER

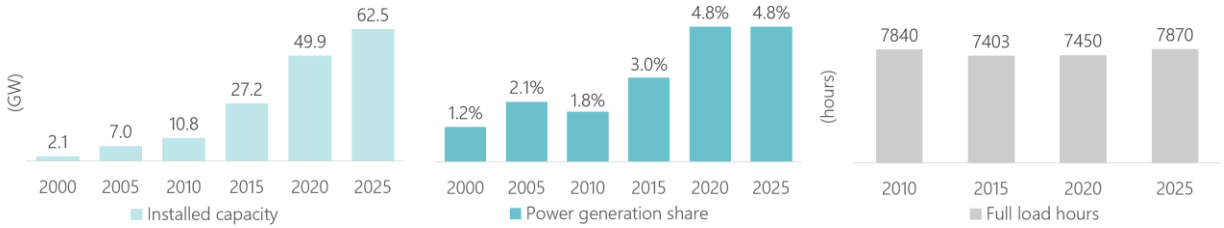
China Energy Transformation Programme

1. China energy transition updates

China Nuclear Energy Development Report 2026 released

In April 2026, the China Nuclear Energy Association (CNEA) published the *China Nuclear Energy Development Report (2026)* (CHN: 中国核能发展报告（2026）), summarising progress in China's nuclear energy industry and key technological advancements in 2025.[1] By the end of 2025, China's active nuclear power capacity reached 62.5 GW across 59 units. The country produced 468 TWh of nuclear electricity, accounting for 4.8%[2] of total national power generation. Notably, Fujian and Liaoning provinces each had over 20% of their electricity generation from nuclear power, emphasising nuclear energy's vital role in the regional power mix. In 2025, China made significant strides in nuclear power technology, equipment manufacturing, waste-heat utilisation, and the diversification of investment entities.

2000-2025 Total installed nuclear power capacity (left), share of nuclear in total power generation (middle) and its annual full-load hours (right)



Source: 2000-2020 data from the China Electricity Council (CEC), 2025 data from the China Nuclear Energy Association (CNEA), accessed in May 2026

[1] "《中国核能发展报告（2026）》蓝皮书发布," China Nuclear Energy Association, 17 April 2026, accessed at https://www.china-nea.cn/site/content/53396.html; "核电2026:小堆将投运、商用快堆完成初步设计," China Nuclear Energy Association, 17 April 2026, accessed at https://k.sina.com.cn/article_7857201856_1d45362c001904k9na.html.

[2] The share is lower than the 4.6% published by the China Electricity Council.

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Danish Energy Agency
CET 中国能源转型项目 CHINA ENERGY TRANSFORMATION PROGRAM
中国宏观经济研究院 能源研究所 Energy Research Institute of Chinese Academy of Macroeconomic Research

- Innovation in power generation technology advanced. China has successfully mass-produced the independently developed third-generation nuclear power technology, "Hualong One," which is now in construction. Additionally, the "Linglong One" small modular reactor (SMR) demonstration project is on track to be completed and operational by 2026. Research and development in integrated heating reactors, floating reactors, and gas-cooled microreactors are also progressing in an orderly manner.
- Capabilities in equipment manufacturing and engineering construction improved. Localisation rate of China's third-generation nuclear power units has risen to over 95%. The annual production capacity for the main nuclear power equipment has reached 10 units, and the capacity to undertake nuclear power engineering construction simultaneously has increased to 50 units.
- The waste-heat utilisation scale expanded. During the 2025-2026 heating season, the heating area supplied by nuclear waste heat surpassed 2,000 m^2. The 'Heqi No. 1' nuclear waste heat steam supply project in Jiangsu has delivered over 4.8 million tons of industrial steam.
- The share of private capital investment grew. In 2025, all five government-approved nuclear power projects involved private funding, with investment in nuclear power engineering construction reaching RMB 161 billion - a 10% year-on-year increase - setting a new record.

