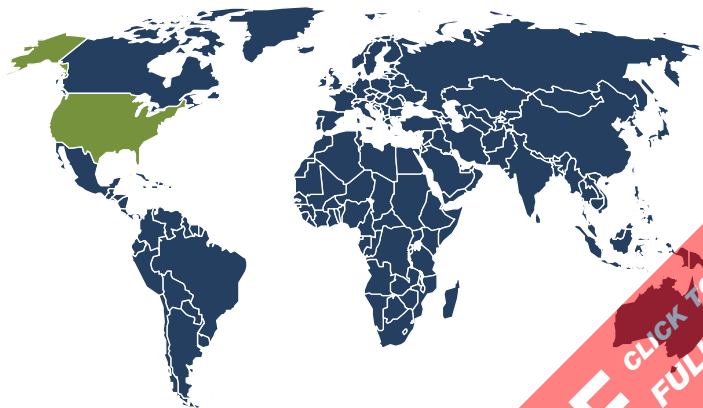


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# Fuel Cells:

## United States

April 2014



### Highlights

#### Industry Overview

Market Size and Trends | Chemistry Segmentation | Application Segmentation  
Technology | Alternate Sources of Power

#### Demand Forecasts

Market Environment | Chemistry Forecasts | Application Forecasts

#### Industry Structure

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## ABOUT THIS REPORT

### Scope & Method

This report forecasts US commercial fuel cell demand and total fuel cell spending in US dollars at the manufacturers' level to 2017. Total commercial demand is segmented by chemistry in terms of:

- solid-oxide fuel cell (SOFC)
- proton-exchange membrane (PEM)
- phosphoric acid fuel cell (PAFC)
- molten carbonate fuel cell (MCFC)
- other chemistries such as direct methanol and alkaline.

Commercial fuel cell demand is defined as all revenues derived from the sale of fuel cell products and the performance of related services, including pre-commercialization activities like prototyping and test marketing. Total fuel cell spending includes all sources of funding for fuel-cell-related product development and commercialization activity (eg, government grants and contracts, venture capital, outside equity investments and the like, and product sales).

Although the term "fuel cell" is also used to describe multilayer fuel tanks that have an inner liner of flexible, and abrasion- and tear-resistant material to minimize fuel leakage (and the possibility of explosion) in conventionally powered aircraft, race cars, and other applications, these products are excluded from the scope of this report.

Total commercial demand is also segmented by application as follows:

- electric power generation
- industrial stationary/motive power
- motor vehicles
- other transport equipment
- other applications such as portable electronics.

To illustrate historical trends, commercial demand and total spending are provided in five-year intervals for 2002, 2007, and 2012; the various commercial demand segments are reported at five-year intervals for 2007 and 2012. Forecasts are developed via the identification and analysis of pertinent statistical relationships and other historical trends/events as well as their expected progression/impact over the forecast period. Changes in quantities between reported years of a given total or segment are typically provided in terms of five-year compound annual growth rates (CAGRs). For the sake of brevity, forecasts are generally stated in smoothed CAGR-based descriptions to the forecast year, such as "demand is projected to rise 3.2% annually through 2017." The result of any particular year over that period, however, may exhibit volatility and depart

from a smoothed, long-term trend, as historical data typically illustrate.

Key macroeconomic indicators are also provided at five-year intervals with CAGRs for the years corresponding to other reported figures. Other various topics, including profiles of pertinent leading suppliers, are covered in this report. A full outline of report items by page is available in the [Table of Contents](#).

## Sources

*Fuel Cells: United States* is based on [World Fuel Cells](#), a comprehensive industry study published by The Freedonia Group in April 2014. Reported findings represent the synthesis and analysis of data from various primary, secondary, macroeconomic, and demographic sources including:

- firms participating in the industry, and their suppliers and customers
- government/public agencies
- national, regional, and international non-governmental organizations
- trade associations and their publications
- the business and trade press
- The Freedonia Group Consensus Forecasts dated April 2013
- the findings of other industry studies by The Freedonia Group.

Specific sources and additional resources are listed in the [Resources](#) section of this publication for reference and to facilitate further research.

## Industry Codes

The topic of this report is related to the following industry codes:

NAICS/SCIAN 2007		SIC	
North American Industry Classification System		Standard Industry Codes	
221119	Other Electric Power Generation	3621	Motors and Generators
335312	Motor and Generator Mfg	3629	Electrical Industrial Apparatus, NEC
335911	Storage Battery Mfg	3691	Storage Batteries
335999	All Other Miscellaneous Electrical Equipment and Component Mfg	3714	Motor Vehicle Parts and Accessories (transmissions and power train parts, including rebuilding)
336350	Motor Vehicle Transmission and Power Train Parts Mfg	4911	Electric Services (other electric power generation)

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