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Energy storage increases wind power generation hours



Overview

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Demand response and energy storage are sources of power system flexibility that increase the alignment between renewable energy generation and demand. For example, demand response provides a means to shift demand to times of relatively high wind generation and low load, while storage technologies.

Today, the US has is generating 150 1 gigawatts (GW) of wind power. Based on current plans, this amount has the potential to double in the next five years. As the amount of power is increased, there will be increased requirements for storage capacity. Right now, there is 31.5 2 GW of storage.

Without energy storage, this variability strains the grid, risking blackouts or wasted energy. That's where energy storage systems (ESS) step in, acting as the "shock absorber" for renewable energy [1] [3] [4]. Grid Instability: In 2022, Texas faced a 15% drop in wind power during a heatwave.

Growing levels of wind and solar power increase the need for flexibility and grid services across different time scales in the power system. There are many sources of flexibility and grid services: energy storage is a particularly versatile one. Various types of energy storage technologies exist.

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