

# **Power EPC Market – Global Industry Size, Share, Trends, Opportunity, and Forecast Segmented By Type (Thermal, Oil & Gas, Renewable, Nuclear, Others), By Component (Engineering Design, Procurement, Construct) By Region, Competition 2018-2028**

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## **Abstracts**

Global Power EPC Market was valued at USD 117.6 Billion in 2022 and is anticipated to project robust growth in the forecast period with a CAGR of 4.73% through 2028.

The Global Power Engineering, Procurement, and Construction (EPC) market refers to the industry segment responsible for designing, managing, and executing comprehensive projects related to power generation, transmission, and distribution infrastructure. This market encompasses a wide range of activities, including engineering, procurement of equipment and materials, construction, installation, testing, and commissioning of power facilities. The primary goal of the Global Power EPC market is to deliver turnkey solutions that enable the establishment of efficient, reliable, and sustainable power systems to meet the energy needs of societies, industries, and economies.

### **Key Market Drivers**

#### **Energy Demand and Supply**

The fundamental driver of the Global Power EPC market is the insatiable demand for electricity and power generation to meet the needs of growing populations, expanding industries, and technological advancements. As societies become more electrified, the need for reliable and efficient power sources drives investments in power projects worldwide.: Rapid urbanization and industrial growth require robust power infrastructure.

EPC companies play a pivotal role in constructing power plants, transmission lines, and substations to provide reliable electricity to urban centers and industrial hubs. The global shift toward cleaner energy sources and reduced carbon emissions is transforming the energy landscape. The integration of renewable energy, such as solar, wind, and hydropower, requires EPC expertise to build and manage the infrastructure needed for these new energy technologies.

### Growing Power industry

In India, EPC contracts are commonly utilized to create power from various resources, both renewable and non-renewable. These contracts are 'turnkey,' meaning that an external contractor takes complete responsibility for designing and constructing the power generation units to the client's specifications. The contractor oversees the project from the initial development phase to the final fabrication of the facility, which is ready for operation.

On the other hand, India's power industry is undergoing a significant shift as a result of the nation's rapid increases in electricity demand. Several Parts of India experience frequent power outages because of rising electrical demand and a supply gap. The government has set regulations into place to increase power generation, transmission, and distribution to address the issue of reliability. It is anticipated that initiatives like the Integrated Power Development Scheme (IPDS) and Deen Dayal Upadhyay Gram Jyoti Yojana (DDUGJY) will increase electrification across the country. 100% FDI (Foreign Direct Investment) allowed in the India power sector has boosted FDI inflow in this sector. From April 2000 and June 2022, the electricity sector saw a total FDI infusion of USD 16.39 billion.

### Growing demand of electricity & increasing contracts in the India EPC Market

The India power EPC (Efficient Power Conversion) market is experiencing significant growth due to the country's increasing demand for electricity to support its rapidly expanding population and economy. For instance, India saw a rise of 10.67% YoY with electricity generation (including renewable sources) of 846.18 BU between April and September 2022. The Ministry of Power's data shows that India's power consumption rose 1.64% YoY to 114.64 BU in October 2022. The market is characterized by a rising investment in the creation of power generation facilities that utilize both renewable and non-renewable sources of energy. For instance, from 2005 to 2050, numerous energy strategies will employ scenarios that will primarily include the adoption of renewable energy sources and investments in energy-saving technology to cut CO2 emissions by

up to 50%. As of February 2023, more than 174.53 Giga Watts of renewable energy have been installed in India over the previous 8.5 years, accounting for 42.5% of the nation's total capacity (including big hydro). India saw the highest year with the growth of 9.83% for renewable energy additions in 2022.

The demand for consistent energy supply is being driven by the growing digitization and dependence on power-operated equipment in various critical industries. EPC contracts are favoured in India due to the contractors' expertise in creating more efficient production units. The contractors have access to the best subcontractors, raw material vendors, cost-effective procurement channels, specific technological tools, and human resources. For instance, Electricity utilization increased by 8% in 2021 to 1282 TWh, after a 6.7% contraction in 2020. It grew rapidly over 2010-2019 (7%/year). Hence the India EPC Market is anticipated to register a high CAGR during the forecast period.

