## Observation 1: Inherency

#### The Department of Defense has outlined goals for moving away from fossil fuels.

Brasher et al 2012 ([Lance T.](http://www.skadden.com/professionals/lance-t-brasher) , [Chirag K. Dedania](http://www.skadden.com/professionals/chirag-k-dedania), [Andrew L. Baldinger](http://www.skadden.com/professionals/andrew-l-baldinger) Affliates Skadden, Arps, Slate, Meagher & Flom LLP  "Department of Defense Initiatives Focus on Renewable Energy Projects", <http://www.skadden.com/insights/department-defense-initiatives-focus-renewable-energy-projects#ftn1>, Vance)

The recession, improvements in energy efficiency, low natural gas prices, ratepayer unwillingness to fund higher-cost renewable energy and largely satisfied renewable energy portfolio standards have resulted in slower load growth. This, in turn, has created a scarcity of long-term renewable power purchase agreements (PPAs) with creditworthy counterparties, which form the backbone of a financeable renewable power project. In response, renewable energy developers are turning to a new creditworthy off-taker that has expressed a significant interest in renewable energy: the Department of Defense, the nation's largest energy user.¶ What are the drivers pushing the Department of Defense to obtain renewable energy? ¶ The Department of Defense must comply with a series of statutes and policies as summarized below. ¶ Energy Policy Act of 2005 Section 203. Requires federal agencies to purchase 7.5 percent of their energy from renewable sources by 2013.¶ Energy Independence Act of 2007. Includes a requirement to reduce petroleum consumption and increase alternative fuel consumption. ¶ National Defense Authorization Act of 2007. Codifies the Department of Defense's voluntary goal of procuring 25 percent of total energy from renewable energy sources beginning in 2025. ¶ Executive Order 13423. Requires the improvement of energy efficiency and consumption of renewable energy from new sources, establishes an agency-wide greenhouse gas emissions percentage reduction target and includes a requirement to reduce the use of fossil fuels. ¶ According to Pike Research, the Department of Defense spends nearly $16 billion per year for fuel and $4 billion per year on energy facilities and infrastructure. Department of Defense clean energy investments increased 300 percent between 2006 and 2009, from $400 million to 1.2 billion. Projections for 2030 are set to exceed $10 billion in renewable energy spending annually.

#### However, DoD can’t meet current renewable energy goals

Castillo 2012 (Ariel, Ph.D., School of Engineering and Applied Science of The George Washington University, “Determination of Solar Energy Transition Potential of Large Organizations: An Application to Department of Defense Facilities and Non-Tactical Vehicles”, ([http://gradworks.umi.com/3481180.pdf)CD](http://gradworks.umi.com/3481180.pdf%29CD))

In FY05, the DoD established a much more rigorous long range renewable energy goal of 25% by FY25 located at Figure 5 (DoD, 2010)10, and has identified one of its goals to “work with the Department of Energy (DOE) Federal Energy Management Program (FEMP) to establish new renewable energy goals*”* (DoD, 2005)11*.* This goal has been codified in Title 10 US Code, section 2911(e) to produce or procure not less than 25% of the total quantity of facility energy it consumes within its facilities during FY25 and each fiscal year thereafter from renewable energy sources (US Code, 2010).12 These renewable energy goals are becoming more difficult to attain for the DoD. The DoD reported falling short of the EPAct and the 2911(e) goal in their FY10 Annual Energy Management Report. The DoD obtained 4.1% of the 5.0% EPAct goal and 9.6% of the 10.0% section 2911(e) goal (DoD, 2011).13

#### Thus the plan: The Department of Defense should use a 30 year power purchase agreement to contract the development and implementation of solar technology for military facilities in the United States.