By the end of 2025, China's approved and under-construction nuclear power capacity reached 61 GW. According to the *15th Five-Year Plan for Economic and Social Development*, the country's installed nuclear power capacity is expected to reach around 110 GW by 2030, marking a 47 GW increase from 2025. Currently, the nuclear industry faces challenges such as low economic viability of fourth-generation reactor units, waste-heat heating, and small modular reactor projects, with overall project profitability falling below industry benchmarks. Although over 60% of nuclear power generation is traded in the power market, there is still limited evidence confirming the low-carbon premium of nuclear power. CNEA suggests that the government continue refining nuclear power pricing mechanisms, such as establishing low-carbon nuclear certificates and Contracts for Difference (CfD) systems.

Energy Storage Industry White Paper 2026 launched

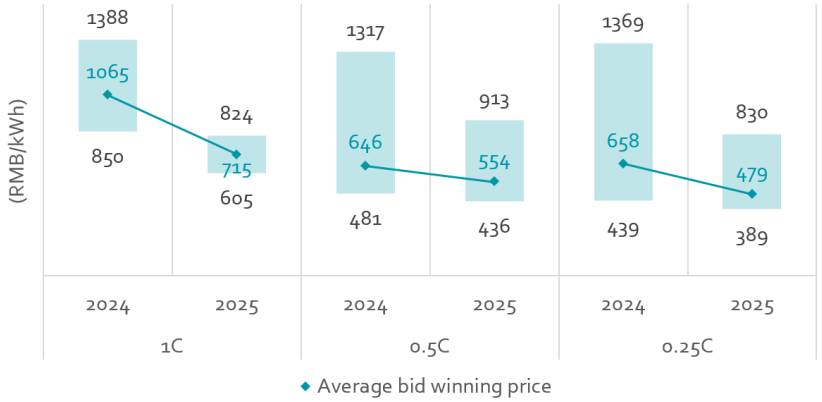
In April 2026, the China Energy Storage Alliance (CNESA) released the *Energy Storage Industry Research White Paper 2026* (CHN: 储能产业研究白皮书2026).[3] The *White Paper* summarised the progress of the energy storage[4] industry in 2025 and provided a capacity development outlook for new-type energy storage by 2030. In 2025, China's new-type energy storage capacity added 67 GW, bringing the total to 145 GW, with an average storage duration of 2.58 hours. New-type energy storage systems accounted for 68% of the country's total energy storage capacity, marking an 11-percentage-point increase from 2024. The industry is moving towards larger capacity and longer storage durations. In 2025, China commissioned its first single-GW battery station, and the number of new 100 MW projects grew by 39% year-on-year. The construction costs for battery systems continued to drop in 2025. The average winning bid prices for lithium-iron-phosphate battery systems with full charge/discharge of 1 hour (1C), 2 hours (0.5C), and 4 hours (0.25C) fell by 33%, 14%, and 27%, respectively. The price decline for the 0.25C system was twice that of the 0.5C system. Long-term energy storage has now entered a new phase of development.

CNESA forecasts that during the *15th Five-Year Plan* period (2026-2030), development of new-type energy storage will accelerate, with annual installed capacity increasing by 45-61 GW, at a compound annual growth rate of 20%-25%. By 2030, the total capacity is expected to reach 370-450 GW, 2.5-3 times that of 2025. The growing share of wind and solar power generation will continue to boost demand for power regulation. Rapid technological improvements in lithium batteries have made long-duration energy storage more economical, while capacity pricing policies have facilitated the industrialisation of other technologies such as flow batteries and compressed air energy storage. Between 2025 and 2030, China's new-type energy storage systems will see the average duration grow from 2.58 to 3.47 hours, with projects exceeding 4 hours becoming mainstream, marking a shift from demonstration to large-scale deployment of long-duration storage.

[3] "《储能产业研究白皮书》," China Energy Storage Alliance, https://www.esresearch.com.cn/report/?category_id=26.

