

# Fuel Cells for Residential, Commercial and Military Power

<https://marketpublishers.com/r/F6F58EB33B18EN.html>

Date: January 2022

Pages: 217

Price: US\$ 2,750.00 (Single User License)

ID: F6F58EB33B18EN

## Abstracts

### Report Scope:

This report will cover fuel cells used specifically in stationary power generation and storage applications. Other applications include portable fuel cells and mobile units that can be used in automotive (not considered in the study).

Definitive and detailed estimates and forecasts of the global market are provided. The report also contains a detailed analysis of the key fuel cell types, regions, countries, applications, and ongoing trends.

The fuel cell market is segmented based on -

- a) type of fuel cell,
- b) application and
- c) end-use segment.

Solid oxide fuel cells and proton exchange membrane fuel cells (PEMFC) are the major contributors to the fuel cell market. The applications considered in this study are combined heating and power (CHP), auxiliary power units (APU) and emergency power supply.

### Report Includes:

28 data tables and 32 additional tables

An overview of the global market outlook for fuel cells for residential, commercial, and military power

Estimation of the market size and analyses of the global market trends, with data from 2020, estimates for 2021, with projection of CAGR through 2026

Analysis of new opportunities, challenges, and technological changes within the industry and highlights of the market growth potential by type, end-use, application, and region

Coverage of history of fuel cells and hydrogen fuel industry, description of competitive technologies and insights into government initiatives to promote fuel cells

Detailed analysis of the current market trends and forecast, new products launches and product enhancement, technological innovation, upcoming technologies, and the technical progress of the industry

Market share analysis of the key companies of the industry and coverage of events like mergers & acquisitions, joint ventures, collaborations or partnerships, and other key market strategies

Company profiles of major players in the market, including Ballard Power Systems, Bloom Energy, Doosan Fuel Cell, General Electric Co., Sumitomo Corp., and Toshiba Fuel Cell Power Systems Corp.

## Contents

### **CHAPTER 1 INTRODUCTION**

Study Goals and Objectives  
Scope of Report  
Information Sources  
Methodology  
What's New in This Update?  
Geographic Breakdown  
Analyst's Credentials  
BCC Custom Research  
Related BCC Research Reports

### **CHAPTER 2 SUMMARY AND HIGHLIGHTS**

### **CHAPTER 3 MARKET AND TECHNOLOGY OVERVIEW**

Technical Overview  
History of Fuel Cells  
Hydrogen Fuel Industry  
Market Overview  
Value Chain  
Competitive Technologies  
Government Initiatives to Promote Fuel Cells

### **CHAPTER 4 ANALYSIS OF THE IMPACT OF COVID-19 ON THE FUEL CELL MARKET**

Combined Heat and Power  
Employment  
Projects  
Auxiliary and Backup Power

### **CHAPTER 5 MARKET BREAKDOWN BY END-USE SEGMENT**

Residential  
Commercial  
Military

## **CHAPTER 6 MARKET BREAKDOWN BY TYPE**

PEMFC

PEM Technology

SOFC

SOFC Technology

Other Fuel Cell Types

Alkaline Fuel Cells

Phosphoric Acid Fuel Cell

Molten Carbon Fuel Cell

## **CHAPTER 7 MARKET BREAKDOWN BY APPLICATION**

Combined Heat and Power

Auxiliary Power Unit

Residential and Commercial (Generators)

Recreational and Commercial Vehicles

Signage

Anti-Idling APUs

Aircraft

Military APUs

Emergency Power Unit

## **CHAPTER 8 MARKET BREAKDOWN BY REGION**

APAC

Japan

South Korea

Rest of APAC

North America

U.S.

Europe

ENE-FIELD

PACE

KfW 433 (Germany)

