

Global Fuel Cell Stacks Production, Demand and Key Producers, 2022-2028

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Abstracts

The fuel cell stack is the heart of a fuel cell power system. It generates electricity in the form of direct current (DC) from electrochemical reactions that take place in the fuel cell. A fuel cell is an energy conversion device that continuously converts chemical energy in a fuel into electrical energy, as long as both the fuel and oxidant are available. It exhibits advantageous characteristics exceeding conventional combustion-based technologies that are currently applied in certain critical fields, such as electronic, housing power, power plants, passenger vehicles, as well as military applications. Operating with higher efficiency than combustion engines, fuel cells demonstrate an electrical energy conversion efficiency of 60% or more, with lower emissions. Water is the only product of the power generation process in hydrogen fuel cells, and thus there are no carbon dioxide emissions or air pollutants that create smog and cause health problems during operation. Moreover, fuel cells emit low noise during operation, because they contain fewer moving parts. Fuel cells come in many varieties, but they all work in generally the same manner. In essence, a fuel cell consists of three adjacent segments, namely, the anode, electrolyte, and cathode. When hydrogen undergoes an oxidation reaction at the anode (), it generates cations that migrate to the cathode through the electrolyte and free electrons that flow the external circuit. Contrarily, a reduction reaction occurs at the cathode, where oxygen is reduced to water by the cations and electrons (Ralph et al., 1998). The electrochemical reaction that occurs at the cathode is . Based on the type of electrolyte used, fuel cells can be categorized into alkaline fuel cells (AFCs), PEMFCs, phosphoric acid fuel cells (PAFCs), molten carbonate fuel cells (MCFCs), and solid oxide fuel cells (SOFCs).

This report studies the global Fuel Cell Stacks production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Fuel Cell Stacks, and provides market size (US\$ million) and Year-over-Year (YoY) Growth, considering 2021 as the base year. This report explores demand trends and competition, as well as details the characteristics of Fuel Cell Stacks that contribute to its increasing demand across many markets.

The global Fuel Cell Stacks market size is expected to reach \$ 22750 million by 2028, rising at a market growth of 28.2% CAGR during the forecast period (2022-2028).

Highlights and key features of the study

Global Fuel Cell Stacks total production and demand, 2017-2028, (MW)

Global Fuel Cell Stacks total production value, 2017-2028, (USD Million)

Global Fuel Cell Stacks production by region & country, production, value, CAGR, 2017-2028, (USD Million) & (MW)

Global Fuel Cell Stacks consumption by region & country, CAGR, 2017-2028 & (MW)

U.S. VS China: Fuel Cell Stacks domestic production, consumption, key domestic manufacturers and share

Global Fuel Cell Stacks production by manufacturer, production, price, value and market share 2017-2022, (USD Million) & (MW)

Global Fuel Cell Stacks production by Type, production, value, CAGR, 2017-2028, (USD Million) & (MW)

Global Fuel Cell Stacks production by Application production, value, CAGR, 2017-2028, (USD Million) & (MW)

This reports profiles key players in the global Fuel Cell Stacks market based on the following parameters – headquarters, production locations, products portfolio, Fuel Cell Stacks revenue, sales, average price and gross margin, recent developments.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals, COVID-19 and Russia-Ukraine War Influence.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Fuel Cell Stacks market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US\$ Millions), volume (production, consumption) & (MW) and average price (US\$/KW) by manufacturer, by Type, and by Application. Data is given for the years 2017-2028 by year with 2021 as the base year, 2022 as the estimate year, and 2028 as the forecast year.

Global Fuel Cell Stacks Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Global Fuel Cell Stacks Market, Segmentation by Type

10KW-100KW Fuel Cell Stacks

Above 100KW Fuel Cell Stacks

Below 5KW Fuel Cell Stacks

5KW-10KW Fuel Cell Stacks

Global Fuel Cell Stacks Market, Segmentation by Application

Stationary

Automotive

Others

Companies Profiled:

Panasonic

Plug Power

Toshiba ESS

Hyundai Mobis

Ballard

Toyota

SinoHytec

Cummins (Hydrogenics)

Pearl Hydrogen

Elring Klinger (EKPO)

Sunrise Power

CHEM

Symbio

Bosch

Nedstack

Cellcentric

Key Questions Answered

1. How big is the global Fuel Cell Stacks market?
2. What is the demand of the global Fuel Cell Stacks market?
3. What is the year over year growth of the global Fuel Cell Stacks market?
4. What is the production and production value of the global Fuel Cell Stacks market?
5. Who are the key producers in the global Fuel Cell Stacks market?
6. What are the growth factors driving the market demand?

