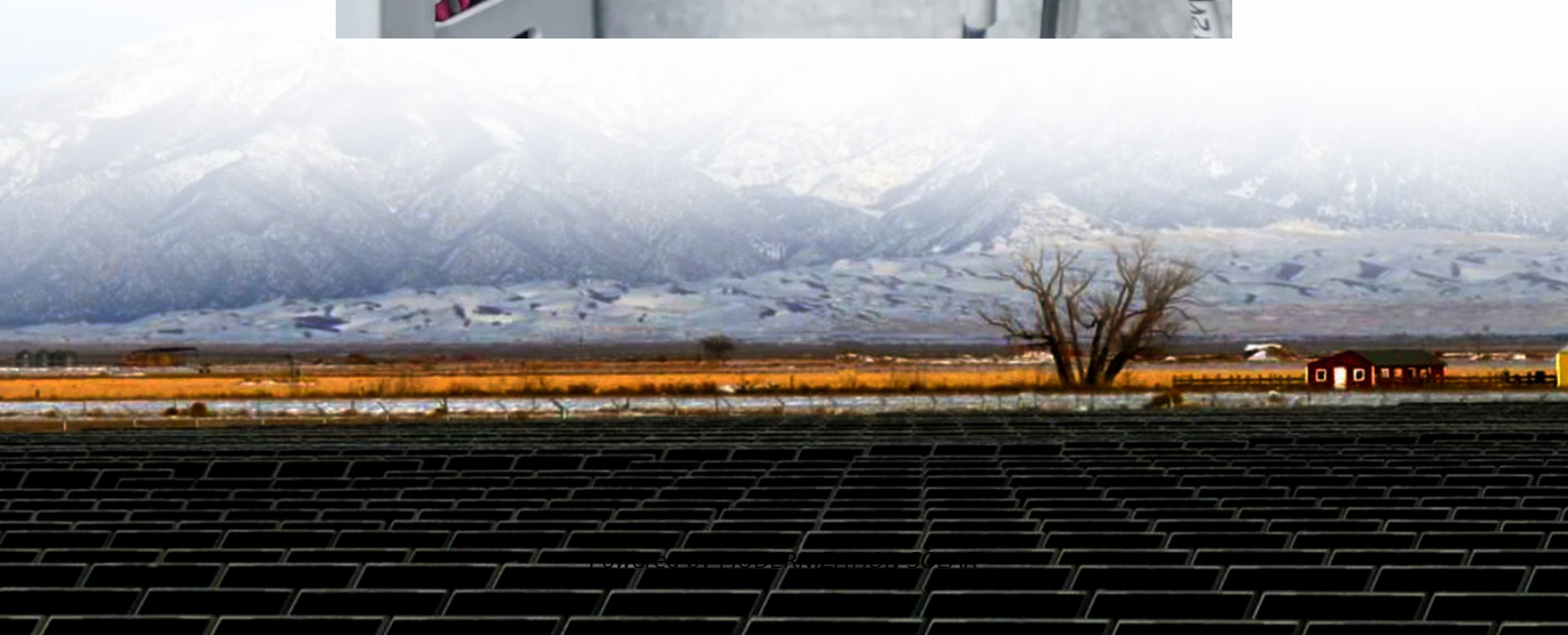


# Fuel cells and energy storage





## Overview

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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.

Are hydrogen based fuel cells a good storage option?

Hydrogen based technologies can be developed as an attractive storage option for longer storage durations. But, common polymer electrolyte membrane (PEM) electrolyzers and fuel cells have round-trip system efficiencies of only 30–40%, and platinum and rare iridium catalysts are needed.

What are the applications of fuel cells?

Fuel cells have applications in other areas such as power generation and distributed power. 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).



## Fuel cells and energy storage

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### Transforming energy storage with unitized regenerative fuel cells

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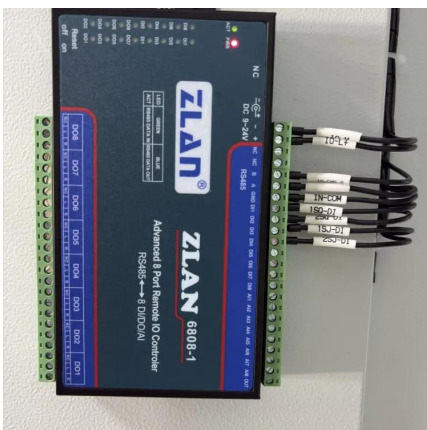
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### [Review of Energy Storage Devices: Fuel Cells, Hydrogen ...](#)

So, in this chapter, details of diferent kind of energy storage devices such as Fuel Cells, Rechargeable Bateriaes, PV Solar Cells, Hydrogen Storage Devices are discussed. One of the ...



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