

Planar Solid Oxide Fuel Cell Market by Cost Breakdown (Planar Cells, Separator Plates, Manifolds, Seals, and Others), Application (Stationary, Transportation, and Portable) & by Region (Asia-Pacific, North America, Europe, and Rest of the world) - Global Trends & Forecast to 2020

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Abstracts

This report estimates the planar solid oxide fuel cell (SOFC) market, in terms of value (\$million). The estimated value of the market for planar SOFC is around \$ 362.0 million in 2015 and projected to grow to reach a value of \$ 639.2 million in 2020. The market has been broken down into regions, further split to country level forecasting.

An SOFC is a converter technology that produces electricity directly from the electrochemical oxidation. It uses an electrochemical conversion process, in which an electrolyte material is used to convert negative oxygen ions to the anode from the cathode. SOFC has a wide variety of applications, from auxiliary power units in vehicles to stationary power generation, with outputs from 100 W to 2 MW.

The market is also segmented on the basis of application as follows:

Portable: Portable fuel cells refer to fuel cell units which are designed to be stimulated. They include fuel cell APU and consumer electronics

Stationary: Stationary fuel cells refer to fuel cell units which are designed to provide power at a fixed location. These include small and large stationary prime power, backup/uninterruptible power supplies, combined heat and power, and combined cooling and power

Transportation: Transportation fuel cells refer to fuel cell units that provide propulsive power or range extender function to vehicles, including UAV, cars, buses, and material-handling vehicles

The research methodology used in the report involved the use of secondary sources such as encyclopedias, directories, and databases to identify and collect information that was useful for this extensive commercial study of the global planar SOFC market. Primary sources, such as experts and suppliers from the industry, have been interviewed to obtain and verify critical information, as well as to assess the future prospects of the market.

This study has profiled leading players of the industry, along with their recent developments and other strategic industry activities. Some of the key companies profiled include Aisin Seiki Corporation Limited (Japan), Delphi (U.S.), Ultra Electronics AMI (U.K.), Fuel Cell Energy (Houston, U.S.), Ceramic Fuel Cells Limited (Australia), and Ceres Power Holdings (U.K.).

Asia-Pacific leads the planar SOFC market. It holds the largest market share and is projected to grow at the highest CAGR. This growth is attributed to the high adoption level of the technology in countries such as Japan and South Korea at a commercial level. Market opportunities exist in the form of stationary power generation technologies based on planar SOFC in developed regions such as North America and Europe.

This report segments the market into various regions—namely, Asia-Pacific, North America, Europe, and the Rest of the World. It includes an in-depth country-level analysis, based on application and cost breakdown. The country-level analysis provides market sizes, by value, based on revenue and expenditure in regions for various segments considered in the study.

Contents

1 INTRODUCTION

- 1.1 OBJECTIVES OF THE STUDY
- 1.2 MARKET DEFINITION
- 1.3 MARKETS SCOPE
 - 1.3.1 YEAR CONSIDERED FOR THE STUDY
 - 1.3.2 CURRENCY
- 1.4 LIMITATION
- 1.5 STAKEHOLDERS

2 RESEARCH METHODOLOGY

- 2.1 SECONDARY DATA
 - 2.1.1 KEY DATA FROM SECONDARY SOURCES
- 2.2 PRIMARY DATA
 - 2.2.1 KEY DATA FROM PRIMARY SOURCES
 - 2.2.2 BREAKDOWN OF PRIMARY INTERVIEWS
 - 2.2.3 KEY INDUSTRY INSIGHTS
- 2.3 MARKET SIZE ESTIMATION
- 2.4 MARKET BREAKDOWN & DATA TRIANGULATION
- 2.5 RESEARCH ASSUMPTIONS