Contents

1 SUPPLY SUMMARY

- 1.1 Fuel Cell Stacks Introduction
- 1.2 World Fuel Cell Stacks Supply & Forecast
 - 1.2.1 World Fuel Cell Stacks Production Value (2017 & 2021 & 2028)
 - 1.2.2 World Fuel Cell Stacks Production (2017-2028)
 - 1.2.3 World Fuel Cell Stacks Pricing Trends (2017-2028)
- 1.3 World Fuel Cell Stacks Production by Region
 - 1.3.1 World Fuel Cell Stacks Production Value by Region (2017-2028)
 - 1.3.2 World Fuel Cell Stacks Production by Region (2017-2028)
 - 1.3.3 World Fuel Cell Stacks Average Price by Region (2017-2028)
 - 1.3.4 North America Fuel Cell Stacks Production (2017-2028)
 - 1.3.5 Europe Fuel Cell Stacks Production (2017-2028)
 - 1.3.6 China Fuel Cell Stacks Production (2017-2028)
 - 1.3.7 Japan Fuel Cell Stacks Production (2017-2028)
 - 1.3.8 South Korea Fuel Cell Stacks Production (2017-2028)
- 1.4 Market Drivers, Restraints and Trends
 - 1.4.1 Fuel Cell Stacks Market Drivers
 - 1.4.2 Factors Affecting Demand
 - 1.4.3 Fuel Cell Stacks Major Market Trends
- 1.5 Influence of COVID-19 and Russia-Ukraine War
 - 1.5.1 Influence of COVID-19
 - 1.5.2 Influence of Russia-Ukraine War

2 DEMAND SUMMARY

- 2.1 World Fuel Cell Stacks Demand (2017-2028)
- 2.2 World Fuel Cell Stacks Consumption by Region
 - 2.2.1 World Fuel Cell Stacks Consumption by Region (2017-2022)
 - 2.2.2 World Fuel Cell Stacks Consumption Forecast by Region (2023-2028)
- 2.3 United States Fuel Cell Stacks Consumption (2017-2028)
- 2.4 China Fuel Cell Stacks Consumption (2017-2028)
- 2.5 Europe Fuel Cell Stacks Consumption (2017-2028)
- 2.6 Japan Fuel Cell Stacks Consumption (2017-2028)
- 2.7 South Korea Fuel Cell Stacks Consumption (2017-2028)
- 2.8 ASEAN Fuel Cell Stacks Consumption (2017-2028)
- 2.9 India Fuel Cell Stacks Consumption (2017-2028)

