



# Fuel Cells

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Electrochemical fuel cells convert fuel directly into electric current by triggering a chemical reaction between the fuel and an oxidant using an electrolyte. So long as the fuel (reactant) and oxidant are constantly replenished, fuel cells can generate current indefinitely, in contrast to a conventional battery, which is a closed system with finite amounts of chemicals and that eventually loses charge.

Fuel cells can range in size from the tiny (powering watches or small appliances) to the mid-range (fuel-cell-powered cars) to grid-level storage options (in particular, renewable electricity can be used to create hydrogen, which can power a fuel cell at a later point in time).

## **How do fuel cells qualify for the Renewable Portfolio Standard (RPS)?**

Fuel cells qualify as [Class I RPS Generation Units](#) so long as they use an Eligible Liquid Biofuel. Hydrogen-powered fuel cells must use hydrogen that was derived from water using the electrical output of a renewable generation unit whose environmental benefits are retained.

In other words, since it takes electricity to separate hydrogen from water (H<sub>2</sub>O), in order for the hydrogen to be classified as “clean energy” it cannot have been made from a dirty energy source. Since the renewable attributes and the power attributes of clean energy generation are treated as separate commodities, the renewable power used to create clean hydrogen cannot have “sold off” its renewable attributes if it wants to pass them on to the electricity generated by the hydrogen.