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Mara Johnson-Groh; Province-specific policies offer best option as China deploys renewable energy storage systems. Scilight 23 June 2023; 2023 (25): 251101. https://doi /10.1063/10.0019954

China, the world"s largest energy consumer, is going carbon neutral. With a goal of 1200 gigawatts of solar and wind-powered energy installed by 2030 and complete carbon neutrality by 2060, the country is looking at ways to improve energy storage systems.

Zhang et al. reported on the economic impact of the co-deployment of renewable power sources and storage in China. Studying the localized cost of electricity, the researchers examined the total costs associated with renewable energy storage systems in different provinces by comparing incomplete and spot markets.

The team found that the current market mechanism for energy storage systems isn"t ideal, particularly in certain provinces like Qinghai, and can result in increased wind and solar prices of 15 and 21%. However, the use of frequency regulation revenue can make energy costs lower in most provinces when renewable energy is deployed alongside energy storage systems. The findings show that province-specific policies would be the best strategy for energy storage co-deployment.

"To foster the development of energy storage, it is important to define energy storage as an independent market player and improve market mechanisms," Yuan said. "Moreover, policy should be designed in a province-specific way to accommodate regional differences."

The researchers hope their findings will help inform policy makers and improve the design and implementation of energy storage policies. They plan to improve the comprehensiveness of the economic analysis by looking at the risk profile of spot market pricing for energy storage.

Source: "The economic impact of energy storage co-deployment on renewable energy in China," by Jian Zhang, Ke Du, Jinyue Liu, Yushan Wang, Wen Zhang, Jiahai Yuan, Journal of Renewable and Sustainable Energy (2023). The article can be accessed at https://doi /10.1063/5.0149718.

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