



OPERATIONAL ENERGY  
PLANS AND PROGRAMS

## ASSISTANT SECRETARY OF DEFENSE

3700 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3700

MAR 11 2013

The Honorable Carl Levin  
Chairman  
Committee on Armed Services  
United States Senate  
Washington, DC 20510

Dear Mr. Chairman:

Enclosed with this letter is the Fiscal Year 2011 Annual Operational Energy Report, prepared in accordance with section 2925(b) of title 10, United States Code. This report provides an overview of FY 2011 operational energy activities in the Department of Defense, including information on operational energy consumption, initiatives and investments in alternative fuels, and improvements to current operations.

In June 2011, the Department released its first ever Operational Energy Strategy, which sets the overall direction for DoD operational energy security with the goal of assuring reliable supplies of energy for 21st century military operations. The strategy outlines three principal ways to meet that goal: reduce the demand for energy, expand and secure the supply of energy, and build energy security into the future force.

In 2011, the Department enhanced operational capabilities through numerous energy initiatives, including reducing the weight of dismounted troop power sources; increasing the efficiency of power generation on contingency bases; and incentivizing energy performance improvements within contingency sustainment contracts. These efforts resulted in increased endurance, range, and flexibility of forces in the field. Overall, the Department is making progress in implementing the strategy, and this progress was described in detail in the Operational Energy Budget Certification report, released in August 2012.

We have continued this momentum into FY 2012. The Operational Energy Strategy Implementation Plan was released in March 2012 and identifies specific targets and tasks needed to accomplish the Strategy. To oversee implementation, the Plan established the Defense Operational Energy Board, co-chaired by the Assistant Secretary of Defense for Operational Energy Plans and Programs and the Director for Logistics, Joint Staff, to measure performance, share lessons learned, and ensure progress across the Defense Components.

Looking ahead, the Department's strategic guidance, *Priorities for 21<sup>st</sup> Century Defense*, calls for a military force that is "agile, flexible, and ready for the full range of contingencies," one that is prepared and postured for a complex, global security environment. That force will require increasingly effective, precise, agile, and flexible capabilities that inevitably depend upon energy. This report summarizes progress in our ability to use that energy effectively and efficiently, which is essential in order to retain our operational advantage.

Similar letters are being sent to the other congressional defense committees.

Sincerely,

A handwritten signature in black ink that reads "Sharon E. Burke". The signature is written in a cursive style with a large, stylized "S" and "B".

Sharon E. Burke

Enclosure:

As stated

cc:

The Honorable James M. Inhofe

Ranking Member

# **Fiscal Year 2011 Operational Energy Annual Report**



**March 2013**

The estimated cost of report or study for the Department of Defense is approximately \$23,000 in Fiscal Years 2012 - 2013. This includes \$15,000 in expenses and \$7,990 in DoD labor. Cost estimate generated on January 25, 2013

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## **Requirement**

This report is in response to the requirement in Section 2925(b) of Title 10, United States Code.

## **Introduction**

President Obama established the Office of the Assistant Secretary of Defense for Operational Energy Plans and Programs (ASD(OEPP)) in June 2010, as a reflection of commitment to a strong national defense and to energy security.

The mission of OEPP is to improve military effectiveness while lowering risks and costs to Warfighters. In Fiscal Year 2011, DoD and the Services achieved considerable progress by:

- Facilitating the rapid deployment of energy saving equipment and procedures.
- Issuing the Department's first ever *Operational Energy Strategy* and Budget Certification report.
- Building operational energy considerations into the future force.

In April 2011, former Deputy Secretary of Defense William Lynn stated, "Today, energy technology remains a critical element of our military superiority. Addressing energy needs must be a fundamental part of our military planning."

OEPP is collaborating with the Components as they transform their concepts, strategies, equipment, and operations to use energy more effectively. By increasing effectiveness in the design and application of energy performance in operational systems, the Department can improve warfighting capabilities and reduce the risk to fielded forces.

## **The Defense Energy Challenge**

In December 2011, General Allen released a memo to all U.S. forces in Afghanistan that highlighted the nature of the operational energy challenge, stating, "Operational Energy in the battlespace is about improving combat effectiveness. It's about increasing our forces' endurance, being more lethal, and reducing the number of men and women risking their lives moving fuel."

