# What's Up With Fuel Cells?

Energy Savers Blog

We hear a lot about renewables like wind and solar these days, but what's the deal with fuel cells and is there a future in them? The truth is, fuel cells have been around for some time now; the idea originated in the 1840's.

Though fuel cells come in a variety of forms, they all work in the same general manner: three sandwiched segments - the anode, the electrolyte and the cathode. At each of these segments two different chemical reactions occur. The net result of the two reactions is that fuel is consumed, and an electrical current is created, which can be used to power electrical devices, normally referred to as the load. The only emissions are water or carbon dioxide.

Fuel cells can provide energy for stationary systems as large as a utility power station and as small as a laptop computer, as well as for vehicles. Fuel cell systems can be extremely efficient over a large range of sizes (from 1 kW to hundreds of megawatts). Some systems can achieve overall efficiencies of 80% or more when heat production is combined with power generation.

Fuel cell systems integrated with hydrogen production and storage can provide fuel for vehicles, energy for heating and cooling, and electricity to power our communities. These clean systems offer a unique opportunity for energy independence, highly reliable energy services, and economic benefits.

The Department of Energy is developing high-efficiency fuel cell systems for distributed and stationary uses as an alternative power source to fossil fuel-powered grid-based electricity for buildings, which account for approximately 36% of the primary energy consumption and 30% to 40% of airborne emissions in the United States. Stationary fuel cells can save energy, reduce emissions, and offer increased reliability compared to traditional technologies. Visit the Fuel Cell Technologies Program Web site to learn more about fuel cells [1], or view the fuel cell animation [2].

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SOURCE [3]



**Links:**

[1] http://www1.eere.energy.gov/hydrogenandfuelcells/fuelcells/
[2] http://www1.eere.energy.gov/hydrogenandfuelcells/fuelcell_animation.html
[3] http://feedproxy.google.com/~r/EnergySavers/~3/70ghfptDqdA/post.aspx