## Observation 2: Advantages

## Advantage 1: Readiness

#### 5 different scenarios can lead to U.S. electrical grid collapse

Castillo 2012 (Ariel, Ph.D., School of Engineering and Applied Science of The George Washington University, “Determination of Solar Energy Transition Potential of Large Organizations: An Application to Department of Defense Facilities and Non-Tactical Vehicles”, ([http://gradworks.umi.com/3481180.pdf)CD](http://gradworks.umi.com/3481180.pdf%29CD))

Two events that may have influenced DoD consideration on electric grid vulnerabilities are the 9/11 attacks and the Northeast power outage of 2003. These events demonstrate the threats and impacts of a concentrated and wide scale electric grid attack. The reports that recognize these events include CRS and DSB reports. The DOE and the Canadian government also reviewed the Northeast power outage of 2003 (Figure 7) and published their findings in 2006. The following paragraphs describe DoD electric grid vulnerability considerations and the literature that supports this topic area. CRS report RS21985 in 2005 identified government actions needed to protect the fragile electric grid. In the report, the electric grid was recognized as vulnerable to outages caused by system operator errors, weather damage, or terrorist attacks. The main

risk identified was from a successful terrorist attack (CRS, 2005).34 The grid is highly vulnerable, and there are many avenues for disruption. For example, it could be severely damaged through a nuclear attack or by a more widespread high altitude electromagnetic pulse (DSB, 2008).35 Cyber attacks also could disrupt the energy grid, and DoD adversaries are advancing technologies in this arena (Wall Street Journal, 2008).36 There also is evidence that China has started to map the US electric grid (Tech Republic, 2008).37 However, we should not dismiss the degree to that the grid is vulnerable to overload and natural events. In April 2006, the US and Canada Power System Outage Task Force released its final report, placing a cause of the August 15, 2003 Canada and Northeast blackout on the failure to adequately manage tree growth in transmission lines. This failure was the common cause of the outage of three FE 345-kV transmission lines

and one 138-kV line (Natural Resource of Canada and Department of Energy, 2006).38

#### Loss of the electric grid crushes military readiness.

Loudermilk 2011 (Micah J. is a Research Associate for the Energy & Environmental Security Policy program with the Institute for National Strategic Studies at National Defense University, “Small Nuclear Reactors: Enabling Energy Security for Warfighters”, <http://smallwarsjournal.com/blog/small-nuclear-reactors-enabling-energy-security-for-warfighters>, VD)

Especially on the domestic front, the need for energy security on military bases is often overlooked. There is no hostile territory in the United States, no need for fuel convoys to constantly supply bases with fuel, and no enemy combatants. However, while bases and energy supplies are not directly vulnerable, the civilian electrical grid on which they depend for 99% of their energy use is -- and that makes domestic installations highly insecure. The U.S. grid, though a technological marvel, is extremely old, brittle, and susceptible to a wide variety of problems that can result in power outages -- the 2003 blackout throughout the Northeast United States is a prime example of this. In the past, these issues were largely limited to accidents including natural disasters or malfunctions, however today, intentional threats such as cyber attacks represent a very real and growing threat to the grid.

Advances in U.S. military technology have further increased the risk that a grid blackout poses to the nation's military assets. As pointed out by the Defense Science Board, critical missions including national strategic awareness and national command authorities depend on the national transmission grid. Additionally, capabilities vital to troops in the field -- including drones and satellite intelligence/reconnaissance -- are lodged at bases within the United States and their loss due to a blackout would impair the ability of troops to operate in forward operating areas.

Recognition of these facts led the Defense Science Board to recommend "islanding" U.S. military installations to mitigate the electrical grid's vulnerabilities. Although DOD has undertaken a wide array of energy efficiency programs and sought to construct renewable energy facilities on bases, these endeavors will fall far short of the desired goals and still leave bases unable to function in the event of long-term outages.

#### Military power ambiguity leads to war.

Wohlforth 2009 (William C. Wohlforth is a professor of government at Dartmouth College., “Unipolarity, Status Competition, and Great Power War’, (Accessed via project muse)CD)