3 WORLD FUEL CELL STACKS MANUFACTURERS COMPETITIVE ANALYSIS

3.1 World Fuel Cell Stacks Production Value by Manufacturer (2017-2022)

3.2 World Fuel Cell Stacks Production by Manufacturer (2017-2022)

3.3 World Fuel Cell Stacks Average Price by Manufacturer (2017-2022)

3.4 Fuel Cell Stacks Company Evaluation Quadrant

3.5 Industry Rank and Concentration Rate (CR)

3.5.1 Global Fuel Cell Stacks Industry Rank of Major Manufacturers

3.5.2 Global Concentration Ratios (CR4) for Fuel Cell Stacks in 2021

3.5.3 Global Concentration Ratios (CR8) for Fuel Cell Stacks in 2021

3.6 Fuel Cell Stacks Market: Overall Company Footprint Analysis

3.6.1 Fuel Cell Stacks Market: Region Footprint

3.6.2 Fuel Cell Stacks Market: Company Product Type Footprint

3.6.3 Fuel Cell Stacks Market: Company Product Application Footprint

3.7 Competitive Environment

3.7.1 Historical Structure of the Industry

3.7.2 Barriers of Market Entry

3.7.3 Factors of Competition

3.8 New Entrant and Capacity Expansion Plans

3.9 Mergers, Acquisition, Agreements, and Collaborations

4 UNITED STATES VS CHINA VS REST OF THE WORLD

4.1 United States VS China: Fuel Cell Stacks Production Value Comparison

4.1.1 United States VS China: Fuel Cell Stacks Production Value Comparison (2017 & 2021 & 2028)

4.1.2 United States VS China: Fuel Cell Stacks Production Value Market Share Comparison (2017 & 2021 & 2028)

4.2 United States VS China: Fuel Cell Stacks Production Comparison

4.2.1 United States VS China: Fuel Cell Stacks Production Comparison (2017 & 2021 & 2028)

4.2.2 United States VS China: Fuel Cell Stacks Production Market Share Comparison (2017 & 2021 & 2028)

4.3 United States VS China: Fuel Cell Stacks Consumption Comparison

4.3.1 United States VS China: Fuel Cell Stacks Consumption Comparison (2017 & 2021 & 2028)

4.3.2 United States VS China: Fuel Cell Stacks Consumption Market Share Comparison (2017 & 2021 & 2028)

4.4 United States Fuel Cell Stacks Key Producers and Market Share, 2017-2022

4.4.1 Major Manufacturer of Fuel Cell Stacks in United States, Company Headquarters and Production Place (States, Country)

4.4.2 United States Fuel Cell Stacks Production Value by Domestic Manufacturer, (2017-2022)

4.4.3 United States Fuel Cell Stacks Production by Domestic Manufacturer, (2017-2022)

4.5 China Fuel Cell Stacks Key Producers and Market Share, 2017-2022

4.5.1 Major Manufacturer of Fuel Cell Stacks in China, Company Headquarters and Production Place (Province, Country)

4.5.2 China Fuel Cell Stacks Production Value by Domestic Manufacturer, (2017-2022)

4.5.3 China Fuel Cell Stacks Production by Domestic Manufacturer, (2017-2022)

4.6 Rest of World Fuel Cell Stacks Key Producers and Market Share, 2017-2022

4.6.1 Major Manufacturer of Fuel Cell Stacks in Rest of World, Company Headquarters and Production Place (State, Country)

4.6.2 Rest of World Fuel Cell Stacks Production Value by Domestic Manufacturer, (2017-2022)

4.6.3 Rest of World Fuel Cell Stacks Production by Domestic Manufacturer, (2017-2022)

5 MARKET ANALYSIS BY TYPE

5.1 World Fuel Cell Stacks Market Size Overview by Type: 2017 VS 2021 VS 2028

5.2 Segment Introduction by Type

5.2.1 10KW-100KW Fuel Cell Stacks

5.2.2 Above 100KW Fuel Cell Stacks

5.2.3 Below 5KW Fuel Cell Stacks

5.2.4 5KW-10KW Fuel Cell Stacks

5.3 Market Segment by Type

5.3.1 World Fuel Cell Stacks Production by Type (2017-2028)

5.3.2 World Fuel Cell Stacks Production Value by Type (2017-2028)

5.3.3 World Fuel Cell Stacks Average Price by Type (2017-2028)

6 MARKET ANALYSIS BY APPLICATION

6.1 World Fuel Cell Stacks Market Size Overview by Application: 2017 VS 2021 VS 2028

6.2 Segment Introduction by Application

6.2.1 Stationary

6.2.2 Automotive

6.2.3 Others

6.3 Market Segment by Application

6.3.1 World Fuel Cell Stacks Production by Application (2017-2028)

6.3.2 World Fuel Cell Stacks Production Value by Application (2017-2028)

6.3.3 World Fuel Cell Stacks Average Price by Application (2017-2028)

7 COMPANY PROFILES

7.1 Panasonic

7.1.1 Panasonic Details

7.1.2 Panasonic Major Business

7.1.3 Panasonic Fuel Cell Stacks Product and Services

7.1.4 Panasonic Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)

7.1.5 Panasonic Recent Developments/Updates

7.1.6 Panasonic Competitive Strengths & Weaknesses

7.2 Plug Power

7.2.1 Plug Power Details

7.2.2 Plug Power Major Business

7.2.3 Plug Power Fuel Cell Stacks Product and Services

7.2.4 Plug Power Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)

7.2.5 Plug Power Recent Developments/Updates

7.2.6 Plug Power Competitive Strengths & Weaknesses

7.3 Toshiba ESS

7.3.1 Toshiba ESS Details

7.3.2 Toshiba ESS Major Business

7.3.3 Toshiba ESS Fuel Cell Stacks Product and Services

7.3.4 Toshiba ESS Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)

7.3.5 Toshiba ESS Recent Developments/Updates

7.3.6 Toshiba ESS Competitive Strengths & Weaknesses

7.4 Hyundai Mobis

7.4.1 Hyundai Mobis Details

7.4.2 Hyundai Mobis Major Business

7.4.3 Hyundai Mobis Fuel Cell Stacks Product and Services

7.4.4 Hyundai Mobis Fuel Cell Stacks Production, Price, Value, Gross Margin and

Market Share (2017-2022)

