REPOWER

Repower China Brief

Power system reform, coal transition, and coal-to-nuclear developments

JANUARY TO APRIL 2026

Repower China Brief

Issue covered from January to April 2026

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TAKE-AWAYS

Strategic Pivot: China has recalibrated its energy strategy, shifting the primary focus from capacity proliferation to the structural performance and operational security of the New Power System.

Nuclear Elevation: The nuclear sector is set to gain momentum through defined growth objectives and the expansion of coal-to-Nuclear initiatives, which leverage existing infrastructure to facilitate a clean energy transition.

Convergent Infrastructure: A major strategic evolution is underway, integrating the power system with the digital economy to support electricity demand growth from expanding data centres.

KEY STATISTICS

NON-FOSSIL GENERATION		NUCLEAR CAPACITY		COAL UNITS' FLEXIBILITY TARGETS	
2025	2030	2025	2030	2025	2030
40%	50%	63GW	110GW	40%~50%	20%~30%

OPINIONS

Beyond Capacity: Integrating Flexibility, Computing and Nuclear in China’s Power System.

2026 marks the first year of China’s 15th Five-Year Plan (2026–2030) and represents a pivotal stage in the country’s energy transition. Policy and investment decisions made over the next five years will largely determine the trajectory of China’s energy system beyond 2030.

A fundamental transformation is underway in China's energy mix. In 2025, annual additions of wind and solar capacity surpassed coal-fired power for the first time. Non- fossil fuel sources now account for 40% of power generation, with projections reaching 50% by 2030. Furthermore, CO_2 emissions—specifically from fossil fuel combustion and cement production—have fallen for 20 consecutive months. China also maintains a dominant position in the electric vehicle (EV) market, with domestic penetration now exceeding 60% of new car sales.

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As the share of non-fossil energy grows alongside rising electrification, China’s power system faces increasing challenges regarding flexibility, security, and infrastructure compatibility. These pressures have necessitated urgent, comprehensive system upgrades.

Beginning in 2024, China initiated a strategy to develop a "New Power System" to address these emerging complexities. The national focus has shifted from the aggressive expansion of renewable capacity toward optimising the overall performance, safety, and operational stability of the grid. This strategic realignment will remain a central priority throughout the 15th Five-Year Plan period.

Greater attention is now focused on coal control, with China adopting a strategy of "step-by-step progress and strategic repositioning." Rather than pursuing a simple

phase-out of coal-fired capacity, China is leveraging targeted policies to transition these assets from their traditional role as primary power sources to a dual-purpose model: serving as both essential baseload security providers and agile grid regulators.

To accelerate this transition, all coal-fired units must meet stringent flexibility targets, lowering their minimum stable load to 20–30%, down significantly from the current 40–50% level. Complementing this, China has introduced a capacity payment mechanism that provides stable returns decoupled from generation volume. This policy effectively mitigates the commercial and operational challenges previously faced by coal generators, ensuring their financial viability while prioritising grid stability.

In January 2026, the government further refined this generation-side capacity payment mechanism, extending its scope to include gas-fired power, pumped hydro, and grid-scale energy storage. This expansion marks the foundational establishment of a market-based compensation framework that encompasses all major categories of regulation resources.

The "New Power System" is increasingly essential to supporting the growth of the digital economy and expanding computing capacity.

The "New Power System" is increasingly essential to supporting the growth of the digital economy and expanding computing capacity. In March 2026, the Government Work Report introduced the "New Infrastructure Initiative for Computing and Power Synergy" for the first time. The 15th Five-Year Plan identified the "coordinated deployment of green electricity and computing capacity" as a long-term strategic priority. Together, these documents establish a clear framework for the deep integration of the power sector and the digital economy. Against this backdrop, momentum for investment and project delivery is expected to accelerate in key areas, including coal-fired power flexibility retrofits and large-scale renewable energy development.

Nuclear energy has achieved a historic elevation in its strategic status. The implementation of China’s Atomic Energy Law in January 2026 solidifies the strategic role of nuclear energy within the national energy mix. By defining clear development pathways, industrial layouts, and R&D

funding, the law establishes a stable, long-term regulatory horizon for the entire sector. In March 2026, China formally acceded to the Declaration to Triple Nuclear Energy, committing to international cooperation in innovation, safety, and industrial collaboration. Concurrently, the 15th Five-Year Plan established a definitive target of 110 GW of operational capacity by 2030, while outlining a comprehensive roadmap for an integrated nuclear energy industry.