DoD is the single largest consumer of energy in the nation, accounting for approximately 1 percent of national demand. In FY 2011, the Department spent approximately \$17 billion on energy to support military operations. On average, U.S. forces in Afghanistan consumed about 43,000 barrels of fuel every day, which is conveyed over poor and often contested roads.

Although the Services were engaged in several fuel and energy initiatives, it was not until the FY 2009 National Defense Authorization Act (NDAA), which called on DoD to establish

OEPP, that “operational energy” became a commonly used term at DoD. The NDAA defined operational energy as the energy required to train, move, and sustain military operations. The 2010 Quadrennial Defense Review and FY 2012 NDAA augmented this definition, noting that defense energy security means having “assured access to reliable supplies of energy and the ability to protect and deliver sufficient energy to meet operational needs.”

From the extraordinary WWII-era Red Hill fuel storage facility in Hawaii to today’s Northern Distribution Network in Central Asia, energy security has long been a priority for U.S. military operations. Today’s conflicts have brought new challenges to military energy security given our distributed operations and increased energy demand – mostly for liquid fuel, but also for batteries. The Army and Marine Corps have documented the significant incidence<sup>1</sup> of casualties related to fuel movements in Afghanistan and Iraq, with U.S. Transportation Command tracking approximately a thousand attacks on logistics convoys in Afghanistan in FY 2010. U.S. forces are fully capable of protecting these supply lines, but the opportunity cost in lives, resources, and diverted combat force at the tactical level is neither suitable nor sustainable.

Within the domain of modern military operations, energy is a key component; the Department leverages its various attributes to maintain America’s overwhelming military edge. The challenge the Department faces, therefore, is to increase our combat capability, while reducing those risks. Thrust provides our pilots maneuverability and speed to achieve air superiority; efficiency determines how far and fast our fleets can cruise. The range of our air defense radars hinges upon available power levels, while energy alternatives provide dismounted Soldiers and Marines with life-saving operational flexibility in the face of threatened logistic chains. While energy provides these compelling advantages, it also brings corresponding liabilities. In current operations, energy and water represent 70-80 percent of ground logistics, which can impose strategic constraints when resupply routes extend for thousands of miles across Central Asia. Moreover, energy applications carry secondary effects, such as waste heat that must be managed and thermal signature that can reveal a position.

At the same time, there will be geostrategic challenges for DoD’s energy supplies, particularly when it comes to petroleum. Worldwide demand for petroleum continues to rise, even as supplies are concentrating into fewer nations. As long as the Department depends on oil, the price DoD pays will be driven by a volatile global market.

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<sup>1</sup> Marine Corps Current Operational Analysis Support Team, Operational Analysis Division (OAD), Marine Corps Combat Development Command, Analysis of Logistics Related Casualties for Marine Forces in Afghanistan, Quantico VA, September 2010. The study found 1 Marine KIA/WIA per every 50 fuel and water convoys, during the study period. The Army documented the significant incidence of casualties in fuel movements in the Army Environmental Policy Institute (AEPI) Report, “Sustain the Mission Project: Casualty Factors for Fuel and Water Resupply Convoys” – September 2009.

## **Promoting Institutional Change**

As required by law, DoD released “Energy for the Warfighter: The Department of Defense Operational Energy Strategy” in June 2011. Ninety days later, OEPP internally distributed the *Operational Energy Strategy* Implementation Plan, then coordinated it with the Services and Defense Components. The Implementation Plan was signed and released to the public by the Secretary of Defense in March 2012.

The Operational Energy Strategy sets the overall direction for DoD operational energy security with the goal of assuring reliable supplies of energy for 21st century military operations. The strategy outlines three principal ways to meet that goal: reducing the demand for energy, expanding and securing the supply of energy, and building energy security into the future force. The Implementation Plan includes seven targets:

- Measure operational energy consumption.
- Improve energy performance and efficiency in operations and training.
- Promote operational energy innovation.
- Improve operational energy security at fixed installations.
- Promote the development of alternative fuels.
- Incorporate energy security considerations into requirements and acquisition.
- Adapt policy, doctrine, professional military education, and Combatant Command activities.