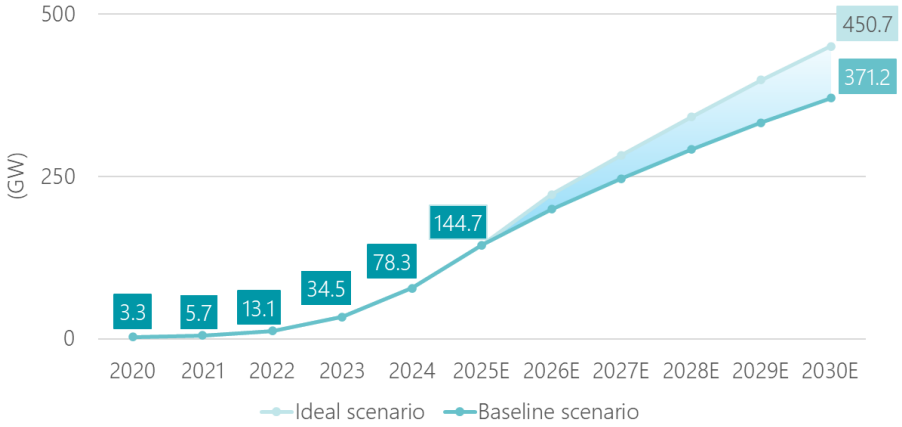
[4] Energy storage in China involves pumped hydro, molten salt thermal storage and new-type energy storage, of which the new-type energy storage involves electrochemical energy storage, compressed air energy storage, flywheel energy storage, gravity energy storage, and supercapacitors.

2024-2025 The average bid-winning prices for lithium-iron-phosphate battery systems



Notes: The cost exclude demand side application. Source: China New Energy Storage Association (CNESA), May 2026

2020-2025 Total installed capacity of new-type energy storage in China, and forecast from 2026 to 2030



Notes: the capacity data includes demand-side facilities, therefore, it is higher than the statistical data published by the National Energy Administration (NEA). Source: CNESA, May 2026

Nine provinces eliminate the fixed time-of-use electricity pricing policy

Since the 1980s, China has adopted a fixed time-of-use (TOU) electricity pricing policy for large industrial customers, with peak and off-peak periods and price differences set by the government. For over 40 years, this policy has extended to industrial, commercial, and some residential users nationwide. Between 2021 and 2025, as part of ongoing power-sector reforms, the government began requiring industrial and commercial users to participate fully in the power market. In December 2025, the National Development and Reform Commission (NDRC) issued a directive that, starting March 1, 2026, entities involved in power market transactions would no longer be bound by the fixed TOU pricing policy. Two months later, nine provinces and regions, including Hubei, Henan, Shaanxi, Yunnan, Chongqing, Guizhou, Liaoning, Jilin, and Hebei Southern Power Grid, had formally abolished this policy. This change indicates a swift transition from government-controlled pricing to market-driven pricing for power resource allocations in China. Currently, nearly all provincial spot power markets are operational, with prices showing more fluctuations that better reflect supply-demand balance and system regulation costs. Nevertheless, extremely high peak prices could raise electricity costs for businesses, presenting future risks that power consumers will need to manage.[5]

[5] "多地取消固定分时电价，储能告别"躺赚"时代," China Energy News, 29 April 2026, accessed at https://mp.weixin.qq.com/s/06Lu616WmJkNSM5uZio0NA.

