

Cogeneration Equipment Market – Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Technology (Gas Turbine-based Cogeneration, Steam Turbine-based Cogeneration, Reciprocating Engine-based Cogeneration, Fuel Cell-based Cogeneration), By Fuel Type (Natural Gas, Coal, Biomass, Others), By Application (Industrial, Commercial, Residential), By Region & Competition, 2020-2030F

<https://marketpublishers.com/r/C2CA0B758633EN.html>

Date: April 2025

Pages: 188

Price: US\$ 4,500.00 (Single User License)

ID: C2CA0B758633EN

Abstracts

The Global Cogeneration Equipment Market was valued at USD 33.6 billion in 2024 and is projected to reach USD 60.7 billion by 2030, growing at a CAGR of 10.2% during the forecast period. The market is witnessing strong growth due to the rising demand for energy, increased industrial activities, and rapid urbanization. As the need for electricity and thermal energy intensifies, cogeneration systems are being increasingly adopted for their ability to simultaneously generate power and useful heat from a single fuel source, offering high efficiency and reduced energy costs. Furthermore, heightened environmental concerns and carbon emission regulations are boosting the appeal of cogeneration, especially systems powered by renewable sources like biomass and natural gas. Technological advancements and government incentives, such as subsidies and tax benefits, further support market expansion. The growth of gas infrastructure worldwide is also enhancing the feasibility of deploying cogeneration systems across diverse industries.

Key Market Drivers

Rising Global Energy Demand and Industrialization

With rapid industrialization and urban development across both emerging and established economies, global energy consumption is rising substantially. This surge in demand underscores the importance of efficient and reliable energy solutions, prompting a shift towards cogeneration systems. These systems offer dual-generation of electricity and thermal energy from a single fuel source, ensuring enhanced energy efficiency. They are particularly valuable in industries like food processing, chemicals, and manufacturing where both power and heat are essential. Cogeneration significantly reduces operational costs by utilizing waste heat that conventional systems typically lose. For instance, in October 2023, Capital Power announced its acquisition of a 50.15% interest in the Frederickson 1 Generating Station, a natural gas-fired combined-cycle facility in Washington, finalizing the deal in December 2023. This move aligns with Capital Power's strategy to strengthen its low-emission power generation portfolio.

Key Market Challenges

High Initial Capital Investment and Financial Barriers

A key challenge for the global cogeneration equipment market is the substantial upfront investment needed for system installation. Although these systems offer long-term savings and efficiency, the initial expenditure—covering turbines, heat recovery units, and other specialized components—can be prohibitive, especially for small and medium enterprises or organizations in developing regions. Financial constraints are more pronounced in industries with tight profit margins, where large capital spending is difficult to justify. Moreover, limited access to financing options makes it even harder for companies in emerging markets to adopt cogeneration technologies. Installation complexities further escalate costs due to required infrastructure modifications, engineering, labor, and project management. Integrating cogeneration systems into existing setups often demands specialized expertise and lengthy installation periods, increasing downtime and deterring investment in highly competitive sectors where operational disruption could mean productivity losses.

Key Market Trends

Increasing Adoption of Renewable Energy Sources in Cogeneration Systems

A significant trend shaping the cogeneration equipment market is the rising incorporation of renewable energy sources such as biomass, biogas, and solar power

integrated cogeneration systems. As global focus intensifies on sustainable and low-emission energy practices, these renewable-integrated systems are becoming increasingly preferred. Biomass-based cogeneration is especially noteworthy, allowing industries to utilize organic waste materials—like wood chips and agricultural residues—for energy production. Recognized for its carbon-neutral profile, biomass helps reduce carbon emissions while maintaining a stable energy supply. This trend supports broader environmental goals and reflects the growing demand for cleaner and more resilient energy solutions.

Key Market Players

BDR Thermea Group

Mitsubishi Heavy Industries, Ltd.

2G Energy Inc.

Clarke Energy Ltd.

Capstone Turbine Corporation

Innovative Steam Technology, Inc.

Aegis Energy Services Inc.

Kawasaki Heavy Industries, Ltd.

Report Scope:

In this report, the Global Cogeneration Equipment Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Cogeneration Equipment Market, By Technology:

Gas Turbine-based Cogeneration

Steam Turbine-based Cogeneration

Reciprocating Engine-based Cogeneration

Fuel Cell-based Cogeneration

Cogeneration Equipment Market, By Fuel Type:

Natural Gas

Coal

Biomass

Others

Cogeneration Equipment Market, By Application:

Industrial

Commercial

Residential

Cogeneration Equipment Market, By Region:

North America

United States

Canada

Mexico

Europe

Germany

France

United Kingdom

Italy

Spain

Asia Pacific

China

India

Japan

South Korea

Australia

South America

Brazil

Colombia

Argentina

Middle East & Africa

Saudi Arabia

UAE

South Africa

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Cogeneration Equipment Market.