7.4.5 Hyundai Mobis Recent Developments/Updates

7.4.6 Hyundai Mobis Competitive Strengths & Weaknesses

7.5 Ballard

7.5.1 Ballard Details

7.5.2 Ballard Major Business

7.5.3 Ballard Fuel Cell Stacks Product and Services

7.5.4 Ballard Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)

7.5.5 Ballard Recent Developments/Updates

7.5.6 Ballard Competitive Strengths & Weaknesses

7.6 Toyota

7.6.1 Toyota Details

7.6.2 Toyota Major Business

7.6.3 Toyota Fuel Cell Stacks Product and Services

7.6.4 Toyota Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)

7.6.5 Toyota Recent Developments/Updates

7.6.6 Toyota Competitive Strengths & Weaknesses

7.7 SinoHytec

7.7.1 SinoHytec Details

7.7.2 SinoHytec Major Business

7.7.3 SinoHytec Fuel Cell Stacks Product and Services

7.7.4 SinoHytec Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)

7.7.5 SinoHytec Recent Developments/Updates

7.7.6 SinoHytec Competitive Strengths & Weaknesses

7.8 Cummins (Hydrogenics)

7.8.1 Cummins (Hydrogenics) Details

7.8.2 Cummins (Hydrogenics) Major Business

7.8.3 Cummins (Hydrogenics) Fuel Cell Stacks Product and Services

7.8.4 Cummins (Hydrogenics) Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)

7.8.5 Cummins (Hydrogenics) Recent Developments/Updates

7.8.6 Cummins (Hydrogenics) Competitive Strengths & Weaknesses

7.9 Pearl Hydrogen

7.9.1 Pearl Hydrogen Details

7.9.2 Pearl Hydrogen Major Business

7.9.3 Pearl Hydrogen Fuel Cell Stacks Product and Services

7.9.4 Pearl Hydrogen Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)

7.9.5 Pearl Hydrogen Recent Developments/Updates

7.9.6 Pearl Hydrogen Competitive Strengths & Weaknesses

7.10 Elring Klinger (EKPO)

7.10.1 Elring Klinger (EKPO) Details

7.10.2 Elring Klinger (EKPO) Major Business

7.10.3 Elring Klinger (EKPO) Fuel Cell Stacks Product and Services

7.10.4 Elring Klinger (EKPO) Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)

7.10.5 Elring Klinger (EKPO) Recent Developments/Updates

7.10.6 Elring Klinger (EKPO) Competitive Strengths & Weaknesses

7.11 Sunrise Power

7.11.1 Sunrise Power Details

7.11.2 Sunrise Power Major Business

7.11.3 Sunrise Power Fuel Cell Stacks Product and Services

7.11.4 Sunrise Power Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)

7.11.5 Sunrise Power Recent Developments/Updates

7.11.6 Sunrise Power Competitive Strengths & Weaknesses

7.12 CHEM

7.12.1 CHEM Details

7.12.2 CHEM Major Business

7.12.3 CHEM Fuel Cell Stacks Product and Services

7.12.4 CHEM Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)

7.12.5 CHEM Recent Developments/Updates

7.12.6 CHEM Competitive Strengths & Weaknesses

7.13 Symbio

7.13.1 Symbio Details

7.13.2 Symbio Major Business

7.13.3 Symbio Fuel Cell Stacks Product and Services

7.13.4 Symbio Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)

7.13.5 Symbio Recent Developments/Updates

7.13.6 Symbio Competitive Strengths & Weaknesses

7.14 Bosch

7.14.1 Bosch Details

7.14.2 Bosch Major Business

- 7.14.3 Bosch Fuel Cell Stacks Product and Services
- 7.14.4 Bosch Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)
- 7.14.5 Bosch Recent Developments/Updates
- 7.14.6 Bosch Competitive Strengths & Weaknesses
- 7.15 Nedstack
 - 7.15.1 Nedstack Details
 - 7.15.2 Nedstack Major Business
 - 7.15.3 Nedstack Fuel Cell Stacks Product and Services
 - 7.15.4 Nedstack Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)
 - 7.15.5 Nedstack Recent Developments/Updates
 - 7.15.6 Nedstack Competitive Strengths & Weaknesses
- 7.16 Cellcentric
 - 7.16.1 Cellcentric Details
 - 7.16.2 Cellcentric Major Business
 - 7.16.3 Cellcentric Fuel Cell Stacks Product and Services
 - 7.16.4 Cellcentric Fuel Cell Stacks Production, Price, Value, Gross Margin and Market Share (2017-2022)
 - 7.16.5 Cellcentric Recent Developments/Updates
 - 7.16.6 Cellcentric Competitive Strengths & Weaknesses