## **CHAPTER 9 RECENT DEVELOPMENTS IN THE FUEL CELL INDUSTRY**

Recent Developments

## **CHAPTER 10 COMPANY PROFILES**

ACAL ENERGY LTD.  
ACUMENTRICS HOLDING CORP.  
ADELAN UK LTD.  
AFC ENENRGY  
ALPPS FUEL CELL SYSTEMS  
ALSTOM TECHNOLOGY  
ALTERGY  
ARISTON HOLDING N.V.  
BABCOCK & WILCOX  
BALLARD POWER SYSTEMS  
BLOOM ENERGY  
CERES POWER  
CLARA VENTURE LABS  
CUMMINS INC.  
DDI ENERGY  
DELPHI AUTOMOTIVE  
DOOSAN FUEL CELL  
EDISON ELECTRIC INSTITUTE  
ELCOGEN AS  
ENERGIENED  
ENTWICKLUNGS UND VERTRIEBSGESELLSCHAFT BRENNSTOFFZELLE  
FUELCELL ENERGY  
FUEL CELL TECHNOLOGIES  
FUJI ELECTRIC  
FUTURE E FUEL CELL SOLUTIONS GMBH  
GENERAL ELECTRIC CO.  
GEORGE WESTINGHOUSE RESEARCH AND TECHNOLOGY PARK  
GLOBAL RESOURCE ENERGY INC.  
GOLDEN ENERGY FUEL CELL CO. LTD.  
HALDOR TOPSOE A/S/TOPSOE FUEL CELL  
HORIZON FUEL CELLS AND RIVERSIMPLE  
H2 POWER TECH  
ITM POWER  
INTELLIGENT ENERGY  
KANSAI ELECTRIC POWER CO. INC.

LINDE BOC  
LOGANENERGY CORP.  
MEIDENSHA CORP.  
MERIDIAN ENERGY LTD.  
MITSUBISHI HEAVY INDUSTRIES LTD.  
NATIONAL FUEL CELL RESEARCH CENTER  
NEAH POWER  
NEDSTACK FUEL CELL TECHNOLOGY  
NEXCERIS  
NIPPON TELEGRAPH & TELEPHONE CORP.  
ONTARIO POWER GENERATION INC.  
PALCAN FUEL CELLS LTD.  
PANASONIC  
PLUG POWER INC.  
POHANG IRON AND STEEL CO. (POSCO)  
PROTON MOTOR FUEL CELL GMBH  
RELIANT ENERGY POWER SYSTEMS  
ROLLS-ROYCE FUEL CELL SYSTEMS LTD.  
SAFCELL  
SHELL HYDROGEN BV  
SIEMENS POWER GENERATION INC.  
SMART FUEL CELL AG (SFC)  
SOLIDPOWER  
SOFCPOWER  
STAXERA GMBH (SUNFIRE)  
SULZER HEXIS AG  
SUMITOMO CORP.  
TOKYO GAS CO. LTD.  
TOSHIBA FUEL CELL POWER SYSTEMS CORP.  
TOYOTA  
TURKCELL  
ULTRA ELECTRONICS AMI  
UNITED TECHNOLOGIES  
VAILLANT GMBH  
VERSA POWER SYSTEMS INC.  
VIOLET FUEL CELL STICKS  
WARTSILA CORP.  
WATT FUEL CELL CORP.  
WEBASTO AG

WORLDWIDE ENERGY LLC  
ZTEK CORP.

## **CHAPTER 11 APPENDIX: ACRONYMS AND SOURCES**

## List Of Tables

### LIST OF TABLES

- Summary Table: Global Market for Fuel Cells, by Application, Through 2026
- Table 1: Hydrogen Production Processes
- Table 2: Key Hydrogen and Fuel Cell Initiatives
- Table 3: Key Hydrogen and Fuel Cell Initiatives
- Table 4: Stationary Fuel Cell Applications
- Table 5: Global Market for Fuel Cells, by End User, Through 2026
- Table 6: Global Market for Fuel Cells in Residential End Uses, by Region, Through 2026
- Table 7: Global Market for Fuel Cells in Commercial End Uses, by Region, Through 2026
- Table 8: Global Market for Fuel Cells in Military End Uses, by Region, Through 2026
- Table 9: Key FC Types and Characteristics
- Table 10: Overview of Stationary Fuel Cell Types
- Table 11: Global Market for Fuel Cells, by Type, Through 2026
- Table 12: Global Market for Proton Exchange Membrane Fuel Cells, by Region, Through 2026
- Table 13: Global Market for Proton Exchange Membrane Fuel Cells, by Region, Through 2026
- Table 14: Key PEMFC Manufacturers
- Table 15: Global Market for Solid Oxide Fuel Cells, by Application, Through 2026
- Table 16: Global Market for Solid Oxide Fuel Cells, by Region, Through 2026
- Table 17: Key SOFC Manufacturers
- Table 18: Global Market for Other Fuel Cell Types, by Application, Through 2026
- Table 19: Global Market for Other Fuel Cell Types, by Region, Through 2026
- Table 20: Key Manufacturers, Other Types of Fuel Cells
- Table 21: Global Market for Fuel Cells, by Application, Through 2026
- Table 22: Global Market for Fuel Cells for Combined Heat and Power (CHP) Systems, by FC Type, Through 2026
- Table 23: Global Market for Fuel Cells for Combined Heat and Power (CHP) Systems, by Region, Through 2026
- Table 24: Cogeneration Applications and Technologies Used
- Table 25: Properties of Micro-CHPs
- Table 26: Properties of Micro-CHP (