3 EXECUTIVE SUMMARY

4 PREMIUM INSIGHTS

- 4.1 PLANAR SOFC MARKET OVERVIEW
- 4.2 ASIA-PACIFIC: THE FASTEST GROWING MARKET IN THE COMING YEARS FOR PLANAR SOFC
- 4.3 STATIONARY APPLICATION DOMINATE THE PLANAR SOFC MARKET BY APPLICATIONS
- 4.4 TOP REGIONS IN THE PLANAR SOFC MARKET
- 4.5 JAPAN TO DOMINATE THE PLANAR SOFC MARKET
- 4.6 PLANAR CELLS IS EXPECTED TO LEAD THE PLANAR SOFC MARKET BY COMPONENT DURING THE FORECAST PERIOD
- 4.7 LIFE CYCLE ANALYSIS

5 MARKET OVERVIEW

5.1 INTRODUCTION

5.2 MARKET EVOLUTION

5.3 MARKET SEGMENTATION

5.3.1 BY COMPONENT

5.3.2 BY APPLICATION

5.3.3 BY REGION

5.4 MARKET DYNAMICS

5.4.1 DRIVERS

5.4.1.1 Wide variety of fuel compatibility makes them more versatile systems for power generation

5.4.1.2 Highest conversion efficiency enables faster return on investments

5.4.1.3 Suitable for wide variety of applications

5.4.1.4 Biomass utilization makes them highly lucrative technology

5.4.2 RESTRAINTS

5.4.2.1 High capital investment is the key issue

5.4.2.2 Longer start-up time limits full scale adoption

5.4.3 OPPORTUNITIES

5.4.3.1 Combined heat & power(CHP)applications has highest conversion efficiency

5.4.3.2 SOFC based auxiliary power units in transportation applications

5.4.3.3 Application of planar SOFC for Cathodic protection in oil & gas pipelines

5.4.3.4 Growing concerns over emissions from conventional power generation methods

5.4.4 CHALLENGES

5.4.4.1 Low cost commercial manufacturing

5.4.4.2 Operating stability at high temperatures

6 INDUSTRY TRENDS

6.1 INTRODUCTION

6.2 VALUE CHAIN ANALYSIS

6.3 SUPPLY CHAIN ANALYSIS

6.3.1 KEY INFLUENCERS

6.4 INDUSTRY TRENDS

6.5 PORTER'S FIVE FORCES ANALYSIS

6.5.1 THREAT OF NEW ENTRANTS

6.5.2 THREAT OF SUBSTITUTES

6.5.3 BARGAINING POWER OF SUPPLIERS

- 6.5.4 BARGAINING POWER OF BUYERS
- 6.5.5 INTENSITY OF COMPETITIVE RIVALRY

7 PLANAR SOFC MARKET, BY COMPONENT

- 7.1 INTRODUCTION
- 7.2 PLANAR CELL
- 7.3 SEPARATOR PLATE
- 7.4 MANIFOLD
- 7.5 SEAL
- 7.6 OTHER COMPONENTS

8 PLANAR SOFC MARKET, BY APPLICATION

- 8.1 INTRODUCTION
- 8.2 STATIONARY
- 8.3 TRANSPORTATION
- 8.4 PORTable

9 PLANAR SOFC MARKET, BY REGION

- 9.1 INTRODUCTION
- 9.2 PLANAR SOFC KEY MARKETS
- 9.3 ASIA-PACIFIC
- 9.4 ASIA-PACIFIC MARKET BY APPLICATION
- 9.5 ASIA-PACIFIC MARKET BY COMPONENT
 - 9.5.1 ASIA-PACIFIC: PLANAR SOFC MARKET SIZE, BY PLANAR CELL
 - 9.5.2 ASIA-PACIFIC: PLANAR SOFC MARKET SIZE, BY SEPARATOR PLATE
 - 9.5.3 ASIA-PACIFIC: PLANAR SOFC MARKET SIZE, BY MANIFOLD
 - 9.5.4 ASIA-PACIFIC: PLANAR SOFC MARKET SIZE, BY SEAL
 - 9.5.5 ASIA-PACIFIC: PLANAR SOFC MARKET SIZE, BY OTHER COMPONENTS
- 9.6 ASIA-PACIFIC PLANAR SOFC COMPONENT MARKET, BY COUNTRY
 - 9.6.1 JAPAN
 - 9.6.2 SOUTH KOREA
 - 9.6.3 CHINA
 - 9.6.4 INDIA
 - 9.6.5 AUSTRALIA
 - 9.6.6 REST OF ASIA-PACIFIC
- 9.7 NORTH AMERICA

