Global Market for Distributed Generation Technologies

Description: Increased demands on global electrical power systems and incidences of electricity shortages, power quality problems, rolling blackouts, and electricity price spikes have caused many utility customers to seek other sources of high-quality, reliable electricity. Distributed Energy Resources (DER), small-scale power generation sources located close to where electricity is used (e.g., a home or business), provide an alternative to or an enhancement of the traditional electric power grid.

Distributed power resources, including on-site generation, local energy storage, combined heat and power systems, and load control devices, promise to revolutionize the way electric power is delivered to industrial, commercial, and residential customers worldwide. The traditional model of electric power delivery used economies of scale to produce low-cost electricity from central power plants, delivered to the customers over a large network of transmission and distribution lines.

The emerging model of power delivery will vary according to the particular market, but will likely evolve along one of two paths. In areas with established central-station grids, distributed resources will be incorporated into the distribution system to support reliability, power quality, and grid expansion. In developing and rural areas, distributed resources will form the core of the grid, allowing for flexible, incremental grid expansion with reduced environmental impacts and reasonable operating costs.

Before these models become reality, however, key participants in the potential markets, including government planners/regulators, utility decision-makers, and end-users, must be made aware of the benefits of these technologies and their impacts on electric power systems, economic development, and environmental quality.

This research brings a focus on Distributed Generation Technologies, looking at the various technologies involved in the process, economics of distributed generation, leading countries who are actively promoting distributed generation, issues and challenges, growth drivers, etc.

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