In January 2011, DoD also released the FY 2012 Operational Energy Budget Certification Report. This report evaluated the Services and Components against their own energy strategies and goals and certified that the proposed budgets were adequate for their implementation. Future Budget Certifications will use the Operational Energy Strategy as a baseline.

In FY 2012, the appropriate Defense Components reported their progress in meeting the targets to the newly established Defense Operational Energy Board, which is co-chaired by the ASD(OEPP) and the Director for Logistics, Joint Staff (the Chairman’s operational energy designee). The Board met twice in FY 2012 and is following through on overseeing the seven targets established in the Implementation Plan.

## **Supporting Current Operations**

The top priority for the Department today is to support current operations, and the Department has focused on identifying and promoting the technologies, techniques, tactics, and procedures that can best support deployed men and women, especially in Afghanistan. OEPP engaged with representatives from the DoD Components, then reviewed and commissioned studies

on energy use in Afghanistan and Iraq to identify key areas for energy improvements in Afghanistan. The Marine Corps, through their Experimental Forward Operating Base process, established formal requirements and fielded a number of new capabilities in Regional command Southwest as well as to the Fleet. The Army accelerated fielding of new Soldier power systems, increased efficiencies with smart grid designs, analyzed waste streams for energy recovery processes, and automated accountability reporting of bulk fuels through Tactical Fuels Manager Defense (TFMD).

In May 2011, OEPP and U.S. Central Command (CENTCOM) co-hosted a joint conference at which DoD energy leaders were challenged to speed the delivery of energy solutions to the Warfighter in Afghanistan. The conference identified the best near-term opportunities to reduce battlefield fuel demand, including improved power generation and distribution, improved shelter systems, and mature alternative energy technologies for the tactical edge, such as solar. Participants also identified key non-materiel improvements, such as leadership support, education and awareness, changes to contingency contracts, and management of air operations. Outcomes of the conference included:

- The establishment of an Operational Energy Division at U.S. Forces-Afghanistan.
- Statements on operational energy's importance from Generals Petraeus and Allen to all U.S. Forces in Afghanistan.
- Changes in Logistics Civil Augmentation Program (LOGCAP) task orders and oversight.
- Accelerated deployment of the Army's centralized power and high-efficiency generators, including the Advanced Medium Mobile Power Systems (AMMPS) and accelerated deployment of improved shelter insulation by both the Army and Air Force.
- Support to the Army's Rapid Equipping Force's "Energy to the Edge" program, which focuses on technical support and equipment to patrol bases at the tactical edge.

### **Building the Future Force**

In FY 2011, the Department improved future force development by enhancing the energy analyses informing requirements and acquisition processes. The FY 2009 NDAA directed DoD to develop new analytical tools, specifically the energy efficiency key performance parameter (KPP) and the fully burdened cost of energy (FBCE). During FY 2011, OEPP assisted the Joint Staff with developing language for a Joint Capabilities Integration and Development System Manual that included a scenario-based methodology for how to develop and apply the KPP. This manual was released in January 2012. There is ongoing support to the Joint Staff and Services for KPP implementation through Joint Requirement Oversight Council (JROC) review of programs. Along with the Office of the Secretary of Defense (OSD) Cost Assessment and Program Evaluation (CAPE) Directorate, OEPP coordinated DoD guidance for specific Analyses of Alternatives (AoA) to include scenario-based analysis and the FBCE for each alternative.

The Department also integrated energy considerations into the acquisition process by including requirements for energy performance in contracts, using the approach developed in the FY 2011 KC-X tanker solicitation and production contract. Those KC-X documents included costs of energy in the life cycle cost calculations relative to scoring the bids and assessed fuel usage against the aircraft's proposed missions. This methodology identified the cost of fuel usage for each offering and determined how fuel usage affected mission effectiveness. The contract also allowed the government to test the fuel consumption against the competing vendors' bids to ensure energy performance of the aircraft met vendor claims.