8 RAW MATERIAL AND INDUSTRY CHAIN

- 8.1 Raw Material of Fuel Cell Stacks and Key Manufacturers
- 8.2 Fuel Cell Stacks Manufacturing Costs
- 8.3 Fuel Cell Stacks Production Process
- 8.4 Fuel Cell Stacks Industrial Chain

9 DISTRIBUTION CHANNEL ANALYSIS

- 9.1 Distribution Channel Breakdown for Fuel Cell Stacks Shipments (%): 2017-2028
 - 9.1.1 Direct Channel
 - 9.1.2 Indirect Channel
- 9.2 Fuel Cell Stacks Typical Distributors
- 9.3 Fuel Cell Stacks Typical Customers

10 RESEARCH FINDINGS AND CONCLUSION

11 APPENDIX

11.1 Methodology

11.2 Research Process and Data Source

11.3 Disclaimer

List Of Tables

LIST OF TABLES

Table 1. World Fuel Cell Stacks Production Value by Region (2017, 2022 and 2028) & (USD Million)

Table 2. World Fuel Cell Stacks Production Value by Region (2017-2022) & (USD Million)

Table 3. World Fuel Cell Stacks Production Value by Region (2023-2028) & (USD Million)

Table 4. World Fuel Cell Stacks Production Value Market Share by Region (2017-2022)

Table 5. World Fuel Cell Stacks Production Value Market Share by Region (2023-2028)

Table 6. World Fuel Cell Stacks Production by Region (2017-2022) & (MW)

Table 7. World Fuel Cell Stacks Production by Region (2023-2028) & (MW)

Table 8. World Fuel Cell Stacks Production Market Share by Region (2017-2022)

Table 9. World Fuel Cell Stacks Production Market Share by Region (2023-2028)

Table 10. World Fuel Cell Stacks Average Price by Region (2017-2022) & (US\$/KW)

Table 11. World Fuel Cell Stacks Average Price by Region (2023-2028) & (US\$/KW)

Table 12. Fuel Cell Stacks Major Market Trends

Table 13. World Fuel Cell Stacks Consumption Growth Rate Forecast by Region (2017 & 2021 & 2028) & (MW)

Table 14. World Fuel Cell Stacks Consumption by Region (2017-2022) & (MW)

Table 15. World Fuel Cell Stacks Consumption Forecast by Region (2023-2028) & (MW)

Table 16. World Fuel Cell Stacks Production Value by Manufacturer (2017-2022) & (USD Million)

Table 17. Production Value Market Share of Key Fuel Cell Stacks Producers in 2021

Table 18. World Fuel Cell Stacks Production by Manufacturer (2017-2022) & (MW)

Table 19. Production Market Share of Key Fuel Cell Stacks Producers in 2021

Table 20. World Fuel Cell Stacks Average Price by Manufacturer (2017-2022) & (US\$/KW)

Table 21. Global Fuel Cell Stacks Company Evaluation Quadrant

Table 22. World Fuel Cell Stacks Industry Rank of Major Manufacturers, Based on Production Value in 2021

Table 23. Head Office and Fuel Cell Stacks Production Site of Key Manufacturer

Table 24. Fuel Cell Stacks Market: Company Product Type Footprint

Table 25. Fuel Cell Stacks Market: Company Product Application Footprint

Table 26. Fuel Cell Stacks Competitive Factors

Table 27. Fuel Cell Stacks New Entrant and Capacity Expansion Plans

Table 28. Fuel Cell Stacks Mergers & Acquisitions Activity

Table 29. United States VS China Fuel Cell Stacks Production Value Comparison, (2017 & 2021 & 2028) & (USD Million)

Table 30. United States VS China Fuel Cell Stacks Production Comparison, (2017 & 2021 & 2028) & (MW)

Table 31. United States VS China Fuel Cell Stacks Consumption Comparison, (2017 & 2021 & 2028) & (MW)

Table 32. Major Manufacturer of Fuel Cell Stacks in United States, Company Headquarters and Production Place (States, Country)

Table 33. United States Fuel Cell Stacks Production Value by Domestic Manufacturer, (2017-2022) & (USD Million)

Table 34. United States Fuel Cell Stacks Production Value Market Share by Domestic Manufacturer, (2017-2022)

Table 35. United States Fuel Cell Stacks Production by Domestic Manufacturer, (2017-2022) & (MW)

