

Retail

Fuel Cells and Retail

Customers in states with high commercial or industrial electricity prices are finding they can generate electricity onsite with a fuel cell that is cost competitive, and in some cases cheaper than grid power, all while supporting their environmental reductions goals.

Benefits

Fuel cells generate electricity using an electrochemical reaction, not combustion, and when pure hydrogen is used, there are no polluting emissions, only water and heat as by-products.

Fuel cells can provide primary power, backup power and combined heat and power (CHP) to retail sites and warehouses. Since they can be installed as part of the electric grid, or in parallel to it, fuel cells can provide reliable power without disruption due to grid failure or blackouts. The excess heat can be captured to provide hot water or space heating, increasing the fuel cell's efficiency.

Emissions from fuel cells are so low that some states have exempted fuel cells from air permitting requirements.

Fuel cells are also much quieter than many incumbent technologies, allowing them to be sited indoors or outdoors, in urban or residential areas that may have noise restrictions.

Current Fuel Cell Customers

Current customers of fuel cells for retail operations include:

- **Cabela's** – 800 kW installed since 2008 delivering 100% power to East Hartford, Connecticut store
- **Danbury Fair Mall** – 750 kW fuel cell installed by real estate developer Macerich in Danbury, Connecticut
- **IKEA** – 300 kW in Emeryville, California
- **Macy's** – 600 kW at Cheshire, Connecticut distribution center
- **Staples** – 300 kW installed since 2008 at Ontario, California, store
- **Target** – 200 kW each at two stores in California, one in San Francisco and the other in Pasadena
- **URBN** – 600 kW at its main office in Philadelphia, Pennsylvania
- **Walmart** – More than 11 MW currently installed at 35 retail sites in California, installing more than 2 MW at multiple locations in Connecticut



800 kW fuel cell - Cabela's, East Hartford, CT



200 kW fuel cell - Target, Pasadena, CA