

# The World Market for Microgrids

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## Abstracts

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Microgrids, also referred to as minigrids, off-grids and remote electrification grids are a smaller version of the traditional electrical grid or the newer digitized smart grid. A large variety of microgrid types exist: smart microgrids, islanded or decentralized microgrids, hybrid microgrids and rudimentary microgrids, to name a few. Microgrid installations around the world include everything from diesel generator-based rural electrification projects supplying electricity to small remote villages to large, futuristic cities and theme parks powered by multiple forms of renewable energy and using the newest microgrid technologies.

In 2010 the world market for microgrids reached \$4.14 billion, up significantly from 2009. This exciting growth is expected to continue at least through the year 2020. The market segment for institutional and campus microgrids, claiming nearly 45% of total market share in 2010, is expected to cede some of its ownership by 2020 to the commercial and industry microgrid sector, as well as to military and off-grid microgrid types. In 2010, North America staked a near 74% of total microgrid market share; by 2020 it is expected the microgrid pie will be slightly more evenly distributed among the regions of the world.

The emerging microgrid market is in an advantageous position, being cradled by other growing, and some flourishing, industries. Microgrids are riding the waves of the expanding solar power industry, smart grid market and the multifaceted renewable energy market. Simultaneously, microgrids are inspiring growth in related energy markets such as energy storage and inverter technology. Positioned amid such bustling markets benefits the microgrid market with increased security, research support and interest from a large number of invested individuals across many occupations.

Government interest in microgrids is increasing, especially in the United States, as energy security becomes high priority. Microgrids are ideal for military bases, where soldier safety is often compromised by power outages and fuel delivery—both problems easily diminished with the use of microgrids.

Over the past decade, significant obstacles have stood in the way of microgrid growth. As with many emerging industries, especially those that are energy-related, having established policies and a solid regulatory base in place are necessary for market growth to reach its potential. Although slow to be implemented, microgrid guidelines are being established by government bodies and other organizations with investments in microgrid technologies. Success in the microgrid industry has also been contingent on some less than perfect technologies. These technological setbacks to market growth are quickly showing signs of dissipating, however, as universities and other research centers around the world develop methods and technologies to improve microgrid schemes.

*The World Market for Microgrids* contains comprehensive historical data (2006-2010) and forecast data (2011-2020). This report identifies key trends, regulations, politics, new technologies, jobs and economic and geographic factors affecting the size and direction of microgrid market growth around the world. Profiles of more than 15 major, or simply interesting, companies involved in the microgrid market are also included.

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Power Systems Engineering Research Center

Right... OOPS! Smart Grid Interoperability Panel - Cyber Security Working Group

The Galvin Electricity Initiative

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NanoMarkets' SmartGridAnalysis.com

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CAPS Hosts Event for Advanced Power Systems

GovEnergy Training Workshop and Tradeshow

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Naturalwatt MicroGrid Power Station

Lockheed Martin's Smart Energy Enterprise Suite

EDSA's EPAG Data Integration Platform

Petra Solar's New SunWave Smart Energy Module

Ideal Power Converter Develops Compact Efficient Converters

Pennsylvania Incorporates Microgrid into Subway System

ET's Hybrid Micro Grid Power

Pure Power's Military-grade Mobile Solar Microgrid™

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