

New fuel cell energy storage





Overview

Can novel fuel cells store electricity from renewables?

Novel fuel cells can help store electricity from renewables, such as wind farms, by converting it into a chemical fuel for long-term storage and then changing it back to electricity when needed. [iStock.com/Ron_Thomas](https://www.istock.com/photo/Ron_Thomas).

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.

What are the benefits of using fuel cells?

Use of fuel cells is quite advantageous as they produce very less noise during working and due to its location near the site. They are the cleanest source of power generation (3). Also, green emissions are very less and efficiency is more in the conversion of the fuel energy into power.

How can a fuel cell be more versatile?

Fuel Flexibility: Researchers are exploring the use of a wider range of fuels, including renewable sources like biogas and hydrogen derived from water electrolysis, to increase fuel cell versatility (12). Hydrogen is available in large amount, has a very high energy and burns without harmful emissions.



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