Status is a social, psychological, and cultural phenomenon. Its expression appears endlessly varied; it is thus little wonder that the few international relations scholars who have focused on it are more struck by its variability and diversity than by its susceptibility to generalization. [34](http://muse.jhu.edu.vortex3.uco.edu:2050/journals/world_politics/v061/61.1.wohlforth.html#f34) Yet if sit captures important dynamics of human behavior, and if people seek to translate resources into status, then the distribution of capabilities will affect the likelihood of status competition in predictable ways. Recall that theory, research, and experimental results suggest that relative status concerns will come to the fore when status hierarchy is ambiguous and that people will tend to compare the states with which they identify to similar but higher-ranked states.[35](http://muse.jhu.edu.vortex3.uco.edu:2050/journals/world_politics/v061/61.1.wohlforth.html#f35) Dissatisfaction arises not from dominance itself but from a dominance that **[End Page 38]** appears to rest on ambiguous foundations. Thus, status competition is unlikely in cases of clear hierarchies in which the relevant comparison out-groups for each actor are unambiguously dominant materially. Applied to international politics, this begins to suggest the conditions conducive to status competition. For conflict to occur, one state must select another state as a relevant comparison that leaves it dissatisfied with its status; it must then choose an identity-maintenance strategy in response that brings it into conflict with another state that is also willing to fight for its position. This set of beliefs and strategies is most likely to be found when states are relatively evenly matched in capabilities. The more closely matched actors are materially, the more likely they are to experience uncertainty about relative rank. When actors start receiving mixed signals—some indicating that they belong in a higher rank while others reaffirm their present rank—they experience status inconsistency and face incentives to resolve the uncertainty. When lower-ranked actors experience such inconsistency, they will use higher-ranked actors as referents. Since both high- and low-status actors are biased toward higher status, uncertainty fosters conflict as the same evidence feeds contradictory expectations and claims. When the relevant out-group is unambiguously dominant materially, however, status inconsistency is less likely. More certain of their relative rank, subordinate actors are less likely to face the ambiguity that drives status competition. And even if they do, their relative weakness makes strategies of social competition an unlikely response. Given limited material wherewithal, either acquiescence or strategies of social creativity are more plausible responses, neither of which leads to military conflict. The theory suggests that it is not just the aggregate distribution of capabilities that matters for status competition but also the evenness with which key dimensions— such as naval, military, economic, and technological—are distributed. Uneven capability portfolios—when states excel in different relevant material dimensions—make status inconsistency more likely. When an actor possesses some attributes of high status but not others, uncertainty and status inconsistency are likely.[36](http://muse.jhu.edu.vortex3.uco.edu:2050/journals/world_politics/v061/61.1.wohlforth.html%22%20%5Cl%20%22f36) The more a lower-ranked actor matches the higher-ranked group in some but not all key material dimensions of status, the more likely it is to conceive an interest in contesting its rank and the more **[End Page 39]** likely the higher-ranked state is to resist. Thus, status competition is more likely to plague relations between leading states whose portfolios of capabilities are not only close but also mismatched.

### Scenario 1: North Korea

#### Readiness key to solve North Korea war

Ham 2012 (Walter T, quoting the General of the 8th Army, “General: High Readiness Key to Deter North Korean Threats”, (http://www.defense.gov/news/newsarticle.aspx?id=117463)CD)

SEOUL, South Korea, Aug. 10, 2012 – Maintaining a high state of military readiness is imperative to deterring North Korean threats in the region, the 8th U.S. Army’s deputy commander said here today. “North Korea continues to threaten the peninsula and the region with its provocative actions and rhetoric as well as its pursuit of weapons of mass destruction,” Army Maj. Gen. Walter M. Golden Jr. said during his welcoming ceremony on Yongsan Garrison. The 8th U.S. Army has partnered with South Korea to deter threats from Pyongyang for more than 60 years, the two-star general said. “As the U.S. military shifts its focus to the Pacific, this mission remains as important as ever,” said Golden, who hails from Salida, Colo. “Deterring aggression requires a very high state of readiness and that is why it is imperative that we train together with our ROK allies as often as possible to maintain that level of readiness.” Golden reported to 8th Army following his assignment as the deputy commander for police with the NATO training mission in Afghanistan.