Industry discourse regarding the role of nuclear energy in the low-carbon transition has intensified significantly. Research findings—spanning national site screening, plant-level surveys, and full-lifecycle system cost optimisation—indicate a growing consensus that Coal-to-Nuclear (C2N) conversion holds substantial potential. C2N is being explored as a possible pathway for repurposing coal assets, offering potential co-benefits such as reduced system transition costs, carbon emission reductions, and the capacity for clean industrial heating.

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Small Modular Reactors (SMRs) are among the technologies being evaluated in this context. Their design offers increased siting flexibility, which may address specific inland geological and population-density constraints. Beyond electricity generation, SMRs are being examined for integration into diverse applications, including district heating and green hydrogen production.

However, the pathway of C2N currently faces economic challenges. Experts emphasise that the immediate priority for the next phase is extensive technical validation, including plant-level assessments, technology deployment, and pilot project development to determine the feasibility and commercial viability of this approach.

Further Reading

A GUIDE TO THE POLICIES, ACTIVITIES, AND RESEARCH COVERED IN THIS BRIEF

CHINESE POLICIES (national level)

01 Power System
02 Coal-fired Power Transition
03 Nuclear Power Planning

INDUSTRY & INNOVATIONS

01 Repower China Summit
02 CNEA Spring Forum

CUTTING-EDGE RESEARCH

01 Paper 1
02 Paper 2

1. CHINESE POLICIES

1.1 Power System Upgrade

Policies in this category cover the supporting framework for new power system development, power grids and related infrastructure, power market reform, capacity payment, energy storage mechanisms, power supply quality, and computing and power synergy.

(1) Notice on Improving the Generation-side Capacity Payment Mechanism

30 Jan 2026

Issued by: National Developmentand Reform Commission (NDRC) and National Energy Administration (NEA)

This document builds upon the *Guiding Opinions on Promoting New Energy Integration and Regulation* (NDRC Energy [2025] No. 1360). The *Notice on Improving the Generation-side Capacity Payment Mechanism* serves as its implementation, refining compensation frameworks for coal, gas,pumped hydro, and energy storage.

Key Policy Changes (Effective 2026):

- **Coal-Fired Power:** Fixed cost recovery via capacity payments increases from 30% to at least 50%.
- **Advanced Energy Storage:** A new mechanism is established for grid-scale standalone storage, with standards based on discharge duration.
- **Future Transition:** A unified capacity compensation mechanism will be implemented as the electricity spot market matures.

(2) Implementation Opinions on Improving the National Unified Power Market System

8 Feb 2026

Issued by: General Office of the State Council

To deepen power sector reform and support the development of a "New Power System," the policy mandates that a national unified power market be largely completed by 2030. Under this framework, market-based transactions are projected to account for approximately 70% of total national electricity consumption.

Key strategic objectives include:

- **Market Integration:** The policy will dismantle regional barriers to facilitate the integration of cross-provincial and intra-provincial transactions.

- **Simplified Access:** Market participants will benefit from a "single-location registration, nationwide access" model.
- **Comprehensive Market Functions:** Authorities will coordinate the refinement of multi-type market functions, including spot, medium- to long-term, ancillary service, green power, and capacity markets.
- **Expanded Participation:** The system will facilitate the inclusion of new market entities, such as virtual power plants and smart microgrids.
- **Regulatory Consistency:** The framework will establish and improve unified market rules, technical standards, and a national credit system.

(3) 2026 Government Work Report and the Outline of the 15th Five-Year Plan for National Economic and Social Development (Energy and Power Segment)

5 Mar / 13 Mar 2026

Issued by: State Council / 14th National People's Congress

These two documents establish a comprehensive policy pair: the *Government Work Report* provides annual action priorities, while the *15th Five-Year Plan Outline* sets the medium-term strategic deployment.

