

Military Urges Renewed Commitment to Renewable Energy

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Article By
[Scott Aliferis](#)
[Elana R. Reman](#)
[K&L Gates](#)

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On January 12, 2017, Noblis, in partnership with the Pew Charitable Trusts, released a report on energy assurance on U.S. military bases. Cost-effective and reliable energy is crucial to the success of U.S. military missions, and the Department of Defense's (DoD) fixed military installations account for 1 percent of the total electrical energy consumed by the United States, costing almost \$4 billion. The military has long relied on the commercial grid, with standalone generators during peak use, but these sources are vulnerable to disruption due to aging infrastructure, severe weather, and both physical attacks and cyberattacks. Instead, the report proposes shifting to a strategy of large-scale microgrids. It conducts a cost comparison, addresses implementation issues, and analyzes the efficiency and security of microgrids, concluding that they would be superior to the military's current system for supplying energy.

The Pew Charitable Trusts recently held a panel discussion, which supplements the report's findings, focused on the intersection of national security, energy, and climate change. Three military secretaries examined past successes, and Dr. Jeff Marqusee, the Chief Scientist of Noblis and author of the report, discussed how the military could enhance its energy security going forward. The panelists argued that investment in renewable energy should continue to be a priority for the U.S. military because its goal is increasing mission assurance. The testimony was followed by a roundtable discussion and Q&A session.

Assistant Secretary of the Army Katherine Hammack discussed the Army's Net

Zero programs initiative, the goal of which is to maintain bases with net zero energy, water, and waste. This requires that bases produce as much as they consume, so consumption must also be reduced. The Net Zero programs strategy is based on enhancing readiness and resilience to weather emergencies or attacks. Addressing concerns that the Trump administration may reduce renewable energy initiatives in the federal government, Secretary Hammack stated that she does not believe the program will be scaled back, because it is objectively cost-effective, and it would be counterintuitive to require the Army to switch to a less cost-effective and less resilient system.

Assistant Secretary of the Navy Dennis McGinn argued that the military needs to focus on regional resiliency, because if the lights stay on in the region, they will stay on in the base. To accomplish grid stability, the Navy works closely with private-sector utility partners. If a private company wants to build an element of the energy grid or a “peaker plant” on a marine installation, the Navy allows the company to use the land and this, in turn, improves regional and base resiliency. Secretary McGinn stressed the strong business case for energy stability and efficiency, since energy security and resiliency is directly related to the success and safety of our troops.

Assistant Secretary of the Air Force Miranda Ballentine discussed three recent global trends that leave the U.S. energy supply uniquely vulnerable. First, the United States systematically and intentionally outsources power generation. Second, U.S. military missions have become more and more dependent on the steady flow of electrons, which are as essential as jet fuel to planes. Third, Mother Nature is no longer our only adversary; the United States has many adversaries around the world looking at our power grids for kinetic and cyberattacks.

These trends signal a need to change the military’s approach to energy security. Secretary Ballentine suggested that the military needs renewable energy that does not rely on a supply chain, because terrorists cannot cut off sun, wind, or geothermal energy if it is right underneath the base. There is also the need to improve next-generation storage technology, so bases can function without immediate sun and wind. She also pointed out that many nations are transitioning to host nation power grids, and away from diesel generators, because they believe host nation power grids are less expensive and more reliable.

Chief Scientist of Noblis Dr. Jeff Marqusee advocated for a shift from the current dependency on the commercial grid to microgrids. There has been an increase in grid outages due to weather events, physical attacks, and cyberattacks, but microgrids are a networked approach that provides an added layer of resiliency, increased business performance, and efficiency. Microgrids also provide a huge cost savings over the current system, because we do not account for all of the costs of our current paradigm, creating strong inertia. Dr. Marqusee believes that DoD should buy microgrid services from a third party, because that allows it to tap into third-party financing. His report finds that with a switch to microgrids, DoD’s buildings could become a quarter more efficient.

Finally, each panelist was asked to provide a piece of advice for the incoming Trump administration. Secretaries Hammack and McGinn urged the new administration to focus on the “why,” which is mission effectiveness and resiliency, and to examine

the strong business case that underlies sustainable energy. Secretary Ballentine and Dr. Marqusee focused on the “people power” in the DoD, the extensive expertise of career employees, and the need to trust the employees, because all share a common goal of supporting the mission.

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