During FY 2011, the Department promoted energy innovation in the future force through a call for proposals for the Operational Energy Capabilities Improvement Fund (OECIF). Its goal was twofold: develop and rapidly transition technologies and practices to improve capabilities and reduce costs, and establish within the Services a sustainable capacity for such innovations. The fund focused on reducing the energy load or demand of expeditionary outposts. In FY 2012, OECIF provided funding to joint programs, such as an Army/Navy effort on expeditionary air-conditioning, an Army/Air Force project on shelters, and a Navy project with the Department of Energy (DOE) Advanced Research Projects Agency to look at advanced heating and cooling technologies. It also funded efforts to develop efficient and deployable waste-to-energy systems and establish a quantitative baseline for energy use in Afghanistan.

The Department's efforts to promote innovation include extensive collaboration with the Office of the Assistant Secretary of Defense for Research and Engineering, as well as the DOE. Building on significant partnerships between the two agencies is a Memorandum of Understanding (MOU) on energy security that DoD and DOE signed in July 2010. Key operational energy projects initiated under the MOU in FY 2011 included a DOD-DOE modular hybrid energy storage capability that provides long endurance and rapid charge/discharge needs for applications including forward operating bases, aircraft power management, and future shipboard weapons systems. In addition, the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) and DOE's Vehicle Technologies Program (VTP) also launched a vehicles technology research initiative to conduct joint R&D projects in several mutually beneficial technical areas, including advanced materials, improved efficiency, and advanced battery development.

The Services promoted non-materiel energy solutions into the future force. For example, the Navy's Maritime Incentivized Energy Conservation Program (i-ENCON) provides ships with operational strategies and techniques to reduce fuel consumption. In FY 2011, the program reported significant fuel underburn and helped the Navy do more maintenance/repairs to increase fleet readiness. The Air Force realized extensive fuel savings from optimizing aircraft centers of gravity, utilizing diplomatic cleared routing, improving aircraft crew ratios, and utilizing simulation-based training. The Army also initiated a campaign to establish energy-informed culture across the active

and reserve components, civilians and families and the Marine Corps has made it a goal to integrate expeditionary energy into the Marine Corps ethos.

## **Conclusion**

The Department is committed to achieving the vision of an energy-secure future. We have made good progress this past year and have aggressive goals for the way ahead. Ultimately, our intention is to successfully integrate operational energy considerations into existing policies, plans, programs, and decision processes. This type of large-scale institutional change will require considerable time, resources, effort, and persistence, and the Department appreciates Congress's continued support.

## **Appendix A: Operational Energy Reporting Requirements**

### **Demand for Operational Energy, FY 2007 – FY 2013**

*(A) Statistical information on operational energy demands, in terms of expenditures and consumption, for the preceding five fiscal years, including funding made available in regular defense appropriations Acts and any supplemental appropriation Acts.*