Government Work Report Priorities

- Thereport prioritises buildinga new power system, accelerating smart grid development, rolling out advanced energy storage, and expanding green power applications.
- It mandates advancing the functional transition of coal-fired power and the "active, safe, and orderly" development of nuclear power.
- Key initiatives include establishing a national low-carbon transition fund and launching "computing and power synergy" infrastructure projects—the first time this synergy has been explicitly recognised as a formal infrastructure initiative.

15th Five-Year Plan Strategic Deployment

- The *Outline* details the acceleration of new energy infrastructure, emphasising the "scientific" deployment of pumpedstorage and the vigorous development of advanced energy storage.
- It focuses on the transformation and upgrading of coal-fired power alongside bulk coal substitution.
- For the first time, the *Outline* sets a quantitative target for nuclear energy, aiming for approximately 110 GW of installed capacity by the end of the 15th Five-Year Plan, while promoting the integrated utilisation of nuclear power.

(4) National Special Action Plan for Improving Power Quality (2026–2028)

16 Apr 2026

Issued by: NDRC and NEA

The document introduces a three-year special action plan aimed at enhancing power quality by addressing specific issues, such as voltage sags. This initiative will drive preventive measures at the grid level, promote proactive governance on the user side, and facilitate the construction of benchmark parks with high power quality standards. These efforts are designed to underpin the development of new quality productive forces—including chips, computing capacity, and precision manufacturing—while providing the high-quality power supply guarantees necessary to support the construction of a new power system.

1.2 Coal-fired Power Transition

Policies in this category cover coal-fired power energy efficiency and carbon reduction retrofits, flexibility retrofits, low-carbon retrofits (including biomass co-firing / green ammonia co-firing / CCUS), coal-fired power plant repurposing, decommissioning, and coal-fired power and new energy integration.

(1) Implementation Plan for the High-quality Development of Energy-saving Equipment (2026–2028) **20 Mar 2026**

Issued by: Ministry of Industry and Information Technology (MIIT), NDRC, State-owned Assets Supervision and Administration Commission (SASAC) and NEA

The document seeks to accelerate R&D and adoption of energy-efficient equipment, with a focus on enhancing the energy efficiency and system compatibility of transformers deployed in the wind power, solar power and advanced energy storage sectors. It will also promote the application of energy-saving technologies in the coal-fired power sector to support ongoing energy efficiency and carbon reduction retrofits in coal-fired power plants. Specifically, it sets a target that by 2028, energy-efficient transformers will account for over 75% of all newly installed transformers nationwide.

(2) Opinions on Advancing Energy Conservation and Carbon Reduction at a Higher Level and with Higher Quality

22 Apr 2026

Issued by: General Office of the CPC Central Committee and General Office of the State Council

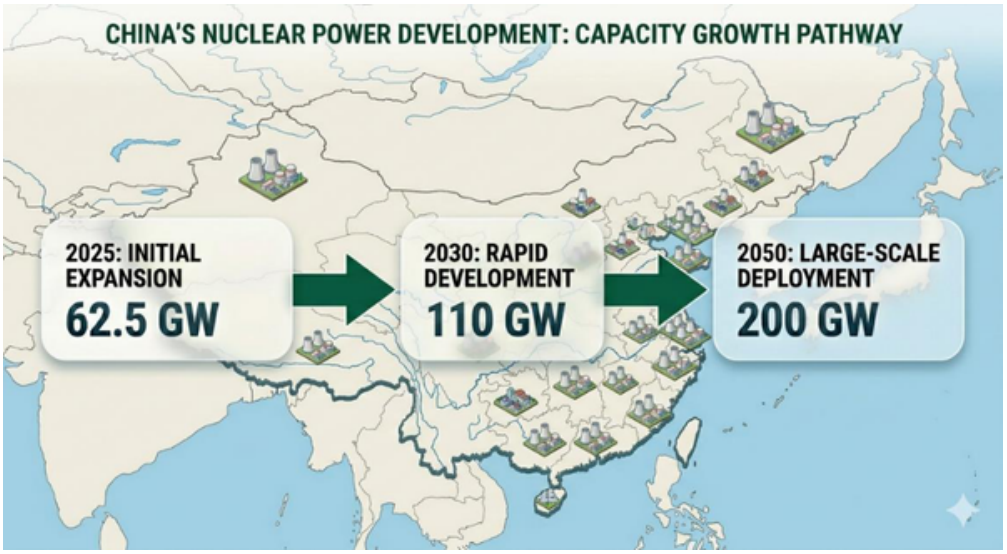
This document provides the operational implementation guidance for the energy transition under the 15th Five-Year Plan, effectively bridging the strategic framework established by the *15th Five-Year Plan Outline* with concrete operational delivery. It translates the *Outline's* directive on "advancing the transformation and upgrading of coal-fired power and bulk coal substitution" into actionable measures.

