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A fuel cell is an electrochemical cell that converts the chemical energy of a fuel (often hydrogen) and an oxidizing agent (often oxygen) into electricity through a pair of redox reactions. Fuel cells are a type of battery, but unlike a battery, they are continuously recharged as long as a supply of fuel and oxidant is available. Fuel cells from fundamentals to systems is an interdisciplinary journal for scientific exchange in the field of fuel cells and energy production. The journal encompasses a wide scope from the molecular basis of fuel cells to their applications in power plants, road vehicles, and power sources in portables. A fuel cell uses the chemical energy of hydrogen or other fuels to cleanly and efficiently produce electricity. If hydrogen is the fuel, the only products are electricity, water, and heat. Off-road special vehicles, fuel cells offer the transportation industry near zero harmful emissions without having to compromise the efficiency of the vehicle's propulsion system. In fact, fuel cells have demonstrated efficiencies from 53 to 59%, which are 54% higher than internal combustion engines. Fuel cells can be combusted to generate heat or fed into fuel cells along with oxygen to produce electrical power directly. It can act as an energy storage medium via electrolysis of water using excess energy. A fuel cell is a device that generates electric energy through electrochemical reactions between an oxidizing agent and a fuel, a material that stores energy in chemical form.

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