Available Customizations:

Global Cogeneration Equipment Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

Contents

1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
 - 1.2.1. Markets Covered
 - 1.2.2. Years Considered for Study
 - 1.2.3. Key Market Segmentations

2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, and Trends

4. VOICE OF CUSTOMER

5. GLOBAL COGENERATION EQUIPMENT MARKET OUTLOOK

- 5.1. Market Size & Forecast
 - 5.1.1. By Value
- 5.2. Market Share & Forecast
 - 5.2.1. By Technology (Gas Turbine-based Cogeneration, Steam Turbine-based Cogeneration, Reciprocating Engine-based Cogeneration, Fuel Cell-based Cogeneration)
 - 5.2.2. By Fuel Type (Natural Gas, Coal, Biomass, Others)

- 5.2.3. By Application (Industrial, Commercial, Residential)
- 5.2.4. By Region (North America, Europe, South America, Middle East & Africa, Asia Pacific)
- 5.3. By Company (2024)
- 5.4. Market Map

6. NORTH AMERICA COGENERATION EQUIPMENT MARKET OUTLOOK

- 6.1. Market Size & Forecast
 - 6.1.1. By Value
- 6.2. Market Share & Forecast
 - 6.2.1. By Technology
 - 6.2.2. By Fuel Type
 - 6.2.3. By Application
 - 6.2.4. By Country
- 6.3. North America: Country Analysis
 - 6.3.1. United States Cogeneration Equipment Market Outlook
 - 6.3.1.1. Market Size & Forecast
 - 6.3.1.1.1. By Value
 - 6.3.1.2. Market Share & Forecast
 - 6.3.1.2.1. By Technology
 - 6.3.1.2.2. By Fuel Type
 - 6.3.1.2.3. By Application
 - 6.3.2. Canada Cogeneration Equipment Market Outlook
 - 6.3.2.1. Market Size & Forecast
 - 6.3.2.1.1. By Value
 - 6.3.2.2. Market Share & Forecast
 - 6.3.2.2.1. By Technology
 - 6.3.2.2.2. By Fuel Type
 - 6.3.2.2.3. By Application
 - 6.3.3. Mexico Cogeneration Equipment Market Outlook
 - 6.3.3.1. Market Size & Forecast
 - 6.3.3.1.1. By Value
 - 6.3.3.2. Market Share & Forecast
 - 6.3.3.2.1. By Technology
 - 6.3.3.2.2. By Fuel Type
 - 6.3.3.2.3. By Application

7. EUROPE COGENERATION EQUIPMENT MARKET OUTLOOK

7.1. Market Size & Forecast

7.1.1. By Value

7.2. Market Share & Forecast

7.2.1. By Technology

7.2.2. By Fuel Type

7.2.3. By Application

7.2.4. By Country

7.3. Europe: Country Analysis

7.3.1. Germany Cogeneration Equipment Market Outlook

7.3.1.1. Market Size & Forecast

7.3.1.1.1. By Value

7.3.1.2. Market Share & Forecast

7.3.1.2.1. By Technology

7.3.1.2.2. By Fuel Type

7.3.1.2.3. By Application

7.3.2. France Cogeneration Equipment Market Outlook

7.3.2.1. Market Size & Forecast

7.3.2.1.1. By Value

7.3.2.2. Market Share & Forecast

7.3.2.2.1. By Technology

7.3.2.2.2. By Fuel Type

7.3.2.2.3. By Application

7.3.3. United Kingdom Cogeneration Equipment Market Outlook

7.3.3.1. Market Size & Forecast

7.3.3.1.1. By Value

7.3.3.2. Market Share & Forecast

7.3.3.2.1. By Technology

7.3.3.2.2. By Fuel Type

7.3.3.2.3. By Application

7.3.4. Italy Cogeneration Equipment Market Outlook

7.3.4.1. Market Size & Forecast

7.3.4.1.1. By Value

7.3.4.2. Market Share & Forecast

7.3.4.2.1. By Technology

7.3.4.2.2. By Fuel Type

7.3.4.2.3. By Application

7.3.5. Spain Cogeneration Equipment Market Outlook

7.3.5.1. Market Size & Forecast

- 7.3.5.1.1. By Value
- 7.3.5.2. Market Share & Forecast
 - 7.3.5.2.1. By Technology
 - 7.3.5.2.2. By Fuel Type
 - 7.3.5.2.3. By Application

8. ASIA PACIFIC COGENERATION EQUIPMENT MARKET OUTLOOK

- 8.1. Market Size & Forecast
 - 8.1.1. By Value
- 8.2. Market Share & Forecast
 - 8.2.1. By Technology
 - 8.2.2. By Fuel Type
 - 8.2.3. By Application
 - 8.2.4. By Country
- 8.3. Asia Pacific: Country Analysis
 - 8.3.1. China Cogeneration Equipment Market Outlook
 - 8.3.1.1. Market Size & Forecast
 - 8.3.1.1.1. By Value
 - 8.3.1.2. Market Share & Forecast
 - 8.3.1.2.1. By Technology
 - 8.3.1.2.2. By Fuel Type
 - 8.3.1.2.3. By Application
 - 8.3.2. India Cogeneration Equipment Market Outlook
 - 8.3.2.1. Market Size & Forecast
 - 8.3.2.1.1. By Value
 - 8.3.2.2. Market Share & Forecast
 - 8.3.2.2.1. By Technology
 - 8.3.2.2.2. By Fuel Type
 - 8.3.2.2.3. By Application
 - 8.3.3. Japan Cogeneration Equipment Market Outlook
 - 8.3.3.1. Market Size & Forecast
 - 8.3.3.1.1. By Value
 - 8.3.3.2. Market Share & Forecast
 - 8.3.3.2.1. By Technology
 - 8.3.3.2.2. By Fuel Type
 - 8.3.3.2.3. By Application
 - 8.3.4. South Korea Cogeneration Equipment Market Outlook
 - 8.3.4.1. Market Size & Forecast