9.8 NORTH AMERICA MARKET BY APPLICATION

9.9 NORTH AMERICA MARKET BY COMPONENT

9.9.1 NORTH AMERICA: PLANAR SOFC MARKET SIZE, BY PLANAR CELL

9.9.2 NORTH AMERICA: PLANAR SOFC MARKET SIZE, BY SEPARATOR PLATE

9.9.3 NORTH AMERICA: PLANAR SOFC MARKET SIZE, BY MANIFOLD

9.9.4 NORTH AMERICA: PLANAR SOFC MARKET SIZE, BY SEAL

9.9.5 NORTH AMERICA: PLANAR SOFC MARKET SIZE, BY OTHER

COMPONENTS

9.10 NORTH AMERICA PLANAR SOFC COMPONENT MARKET, BY COUNTRY

9.10.1 U.S.

9.10.2 CANADA

9.10.3 MEXICO

9.11 EUROPE

9.12 EUROPE MARKET BY APPLICATION

9.13 EUROPE MARKET BY COMPONENT

9.13.1 EUROPE: PLANAR SOFC MARKET SIZE, BY PLANAR CELL

9.13.2 EUROPE: PLANAR SOFC MARKET SIZE, BY SEPARATOR PLATE

9.13.3 EUROPE: PLANAR SOFC MARKET SIZE, BY MANIFOLD

9.13.4 EUROPE: PLANAR SOFC MARKET SIZE, BY SEAL

9.13.5 EUROPE: PLANAR SOFC MARKET SIZE, BY OTHER COMPONENTS

9.14 EUROPE PLANAR SOFC COMPONENT MARKET, BY COUNTRY

9.14.1 U.K.

9.14.2 GERMANY

9.14.3 REST OF EUROPE

9.15 REST OF THE WORLD

9.16 REST OF THE WORLD MARKET BY APPLICATION

9.17 REST OF WORLD MARKET BY COMPONENT

9.17.1 REST OF THE WORLD: PLANAR SOFC MARKET SIZE, BY PLANAR CELL

9.17.2 REST OF THE WORLD: PLANAR SOFC MARKET SIZE, BY SEPARATOR PLATE

9.17.3 REST OF THE WORLD: PLANAR SOFC MARKET SIZE, BY MANIFOLD

9.17.4 REST OF THE WORLD: PLANAR SOFC MARKET SIZE, BY SEAL

9.17.5 REST OF THE WORLD: PLANAR SOFC MARKET SIZE, BY OTHER

COMPONENTS

9.18 REST OF THE WORLD PLANAR SOFC COMPONENT MARKET, BY COUNTRY

9.18.1 BRAZIL

9.18.2 SOUTH AFRICA

9.18.3 TURKEY

9.18.4 OTHER COUNTRIES IN ROW

10 COMPETITIVE LANDSCAPE

- 10.1 OVERVIEW
- 10.2 MARKET SHARE ANALYSIS
- 10.3 COMPETITIVE SITUATION & TRENDS
- 10.4 MARKET EVOLUTION FRAMEWORK
- 10.5 PARTNERSHIPS/AGREEMENT/COLLABORATIONS
- 10.6 NEW PRODUCT DEVELOPMENT
- 10.7 MERGERS & ACQUISITIONS
- 10.8 EXPANSION
- 10.9 OTHER DEVELOPMENTS

