

# Armed Forces' Gigawatt Initiative for Renewable Energy Creating Great Interest

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**O**ver the past decade, the United States armed forces have come to see energy security as a critical component of their mission—and have realized that their current energy supply is unacceptably insecure.

In order to “harden” installations at home and abroad, the military is increasingly turning to renewable, locally available sources of fuel and electric power. At domestic facilities, the military has started reducing its dependence on the local electrical grid through the installation of new renewable sources, energy storage, and microgrid capability.

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No lesser authorities than Congress and the commander in chief have mandated these developments. The National Defense Authorization Act of 2007 instructed the Department of Defense (DOD) to work toward a voluntary goal of producing or procuring 25 percent of its total electricity consumption from renewable energy sources by 2025. On April 11, 2012, President Obama announced an expanded goal for the DOD to deploy 3

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gigawatts of renewable energy at Army, Navy, and Air Force installations by 2025.<sup>1</sup>

These advisory policy directives are being actively implemented by the armed forces. On August 10, 2011, the office of the Assistant Secretary of the Army for Installations, Energy & Environment announced the formation of the Energy Initiatives Task Force (EITF) to serve as the central managing office for the deployment of large-scale renewable Army energy projects.<sup>2</sup> In that announcement, the Army estimated that an investment of up to \$7.1 billion over the next 10 years would be required to procure 2.1 million megawatt-hours annually to meet Army goals and federal mandates, and to provide enhanced energy security. On August 8, 2012, the US Army Corps of Engineers, through its Engineering and Support Center, Huntsville, issued a Multiple-Award Task Order (MATOC) Request for Proposal (RFP) for \$7 billion in total contract capacity to procure renewable energy through power purchase agreements (PPAs) and similar contractual arrangements.<sup>3</sup> Renewable energy purchases will be made over a period of up to 30 years from new projects to be constructed and operated on or near US military bases by contractors using private-sector financing. The Army's stated goal is to facilitate the development of 1 gigawatt of renewable energy projects on its bases by 2025.

In contrast to the Army's centralized procurement approach via the formation of EITF, the Navy and Air Force have thus far effectively announced, negotiated, and procured renewable energy project opportunities on a case-by-case basis. This difference in approach notwithstanding, both of these services

are taking active steps toward meeting the 25-percent-by-2025 goal.

## MARKET CONTEXT

The emergence of the Army, Navy, and Air Force as potential gigawatt-scale renewable energy customers has generated substantial excitement in the project development and finance communities—and has done so, interestingly, despite the many difficulties and delays of contracting with DOD. A brief look at the current market context is sufficient to explain the excitement.

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The US renewable power market has enjoyed an impressive, dozen-year run during which the country has gone from insignificant deployment of wind and solar technology to a current total of over 60 gigawatts of wind and 7.5 gigawatts of solar.<sup>4</sup> In 2012 for the first time ever, the majority of our new generation was provided by renewable sources. During this rapid scale-up, the installed costs of both technologies have plummeted. Wind in some locations competes at wholesale with natural gas-fired generation, and solar PV, which lends itself to behind-the-meter applications, competes at retail with the local distribution utility's applicable tariff.

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Today, however, there are signs that renewable energy's hot streak may be cooling. Electric utilities in most of the largest markets claim to have met their renewable portfolio standard (RPS) compliance obligations for the next five years or longer. The critically important Federal Production Tax Credit expires December 31, 2013, for projects; projects must commence construction prior to that date to qualify for the credit.<sup>5</sup> Many ambitious state-level programs (e.g., the California Solar Initiative and Oregon's

Business Energy Tax Credit) are expiring, ramping down, or reaching funding caps.

The difficult global economic climate has caused the withdrawal of once-dominant European banks from the US project finance market, while US financial institutions, stung by the recession and browbeaten by regulatory blowback, are cautious and slow to invest in new projects. Renewable energy has largely lost the bipartisan support it enjoyed for a decade; the country has moved from an era when George W. Bush's Texas was the nation's most ambitious early adopter of wind energy to a time when "clean technology" occupies the same chapter of the Republican lexicon as "tax and spend."

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The nation has failed to reach a political consensus about the existence of human-caused climate change. A federal carbon tax or cap-and-trade system seems unlikely in this decade.<sup>6</sup> On top of all this, and perhaps most importantly, domestic supplies of natural gas have skyrocketed and the price has declined sharply.

As a result of its rapid scale-up and recent slowdown, the US renewable energy industry is burdened with a potentially large oversupply at many links in the value chain. There is an oversupply of projects, for one: in California's 2011 utility Request for Offer cycle, roughly 91,000 megawatts of wind and solar projects were proposed. There is a related oversupply of talented, experienced human capital—project developers, engineers, and bankers. And there is an oversupply of many key commodities, such as solar PV modules.