Key elements of this guidance include:

- **Coal Power Management:** The document mandates that coal-fired power installed capacity and generation be controlled at reasonable levels.
- **Renewable and Storage Expansion:** It calls for the vigorous development of non-fossil energy and advanced energy storage.
- **System and Infrastructure:** It directs the acceleration of the new power system, the scientific deployment of pumped storage, and the innovation of business models such as smart microgrids and dedicated green power direct supply.
- **Growth and Efficiency:** The policy ensures that incremental clean energy generation will gradually cover the growth in national electricity demand, while simultaneously advancing flexibility retrofits, energy efficiency, and carbon reduction for existing coal-fired power assets.

1.3 Nuclear Power Planning

Policies in this category cover nuclear power industry development, nuclear safety regulation, reactor technology specifications, nuclear power project approval, comprehensive nuclear energy utilisation, and international nuclear power cooperation, among other areas.



(1) Atomic Energy Law of the People's Republic of China

15 Jan 2026

Legislative organ: Standing Committeeof the National People's Congress (NPC Standing Committee)

This is the first foundational, comprehensive and overarching law in China's atomic energy sector, reviewed and adopted by the NPC Standing Committee. It establishes the core regulatory systems for the atomic energy sector, covering nuclear energy development and utilisation, radioactive material management, nuclear safety regulation, nuclear emergency preparedness and response, and international cooperation. It marks a major milestone for standardised nuclear power development in China, providing fundamental institutional guarantees for the long-term development of the nuclear power industry and the implementation of the national principle of "active, safe and orderly" nuclear development.

(2) China joins the Declaration to Triple Nuclear Energy

10 Mar 2026

Issued by: National Atomic Energy Agency

At the 2nd Nuclear Energy Summit in Paris, China formally acceded to the Declaration to Triple Nuclear Energy, joining 38 countries in committing to triple global nuclear power installed capacity from 2020 levels by 2050 to support global net-zero emissions. This will also facilitate the global expansion of China's nuclear power technology and industry and advance the diversified utilisation of nuclear energy.

2. INDUSTRY & INNOVATION

2.1 Repower China Summit 2026

Repower China Summit 2026, initiated by the Repower Initiative and supported by the China Carbon Neutrality Initiative (CCNI) at the Institute of 3E, Tsinghua University, was held in Beijing on 15 April. The summit focused on coal-fired power asset repurposing, the "coal-to-nuclear" technical pathway and its commercial rollout, with the core objective of driving the transition of existing coal-fired power infrastructure into clean energy assets, rather than simply decommissioning them. Over 100 Chinese and international energy experts, scholars and industry representatives attended the event, with key presentations including:

1) Global Coal-to-Nuclear Progress. The IAEA presented its report Coal-to-Nuclear for Clean Energy Transition, launched during the 2025 G20 Summit. Addressing the transition needs of coal-dependent nations, the report sets out the strategic value of nuclear energy, particularly small modular reactors, in driving the clean energy transition and supporting economic growth.

2) Technical Progress of China's High-Temperature Gas-Cooled Reactor. As a Generation IV nuclear system, the high-temperature gas-cooled reactor (HTGR) uses helium cooling and graphite moderation, with two key features: operating temperatures above 700°C and inherent safety. In the event of an extreme accident, it can achieve safe shutdown purely through physical mechanisms, fundamentally eliminating the risks of core meltdown and large-scale radioactive release. China has completed its 20-year development path from a 10MW HTGC test reactor (completed in 2003) to the 200MW Shidao Bay I (HTR-PM) commercial demonstration power plant, which achieved commercial operation on 6 December 2023.

