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MEDIA RELEASE

China is on Track to Meet its Power Emissions Targets, even as it Builds New Coal, ARE Report Finds

New ARE analysis shows coal power capacity will peak by 2030 and fall to just 4.1% of the electricity mix by 2060 as renewables progressively become the backbone of China's power generation system

2nd March 2026, Singapore — China's expansion of coal power capacity is unfolding alongside an unprecedented buildout of renewable energy, forming part of a managed transition pathway toward carbon neutrality, according to a new report by Asia Research & Engagement (ARE).

The report – "***Why China is Still Building New Coal: Examining the rationale of China's long-term energy pathway***" – finds that China's continuing coal buildout reflects the practical realities of managing the world's largest power system during a period of rapid economic growth and unprecedented renewables deployment, rather than a retreat from its climate commitments.

While coal power capacity is projected to rise from 1,230GW in 2025 to 1,580GW by 2030, ARE's analysis finds that this expansion will be short-lived. Coal capacity is expected to peak by 2030 before entering a long-term structural decline, falling to around 400GW by 2060 — a reduction of approximately 75% from its peak.

By 2060, coal generation is forecast to account for just 2% of China's total electricity mix, compared with 49% in 2025. By then, all remaining coal plants should have been retrofitted with carbon capture technologies.
China's coal construction projects reflect the scale and complexity of its power system. Electricity demand is projected to rise from 10,443TWh in 2025 to 21,800TWh by 2060, driven by electrification, industrial growth, data centres, cloud computing, and artificial intelligence.

While China leads the world in renewable deployment — with solar and wind capacity surpassing thermal power for the first time in 2023 — the intermittency of wind and solar, coupled with China's limited low-carbon flexible resources, means coal continues to play a critical role in ensuring grid stability, meeting peak demand, and providing system flexibility.

Crucially, ARE's analysis shows that new coal plants are increasingly being built to support renewable integration rather than extend fossil fuel dependence. Around one-third of new coal capacity under the 14th Five-Year Plan is designed specifically to provide flexibility services, enabling the rapid scale-up of wind and solar across China's western renewable bases.

Over the long term, China's power system is set to undergo a profound transformation. By 2060, wind and solar are projected to account for 67% of total electricity generation, supported by more than 1,300GW of battery storage, 360GW of pumped hydro, and a major expansion of nuclear and hydropower. Combined renewable generation is expected to reach 17,440TWh, meeting around 80% of total electricity demand.

All remaining coal plants are expected to be retrofitted with carbon capture, utilisation and storage (CCUS) by 2045, with unabated coal generation approaching zero. We note that China has successfully demonstrated coal-fired CCUS projects but the timeline for full commercialisation is uncertain.

ARE China Country Director, Flora Wu, said, "China's continued coal construction is often misinterpreted as a step backwards. In reality, it reflects the challenge of operating the world's largest power system while scaling renewables at a pace no other country has achieved."

"ARE's analysis shows that coal will peak by 2030 and then decline sharply. The national transition pathway is intact, the direction of travel is clear, and China's power generation sector remains firmly on course to achieve carbon neutrality by 2060."

Key findings from the report include:

- Coal power capacity is projected to rise to 1,580GW by 2030 before declining to around 400GW by 2060.

- Coal power capacity is expected to fall from 49% in 2025 to around 4.1% of the total electricity mix by 2060.

- Wind and solar capacity is projected to grow from 1,940GW in 2025 to 7,921GW by 2060, a fourfold increase.

- By 2060, wind will account for 35% of power generation and solar 32%, supported by more than 1,300GW of battery storage and 360GW of pumped hydro.

- All remaining coal plants are expected to be retrofitted with CCUS by 2045.

Note to editors:

Modelling and methodology:

All projections are based on ARE's integrated modelling framework using:

- IMF GDP growth projections
- China Electricity Council peak load forecasts
- National Energy Administration (NEA) data
- State Grid modelling
- IEA renewable integration framework
- National Five-Year Plan policy guidance
- ARE's own power system adequacy modelling

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