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In sum, DOD launched its gigawatt initiative precisely at a time when much of the renewable energy industry is wondering from where its next deal will be coming. This reality has

contributed greatly to the interest of renewable energy developers, equipment suppliers, and financiers in the DOD initiative. It is hoped that the initiative will give them the patience and staying power needed to work through the many issues that must be resolved before the opportunity truly becomes scalable.

## **APPROVAL AUTHORITIES AND TRANSACTION STRUCTURES**

The Army, Navy, and Air Force are not free to transact with private energy developers in whatever ways they see fit. As agencies of the federal government, the services may contract only through a limited set of authorities. These authorities proscribe the contracting process, the allowed transaction structures, and in many cases the specific terms and conditions of each DOD renewable energy transaction. This section reviews primary applicable authorities as they inform transaction structures; the following sections then pursue a deeper analysis of contracting processes and specific terms and conditions.

The Energy Savings Performance Contract (ESPC)<sup>7</sup> offers a guaranteed savings contracting mechanism that requires no up-front cost for the defense agency. Under this structure, a private contractor incurs the cost of designing, procuring, and installing a range of energy conservation measures, including solar, and is paid a share of the energy savings resulting from these conservation measures. ESPCs are limited to a maximum term of 25 years. The ESPC has been a common mechanism over the past decade; the main private contractors using it have been traditional energy service companies, who balance-sheet finance, rather than renewable power developers, who deploy third-party capital in structured project finance transactions.

The analogous Utility Energy Services Contract (UESC)<sup>8</sup> allows the local utility serving a base to provide comprehensive energy- and water-efficiency improvements and demand-reduction services. UESCs have a history of use in the federal sector, but these contracts are also being seen as a method of long-term financing. DOD has developed a model utility service agreement template.<sup>9</sup>

The Enhanced Use Lease (EUL)<sup>10</sup> is the centerpiece of a competitive process to lease

underused real estate assets on select DOD installations. The EUL allows the government agency to derive value from unproductive land that the agency is not prepared to simply sell. Leases may be entered into if found to be advantageous to the service agency and to the United States and upon such terms as will promote the national defense or be in the public interest.

The Deputy Assistant Secretary of the Army for Installations and Housing by a delegation from the Secretary of the Army must approve leases for more than five years. Importantly for renewable energy developers, the EUL provides access to land—not to power offtake. Therefore, most meaningfully large EULs are used for energy projects located on military lands but selling wholesale power to nearby utilities. At present, EULs count toward DOD's 25 percent installed capacity goal, which is curious because they do not generally change the armed forces' energy mix or increase its security.

Power purchase agreements,<sup>11</sup> while a recent addition to DOD's contracting options, are of course the structure that most closely approximates the commercial structure that energy developers use with both utility and commercial/industrial custom. With the approval of the private development community, DOD is increasingly using these PPAs as its contracting authority for moving forward (e.g., Fort Detrick, Army MATOC, Navy MAC), and a number of DOD renewable energy PPAs have been signed to date. It is worth noting in this discussion of PPAs that these regulations, in concert with DFAR 207.4, also authorize an equipment lease process that allows a structure similar to the PPA but with a flat monthly rent payment rather than a production-based PPA energy payment.

## **SPECIFIC ISSUES WITH MILITARY CONTRACTS**

The Federal Acquisition Regulations (FAR) apply broadly to the entire federal government.<sup>12</sup> The separate Defense Federal Acquisition Regulation Supplement (DFARS) contain the principal regulations, procedures, guidance, and information regarding the procurement and acquisition of services and supplies by DOD agencies.

The DFARS supplements and implements the FAR, containing the requirements of the law, DOD policy, delegation of FAR authorities, deviations from the FAR, and policies that have a significant impact on those with contracts or offers pending with DOD. The FAR and DFARS drive a number of contracting requirements that are not found in utility or private transactions; some of these requirements may limit the pool of potential investors and lenders or, in the worst case, entirely prevent a project from being financed. The following key issues are discussed in the paragraphs that follow: Buy American, termination for convenience, contract term, take or pay, and lender protective provisions.

Contrary to what one might suspect when contracting with DOD, in most renewable energy solicitations the primary Buy American requirement (FAR 52.225-1) does not apply. But a number of provisions do apply in various ways, and a close, pre-bidding review of each RFP or other solicitation and of the applicable FARs is essential. In the Army MATOC, for example, a number of narrower restrictions do still apply: FAR 52.225-3 and -4 (Buy American Act—Free Trade Agreement—Israeli Trade Act and Certificate), FAR 52.225-13 (Restrictions on Certain Foreign Purchases), DFAR 252.225-7012 (Preference for Certain Domestic Commodities), and DFAR 252.225-7017 (Photovoltaic Devices).