3) Poland's Strategic Coal-to-Nuclear Transition. Poland has moved away from coal-fire power dependent in the past 2 decades.. To deliver deep decarbonisation, Poland launched the "Polish Nuclear Energy Programme 2020", planning to develop 6-9GW of nuclear power capacity. It has already screened 27 potential nuclear sites that meet safety requirements, 4 of which are existing large coal-fired power plant sites. These sites can reuse the existing industrial infrastructure including grid connections and land.

4) Quantitative Research on the Macro Value of Coal-to-Nuclear in China by the Tsinghua 3E Team. The two-year research project "SMRs and the Decarbonisation of China's Power and Heating Sectors", conducted in partnership with China Huaneng Group and China General Nuclear Power Group (CGN), conducted a systematic assessment addressing the dual challenges of existing coal-fired power decommissioning and clean heating gaps in northern China's coal-fired power clusters. The research finds that by 2060, nuclear power could account for 18%-25% of China's power generation, and nuclear heating could cover 14%-23% of industrial heating demand. This would deliver cumulative system cost savings of 2-4 trillion yuan, and cumulative CO_2 reductions of 0.7-2.2 Gt. Assessments of pilot sites including Weihai and Fuzhou have already verified the technical, geological and economic feasibility of this pathway.

5) Industrial Practice of Integrated Nuclear Energy Utilisation. SPIC's Shanghai Nuclear Engineering Research and Design Institute presented nuclear energy applications across multiple scenarios including heating, hydrogen production and industrial steam supply. The self-developed CAP200 and CAP300 SMRs are precisely tailored for the retrofit of existing coal-fired power plants, and the nuclear-based multi-energy coupling solution can achieve an 83.4% carbon emission reduction rate. The presentation also noted that integrated nuclear energy utilisation is the key to overcoming site deployment challenges, with SMRs acting as a flexible enabler for this integrated approach. As carbon prices rise, SMRs are expected to have broad development prospects.

During the summit, a digital decision support tool was launched: the Chinese version of the RepowerScore coal-fired power plant transition scoring tool (**link**). This tool can systematically assess the clean transition potential of coal-fired power plants globally, advancing pathways such as "coal-to-nuclear" and "coal-to-integrated energy" into the more detailed project assessment phase.

The summit's agenda reflected a clear shift: from a focus on "shutdown and exit" to a balanced focus on "asset repurposing and low-carbon upgrading". Looking ahead, the transition pathways for coal-fired power assets are expanding beyond conventional flexibility retrofits, to explore nuclear coupling, integrated energy supply and zero-carbon park infrastructure. For the "coal-to-nuclear" option, its feasibility remains dependent on the maturity of Generation IV nuclear technology, cost reductions for SMRs, and the evolution of nuclear safety regulatory policies. If these conditions are met, this technical pathway is seen as a transition pathway that can balance technical feasibility and cost-effectiveness, while reconciling energy security with climate targets.

2.2 2026 Spring Forum on Sustainable Nuclear Energy Development

The 2026 Spring Forum on Sustainable Nuclear Energy Development, an authoritative industry event for the nuclear power sector, was held in Beijing on 17 April. The themeforthis year was "Nuclear Energy Innovation to Support the Buildingof a Strong Energy Nation". Numerous government officials, industry representatives and senior experts delivered keynote speeches and thematic presentations. The heads of thethree major nuclear power groups, CNNC, Huaneng and CGN,all delivered thematic reports on the latest progress in nuclear energy development within their respective groups.

At the forum, Wang Binghua, former Chairman of SPIC, launched the ***Research on Issues Related to the Retrofit of Coal-fired Power Plants into Nuclear Projects.*** This is the systematic research output of the project "Key Issues for Nuclear Project Retrofit at Decommissioned Coal-fired Power Plant Sites", conducted in 2024–2025. The project was organised by the China Nuclear Energy Association (CNEA), with participation from leading domestic energy enterprises, and the Shanghai Nuclear

Engineering Research and Design Institute as the core implementing unit. The core conclusions of the report are as follows:

- The research covered 149 coal-fired power plant sites across China (110 inland, 39 coastal), spanning 26 provinces. After taking seismic safety and population distribution as key considerations, 10.07% of the sites have the potential to be retrofitted to host large nuclear power units, while 41.61% are suitable for SMR projects, indicating that SMRs have higher feasibility for repurposing coal-fired

power sites. Preliminary analysis shows that the retrofit can deliver approximately 10% investment savings, and this ratio can rise to 18%-21% when reuse of conventional island equipment is factored in.