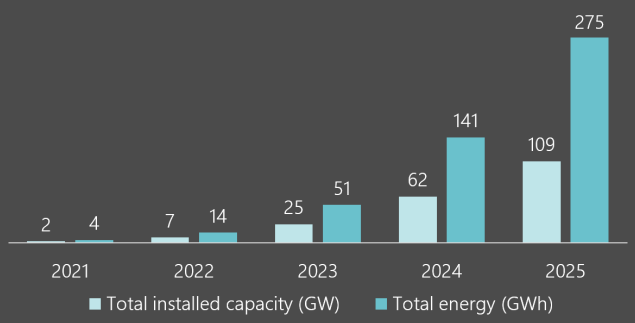
Summary of *China's Electrochemical Storage Statistical Data Report 2025*

In April 2026, the China Electricity Council (CEC) and the National Safety Monitoring Information Platform for Electrochemical Energy Storage Power Stations jointly published the *2025 Annual Statistical Data on the Electrochemical Storage Power Station Industry* (CHN: 《2025年度电化学储能电站行业统计数据》).[6] This industry involves lithium-ion batteries (incl. lithium iron phosphate, ternary lithium, and lithium titanate), flow batteries, lead-acid/carbon batteries, and sodium-ion batteries. It is the second year in a row that the two organisations have released such industry data. The summary for the year 2024 is available for download on the CET website.

Total installed capacity

China added 47 GW/135 GWh of electrochemical storage capacity in 2025, a 27% year-on-year increase, bringing the total installed capacity to 109 GW/276 GWh, a 76% increase over 2024.

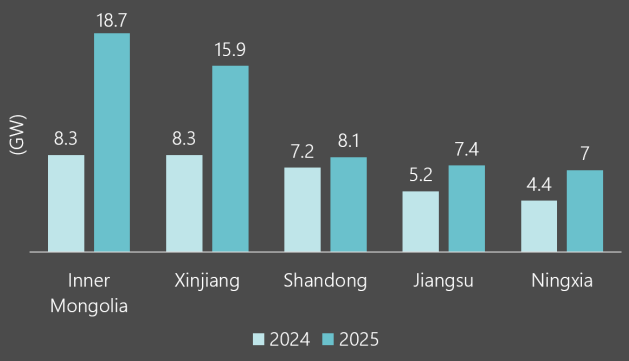
2021-2025 Total installed electrochemical storage capacity and total energy



Regional deployment

Inner Mongolia increased its capacity by over 10 GW, bringing the total to 19 GW. This represents 17% of the national capacity and now places Inner Mongolia ahead of Xinjiang, making it the leading region in the country.

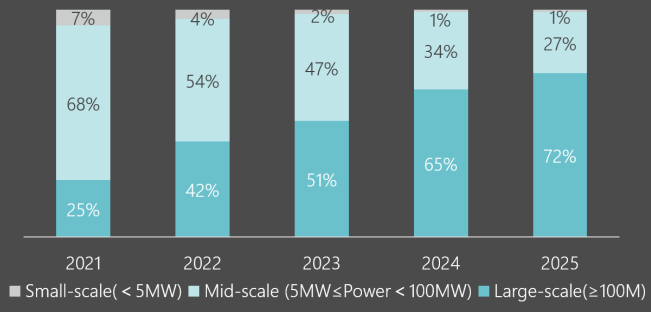
2024-2025 Electrochemical storage capacity in the top 5 provinces



Project size

Large power plants, defined as those with 100 MW and above, are the primary sources of new capacity, making up 81%. Their share of total installed capacity rose from 65% to 72%, an increase of 7 percentage points compared with 2024.

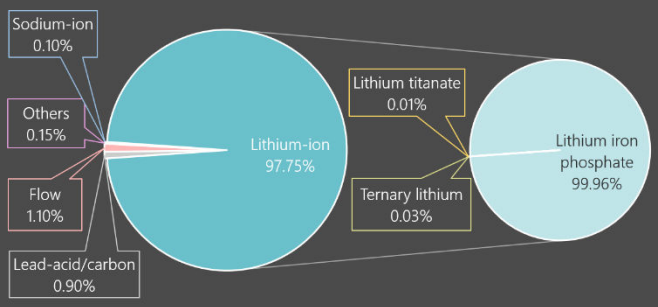
2020-2025 Electrochemical storage capacity by project size



Battery technology

The combined use of flow and lithium batteries has become the new normal. The share of flow batteries in total installed capacity has surpassed 1% for the first time, although lithium-ion batteries remain dominant at 98%.

