Power Engineering, Procurement, and Construction (Epc) Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 219 pages | Mordor Intelligence

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Report description:

The Global Power Engineering, Procurement, and Construction (EPC) Market is expected to reach USD 668.73 billion by the end of this year and is projected to register a CAGR of over 4.89% during the forecast period.

The market was negatively impacted by COVID-19 in 2020. Presently the market has now reached pre-pandemic levels.

Key Highlights
Over the long term, factors such as the increases in electricity generation and energy consumption demand and changing power generation industry dynamics are expected to drive demand for the power EPC market. Moreover, investments in the power sector, including increased government spending on renewable energy, are further expected to boost the market.
On the other hand, the phasing out of coal-based power plants, which account for a major share in power generation around the globe, and volatile crude oil prices leading to delays in several upstream projects are expected to hinder the growth of the power EPC market.
Nevertheless, new and efficient technologies like supercritical and ultra-supercritical coal power plants and government initiatives to increase renewable energy's share are expected to create several opportunities for the power EPC market in the future.
Asia-Pacific is expected to be the largest market during the forecast period, owing to the high urbanization growth rate and growing electricity demand, mainly from China and India.

Power Engineering, Procurement, & Construction (EPC) Market Trends

Renewable Expected to be the Fastest-growing Market Segment

Renewable energy sources have developed significantly in recent years. Global renewable generation capacity accounted for 3,064 gigawatts (GW) by the end of 2021, increasing the stock of renewable power by 9.1%, the fastest year-on-year growth since the 1970s. The global renewable energy generation capacity, excluding large hydropower, Solar PV, and wind, are the major contributor to two-thirds of renewables growth. China alone accounts for almost half of the global increase in renewable electricity in 2021, followed by the United States, the European Union, and India.

According to the International Renewable Energy Agency (IRENA), the global renewable energy share is expected to reach 30% by 2030 and increase to 50% by 2050. Increasing energy efficiency and improved energy aareess is expected to advance renewables' share in the global energy mix by up to 36%. According to IEA, by 2050, solar PV, wind, and bioenergy are estimated to produce approximately 80% of the global electricity generation.

Moreover, favorable government policies, the declining price of solar modules and wind turbines, and agreements to reduce the increasing carbon footprint globally are a few prominent factors supporting the market to grow both in developed and emerging economy regions, which is likely to drive the global renewable EPC market in coming future.

Furthermore, wind energy is the largest segment in the global renewable power market. In 2021, 93.6 GW of new wind power capacity was added globally, only 1.8% lower than 2020's record year.? The overall growth of the number of wind turbine installations made during 2006-2021 was primarily driven by declining costs, due to improved materials and design, and favorable government policies for wind power in countries such as China, the United States, Denmark, Germany, the United Kingdom, and India. ?

The global total wind energy capacity is now up to 837 GW. Europe, Latin America, Africa & Middle East had record years for new onshore installations, but the total onshore wind installations in 2021 were still 18% lower than the previous year. Moreover, China constructed up 80% of its offshore wind capacity in 2021, bringing its cumulative offshore wind installations to 27.7 GW.

The increasing investments in wind power projects have been providing a significant boost to the growth of the wind power market globally. As per WindEurope statistics, Europe invested EUR 41.4 billion in new wind farms in 2021. The investments cover 24.6 GW of new capacity, a record for new capacity financed in a single year. Most of the new wind farms financed were onshore with an installed capacity of 19.8 GW.

Besides, the cost of generating wind energy declined in the past decade. The leading cause behind the declining price was the use of taller and larger-sized wind turbines. In recent years, the wind industry developed more reliable and lightweight materials, such as composites of fiberglass and other polymers. The earlier wind industry mainly used steel to build large towers, but now wind towers are made of steel and concrete, which allows the manufacturers to build large towers. ? ?

On the other hand, solar is the fastest-growing segment in the global renewable power EPC market. Solar is one of the renewable energy sources that has developed significantly over the last four years, with nearly 100 gigawatts (GW) of solar power addition each year. Favorable government policies, the declining price of solar modules, and agreements to reduce the increasing carbon footprint globally are a few prominent factors that supported the market to grow both in developed and emerging economy regions.

For instance, In May 2022, Tata Power Solar, a wholly-owned subsidiary of Tata Power, secured India's largest single solar EPC contract of 1 GW for around INR 5500 Crore from SJVN Ltd. The project will be developed under the Central Public Sector Undertaking (CPSU) Scheme of MNRE and is expected to complete within 24 months. Covering about 5000+ acres of land in Rajasthan, this project aims at reducing around 22,87,128kg of carbon emission and is expected to generate approximately 2500 million units annually.

Therefore, with increased investments in renewable energy and awareness of its advantages over fossil fuels, coupled with upcoming projects, renewable energy is expected to be the fastest-growing market segment over the forecast period.

Asia-Pacific Expected to Dominate the Market

?Asia-Pacific is home to more than 50% of the global population and 60% of the large cities. The continent will face increasing demand for power in the future as millions of new customers are gaining access to electricity with rapid population growth and industrialization. For instance, according to the BP Statistical Review of World Energy 2022, the primary energy consumption in the region increased from 220,48 exajoules in 2013 to 272.45 exajoules in 2021.
China dominates the power EPC market in the region, and the energy sector is moving in a new direction by transitioning toward cleaner and sustainable energy sources to reduce carbon emission and achieve net zero carbon emission by 2060.
As of 2021, China has the largest renewable installed capacity globally. According to China's National Energy Administration, the country's renewable installed capacity will reach 1.063 terawatts by the end of 2021, accounting for about 44.8% of the total installed generation capacity. China set a target for about 1.2 terawatts of renewable installed capacity by 2030, which it is expected to comfortably reach, directly aiding the renewable power EPC market's growth in the nation.
For instance, in 2022, the government of China planned to build 450 gigawatt of solar and wind energy power plants in the Gobi desert regions to achieve the renewable energy target by 2030.
Thailand is witnessing an increasing demand for energy due to economic growth. According to the BP Statistical Review of World Energy 2022, the primary energy consumption increased from 4.51 exajoules in 2010 to about 5.11 exajoules in 2021. Thailand heavily relies on LNG imports for the country's energy needs. Due to the war between Russia and Ukraine, the government has slashed LNG imports, putting its energy security at risk.
In Thailand's newly published National Energy Plan 2022, the government pledges to become carbon neutral by 2065 and increase the renewable generation capacity in the nation from 20% in 2022 to 50% by 2050, which directly aids the development of the renewable EPC market. However, the nation still depends on natural gas power plants for the country's energy needs and is expanding the capacity of Map Ta Phut LNG, receiving LNG terminal capacity.
For instance, the Chachoengsao Gas Fired Power Plant is in its initial stages, and the project construction is expected to commence in 2025. The project has a capacity of 600 MW, and the electricity will be sold to the Electricity Generating Authority of Thailand under a power purchase agreement for 25 years.
Therefore, based on factors like expansions and upgrades and increased power demand, the Asia-Pacific region is expected to dominate the power EPC market.

Power Engineering, Procurement, & Construction (EPC) Market Competitor Analysis

The power engineering, procurement, and construction (EPC) market is fragmented. Some of the major players in the market (in no particular order) include Fluor Corp., KBR Inc., Kiewit Corporation, McDermott International Ltd, Bechtel Corporation, and Saipem SpA, among others.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

Table of Contents:

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