• The report recommends a differentiated deployment strategy: large coastal sites should be developed with large nuclear power units, paired with diversified utilisation options such as seawater desalination and grid optimisation. For areas with scarce surface water resources or remote regions, advanced SMRs and High-Temperature Gas-Cooled Reactors (HTGRs) should be adopted to build multi-energy coupling systems. This will enable the development of nuclear clean heating in Northeast, North and Northwest China, and the exploration of integrated wind-solar-coal- nuclear-storage clean energy bases in Northwest China.

From an industry perspective, CNEA has formally incorporated C2N into its research agenda, meaning this technical pathway has now drawn the attention of national nuclear regulators and industry associations. During this critical period of China's energy transition, converting decommissioned coal-fired power sites for nuclear deployment expands the pool of viable nuclear sites. It facilitates asset repurposing for decommissioned coal-fired plants and idle industrial parks, reduces capital expenditure on nuclear projects, generates local employment, and underpins regional economic development as well as the delivery of national energy strategies.

3. RESEARCH PUBLICATIONS

Paper 1: Uncovering the potential of coal-to-nuclear in the energy low-carbon transition

Zhou Y., Li D.W., Ma S.P., Lyu B.Q., Zhou S., Yu C.Z., Huang J.L., Zhang X.L. (2026). Uncovering the potential of coal-to-nuclear in the energy low-carbon transition. Advances in Climate Change Research, 17(2026), 421–430. Led by the Institute of 3E, Tsinghua University; participants include China University of Mining and Technology (Beijing); Fujian Agriculture and Forestry University; North China Electric Power University; International Clean Energy Research Office, China Three Gorges Corporation.

RESEARCH OVERVIEW

Focusing on the development potential and constraints of C2N provincial-level sites across China, this study applies multi-dimensional spatial assessment and scenario analysis to systematically evaluate which sites are suitable for retrofitting into Large Reactors (LRs) and Small Modular Reactors (SMRs).

CORE CONCLUSIONS:

1) Under the baseline scenario, the retrofit potential of coal-fired power sites for LRs stands at around 56GW across 30 sites, mainly distributed in Inner Mongolia, Shaanxi and Shanxi. This figure is nearly equivalent to China's total nuclear power installed capacity in 2024. For SMRs, the potential reaches as high as 979GW, covering 2,482 units concentrated east of the Hu Huanyong Line. Shandong (98GW), Inner Mongolia (87GW) and Jiangsu (82GW) rank the top three, and the total potential is 16 times China’s nuclear power installed capacity in 2024.
2) Population density is the primary constraint. If the current policy restrictions on inland nuclear power are maintained, the potential for LRs falls to zero, while SMR potential plummets by 94% to 56GW, which is limited to coastal regions. Shandong (19GW), Jiangsu (11GW) and Guangdong (7GW) lead the ranking.
3) The 5-km coastal setback restriction has no impact on LRs and only reduces SMR potential by 3.2% to 948GW.
4) SMRs demonstrate far better adaptability to existing coal-fired power sites than large reactors (LRs). Under the full replacement scenario, the retrofit potential for LRs reaches 6GW and that for SMRs hits 608GW. Under the partial replacement scenario, LR potential stands at 10GW while SMR potential is 499GW. Shandong, Inner Mongolia and Jiangsu have high development priority.

Paper 2: Role of Coal-to-Nuclear Conversion in China's Electricity System Decarbonisation

Li D., Zhang H., Zhou Y., Zhou S., Guo S., Huang J., Zhang X. (2026). Role of Coal-to-Nuclear Conversion in China's Electricity System Decarbonisation. Engineering, 59(2026), 287–296. Led by the Institute of 3E, Tsinghua University; participants include the Joint Research Centre for Climate Governance Mechanism and Green Low-carbon Transition Strategy (Tsinghua University – CTG) and the International Clean Energy Research Office of China Three Gorges Corporation (CTG).