2025 Electrochemical storage capacity by technology

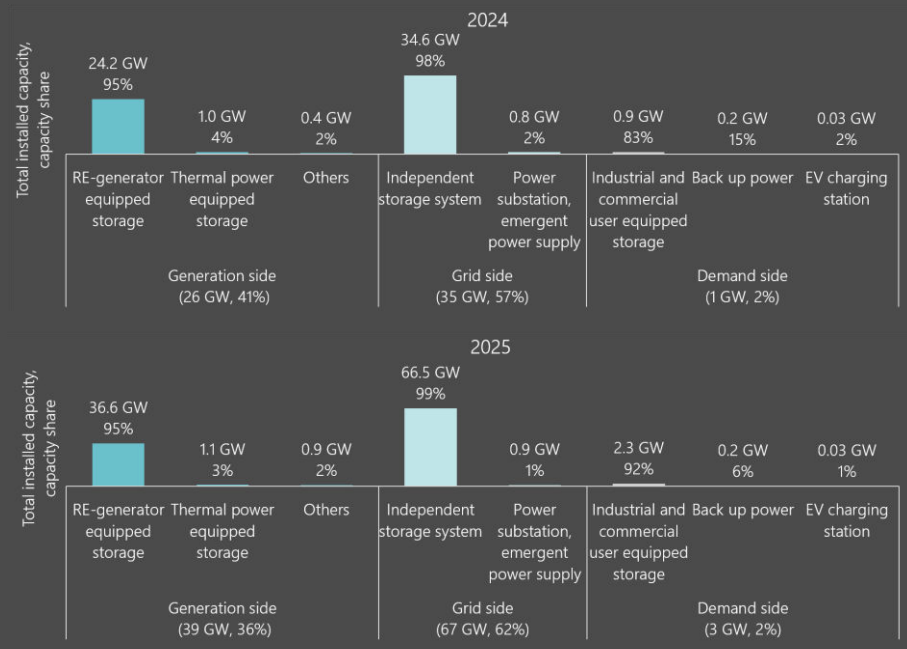


[6] "2025年度电化学储能电站行业统计数据," China Electricity Council, March 2026, accessed at https://mp.weixin.qq.com/s/dTDpamTbKSUFrepM6WH8bw.

Application scenarios

The fastest-growing application scenario is grid-side independent energy storage systems, accounting for 69% of newly installed capacity in 2025. This has increased the grid-side share in total electrochemical storage capacity from 57% to 62%, a 5-percentage-point year-on-year increase.

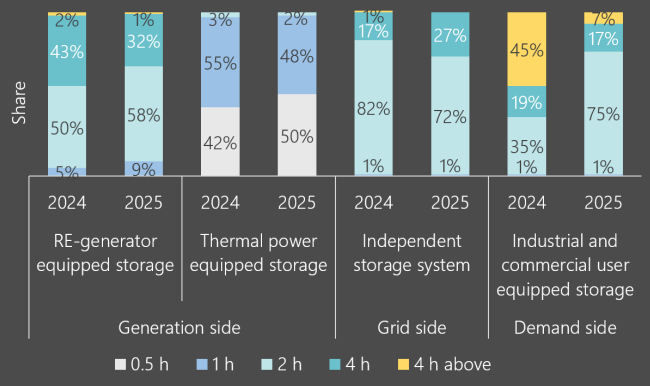
Comparison of electrochemical storage capacity by application scenarios in 2024 and 2025



Storage duration

The average storage duration rose from 2.28 hours to 2.53 hours. Long-term energy storage projects lasting 4 hours or more have seen substantial growth, with their share in total installed capacity rising from 16% to 28%, a 12-percentage-point increase, and their share in total storage energy rising from 30% to 45%, a 15-percentage-point increase.