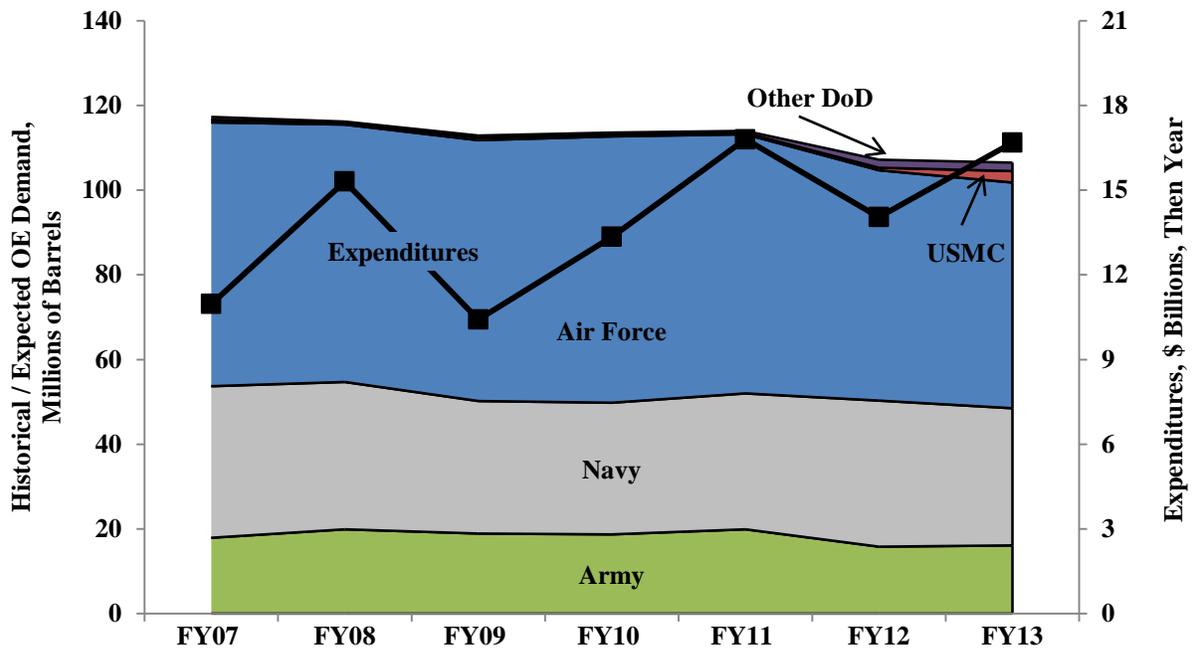
*(B) An estimate of operational energy demands for the current fiscal year and next fiscal year, including funding requested to meet operational energy demands in the budget submitted to Congress under Section 1105 of Title 31 and in any supplemental requests.*

The following figures detail historical demand for operational energy in FY 2007 – FY 2011, estimated future operational energy purchases in FY 2012 - FY 2013, and total expenditures to purchase this fuel. Historical operational energy demand is based on net sales of select liquid fuels by the Defense Logistics Agency (DLA) to the Defense Components, while estimated future operational energy use is based on the FY 2013 President's Budget. Expenditures for operational energy are estimated using the average fuel sales price provided to the customer at the point of sale, and includes procurement from the open market plus transportation, storage, and other overhead costs.

The demand for operational energy varies according to activities conducted by the Department and the equipment used in those activities. Including basic training, branch training, home station training, exercises, and the full range of military operations, the Department uses operational energy to sustain readiness and to deploy, employ, and sustain forces around the globe. Year over year, operations tempo will reflect unexpected demands (post-9/11 operations, humanitarian relief missions, operations over Libya, et al) as well as changes in the magnitude of other ongoing operations (Iraq, Afghanistan, et al).

Force-wide, total expenditures for operational energy are based on the demand for fuel measured in gallons and the cost per gallon. As a purchaser of fuel on the open market, the Department is subject to the same price volatility that is experienced by other large fuel purchasers.

## DoD Operational Energy Demand, FY 2007 – FY 2013



		<i>Historical</i>					<i>Estimated</i>	
		<b>FY07</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>	<b>FY13</b>
<b>Operational Energy Demand, Million Barrels</b>	Army	17.9	19.9	18.9	18.7	19.9	15.8	16.1
	Navy	35.8	34.8	31.3	31.1	32.1	34.5	32.4
	Air Force	62.3	60.8	61.6	62.9	61.2	54.4	53.3
	Marine Corps	0.6	0.5	0.6	0.5	0.4	0.6	2.7
	Other DoD	0.7	0.2	0.5	0.4	0.5	1.9	2.0
	<b>Total Demand</b>	<b>117.2</b>	<b>116.0</b>	<b>113.0</b>	<b>113.6</b>	<b>114.0</b>	<b>107.2</b>	<b>106.5</b>
	<b>Expenditures, \$ Billions, Then Year</b>	<b>11.0</b>	<b>15.3</b>	<b>10.4</b>	<b>13.3</b>	<b>16.8</b>	<b>14.0</b>	<b>16.7</b>

**Notes**

- Operational tempo drives demand for operational energy across the Department, whether in contingency operations, training, or exercises.
- Data on historical demand may not always capture final end user and does not account for fuel transfers between the Services.
- Historical and Estimated Demand include Base and Overseas Contingency Operations (OCO) funding, and purchases using Transportation Working Capital Fund (TWCF).
- Beginning in FY 2013 Marine Corps will budget for OCO fuel. In previous years, OCO fuel was included in Army's budget.