11 COMPANY PROFILES

- 11.1 INTRODUCTION
- 11.2 AISIN SEIKI CORPORATION LIMITED
- 11.3 DELPHI
- 11.4 FUEL CELL ENERGY
- 11.5 CERAMIC FUEL CELLS LIMITED
- 11.6 ULTRA ELECTRONICS
- 11.7 CERES POWER HOLDINGS PLC.
- 11.8 ACCUMENTRICS CORPORATION
- 11.9 BLOOM ENERGY CORPORATION
- 11.10 CONVION FUEL CELLS LTD.
- 11.11 HEXIS AG
- 11.12 SOFC POWER S.P.A.
- 11.13 STAXERA SUNFIRE GMBH
- 11.14 TOPSOE FUEL CELL
- 11.15 PROTONEX TECHNOLOGY CORPORATION
- 11.16 WATT FUEL CELL CORPORATION

12 APPENDIX

- 12.1 INSIGHTS OF INDUSTRY EXPERTS
- 12.2 DISCUSSION GUIDE
- 12.3 INTRODUCING RT: REAL TIME MARKET INTELLIGENCE
- 12.4 AVAILABLE CUSTOMIZATIONS
- 12.5 RELATED REPORTS

List Of Tables

LIST OF TABLES

Table 1 WIDE VARIETY OF FUEL COMPATIBILITY, HIGH ELECTRICAL EFFICIENCY, VERSATILITY IN APPLICATIONS AND BIOMASS UTILIZATION ARE PROPELLING THE GROWTH OF THE PLANAR SOFC MARKET

Table 2 HIGH INITIAL INVESTMENT AND LONGER STARTUP TIME RESTRAIN MARKET GROWTH

Table 3 STATIONARY POWER GENERATION AND COMINED HEAT & POWER APPLICATIONS ARE THE MOST LUCRATIVE OPPORTUNITIES FOR PLANAR SOFC MARKET

Table 4 LOW COST MANUFACTURING IS THE BIGGEST CHALLENGE

Table 5 PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 6 PLANAR CELL: GLOBAL PLANAR SOFC MARKET SIZE, BY REGION, 2013-2020 (\$MILLION)

Table 7 SEPARATOR PLATE: GLOBAL PLANAR SOFC MARKET SIZE, BY REGION, 2013-2020 (\$MILLION)

Table 8 MANIFOLD: GLOBAL PLANAR SOFC MARKET SIZE, BY REGION, 2013-2020 (\$MILLION)

Table 9 SEAL: GLOBAL PLANAR SOFC MARKET SIZE, BY REGION, 2013-2020 (\$MILLION)

Table 10 OTHER COMPONENTS: GLOBAL PLANAR SOFC MARKET SIZE, BY REGION, 2013-2020 (\$MILLION)

Table 11 SOFC APPLICATIONS, BY RATED POWER

Table 12 PLANAR SOFC MARKET SIZE, BY APPLICATION, 2013–2020 (\$MILLION)

Table 13 STATIONARY APPLICATION: PLANAR SOFC MARKET SIZE, BY REGION, 2013–2020 (\$MILLION)

Table 14 TRANSPORTATION APPLICATION: PLANAR SOFC MARKET SIZE, BY REGION, 2013-2020 (\$MILLION)

Table 15 PORTTable APPLICATION: PLANAR SOFC MARKET SIZE, BY REGION, 2013-2020 (\$MILLION)

Table 16 PLANAR SOFC MARKET SIZE, BY REGION, 2013-2020 (\$MILLION)

Table 17 JAPAN, U.S. AND GERMANY TO LEAD THE PLANAR SOFC MARKET DURING 2015 -2020

Table 18 ASIA-PACIFIC: PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 19 ASIA-PACIFIC: PLANAR SOFC MARKET SIZE, BY APPLICATION, 2013–2020 (\$MILLION)

Table 20 ASIA-PACIFIC: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 21 PLANAR CELL: ASIA-PACIFIC PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 22 SEPARATOR PLATE: ASIA-PACIFIC PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 23 MANIFOLD: ASIA-PACIFIC PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 24 SEAL: ASIA-PACIFIC PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 25 OTHER COMPONENTS: ASIA-PACIFIC PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 26 JAPAN: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 27 SOUTH KOREA: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 28 CHINA: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 29 INDIA: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 30 AUSTRALIA: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 31 REST OF ASIA-PACIFIC: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 32 NORTH AMERICA: PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 33 NORTH AMERICA: PLANAR SOFC MARKET SIZE, BY APPLICATION, 2013–2020 (\$MILLION)

