China s nuclear power research and development of energy storage

Why does China need a nuclear power plant?
The impetus for nuclear power in China is due to air pollutionfrom coal-fired plants,as well as climate commitments and energy security. China's policy is to have a closed nuclear fuel cycle. China has become largely self-sufficient in reactor design and construction,but is making full use of Western technology while adapting it.

How to develop nuclear energy in China?
The nuclear energy must be developed safely and high efficiently. The strategy is to develop with three steps: thermal reactors,fast reactors,and fusion reactors. China has always adhered to the strategy of closed fuel cycle. Spent fuel storage facilities at some nuclear plants are close to full capacity.

What is China integrated fast reactor nuclear energy system?
China integrated Fast Reactor Nuclear Energy System is composed of several fast reactors and one fuel regeneration subsystem(Dry Reprocessing +fuel production line) and other supporting subsystems. It is located at the same nuclear power plant site and forms a complete nuclear energy systems.

Why is China expanding its nuclear power?
This consistent expansion reflects China's broader national energy strategy. In 2024, nuclear energy accounted for 444.7 billion kilowatt-hours--approximately 4.72% of total electricity generation--helping to avert an estimated 334 million tons of carbon emissions.

Does China have a nuclear power industry?
Over the past decade,China has experienced rapid growth in nuclear power,developing substantial expertise and engineering capabilities in nuclear technology research and development,engineering design,equipment manufacturing,and construction operations,said Zhang Jianhua,head of China's National Energy Administration.

Is China a leader in nuclear power development?
China has achieved significant strides in nuclear power development in recent years,rapidly expanding the industry and establishing a comprehensive nuclear power supply chain,positioning itself as a global leaderin the sector.

Carry out research on the configuration of new energy storage for offshore wind power; promote the rational configuration of new energy storage for coal-fired power; explore the development ...

With the development of nuclear power in China, the amount of spent nuclear fuel is increasing rapidly. It is estimated that the PWR spent nuclear fuel will reach 33,000 tHM ...

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China"s nuclear power development adheres to the principle of "cooperating with other countries with itself playing the major role", and follows the "three-step" technology roadmap of "thermal ...

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