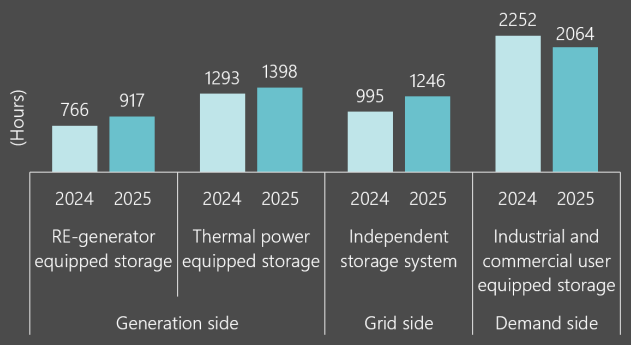
2024-2025 Storage duration by electrochemical storage capacity of each application scenario



Operational efficiency

The operational efficiency of electrochemical storage stations has steadily improved, with average annual utilisation hours increasing from 911 hours to 1,084 hours, a rise of 173 hours from 2024. The power supply side and grid side systems grew by 151 and 251 hours, respectively, while the demand-side systems decreased by 187 hours from 2024 to 2025.

2024-2025 Annual full load hours by application scenario



China debuts the first point-to-point green power supply project for a data centre

In May 2026, Datang Zhongwei Cloud Base's 500 MW solar PV power plant in Zhongwei, Ningxia, became fully operational, marking China's first point-to-point green power supply data centre project. The station does not connect to the public grid but supplies power directly to nearby data centres via four dedicated transmission lines, with energy storage systems to store excess electricity generation. The project employs a dual-track supply framework that combines point-to-point green power supply with bilateral power market transactions. During the solar generation period, point-to-point physical solar PV supply served as the primary method, while during solar shutdown periods, virtual direct wind power supply is supplemented through bilateral market transactions, ensuring full coverage of green power supply throughout the day with support from energy storage facilities. A 1.5 GW wind power project is also under construction, expected to be completed in September 2026. Once fully operational, the combined wind and solar PV power plants can supply the data centre's annual power needs of 2.3 TWh.[7]

In 2012, Ningxia became the first national new energy (mainly wind and solar power) demonstration zone. Wind and solar power have accounted for over 60% of Ningxia's total installed capacity, and its supply capability is steadily growing. In 2022, the Chinese government launched the "Eastern Data, Western Computing" strategy, aiming to develop large-scale data centres in western regions abundant in wind and solar resources and to shift non-real-time computing demand from the east to the west. This approach will greatly increase local green power consumption and reduce carbon emissions from large data centres. Zhongwei, Ningxia, was chosen as one of the first 10 national data centre clusters. By April 2026, six of China's top ten computing power companies had established operations at the Zhongwei Cloud Base, where over 90% of the electricity is sourced from green energy.[8]

China's first 10,000-tonne pure electric ocean-going vessel enters service

In April 2026, the container vessel "Ningyuan Diankun" started commercial operations in Ningbo, Zhejiang Province. It is the first China-developed 10,000-tonne pure-electric ocean-going ship. The propulsion system is equipped with 10 containerised batteries with a total energy of 19.6 MWh, roughly equivalent to 300 household electric vehicles. The vessel also features two 875-kW permanent-magnet synchronous motors, can carry 742 standard containers, reaches a maximum speed of 11.5 knots, and has a commercial range of 90 nautical miles (167 km). Charging combines high-voltage shore power with rapid containerised battery swapping, significantly reducing charging time. It also features zero-carbon smart control through a solar PV system and an integrated energy management system. Operating on Zhejiang's coastal routes, it is expected to save 580 tonnes of fuel consumption and cut carbon emissions by 1,400 tonnes annually.[9]

Source: Internet

[7] "全国首个大规模"算电协同"绿电直供项目投运," Henan Energy Regulatory Office of National Energy Administration, 11 May 2026, accessed at https://henb.nea.gov.cn/dtyw/hyxx/202605/t20260511_300911.html.