Table 36. United States Fuel Cell Stacks Production Market Share by Domestic Manufacturer, (2017-2022)

Table 37. Major Manufacturer of Fuel Cell Stacks in China, Company Headquarters and Production Place (Province, Country)

Table 38. China Fuel Cell Stacks Production Value by Domestic Manufacturer, (2017-2022) & (USD Million)

Table 39. China Fuel Cell Stacks Production Value Market Share by Domestic Manufacturer, (2017-2022)

Table 40. China Fuel Cell Stacks Production by Domestic Manufacturer, (2017-2022) & (MW)

Table 41. China Fuel Cell Stacks Production Market Share by Domestic Manufacturer, (2017-2022)

Table 42. Major Manufacturer of Fuel Cell Stacks in Rest of World, Company Headquarters and Production Place (State, Country)

Table 43. Rest of World Fuel Cell Stacks Production Value by Domestic Manufacturer, (2017-2022) & (USD Million)

Table 44. Rest of World Fuel Cell Stacks Production Value Market Share by Domestic Manufacturer, (2017-2022)

Table 45. Rest of World Fuel Cell Stacks Production by Domestic Manufacturer, (2017-2022) & (MW)

Table 46. Rest of World Fuel Cell Stacks Production Market Share by Domestic Manufacturer, (2017-2022)

Table 47. World Fuel Cell Stacks Production Value by Type, (USD Million), 2017 & 2021 & 2028

Table 48. World Fuel Cell Stacks Production by Type (2017-2022) & (MW)

Table 49. World Fuel Cell Stacks Production by Type (2023-2028) & (MW)

Table 50. World Fuel Cell Stacks Production Value by Type (2017-2022) & (USD Million)

Table 51. World Fuel Cell Stacks Production Value by Type (2023-2028) & (USD Million)

Table 52. World Fuel Cell Stacks Average Price by Type (2017-2022) & (US\$/KW)

Table 53. World Fuel Cell Stacks Average Price by Type (2023-2028) & (US\$/KW)

Table 54. World Fuel Cell Stacks Production Value by Application, (USD Million), 2017 & 2021 & 2028

Table 55. World Fuel Cell Stacks Production by Application (2017-2022) & (MW)

Table 56. World Fuel Cell Stacks Production by Application (2023-2028) & (MW)

Table 57. World Fuel Cell Stacks Production Value by Application (2017-2022) & (USD Million)

Table 58. World Fuel Cell Stacks Production Value by Application (2023-2028) & (USD Million)

Table 59. World Fuel Cell Stacks Average Price by Application (2017-2022) & (US\$/KW)

Table 60. World Fuel Cell Stacks Average Price by Application (2023-2028) & (US\$/KW)

Table 61. Panasonic Basic Information, Manufacturing Base and Competitors

Table 62. Panasonic Major Business

Table 63. Panasonic Fuel Cell Stacks Product and Services

Table 64. Panasonic Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)

Table 65. Panasonic Recent Developments/Updates

Table 66. Panasonic Competitive Strengths & Weaknesses

Table 67. Plug Power Basic Information, Manufacturing Base and Competitors

Table 68. Plug Power Major Business

Table 69. Plug Power Fuel Cell Stacks Product and Services

Table 70. Plug Power Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)

Table 71. Plug Power Recent Developments/Updates

Table 72. Plug Power Competitive Strengths & Weaknesses

Table 73. Toshiba ESS Basic Information, Manufacturing Base and Competitors

Table 74. Toshiba ESS Major Business

Table 75. Toshiba ESS Fuel Cell Stacks Product and Services

Table 76. Toshiba ESS Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)