Table 34 NORTH AMERICA: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 35 PLANAR CELL: NORTH AMERICA PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 36 SEPARATOR PLATE: NORTH AMERICA PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 37 MANIFOLD: NORTH AMERICA PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 38 SEAL: NORTH AMERICA PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 39 OTHER COMPONENTS: NORTH AMERICA PLANAR SOFC MARKET SIZE,

BY COUNTRY, 2013-2020 (\$MILLION)

Table 40 U.S.: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 41 CANADA: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 42 MEXICO: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 43 EUROPE: PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 44 EUROPE: PLANAR SOFC MARKET SIZE, BY APPLICATION, 2013–2020 (\$MILLION)

Table 45 EUROPE: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 46 PLANAR CELL: EUROPE PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 47 SEPARATOR PLATE: EUROPE PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 48 MANIFOLD: EUROPE PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 49 SEAL: EUROPE PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 50 OTHER COMPONENTS: EUROPE PLANAR SOFC MARKET SIZE, BY, 2013-2020 (\$MILLION)

Table 51 U.K.: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 52 GERMANY: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 53 REST OF EUROPE: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 54 REST OF THE WORLD: PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 55 REST OF WORLD: PLANAR SOFC MARKET SIZE, BY APPLICATION, 2013–2020 (\$MILLION)

Table 56 REST OF THE WORLD: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 57 PLANAR CELL: REST OF THE WORLD PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 58 SEPARATOR PLATE: REST OF THE WORLD PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 59 MANIFOLD: REST OF THE WORLD PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 60 SEAL: REST OF THE WORLD PLANAR SOFC MARKET SIZE, BY COUNTRY, 2013-2020 (\$MILLION)

Table 61 OTHER COMPONENTS: REST OF THE WORLD PLANAR SOFC MARKET SIZE, BY, 2013-2020 (\$MILLION)

Table 62 BRAZIL: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 63 SOUTH AFRICA: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 64 TURKEY: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 65 OTHER COUNTRIES IN ROW: PLANAR SOFC MARKET SIZE, BY COMPONENT, 2013-2020 (\$MILLION)

Table 66 PARTNERSHIPS/AGREEMENT/COLLABORATIONS, 2011-2015

Table 67 NEW PRODUCT DEVELOPMENT, 2011-2015

Table 68 MERGERS & ACQUISITIONS, 2013-2015

Table 69 EXPANSIONS, 2014-2015

Table 70 OTHER DEVELOPMENTS, 2011-2013

About

The SOFC market is dominated by few leading industry players owing to their technological advantage, regional demand, and strong financial positions. This trend is expected to continue over the next five years as well with the few more market players commercializing their products.

The global SOFC market can be segmented into mainly four types of applications. These are small stationary, large stationary, transportation, and portable & military applications. All the different types of SOFCs fit into these four segments.

The governmental initiatives and the support provided to the research, and commercialization is the pivotal factor for the SOFC manufacturers to commercially produce their systems. The technological evolution of SOFC has become more rapid over the last decade due to government support.

The key growth driver for the industry is the high electrical efficiency and versatility of applications of SOFC, when compared to other types of fuel cells. This facilitates the use of SOFC for almost all types of fuel cell applications. Many market players have thus adopted SOFC technology or are planning to develop the technology.

The cogeneration application of SOFC system is looking to replace the traditional cogeneration systems. SOFCs provide better biomass utilization and hence, are more eco-friendly .

The SOFC market is segmented on the basis of technology type as planar, tubular, and others. Planar types are more costly when compared to tubular. Other types consist of thin-film and steel fuel cell technologies which are not commercialized.

The leading companies are adopting agreements & collaborations techniques in order to increase technical competencies and grow their business in various regions.

Asia-Pacific region is the single largest market for the SOFC industry followed by North America. Asia-Pacific market is driven by the demand for household small stationary systems, which provide heat and power to the household. In North America, the demand for large stationary applications is very high.

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