














## Stationary Fuel Cells at Retail and Grocery Sites

Customer	Type	Location	Status	Fuel Cell Manuf.	Fuel Cell	Configuration	Benefits	Image
<b>United States</b>								
<b>Albertsons</b>	Grocery store	San Diego, CA	2010-present	UTC Power	PureCell® Model 400 PAFC (400 kW)	CHP - generates nearly 90% of the store's power; byproduct heat used to warm water, heat the store when necessary and power a chiller to help cool the refrigerated food; overall energy efficiency of approximately 60%; configured for grid-independent operation if the power fails.	The project is estimated to cut carbon dioxide emissions by 478 metric tons each year compared to California non-baseload power plants.	
<b>Cabela's</b>	Sporting goods retailer	East Hartford, CT	2008-present	UTC Power	PureCell® PAFC (800 kW)	Power - delivers approximately 100% of the required building power, running continuously in conjunction with the utility supply, also capable of providing emergency power to keep the store operational if the power grid fails.	N/a	
<b>McDonald's</b>	Fast food	Deer Park, NY	2002-decommissioned	Plug Power	GenSys 5CS PEM (5 kW)	Power – delivered partial power to the restaurant.	N/a	
<b>McDonald's</b>	Fast food	Portland, OR	2009-present	ClearEdge Power	ClearEdge5 PEM (5 kW)	N/a	N/a	
<b>Price Chopper</b>	Grocery store	Colonie, NY	2010-present	UTC Power	PureCell® Model 400 PAFC (400 kW)	CHP - meets 60-70% of the store's energy needs in summer and 100% in winter, uses thermal energy for heating and cooling, configured for grid-independent operation if the power fails.	Reduces the building's carbon footprint by 71 tons, saves more than 4 million gallons of water/yr.	
<b>Price Chopper</b>	Grocery store	Glenville, NY	2011-present	UTC Power	PureCell® Model 400 PAFC (400 kW)	The fuel cell is configured to provide partial backup power in case of grid failure. Waste heat is captured in a CHP configuration and used for space heating and hot water.	NOx emissions are being reduced Chopper by almost 3 metric tons per year.	
<b>Price Chopper</b>	Grocery store	Eastern New York	Planned	UTC Power	PureCell® Model 400 PAFC (400 kW)	A fleet demonstration project will be performed consisting of 5 fuel cell installations at 5 different stores. The fuel cells will operate in combined heat and power mode and will provide backup power to provide chilling during grid outages.	N/a	
<b>Price Chopper</b>	Grocery store	Middletown, CT	Planned	UTC Power	PureCell® Model 400 PAFC (400 kW)	The fuel cell system is set up to send excess electricity production back to the grid.	N/a	

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<b>Safeway</b>	Grocery store	Santa Cruz, CA	2009-present	Bloom Energy	Bloom Energy Server SOFC (200 kW)	Power-- serves 20% of the building's energy load.	N/a	
<b>Staples</b>	Retail distribution center	Ontario, CA	2008-present	Bloom Energy	Bloom Energy Server SOFC (300 kW)	Power - delivers electricity to the store (no further details available).	In the first year, the fuel cell generated over 2 million kWh of power, which resulted in a reduction of 2.5 million pounds of CO <sub>2</sub> . Fuel cell availability has been above 99%.	
<b>Star Market</b>	Grocery store	Chestnut Hill, MA	2009-present	UTC Power	PureCell® Model 400 PAFC (400 kW)	CHP - provides electricity and thermal energy in the form of chilled water and hot water. The chilled water supplies refrigeration system sub-coolers, predominately for space conditioning and cold storage areas. The hot water produced is used for space conditioning, desiccant regeneration, and for making domestic hot water.	N/a	
<b>Stop &amp; Shop</b>	Grocery store	East Torrington, CT	2010-present	UTC Power	PureCell® Model 400 PAFC (400 kW)	CHP - generates 95% of the store's total electric energy requirement, uses thermal energy for heating and cooling.	From Jun 2010-Jan 2011 the fuel cell produced over 1.7 million kWh of electricity and reduced the total electric and natural gas utility bills by roughly 50%.	
<b>Wal-Mart</b>	Retail store	Lancaster, CA	2009-present	Bloom Energy	Bloom Energy server SOFC (400 kW)	Power - delivers electricity to the store (no further details available).	N/a	
<b>Wal-Mart</b>	Retail store	Hemet, CA	2010-present	Bloom Energy	Bloom Energy Server SOFC (400 kW)	Power - delivers electricity to the store (no further details available).	N/a	
<b>Wal-Mart</b>	Retail stores	17 site in California		Bloom Energy		N/a	N/a	
<b>Whole Foods Market</b>	First grocery store to deploy a fuel cell	Glastonbury, CT	2008-present	UTC Power	PureCell® Model 200 PAFC (200 kW)	CHP - generates 50% of store's electricity and nearly 100% of store's hot water, configured for grid-independent operation if the power fails.	Total electrical and heat energy costs were 30% lower after the first year than a comparable, conventionally powered store in West Hartford, CT.	
<b>Whole Foods Market</b>	Grocery store	Dedham, MA	2009-present	UTC Power	PureCell® Model 400 PAFC (400 kW)	CHP - generates approximately 90% of electricity and nearly 100 percent of store's hot water.	N/a	

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<b>Whole Foods Market</b>	Grocery store	San Jose, CA	2010-present	UTC Power	PureCell® Model 400 PAFC (400 kW)	CHP - generates 90% of electricity, byproduct thermal energy is used for heating, cooling and refrigeration	By generating most of its power on-site with a fuel cell, the store will prevent the release of more than 370 metric tons of carbon dioxide annually.	
<b>Whole Foods Market</b>	Grocery store	Fairfield, CT	2011-present	UTC Power	PureCell® Model 400 PAFC (400 kW)	CHP - will generate 90% of the power and meet all of the store's hot water needs.	Provides 90% of the store's power, byproduct thermal energy used for store heating, cooling and refrigeration, will prevent the release of more than 847 metric tons of CO2 annually.	
<b>International</b>								
<b>John Lewis</b>	Department store	UK	Planned	AFC Energy	Alkaline fuel cell (AFC)	Note: Fuel cell forklifts may be added to additional John Lewis stores and to Waitrose super-markets.	N/a	
Many retail and grocery stores are also employing fuel cell-powered forklifts at their distribution centers. See Fuel Cell 2000's fuel cell forklift chart at <a href="http://www.fuelcells.org/info/charts/forklifts.pdf">http://www.fuelcells.org/info/charts/forklifts.pdf</a>								