Less well known but much more difficult to address is the DOD requirement that its contracts (even long-term PPAs) give the government a clear right to terminate for convenience. Under the law,<sup>13</sup> for example, a required lease term allows the military to revoke the lease at any time, unless it is determined that the omission of such a term will promote the national defense or be in the public interest. In most cases of successfully financed renewable energy projects on military bases to date (e.g., Nellis, China Lake), the developer managed this problem by getting the DOD agency to agree to a termination value schedule that was sufficient, in the event of a termination for convenience, to assure repayment of third-party investors and lenders. Importantly, *the decision of whether to agree to such a schedule rests with the individual Contracting Officer*, and these individuals are not always willing to agree to this solution.

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In these early days of renewable energy project contracting with DOD, it is still far from settled practice for the DOD agencies to automatically agree to a minimum term of 20 years, and to a “take or pay” structure that is so common for both utility and commercial/industrial PPAs. While successfully financed projects have managed these issues through patient negotiation and creative contract structuring, in most cases they remain difficult and costly impediments to a scalable contracting model.

DOD contracts also typically lack what the industry thinks of as usual and customary lender-protective provisions. The contracts often do not contain an express, advance consent to the seller financing the project, and the assignment provisions typically would prevent or require DOD consent to any assignment for financing purposes. Further, under FAR 404(a), FAR 52.204-2, and FAR 52.241-5 (made applicable to MATOC contracts), the “Government may limit or restrict access herein granted in any manner considered necessary for national security.” Lenders, who understandably want unfettered access to the collateral in the event of a borrower default, have a difficult time accepting this DOD requirement.

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In sum, the defense agencies, developers, and financiers have successfully navigated these issues and have closed several initial projects, but they have yet to reach a stable, easily repeatable template for renewable energy transactions. While this goal appears attainable, and there are no fundamental legal obstacles to its attainment, it will take time—perhaps even years—to reach it. This realization might cause

the reader to wonder whether the gigawatt rollout will occur on the optimistic timeline that has been announced.

### ROLLOUT OF THE GIGAWATT INITIATIVE

As of the date this article goes to press, roughly six years after the 2007 National Defense Authorization Act, renewable energy projects installed by or for the benefit of DOD total well below 100 megawatts. As might be expected of large, appropriately cautious bureaucracies, much of the Army, Navy, and Air Force work to date has been in project planning, developing contracts, and structuring solicitations. Nonetheless, a review of positive steps to date gives good reason to believe that with continuing political will and unflagging engagement by developers and financiers, the number of completed projects will grow rapidly in the next two or three years.

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The Army MATOC RFP is the most centralized DOD renewable energy contracting mechanism. RFP responses were due on October 5, 2012, and submitting parties currently expect to be notified in June 2013 whether they have been selected as prequalified project bidders. Following this notification, individual base project RFPs will begin to be released, some of which are scheduled for the second half of 2013. In sum, much of the energy development community expects the MATOC process to result in an increasing pace of closed projects over the coming two years.

To date, the Air Force has pursued an individual-base contracting approach, but recently also took a step toward the more centralized approach followed by the Army. The Air Force Civil Engineering Center (AFCEC) will now act as the main point of contact for Air Force facility energy opportunities and industry representatives seeking to engage in Air Force energy projects. This office will contract opportunities but also will likely play an expanded role in vetting and preparing new Air Force bases for solicitation. This structure will allow the AFCEC the flexibility to use MATOC-like contracting vehicles or base-by-base opportunities as applicable from its proposed headquarters in San Antonio.

Within the Navy, individual facility managers and other properly positioned parties can propose projects directly to the Naval Facilities Engineering Command (NAVFAC) or solicit project ideas through base-level RFIs like the one China Lake released last summer. While the Navy will be achieving a large portion of its renewable energy goals from expanding renewable energy production at facilities such as China Lake, NAVFAC has expressed interest in projects that can serve the smaller, consolidated base loads of its many local and regional clusters of facilities. This approach allows the Navy to aggregate opportunities into larger-megawatt projects for industry to develop a more cost-competitive rate.

**Exhibit 1** shows some of the major DOD renewable energy projects that have been completed to date. Comprehensive lists of planned projects and upcoming RFPs can be found at [www.armyeitf.com](http://www.armyeitf.com), [www.afcec.af.mil](http://www.afcec.af.mil), and [www.navy.mil](http://www.navy.mil).

