

Global Fusion Energy Market Size study & Forecast, by Technology (Inertial Confinement, Magnetic Confinement), by Fuels (Deuterium tritium, Deuterium, Deuterium helium 3, Proton Boron) and Regional Analysis, 2023-2030

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Abstracts

Global Fusion Energy Market is valued at approximately USD 251.91 billion in 2022 and is anticipated to grow with a healthy growth rate of more than 6.9% over the forecast period 2023-2030. Fusion energy is a form of energy generated by nuclear fusion, the same process that powers the sun and stars. It involves the fusion of light atomic nuclei, typically isotopes of hydrogen, to release a tremendous amount of energy. The primary fuel for fusion reactions is isotopes of hydrogen, particularly deuterium and tritium. Deuterium extracted from seawater, while tritium produced within a fusion reactor using lithium. These fuel sources are virtually inexhaustible, ensuring a long-term and abundant supply of fusion energy. The Fusion Energy market is expanding because of factors such as increasing demand for sustainable energy resources and a growing number of nuclear power plants. It is a clean and environmentally friendly energy source, producing no greenhouse gas emissions or long-lived radioactive waste. Its importance has progressively increased during the forecast period 2023-2030.

According to Statista, the global renewable energy market is expected to reach over 2 trillion U.S. dollars by 2030. Furthermore, in 2022 China, the United States, and Brazil were the top three countries in terms of installed renewable energy with a capacity of approximately 1,161 gigatons, China was the leader in renewable energy installation followed by the United States capacity of roughly 352 gigatons. Another important factor that drives the Fusion Energy market is the increasing number of nuclear power plants. As nuclear power plants based on fission reactions are commercially available and have been in operation for decades. In addition, as per Statista, in 2023, there are 436

nuclear reactors in 32 nations around the world with the United States having the most nuclear power reactors in operation approx. 93 units. Moreover, rising government initiatives regarding sustainable energy resources and growing investment in research and development related to fusion energy are anticipated to create lucrative growth opportunities for the market over the forecast period. However, the high initial cost of fusion energy systems and lack of skilled professionals stifles market growth throughout the forecast period of 2023-2030.

The key regions considered for the Global Fusion Energy Market study includes Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. North America dominated the market in 2022 owing to the increasing technological advancement and investments in fusion technology within the industry. Moreover, the largest deuterium-extracting plant is located in Canada, facilitating market growth in the region. Furthermore, Asia Pacific is expected to grow significantly during the forecast period, owing to factors such as rising investment in fusion energy research and development, and rising government initiatives, makes it a promising region for the growth of the fusion energy market.

Major market player included in this report are:

Zap Energy Inc

Helion Energy Inc

Commonwealth Fusion Systems

Lockheed Martin Corporation

Kyoto Fusioneering Ltd

Renaissance Fusion

TAE Technologies, Inc

HB11 Energy Holdings Pty Ltd

AGNI Energy Inc

Hyperjet Fusion Corporation

Recent Developments in the Market:

In May 2023, Commonwealth Fusion Systems has been chosen as a recipient of the U.S. Department of Energy's USD 46 million milestone-based commercial fusion energy development programmes, which aims to strengthen the United States' leadership in commercial fusion energy. CFS is one of eight businesses chosen, and it is the only one pursuing the traditional tokamak method of commercial fusion. Manufacturing and testing its first fusion magnet for SPARC, launching a fusion community benefits programme with strong commitments to diversity, equity, inclusion, accessibility and energy justice, developing the design and technology roadmap for CFS' first commercial fusion power plant, and submitting its ARC physics basis papers are all CFS milestones.

Global Fusion Energy Market Report Scope:

Historical Data – 2020 - 2021

Base Year for Estimation – 2022

Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered - Technology, Fuels, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent up to 8 analyst's working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values to the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries

involved in the study.

The report also caters detailed information about the crucial aspects such as driving factors & challenges which will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with the detailed analysis of competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Technology

Inertial Confinement

Magnetic Confinement

By Fuels

Deuterium tritium

Deuterium

Deuterium helium 3

Proton Boron

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

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