RESEARCH OVERVIEW

This study adopts the Tsinghua REPO power system optimisation model and incorporates C2N as an additional technical option. It quantitatively assesses how four types of nuclear technologies are: Generation III large reactors (LRs), Generation IV fast reactors (FRs), light water small modular reactors (SMRs) and high-temperature gas-cooled reactors (HTGRs) — affect nuclear power capacity and system costs under cost-optimal decarbonisation pathways.

CORE CONCLUSIONS:

1) Under the Base Scenario, China's nuclear power installed capacity will reach 422GW by 2060, accounting for 18% of power generation (with SMRs accounting for 42%). Under the Large Reactor Principle (LRP) Scenario, nuclear capacity will rise to 477GW by 2060 (an increase of 55GW, or +13%, compared to Base), with its generation share rising to 20%. Under the Small Reactor Principle (SRP) Scenario, capacity will further increase to 518GW (an increase of 96GW, or +23%, compared to Base), with the generation share rising to 22%. This confirms that C2N can significantly expand the development space for nuclear power, particularly SMRs.
2) The incremental capacity from C2N comes mainly from SMRs: under the SRP scenario, light water small reactors (LW-SMRs) will reach 130GW of installed capacity by 2060 (nearly double that under the Base scenario), while high-temperature gas-cooled reactors (HTGRs) will reach 133GW. SMRs will become the key support for deeply decarbonised power system.
3) C2N will not shift the core focus of nuclear power's coastal layout, with Guangdong still leading (Base Scenario: 73GW / SRP Scenario: 80GW by 2060), followed by Guangxi, Zhejiang, Fujian, Jiangsu and Shandong. However, it can significantly expand inland nuclear power coverage: under the SRP Scenario, 28 provinces will have nuclear power installed capacity, with 16 provinces exceeding 10GW. The major northwestern coal-fired power

provinces (Inner Mongolia, Xinjiang, Shanxi, Shaanxi) will become the main beneficiaries of C2N.

4) C2N can effectively reduce the overall transition cost: the LRP Scenario delivers cumulative system cost savings of 0.44 trillion yuan (0.22%) compared to the Base Scenario. The SRP Scenario delivers an additional 0.95 trillion yuan in savings compared to LRP Scenario, bringing the total cumulative savings to around 1.39 trillion yuan (0.69%). This means that the more flexible the policy thresholds, the more significant the cost savings.

POLICY RECOMMENDATIONS FROM THE RESEARCH:

1) Prioritise the protection of pre-screened greenfield nuclear sites to ensure their effective utilisation for the dual carbon goals.
2) Roll out C2N pilot projects and appropriately accelerate nuclear power development alongside decarbonisation progress. If restrictions on inland nuclear power are lifted, inland regions facing both coal-fired power decommissioning and growing power demand will emerge as prime locations for C2N deployment after 2035. Relevant supporting policies such as land use right conversion and streamlined nuclear safety approval procedures should be introduced.
3) Expand production capacity for key nuclear power equipment and components.
4) Support R&D of advanced nuclear technologies to reduce costs and improve efficiency.

SOURCES

National Energy Administration (NEA), National Development and Reform Commission (NDRC), State Council, National People's Congress, China Nuclear Energy Association (CNEA), China Electricity Council, Institute of 3E, Tsinghua University, Xinhua News Agency, People's Daily, China Securities Journal, Shanghai Securities News; Journals: Advances in Climate Change Research, Engineering, China Coal.

ABOUT THE BRIEF

Repower China Brief provides a regular overview of Chinese policies, industry trends, and cutting-edge research regarding the nation's energy transition and renewable energy development. The current focus centres on three core pillars: power system upgrades, coal-to-clean energy transitions, and nuclear power.

The brief is compiled by the Repower Initiative’s China team and reviewed by the Repower network of experts. Our mission is to accelerate decarbonisation by repurposing existing coal assets and optimising critical energy resources. Consequently, this brief offers a specialised lens on innovative pathways for the transition of coal-fired power infrastructure.

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