## **Operational Energy Initiatives and Funding, FY 2011 – FY 2017**

*(C) A description of each initiative related to the operational energy strategy and a summary of funds appropriated for each initiative in the previous fiscal year and current fiscal year and requested for each initiative for the next five fiscal years.*

See the FY 2012 and FY 2013 Operational Energy Budget Certification Reports provided to the Secretary of Defense and available at <http://energy.defense.gov/>.

## **Progress in Implementing the Operational Energy Strategy**

*(D) An evaluation of progress made by the Department of Defense— (i) in implementing the operational energy strategy, including the progress of key initiatives and technology investments related to operational energy demand and management; and (ii) in meeting the operational energy goals set forth in the strategy.*

See the FY 2012 and FY 2013 Operational Energy Budget Certification Reports provided to the Secretary of Defense and available at <http://energy.defense.gov/>.

## **Description of Alternative Fuel Initiatives, FY 2011**

*(E) A description of the alternative fuel initiatives of the Department of Defense, including funding and expenditures by account and activity for the preceding fiscal year, including funding made available in regular defense appropriation Acts and any supplemental Appropriation Acts.*

In FY 2011, the Department spent \$82.2 million on alternative fuels. Of this, the Air Force spent \$23.9 million for certification of alternative fuels for operational use in all legacy and future weapons systems, as well as support evaluations and technical assessments of such fuels in these systems. The Navy invested \$25.1 million in alternative fuels testing, evaluation, and certification initiatives for operational use in aircraft and ships. The Army spent \$2.2 million to assess the impact of using emerging alternative fuels in combat vehicles, tactical generator sets, and other deployable assets. The Defense Advanced Research Project Agency (DARPA) invested \$28.85 million in its Biofuels Program, which explored long-term, high-risk approaches to achieving affordable, sustainable agriculture-sourced production of an alternative to petroleum-derived JP-8. Finally, DLA spent \$2.1 million for testing and certification activities, in coordination with the Services' investments, to support the addition of alternative fuels to conventional mobility fuel.

On July 18, 2011, DoD submitted a report to Congress, required in Section 334 of the National Defense Authorization Act for FY 2010, entitled Opportunities for DoD Use of Alternative and Renewable Fuels. It provided an assessment of the use of renewable fuels in non-tactical and tactical aviation, maritime, and ground transportation fleets.<sup>2</sup>

In a speech delivered on March 30, 2011 on America's Energy Security, the President said, "I'm directing the Navy, DOE, and the Department of Agriculture (USDA) to work with the private sector to create advanced biofuels that can power not just fighter jets, but also trucks and commercial airliners." In July 2011, Secretaries Chu, Vilsack, and Mabus signed a Memorandum of Understanding (MOU) to leverage Title III of the Defense Production Act (DPA) and the USDA's Commodity Credit Corporation to support projects with the goal of domestically producing renewable fuels at competitive prices that are compatible with our military infrastructure. The Integrated Project Team (IPT) for the DPA-managed activities includes representatives from the Defense agencies and staff from the Office of the Secretary of Defense, OASD(OEPP), DPA Title III Program, DLA, and DARPA. The IPT publicly released a Request for Information (RFI) on August 29, 2011 to guide investments in alternative fuels development and production capabilities, and over 100 formal responses were received and evaluated.

### **Operational Energy in Current Operations, FY 2011**

*“(F) An evaluation of practices used in contingency operations during the previous fiscal year and potential improvements to such practices to reduce vulnerabilities associated with fuel convoys, including improvements in tent and structure efficiency, improvements in generator efficiency, and displacement of liquid fuels with on-site renewable energy generation. Such evaluation should identify challenges associated with the deployment of more efficient structures and equipment and renewable energy generation, and recommendations for overcoming such challenges.”*

The Department issued its first ever Operational Energy Strategy in June 2011, which states that the “Department’s top mission priority today is to support current operations, and DoD Components should focus their operational energy investments accordingly.” As the Department reduces demand, expands supply, and builds an energy-secure force, the Defense agencies, Military Departments, OSD, and Joint Staff are dedicated to reducing vulnerabilities associated with providing fuel to contingency operations.

