

# Military Microgrids Market Potential

<https://marketpublishers.com/r/MDDBFB588F4EN.html>

Date: January 2013

Pages: 100

Price: US\$ 249.00 (Single User License)

ID: MDDBFB588F4EN

## Abstracts

America's Defense Department is the largest single global consumer of petroleum, and its military operations comprise the largest demand for all forms of energy. In addition, bases located within the United States and abroad depend on aging transmission systems susceptible to cyber-terrorism and unreliability.

This report provides service and technology providers, government contractors, and military installations with a guide to understanding military microgrids. It acts as a solid start to planning a military microgrid design and installation, providing case studies of existing military microgrid systems.

A microgrid is a smaller version of the Smart Grid that is localized to a particular area, so its potential use for military functions is vast. Similar to the function of the smart grid, a military microgrid is also expected to improve the energy efficiency and accelerate the integration of various renewable energy resources.

The DoD moves about 50 million gallons of fuel monthly in Afghanistan, much of which is for power generation. The fuel powers more than 15,000 generators in Afghanistan alone. What if, through use of Microgrid technologies, the military could cut that fuel transportation and use in half?

The Department of Defense is already working on establishing a network of independent microgrids that integrate distributed renewable generation, electric vehicles, and demand response at its bases. The growth potential for military microgrid market is anticipated to result in upwards of 54.8 megawatts total capacity by 2018.

According to the Secretary of Defense, 40+ DoD military bases either have operating microgrids, planned microgrids, or have conducted studies of microgrid technologies. The DoD also has 600 forward operating bases (FOBs) and is investigating the

deployment of mobile microgrids in Afghanistan.

This report analyzes the uses and development of the military microgrids. It begins with an overview microgrids and smart grids. It provides case studies of military installations already using micro smart grids successfully.

This report profiles major smart grids technology and service providers to the military. Companies profiled in this report include: Honeywell International, Lockheed Martin Corporation, Eaton Corp Plc, General Electric, Skybuilt Power, Sturman Industries, Sandia National Laboratories, and ZBB Energy Corporation.

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