[8] "央视新闻丨我国首个算电协同绿电直供项目投运," National Energy Administration, 3 May 2026, accessed at https://mp.weixin.qq.com/s/tV5oluiuDhF3D1XUrNMqzg; "我国首个算电协同绿电直供项目投运," China Datang Corporation, 7 May 2026, accessed at http://www.sasac.gov.cn/n2588025/n2588124/c35420702/content.html.

[9] "【科研一线】国内首创 全球标杆！中船七〇四所助力中国首艘世界最大纯电动智能集装箱海船交付," China State Shipbuilding Corporation, 17 April 2026, accessed at https://mp.weixin.qq.com/s/1WIumuusZ9gmiOXbq97Mig.

2. Policy monitoring

2026-04-12

https://www.gov.cn/yaowen/liebiao/202604/content_7066694.htm

Provincial ual-carbon emissions assessment regulations issued

Comprehensive Evaluation and Assessment Method for Achieving Carbon Peak and Carbon Neutrality

Starting in 2026, the central government will conduct annual carbon emissions evaluations for each province, with the results directly linked to provincial government performance. Assessment indicators are divided into two categories: control indicators and supporting indicators. Control indicators include total carbon emissions, carbon intensity reduction, total coal and oil consumption, and the share of non-fossil energy consumption. Supporting indicators focus on key sectors, including energy saving, industry, urban and rural development, transportation, public institutions, and carbon trading. The NDRC will conduct assessments through on-site inspections and third-party verification. Provinces that fail to meet one or more control indicators or three or more supporting indicators will be classified as "unqualified." These provinces are required to submit a written explanation within 30 days, detailing their corrective actions and a deadline for completion.

2026-04-11

https://www.gov.cn/zhengce/202604/content_7066622.htm

Key industry energy conservation and carbon reduction action tasks released

Opinions on Further Improving Energy Conservation and Carbon Reduction at a Higher Level and with Higher Quality

The document outlines measures to save energy and reduce carbon emissions across five main sectors: industry, buildings, transport, digital infrastructure, and public institutions. In industry, efforts will focus on improving energy efficiency in the steel, non-ferrous metals, petrochemicals, chemicals, and building materials sectors, along with enhancing energy-efficiency diagnostics and energy-saving initiatives within industrial parks. In buildings, authorities will promote energy-efficient retrofits and operational management of existing buildings, establish a building energy-efficiency rating system, and advance reforms to heating metering. In transport, the focus is on advancing green road transport, promoting road-rail-water intermodal transport and zero-carbon corridors, and increasing the use of low-carbon vehicles. The plan also emphasises upgrading digital infrastructure, including computing facilities and telecom base stations, and encourages low-carbon, clustered, and circular computing systems. Additionally, it seeks to deepen energy-saving renovations of public heating, cooling, and lighting systems, and to strengthen management of energy consumption quotas.

2026-04-08

https://www.gov.cn/zhengce/zhengceku/202605/content_7068153.htm

NDRC boosts integrated development of AI and energy sector

Notice on Issuing the Action Plan for Promoting the Two-Way Empowerment of Artificial Intelligence and Energy, NEA Technology Development [2026] No.34

The policy emphasises securing energy supply and advancing the green transition of computing facilities. It aims to develop an initial energy support system for artificial intelligence by 2027 and, by 2030, to enhance both the clean energy capacity for computing facilities and the AI research, development, and applications in the energy sector to global advanced levels. The policy identifies three key focus areas: planning, supply quality, and system interaction. It advocates coordinated planning of computing power infrastructure, internet backbone hubs, and large-scale renewable energy bases, including the joint construction of gigawatt-level computing and energy systems. It also proposes establishing a collaborative governance framework involving government, grid operators, and users to ensure a reliable, high-quality power supply for computing facilities. Finally, it aims to leverage the power regulation capabilities of these facilities by expanding participation in power purchase agreements (PPAs), energy management optimisation, and cross-regional dispatching to increase green power consumption.