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Title: Fuel cells can be used for energy storage

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What are fuel cells used for?

Fuel cells are used for supporting power grid, such as peak load management and frequency regulation. They are also promising tools to supplement power gaps from variations renewable source power generation like solar PVs and wind turbines. Types of fuel cells used in grid-related applications range include PAFC, MFCF, and SOFC.

What are the benefits of fuel cells?

Fuel cells have several benefits over conventional combustion-based technologies currently used in many power plants and vehicles. Fuel cells can operate at higher efficiencies than combustion engines and can convert the chemical energy in the fuel directly to electrical energy with efficiencies capable of exceeding 60%.

How do fuel cells work?

Fuel cells are electrochemical devices that convert chemical energy into electrical energy through a controlled redox reaction. They are distinct from batteries in that they require a continuous supply of fuel and oxidant (usually oxygen) to operate, while batteries store their energy internally.

Are fuel cells a viable technology?

Additionally, fuel cells are highly adaptable, suitable for applications ranging from small devices to large-scale energy production systems. However, despite these strengths, the widespread adoption of fuel cell technology is still hindered by several challenges [1, 2].

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