Peaking Power Plant Market Forecasted to Achieve US $153.46 Billion by 2029

The Business Research Company's Peaking Power Plant Global Market Report 2025 – Market Size, Trends, And Global Forecast 2025-2034

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How Big Is The Peaking Power Plant Market In 2025?

The market size of peaking power plants has seen robust growth in the past few years. The market is projected to expand from $113.39 billion in 2024 to $120.17 billion in 2025 at a compound annual growth rate (CAGR) of 6.0%. The considerable growth during the historic period can be credited to factors such as enhanced integration of energy storage technology, government initiatives and energy policies, oscillations in the cost of natural gas, an increased focus on grid dependability, and the advancement in the infrastructural framework of power grids.

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In the coming years, the market size of peak power plants is expected to experience significant growth, forecasted to reach a valuation of $153.46 billion in 2029, with a CAGR of 6.3%. Factors contributing to the growth throughout the forecasted period include heightened electricity demand, increased decentralization, and the development of microgrids, along with expansion in energy storage and the integration of renewable resources. Additionally, the growing need for reliable power in remote locations along with an overall global increase in power demand will also be driving factors. Other major upcoming trends within the forecast period include the digitalization of smart grid technologies, advancement in battery technologies, technological innovations, and improvements in energy storage capabilities, as well as product innovation.

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What Are The Key Driving Factors For The Growth Of The Peaking Power Plant Market?
The escalation in electricity requirements is anticipated to stimulate the expansion of the peaking power plant market in the future. Electricity, a form of energy derived from the presence of charged elements such as protons or electrons, can appear as a static charge or a flowing current. The surge in electricity demand is attributed to higher consumption, improvements in infrastructure, unstable fuel prices, and environmental stipulations. Peaking power plants play a critical role in maintaining grid steadiness and dependability by supplying extra power during high demand periods or when other energy sources are lacking. Their rapid response times in increasing or decreasing production make them crucial in managing fluctuating energy supplies and maintaining equilibrium between power supply and demand. As an illustration, the International Energy Agency (IEA), a France-based intergovernmental agency, indicated in July 2024 that the global demand for electricity would likely increase by approximately 4% in 2024, higher than the 2.5% seen in 2023. Thus, this surge in electricity demand is fueling the expansion of the peaking power plant market.

Who Are The Key Players In The Peaking Power Plant Industry?
Major players in the Peaking Power Plant include:
• Enel S.p.A.
• Siemens AG
• NRG Energy Inc.
• The Southern Company
• Duke Energy Corporation
• PG&E Corporation
• NextEra Energy Inc.
• Alstom SA
• General Electric Company
• Xcel Energy Inc.

What Are The Upcoming Trends Of Peaking Power Plant Market In The Globe?
Leading firms in the peaking power plant market are honing their focus on crafting state-of-the-art facilities such as hybrid renewable power plants, equipped with sophisticated battery energy storage systems (BESS) for dependable peaking power solutions. Hybrid renewable power plants consolidate wind and solar energy, utilizing the harmonious characteristics of these resources to supply a more consistent and stable electricity stream. For instance, in September 2023, ReNew Surya Ojas Private Limited, an energy corporation based in India, inaugurated its inaugural hybrid renewable power plant, an avant-garde project merging solar and wind energy with advanced BESS. This plant proficiently amalgamates solar and wind energy, maximizing the exploitation of natural resources to produce electricity, located in Karnataka. This novel facility is projected to supply up to 300 MW of power to the grid during peak load times. With the integration of battery energy storage systems, the plant has the capability to conserve surplus

energy produced during peak output periods and dispense it during peak demand times.

What Segments Are Covered In The Peaking Power Plant Market Report?
The peaking power plantmarket covered in this report is segmented –
1) By Type: Natural Gas, Hydropower, Diesel, Other Types
2) By Applications: Grid Support, Backup Power, Renewable Integration, Other Applications
3) By End-Users: Commercial, Residential, Utility, Industrial, Other End-Users

Subsegments:
1) By Natural Gas: Gas Turbine Power Plants, Combined Cycle Power Plants (CCPP), Reciprocating Engine Power Plants, Microturbine Power Plants
2) By Hydropower: Pumped Storage Hydropower, Run-of-River Hydropower, Reservoir Hydropower, Small Hydropower Plants
3) By Diesel: Diesel Generators, Diesel Engine Power Plants, Dual-Fuel Power Plants, Mobile Diesel Generators
4) By Other Types: Battery Storage Systems, Solar Thermal Power Plants, Geothermal Power Plants, Biomass Power Plants

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Which Region Is Expected To Lead The Peaking Power Plant Market By 2025?
In 2024, the peaking power plant market was dominated by the Asia-Pacific region. It is predicted that North America will experience the most rapid growth within this market. The report on the peaking power plant market includes regions such as Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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