Utilizing Carbon-Free Energy Technologies to Expand Clean Electricity in APEC

China's Policy & Practice

April 9

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China’s Energy & Power System Transition Policies

- **China's Dual Carbon Goals Commitment**
- On September 22, 2020, China solemnly announced to the world, "striving to peak carbon dioxide emissions by 2030 and aiming to achieve carbon neutrality by 2060."
- **Energy Law of the People’s Republic of China**
- On January 1 in 2025, China’s first Energy Law came into effect, providing policy assurance for establishing a clean and efficient energy supply system and advancing the energy transition.

China’s Energy & Power system Transition Policies

- In 2024, China issued the **Action Plan for Accelerating the Construction of a New Power System (2024-2027)** and released the **Action Plan for Low-Carbon Retrofitting and Construction of Coal Power (2024-2027)**.

Safe and Reliable Power Supply in China

——Clean Development of Coal-Fired Power

- **The energy-saving and carbon-reduction performance has been steadidly improved**
- Existing units: "**triple-upgrade initiative**" (energy efficiency, flexibility, and heating retrofits)
- New added units: clean and high-efficiency technologies, generally required to meet **270 g/kWh**.
- The energy-saving and carbon-reduction performance of coal-fired units has steadily improved.
- In 2024, China’s average coal consumption for power supply was approximately **303 g/kWh**, a reduction of **31 g/kWh** compared to 2010.
- The emission standards for air pollutants from coal power are now on par with those of natural gas-fired power generation.

Clean and Low-carbon Transition:
——Building a New Power System in China

- **Vigorous Development of Renewable Energy**
- Actively promote both large-scale and distributed wind and solar power development. Enhance the safe and reliable integration of renewable energy into the grid.
- **Large renewable energy bases in China's Sandy-Gobi- Desert areas** is a key strategic initiative to advance large-scale wind and solar power projects. For instance, Ningxia-Hunan Power Transmission Project will deliver Ningxia's abundant wind, solar and coal power resources to the load center of Hunan in Central China, over 20 billion kWh of clean electricity annually, reducing CO_2 emissions by approximately 16 million tons.

Ningxia-Hunan Large Renewable Energy Base

Clean and Low-carbon Transition:
——Building a New Power System in China

- **Vigorous Development of Renewable Energy**
- To support the safe and stable development of the new power system, efforts have been made to enhance the grid integration and auxiliary service capabilities of new energy sources.
- **System-Friendly New Energy Technologies**

Longyuan's Ensemble Forecasting Technology

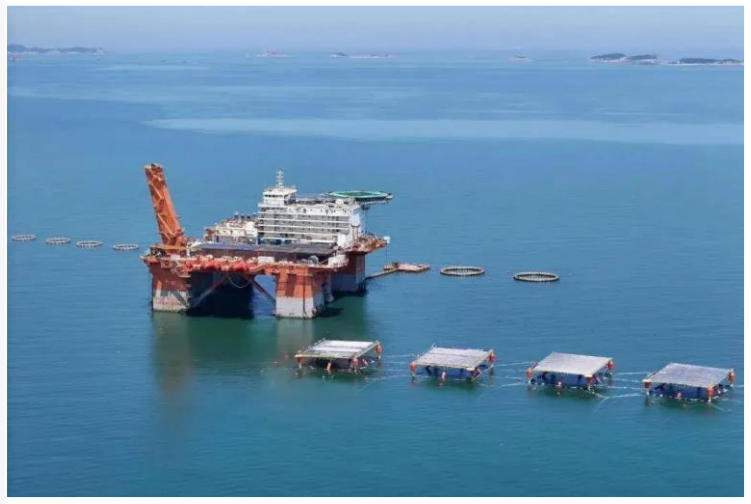
Shandong Digital Twin O&M Platform

Ningxia Grid-Forming Energy Storage Project

Clean and Low-carbon Transition:
——Building a New Power System in China

- **Vigorous Development of Renewable Energy**
- A series of green power projects have been established to facilitate the **local and nearby consumption of new energy**. These initiatives aim to advance the localized and efficient utilization of new energy.

Hydrogen-powered Heavy Truck Project



Green Hydrogen from Offshore Wind Project

NingDong Green Hydrogen Energy Co., Ltd. Yongli Hydrogen Plant

Clean and Low-carbon Transition:

——Building a New Power System in China

- **Advancing Development of Flexible and Supportive Power Source**

- Scientifically and systematically promoting hydropower development

- Advancing safely nuclear power in an orderly manner

- Implenting the "triple-upgrade initiative" for coal-fired power

(capacity flexibility, heating transformation, and energy efficiency improvement)

- Optimizing the planning and layout of pumped-storage hydropower

- Actively promoting new energy storage technologies

- Enhancing the power system's regulation capacity

China Energy's Suqian Plant with Deep and Quick Peak Shaving Technology

Taizhou Power Plant's 500,000 tons/y CCUS

Let’s contribute greater momentum to a sustainable and green energy future!

Thanks for your attention!