## List Of Figures

### LIST OF FIGURES

Summary Figure: Global Market for Fuel Cells, by Application, 2020-2026

Figure 1: Fuel Cell Value Chain

Figure 2: Micro CHP Value Chain Trend, 2020 and 2030

Figure 3: Large-Scale CHP Value Chain Trend, 2020 and 2030

Figure 4: Overall Global Impact of COVID-19 on CHP Business

Figure 5: Employees Laid Off or Fulgurated Without Pay, Global Share

Figure 6: Percent of Projects Delayed for Those Experiencing Delays

Figure 7: Typical Fuel Cell Application, by Wattage

Figure 8: Global Market for Fuel Cells, by End User, 2020-2026

Figure 9: Global Market Shares of Fuel Cells in Residential End Uses, by Region, 2020

Figure 10: Global Market Shares of Fuel Cells for Commercial End Uses, by Region, 2020

Figure 11: Global Market Shares of Fuel Cells in Military End Uses, by Region, 2020

Figure 12: Types of Fuel Cells and Suitable Applications

Figure 13: Global Market for Fuel Cells, by Type, 2020-2026

Figure 14: Global Market for Proton Exchange Membrane Fuel Cells, by Application, 2020-2026

Figure 15: Schematic Diagram of PEMFC

Figure 16: Schematic Diagram of DMFC

Figure 17: Global Market for Solid Oxide Fuel Cells, by Region, 2020-2026

Figure 18: Planar SOFC Configuration

Figure 19: Thin-Film SOFC Configuration

Figure 20: Tubular SOFC Configuration

Figure 21: Global Market for Other Fuel Cell Types, by Region, 2020-2026

Figure 22: Working Model of MCFC

Figure 23: Cumulative Global Deployment of Large-Scale Stationary FC (>200 kW), by Type, 2007-2017

Figure 24: Global Market Shares of Fuel Cells, by Application, 2020

Figure 25: Typical Combustion Engine-Based CHP System

Figure 26: Fuel Cell-Based CHP System

Figure 27: Advantage of Combined Heat and Power Generation Using Fuel Cells

Figure 28: Global Market for Fuel Cells, by Region, 2020-2026

Figure 29: APAC Market for Fuel Cells, by Country, 2020-2026

Figure 30: APAC Market for Fuel Cells, by Type, 2020-2026

Figure 31: APAC Market Shares of Fuel Cells, by Application, 2020-2026

- Figure 32: APAC Market Shares of Fuel Cells, by End-User Segment, 2020
- Figure 33: ENE-FARM Unit Mechanism
- Figure 34: ENE-FARM Cost and Subsidies
- Figure 35: Global Market for Stationary Fuel Cells, by Type, 2020-2026
- Figure 36: Strategy and Roadmap, Japan, Hydrogen and Fuel Cells, 2020-2030
- Figure 37: Strategy and Roadmap of South Korea for Hydrogen and Fuel Cells, 2020-2035
- Figure 38: Stationary Fuel Cell Power Generation in South Korea, by Application, 2019
- Figure 39: Fuel Cell Power Generation in South Korea, by Province, 2019
- Figure 40: North American Market for Fuel Cells, by Type, 2020-2026
- Figure 41: Cumulative Deployment of Large-Scale Stationary Fuel Cells in the U.S.
- Figure 42: North American Market Shares of Fuel Cells, by Application, 2020
- Figure 43: North American Market Shares of Fuel Cells, by End-User Segment, 2020
- Figure 44: Fuel Cell Installations as Backup Power, U.S., 2016
- Figure 45: European Market for Fuel Cells, by Type, 2020-2026
- Figure 46: Cumulative Deployment, Large-Scale Stationary Fuel Cells, Europe
- Figure 47: European Market Shares of Fuel Cells, by Application, 2020
- Figure 48: European Market Shares of Fuel Cells, by End-User Segment, 2020
- Figure 49: Ballard Power Systems, 2020
- Figure 50: Bloom Energy, 2020
- Figure 51: Doosan Fuel Cell, 2019 and 2020

## I would like to order

Product name: Fuel Cells for Residential, Commercial and Military Power

Product link: <https://marketpublishers.com/r/F6F58EB33B18EN.html>

Price: US\$ 2,750.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/F6F58EB33B18EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970