- 8.3.4.1.1. By Value
- 8.3.4.2. Market Share & Forecast
 - 8.3.4.2.1. By Technology
 - 8.3.4.2.2. By Fuel Type
 - 8.3.4.2.3. By Application
- 8.3.5. Australia Cogeneration Equipment Market Outlook
 - 8.3.5.1. Market Size & Forecast
 - 8.3.5.1.1. By Value
 - 8.3.5.2. Market Share & Forecast
 - 8.3.5.2.1. By Technology
 - 8.3.5.2.2. By Fuel Type
 - 8.3.5.2.3. By Application

9. MIDDLE EAST & AFRICA COGENERATION EQUIPMENT MARKET OUTLOOK

- 9.1. Market Size & Forecast
 - 9.1.1. By Value
- 9.2. Market Share & Forecast
 - 9.2.1. By Technology
 - 9.2.2. By Fuel Type
 - 9.2.3. By Application
 - 9.2.4. By Country
- 9.3. Middle East & Africa: Country Analysis
 - 9.3.1. Saudi Arabia Cogeneration Equipment Market Outlook
 - 9.3.1.1. Market Size & Forecast
 - 9.3.1.1.1. By Value
 - 9.3.1.2. Market Share & Forecast
 - 9.3.1.2.1. By Technology
 - 9.3.1.2.2. By Fuel Type
 - 9.3.1.2.3. By Application
 - 9.3.2. UAE Cogeneration Equipment Market Outlook
 - 9.3.2.1. Market Size & Forecast
 - 9.3.2.1.1. By Value
 - 9.3.2.2. Market Share & Forecast
 - 9.3.2.2.1. By Technology
 - 9.3.2.2.2. By Fuel Type
 - 9.3.2.2.3. By Application
 - 9.3.3. South Africa Cogeneration Equipment Market Outlook
 - 9.3.3.1. Market Size & Forecast

- 9.3.3.1.1. By Value
- 9.3.3.2. Market Share & Forecast
 - 9.3.3.2.1. By Technology
 - 9.3.3.2.2. By Fuel Type
 - 9.3.3.2.3. By Application

10. SOUTH AMERICA COGENERATION EQUIPMENT MARKET OUTLOOK

- 10.1. Market Size & Forecast
 - 10.1.1. By Value
- 10.2. Market Share & Forecast
 - 10.2.1. By Technology
 - 10.2.2. By Fuel Type
 - 10.2.3. By Application
 - 10.2.4. By Country
- 10.3. South America: Country Analysis
 - 10.3.1. Brazil Cogeneration Equipment Market Outlook
 - 10.3.1.1. Market Size & Forecast
 - 10.3.1.1.1. By Value
 - 10.3.1.2. Market Share & Forecast
 - 10.3.1.2.1. By Technology
 - 10.3.1.2.2. By Fuel Type
 - 10.3.1.2.3. By Application
 - 10.3.2. Colombia Cogeneration Equipment Market Outlook
 - 10.3.2.1. Market Size & Forecast
 - 10.3.2.1.1. By Value
 - 10.3.2.2. Market Share & Forecast
 - 10.3.2.2.1. By Technology
 - 10.3.2.2.2. By Fuel Type
 - 10.3.2.2.3. By Application
 - 10.3.3. Argentina Cogeneration Equipment Market Outlook
 - 10.3.3.1. Market Size & Forecast
 - 10.3.3.1.1. By Value
 - 10.3.3.2. Market Share & Forecast
 - 10.3.3.2.1. By Technology
 - 10.3.3.2.2. By Fuel Type
 - 10.3.3.2.3. By Application

11. MARKET DYNAMICS

11.1. Drivers

11.2. Challenges

12. MARKET TRENDS AND DEVELOPMENTS

12.1. Merger & Acquisition (If Any)

12.2. Product Launches (If Any)

12.3. Recent Developments

13. COMPANY PROFILES

13.1. BDR Thermea Group

13.1.1. Business Overview

13.1.2. Key Revenue and Financials

13.1.3. Recent Developments

13.1.4. Key Personnel

13.1.5. Key Product/Services Offered

13.2. Mitsubishi Heavy Industries, Ltd.

13.3. 2G Energy Inc.

13.4. Clarke Energy Ltd.

13.5. Capstone Turbine Corporation

13.6. Innovative Steam Technology, Inc.

13.7. Aegis Energy Services Inc.

13.8. Kawasaki Heavy Industries, Ltd.

14. STRATEGIC RECOMMENDATIONS

15. ABOUT US & DISCLAIMER

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