### Patratu Super Thermal Power Plant Project

India is also investing heavily in the development of EPC POWER projects, which is expected to further fuel growth in the power EPC market. Overall, the India power EPC market presents lucrative opportunities for investors, contractors, and vendors in the power generation industry. In Jharkhand, India, the Patratu Super Thermal Power Plant began in 2018 and is expected to be completed in 2022. The project, which burns coal, is expected to have a 4000 MW power capacity. In 2018, BHEL (Bharat Heavy Electricals Ltd) was awarded a contract of USD 1423.4 Million (INR 11,700 crore) for the construction of Jharkhand's phase 1 (3x800 MW) of a supercritical thermal power plant. India, coal has been a substantial energy basis in the past and still holds a considerable share in the country's energy generation sources. This is expected to have a positive impact on the power EPC market in the country.

The government's initiative for the "Smart Cities" Mission project to upgrade and develop various infrastructure for selected cities throughout the nation, where efficient energy management solutions and energy storage solutions are required for improvement, redevelopment, extension of various utilities, infrastructure, and transportation developments. Moreover, according to the mission's standards, 80% of the buildings in smart cities must be energy-efficient with a 'green building' design, and 10% of the energy needs of a smart city must stand satisfied by solar energy. Owing to which the market is expected to register a high CAGR during the forecast period.

### Key Market Challenges

## Rising Cost of Energy Generation

For instance, India presently loses 0.4% of its GDP due to power outages. Backup energy sources (mostly diesel gensets) and arrange production operations based on power shortages in their location. Due to the scarcity of traditional energy sources, cost of energy generation has also been rising significantly and is predicted to continue to rise in the future. Therefore, above mentioned factors are restraining the growth of the India power EPC the forecast period.

## Key Market Trends

### Growing Trend of Digitalization & Solar Energy Utilization in Power Sector Fueling the Market Growth

This trend of digitalization of the energy models offers superior efficiency and is also growing its value. The modernization of EPC processes allows for connecting and coordinating all the network's equipment and devices, which is central to greater efficiency gain. Moreover, communication with smart power grids could be made possible by a building's digital connectivity.

In order to develop numerous ICT and internet of things (IoT) solutions that aid in maintaining and optimizing the infrastructure in smart cities, a stable power supply is required. However, combining energy storage with renewable energy sources like solar power would make it possible for the structures to have a constant supply of electricity. These activities will therefore increase the India power EPC market during the projected period.

Additionally, the Ministry of Power, through the Bureau of Energy Efficiency (BEE), has started several energy efficiency initiatives in the areas of residential lighting, commercial buildings, and equipment standards. Moreover, demand side EPC has been started processing for emerging energy consumption norms to lower down electricity capacity for agriculture/municipalities, SMEs, and large industries usage. Owing to which the demand of EPC is growing rapidly during the forecast period.

## Segmental Insights

### Type Insights

The renewable energy segment is expected to grow at the highest CAGR during the

forecast period. Renewable energy sources have developed significantly in recent years. By the end of 2021, global renewable generation capacity was 3,064 gigawatts (GW), increasing renewable energy stocks by 9.1%, the fastest annual growth since the 1970s. Excluding large hydropower, solar power and wind power, the world's renewable capacity is the main driver of two-thirds of renewable energy growth. China alone will account for almost half of global renewable electricity growth in 2021, followed by the US, the EU and India. Consequently, the growth of the segment during the forecast period.

## Regional Insights

The Asia Pacific region has established itself as the leader in the Global Power EPC Market with a significant revenue share in 2022. Asia Pacific is expected to dominate the market during the forecast period. The Asia-Pacific region is home to more than 50% of the world's population and 60% of its largest cities. Future electricity consumption in the continent will increase, as millions of new users will receive electricity because of rapid population growth and industrialization. For instance, according to the BP Statistical Review of World Energy 2022, the region's primary energy consumption increased from 220.48 exajoule in 2013 to 272.45 exajoule in 2021.

## Key Market Players

General Electric (GE)

Siemens AG

ABB Group

Mitsubishi Hitachi Power Systems (MHPS)

Doosan Heavy Industries & Construction

Bechtel Corporation

China Energy Engineering Corporation (CEEC)

Black & Veatch

The Tata Power Company Limited

Samsung C&T Corporation.

Report Scope:

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

Global Power EPC Market, By Application:

Thermal

Oil & Gas

Renewable

Nuclear

Others

Global Power EPC Market, By Components:

Engineering Design

Procurement

Construct

Global Power EPC Market, By Region:

North America

United States

Canada

Mexico

Asia-Pacific

China

India

Japan

South Korea

Indonesia

Europe

Germany

United Kingdom

France

Russia

Spain

South America

Brazil

Argentina

Middle East & Africa

Saudi Arabia

South Africa

Egypt

UAE

Israel

## Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Power EPC Market.

## Available Customizations:

Global Power EPC Market report with the given market data, Tech Sci 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).



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