Table 77. Toshiba ESS Recent Developments/Updates
Table 78. Toshiba ESS Competitive Strengths & Weaknesses
Table 79. Hyundai Mobis Basic Information, Manufacturing Base and Competitors
Table 80. Hyundai Mobis Major Business
Table 81. Hyundai Mobis Fuel Cell Stacks Product and Services
Table 82. Hyundai Mobis Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)
Table 83. Hyundai Mobis Recent Developments/Updates
Table 84. Hyundai Mobis Competitive Strengths & Weaknesses
Table 85. Ballard Basic Information, Manufacturing Base and Competitors
Table 86. Ballard Major Business
Table 87. Ballard Fuel Cell Stacks Product and Services
Table 88. Ballard Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)
Table 89. Ballard Recent Developments/Updates
Table 90. Ballard Competitive Strengths & Weaknesses
Table 91. Toyota Basic Information, Manufacturing Base and Competitors
Table 92. Toyota Major Business
Table 93. Toyota Fuel Cell Stacks Product and Services
Table 94. Toyota Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)
Table 95. Toyota Recent Developments/Updates
Table 96. Toyota Competitive Strengths & Weaknesses
Table 97. SinoHytec Basic Information, Manufacturing Base and Competitors
Table 98. SinoHytec Major Business
Table 99. SinoHytec Fuel Cell Stacks Product and Services
Table 100. SinoHytec Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)
Table 101. SinoHytec Recent Developments/Updates
Table 102. SinoHytec Competitive Strengths & Weaknesses
Table 103. Cummins (Hydrogenics) Basic Information, Manufacturing Base and Competitors
Table 104. Cummins (Hydrogenics) Major Business
Table 105. Cummins (Hydrogenics) Fuel Cell Stacks Product and Services
Table 106. Cummins (Hydrogenics) Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)
Table 107. Cummins (Hydrogenics) Recent Developments/Updates
Table 108. Cummins (Hydrogenics) Competitive Strengths & Weaknesses
Table 109. Pearl Hydrogen Basic Information, Manufacturing Base and Competitors

Table 110. Pearl Hydrogen Major Business
Table 111. Pearl Hydrogen Fuel Cell Stacks Product and Services
Table 112. Pearl Hydrogen Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)
Table 113. Pearl Hydrogen Recent Developments/Updates
Table 114. Pearl Hydrogen Competitive Strengths & Weaknesses
Table 115. Elring Klinger (EKPO) Basic Information, Manufacturing Base and Competitors
Table 116. Elring Klinger (EKPO) Major Business
Table 117. Elring Klinger (EKPO) Fuel Cell Stacks Product and Services
Table 118. Elring Klinger (EKPO) Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)
Table 119. Elring Klinger (EKPO) Recent Developments/Updates
Table 120. Elring Klinger (EKPO) Competitive Strengths & Weaknesses
Table 121. Sunrise Power Basic Information, Manufacturing Base and Competitors
Table 122. Sunrise Power Major Business
Table 123. Sunrise Power Fuel Cell Stacks Product and Services
Table 124. Sunrise Power Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)
Table 125. Sunrise Power Recent Developments/Updates
Table 126. Sunrise Power Competitive Strengths & Weaknesses
Table 127. CHEM Basic Information, Manufacturing Base and Competitors
Table 128. CHEM Major Business
Table 129. CHEM Fuel Cell Stacks Product and Services
Table 130. CHEM Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)
Table 131. CHEM Recent Developments/Updates
Table 132. CHEM Competitive Strengths & Weaknesses
Table 133. Symbio Basic Information, Manufacturing Base and Competitors
Table 134. Symbio Major Business
Table 135. Symbio Fuel Cell Stacks Product and Services
Table 136. Symbio Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)
Table 137. Symbio Recent Developments/Updates
Table 138. Symbio Competitive Strengths & Weaknesses
Table 139. Bosch Basic Information, Manufacturing Base and Competitors
Table 140. Bosch Major Business
Table 141. Bosch Fuel Cell Stacks Product and Services
Table 142. Bosch Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value

(USD Million), Gross Margin and Market Share (2017-2022)

Table 143. Bosch Recent Developments/Updates

Table 144. Bosch Competitive Strengths & Weaknesses

Table 145. Nedstack Basic Information, Manufacturing Base and Competitors

Table 146. Nedstack Major Business

Table 147. Nedstack Fuel Cell Stacks Product and Services

Table 148. Nedstack Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)

Table 149. Nedstack Recent Developments/Updates

Table 150. Cellcentric Basic Information, Manufacturing Base and Competitors

Table 151. Cellcentric Major Business

Table 152. Cellcentric Fuel Cell Stacks Product and Services

Table 153. Cellcentric Fuel Cell Stacks Production (MW), Price (US\$/KW), Production Value (USD Million), Gross Margin and Market Share (2017-2022)

Table 154. Fuel Cell Stacks Raw Material

Table 155. Key Manufacturers of Fuel Cell Stacks Raw Materials

Table 156. Fuel Cell Stacks Typical Distributors

Table 157. Fuel Cell Stacks Typical Customers

List Of Figures

LIST OF FIGURES

Figure 1. Fuel Cell Stacks Picture

Figure 2. World Fuel Cell Stacks Production Value: 2017 & 2021 & 2028, (USD Million)

Figure 3. World Fuel Cell Stacks Production Value and Forecast (2017-2028) & (USD Million)