Developers wishing to see this market open more rapidly would do well to focus on

**Exhibit 1.** Examples of Completed Projects

Branch	Base	Tech	MW	Developer	Status
USAF	Nellis	Solar PV	14.0	MMA, SunPower	Operational
Navy	China Lake	Solar PV	13.8	SunPower	Operational
USMC	Miramar	Landfill Gas	3.2	Fortistar	Operational
USMC	Barstow	Solar PV	1.2	SunDurance	Operational
USAF	Davis-Monthan	Solar PV	14.5	SunEdison	Construction

a set of issues that pose delay or risk to the DOD renewable energy rollout. Working collaboratively to educate one another and reach a repeatable, financeable solution on the FAR/DFARS contract issues discussed above is one critical step. Moreover, developers ought to be more unified in helping the Army, Navy, and Air Force to focus on initial, achievable goals and not try to bake every possible element of value and technological capability into the very first RFPs. In particular, the services have requested in RFPs an array of technologies and capabilities (e.g., microgrid readiness) that is difficult to include and impossible to finance through the same mechanisms available for straight renewable energy projects. Moreover, DOD has yet to place a separate value on energy security, and thus does not pay project developers for any extra “security”-oriented capabilities of projects.

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Developers have thus far failed to pay sufficient attention to the utilities currently serving military bases. Today, most bases are supplied almost exclusively by the local distribution utilities. Many of the renewable energy projects being constructed or proposed to DOD will replace some aspect of the bases’ need for utility power service.

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Therefore, utilities may be justified in viewing the entire DOD initiative as a threat to their customer and revenue base. This may in turn push the utilities to intervene in regulatory proceedings in the attempt to make it more difficult for independent developers to supply power to DOD, and the threat may lead utilities to attempt to exercise their political power in other ways meant to protect their interest in DOD as a customer. Because we are already well past the point of any possible stealth when it comes to developing renewable

energy projects for DOD, developers would be well advised to learn about, plan for, and engage with the local utility serving a chosen military installation.

## CONCLUSION

The DOD renewable energy initiative has spun up during a marketplace lull and thus has attracted the attention of many qualified developers and experienced financiers. Whether implementation will accelerate sufficiently to put the armed forces on track to meet their 25-percent-by-2025 goals remains an open question, but political and market forces appear likely to remain aligned long enough to create a two-or-three-year window in which to get the procurement and contracting processes working smoothly, and thus ensure a fighting chance of success. ☐

## NOTES

1. US White House Office of the Press Secretary. (2012, April 11). Obama administration announces additional steps to increase energy security. Press release. Retrieved from <http://www.whitehouse.gov/the-press-office/2012/04/11/factsheet-obama-administration-announces-additional-steps-increase-ener>.
2. See August 29, 2011 Memorandum from Secretary of the Army John M. McHugh re: “Directive for Energy Initiatives Office—Task Force” and associated press materials. Retrieved from <http://www.army.mil/article/63338/>.
3. The MATOC Solicitation and associated FAQs are available for review at [www.fbo.gov](http://www.fbo.gov).
4. American Wind Energy Association. (2013, January 30). *2012 market report*. Retrieved from [http://www.awea.org/learnabout/publications/reports/upload/AWEA-Fourth-Quarter-Wind-Energy-Industry-Market-Report\\_Executive-Summary-4.pdf](http://www.awea.org/learnabout/publications/reports/upload/AWEA-Fourth-Quarter-Wind-Energy-Industry-Market-Report_Executive-Summary-4.pdf). Solar Energy Industries Association. (2013, March 13). *Solar industry facts: 2012 year in review*. Retrieved from <http://www.seia.org/sites/default/files/Q4%20SMI%20Fact%20Sheet%20FINAL.pdf>. US Energy Information Administration. (2013, January 30). *Electric power annual*. Retrieved from <http://www.eia.gov/electricity/annual>.
5. On April 15, 2013, the IRS released Notice 2013-29, addressing the definition of “commencement at construction” for purposes of PTC qualification.
6. But see Shultz, G. P., & Becker, G. S. (2013, April 8). Why we support a revenue-neutral carbon tax. *Wall Street Journal*. Retrieved from <http://online.wsj.com/article/SB10001424127887323611604578396401965799658.html>.
7. 42 USC § 8287.
8. 10 USC § 2913.
9. The template is available at <http://www1.eere.energy.gov/femp/pdfs/modelagreement.pdf>.
10. 10 USC § 2667.
11. 10 USC § 2922a.
12. 48 CFR sections 1.101 *et seq.* (2010).
13. 10 USC § 2667.