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A Review and Prospects of the SMR's development in China

Concerning the benefits of modularity, siting flexibility, greater efficiency, safety and nonproliferation, SMR has already become one of the most important innovation directions of global nuclear energy. In recent years, with the carbon peaking and carbon neutrality goals, China has made a great many achievements in researching, developing and constructing SMRs, which should be mainly attributed to the increase of their applications. This thesis reviews the development history of SMRs in China, and provides a detailed analysis of their current status, especially the HTGR and ACP 100, in addition to China's supportive energy planning and legislative activities. Meanwhile, based on the research and development progress and national demand, the application prospects of SMRs in China will be analyzed, such as electricity generation, heating, seawater desalination, and hydrogen production, etc. What's more, under the circumstances of global energy transition, China's advantages and opportunities for exploring overseas nuclear energy market will also be discussed.

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