Figure 4. World Fuel Cell Stacks Production (2017-2028) & (MW)

Figure 5. World Fuel Cell Stacks Average Price (2017-2028) & (US\$/KW)

Figure 6. World Fuel Cell Stacks Production Value Market Share by Region (2017-2028)

Figure 7. World Fuel Cell Stacks Production Market Share by Region (2017-2028)

Figure 8. North America Fuel Cell Stacks Production (2017-2028) & (MW)

Figure 9. Europe Fuel Cell Stacks Production (2017-2028) & (MW)

Figure 10. China Fuel Cell Stacks Production (2017-2028) & (MW)

Figure 11. Japan Fuel Cell Stacks Production (2017-2028) & (MW)

Figure 12. South Korea Fuel Cell Stacks Production (2017-2028) & (MW)

Figure 13. Fuel Cell Stacks Market Drivers

Figure 14. Factors Affecting Demand

Figure 15. World Fuel Cell Stacks Demand (2017-2028) & (MW)

Figure 16. World Fuel Cell Stacks Consumption Market Share by Region (2017-2028)

Figure 17. United States Fuel Cell Stacks Consumption (2017-2028) & (MW)

Figure 18. China Fuel Cell Stacks Consumption (2017-2028) & (MW)

Figure 19. Europe Fuel Cell Stacks Consumption (2017-2028) & (MW)

Figure 20. Japan Fuel Cell Stacks Consumption (2017-2028) & (MW)

Figure 21. South Korea Fuel Cell Stacks Consumption (2017-2028) & (MW)

Figure 22. ASEAN Fuel Cell Stacks Consumption (2017-2028) & (MW)

Figure 23. India Fuel Cell Stacks Consumption (2017-2028) & (MW)

Figure 24. Producer Shipments of Fuel Cell Stacks by Manufacturer Revenue (\$MM) and Market Share (%): 2021

Figure 25. Global Four-firm Concentration Ratios (CR4) for Fuel Cell Stacks Markets in 2021

Figure 26. Global Four-firm Concentration Ratios (CR8) for Fuel Cell Stacks Markets in 2021

Figure 27. United States VS China: Fuel Cell Stacks Production Value Market Share Comparison (2017 & 2021 & 2028)

Figure 28. United States VS China: Fuel Cell Stacks Production Market Share Comparison (2017 & 2021 & 2028)

Figure 29. United States VS China: Fuel Cell Stacks Consumption Market Share Comparison (2017 & 2021 & 2028)

Figure 30. Key Producers and Market Share of Fuel Cell Stacks in United States

Figure 31. Key Producers and Market Share of Fuel Cell Stacks in China

Figure 32. Key Producers and Market Share of Fuel Cell Stacks in Rest of World

Figure 33. World Fuel Cell Stacks Production Value by Type, (USD Million), 2017 & 2021 & 2028

Figure 34. World Fuel Cell Stacks Production Value Market Share by Type in 2021

Figure 35. 10KW-100KW Fuel Cell Stacks

Figure 36. Above 100KW Fuel Cell Stacks

Figure 37. Below 5KW Fuel Cell Stacks

Figure 38. 5KW-10KW Fuel Cell Stacks

Figure 39. World Fuel Cell Stacks Production Market Share by Type (2017-2028)

Figure 40. World Fuel Cell Stacks Production Value Market Share by Type (2017-2028)

Figure 41. World Fuel Cell Stacks Average Price by Type (2017-2028) & (US\$/KW)

Figure 42. World Fuel Cell Stacks Production Value by Application, (USD Million), 2017 & 2021 & 2028

Figure 43. World Fuel Cell Stacks Production Value Market Share by Application in 2021

Figure 44. Stationary

Figure 45. Automotive

Figure 46. Others

Figure 47. World Fuel Cell Stacks Production Market Share by Application (2017-2028)

Figure 48. World Fuel Cell Stacks Production Value Market Share by Application (2017-2028)

Figure 49. World Fuel Cell Stacks Average Price by Application (2017-2028) & (US\$/KW)

Figure 50. Manufacturing Cost Structure Analysis of Fuel Cell Stacks in 2021

Figure 51. Manufacturing Process Analysis of Fuel Cell Stacks

Figure 52. Fuel Cell Stacks Industrial Chain

Figure 53. Distribution Channel Breakdown for Fuel Cell Stacks Shipments (%): 2017-2028

Figure 54. Direct Channel Pros & Cons

Figure 55. Indirect Channel Pros & Cons

Figure 56. Methodology

Figure 57. Research Process and Data Source

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