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<sup>2</sup> A copy of this report is available at <http://energy.defense.gov>

## **Matériel Improvements**

In FY 2011, the Department initiated a range of matériel improvements in the generation, distribution, storage, and consumption of energy in contingency operations in Afghanistan. One significant improvement utilized \$108 million to install centralized power plants and distribution grids that eliminated around 545 inefficient tactical generators with projected savings of 400,000 barrels of fuel per year. The Army accelerated the procurement of the newly developed Advanced Medium Mobile Power Systems (AMMPS) generators, which are on-average 21 percent more fuel efficient than the currently fielded tactical generators. The Army also demonstrated a deployable one megawatt microgrid system at Bagram Airfield that showed a 17 percent reduction in fuel consumption and a 60 percent reduction in sustainment costs compared to legacy tactical generators.

In FY 2011, the Army and Marine Corps also collaborated extensively on the development, testing, and evaluation of technologies and systems to improve the efficiency and reduce the fuel demand of forward operating bases. Both Services deployed improved expeditionary shelter systems for units that operate at the tactical edge in Afghanistan. The Marine Corps moved several energy systems into Programs of Record in FY20 11, with an initial investment of approximately \$25 million with year over year funding and fielded systems to support the equivalent of 10 battalions in Southwest Afghanistan. These systems included radiant barrier tent liners and Light Emitting Diode (LED) tent lighting kits, the Solar Portable Alternative Communications Energy System (SPACES), and the Ground Renewable Expeditionary Energy Network (GREENS) tactical solar-power systems. Together, these upgrades are providing reliable power, enabling some small, austere outposts to be completely operated on renewable energy and to reduce fuel demand.

The Army's Rapid Equipping Force also launched the "Energy to the Edge" initiative in FY 2011, which deployed renewable energy systems and high-efficiency fuel cells with the goal of producing 400 kilowatt-hours of electricity daily for up to 90 Village Stability Platforms throughout Afghanistan. This renewable power production capability was extremely valuable due to the difficulty of supplying these special operations camps located at the extreme edge of the battlespace. The Army also invested \$56 million in FY 2011 to procure tent liners, solar shades, and improved environmental control units to upgrade Force Provider kits housing 12,000 personnel. These upgrades are expected to reduce the fuel consumption of deployed shelters by up to 35 percent.

Partnering with contingency contractors, the Army also launched the Logistics Civilian Augmentation Program (LOGCAP) Energy Savings Initiative in 2011 to reduce fuel consumption at 130 locations in Afghanistan that receive contracted logistics support. This effort has resulted in 31 initiatives that are expected to reduce annual demands by 21,000 barrels of fuel.

## **Challenges and Recommendations**

Looking forward, the Department will continue to build on the successes of FY 2011. Similarly, several persistent challenges continue to require focused attention; to include data gathering and analysis, performance assessment, and energy awareness across the force. These functional issues compound the operational challenges of making energy improvements in remote combat zones like Afghanistan. Every challenge presents an opportunity and operational energy challenges encountered in one region offer lessons to all Combatant Commands and force providers to share and learn.

In the USCENTCOM area of responsibility, the focus will be on the continuation of operational energy improvements while conducting retrograde operations and the capture and sharing of operational energy lessons learned across the Department. Operational energy efforts shall continue to support operations in USCENCOM with a focus on bases with the longest projected U.S. presence. Looking to the future, the Department will focus on exporting lessons learned during operations to inform other geographic and functional combatant commands. Mechanisms to share these lessons include coordination with the Joint Staff, directly with Combatant Commands, and through participation in studies, wargaming and analysis.

## **Recommended Changes in Organization or Authority**

*(G) Such recommendations as the Assistant Secretary considers appropriate for additional changes in organization or authority within the Department of Defense to enable further implementation of the energy strategy and such other comments and recommendations as the Assistant Secretary considers appropriate.*

At this time, ASD(OEPP) has no recommendations for changes in organization or authority.