#### North Korea is the flashpoint for a nuclear war.

Ryall October 2 2012 (Julian Telegraph Correspondent in Tokyo, “North and South Korea 'on the verge of nuclear war'”, <http://www.telegraph.co.uk/news/worldnews/asia/northkorea/9580536/North-and-South-Korea-on-the-verge-of-nuclear-war.html>, Vance)

Pak Kil-yon, Pyongyang's vice-foreign minster, put the blame for the tense state of inter-Korean relations firmly on South Korea's conservative government and claimed the citizens of the North feel "shame" and "political terror."¶ Monday's speech was the first time a representative of [North Korea](http://www.telegraph.co.uk/news/worldnews/asia/northkorea/) has addressed the General Assembly since Kim Jong-un assumed power after the death of his father in December last year.¶ "Since taking office, the current South Korean government has caused the worst situation in North-South relations by making all inter-Korean agreements null and void," Pak said, referring to pacts with previous South Korean administrations that sought reconciliation between the two ideological enemies and an expansion of economic co-operation.¶ Describing relations between the two governments as in "total bankruptcy," Pak dismissed the South Korean government of Lee Myung-bak with the comment, "History will bring them to justice."¶ Neither the United States nor the UN escaped criticism, with Pak saying recent joint military manoeuvres between the US and South Korean troops were "reckless provocations."¶ "Today, due to the continued US hostile policy towards the DPRK, the vicious cycle of confrontation and aggravation of tensions is an ongoing phenomenon on the Korean Peninsula, which has become the world's most dangerous hot spot and where a spark of fire could set off a thermonuclear war," Pak said.¶ Responding to the UN Security Council's condemnation of a failed ballistic missile launch in April, Pak repeated the North's position that the launch was of a rocket to put a satellite into orbit and that it was "legitimate and peaceful." The UN criticism was "unjust," he added.¶ Pyongyang has recently stepped up its criticism of the South Korean government, a tactic analysts believe is designed to raise hostility against the present government ahead of a general election scheduled for December.¶ President Lee met with senior security advisers on Wednesday of last week and issued a request that North Korea refrain from attempts to influence the election.¶ North Korean state-run media have in recent days claimed that Seoul is attempting to provoke a war of aggression and that South Korean warships have entered the North's territorial waters and fired on fishing boats.¶ "The Lee regime is being driven into a tight corner in which it can no longer prolong its political life without committing any provocative act," KCNA reported. "Only miserable ruin and death await the Lee regime."¶ South Korean media are reporting that North Korean fighter jets have stepped up training flights since July, while artillery units in the west of the country are preparing for large-scale exercises and more submarines are putting to sea.¶ Pyongyang's efforts to sow instability in the South may be having an effect, however, after a recent poll showed that nearly 66 per cent of people are unhappy with the Lee government's hard-line policies towards the North.

### Scenario 2: Ethnic Conflict

#### The stage is already set for ethnic conflicts left over by colonial power diffusion, U.S military’s focus on human rights helps alleviate these issues.

Wimmer 2004 (Andreas professor of sociology at the Princeton University, “Introduction: Facing ethnic conflicts”, <http://www.sscnet.ucla.edu/soc/faculty/wimmer/FEC.intro.pdf>, Vance)

POLICY APPROACHES¶ In parallel to this rising public interest in ethnic conflicts, the political¶ assessment has undergone considerable change. As mentioned before,¶ governments and international organizations now regard ethnic conflicts¶ as a security problem of global proportions—exceeded only recently by¶ the potential for terrorist attacks by fundamentalist organizations or¶ pariah states that have acquired (or are assumed to have acquired)¶ “weapons of mass destruction.”¶ The current attention to ethnic conflict contrasts markedly with the¶ approach of previous periods. Since the prehistory of ethnic conflict¶ management is largely forgotten, a digression may be permitted here.¶ 1¶ The first systematic international approach to the question of¶ ethnonational minorities was developed in the aftermath of the First¶ and Second Balkan Wars and elaborated after World War I (Krasner and¶ Froats 1998). The League of Nations introduced a detailed regime of¶ minority rights, especially in the fields of language, education, and¶ political representation. Sovereign status was given only to those newly¶ independent states that had lived up to the minority protection¶ provisions they had negotiated with the League. The main motive for¶ the League’s minority policy was to avoid, after having accepted the¶ principle of national self-determination, claims to statehood proliferating to unmanageable proportions. Seen from today’s¶ perspective, it is interesting to note that minority protection represented¶ a transitory means for achieving, over the long run, full assimilation into¶ the national majorities (Kovacs 2003). The League even accepted what¶ we nowadays call ethnic cleansings in order to achieve stability and¶ homogeneity, for example the “population exchange,” as it was¶ euphemistically called, foreseen in the treaty of Lausanne between¶ Turkey and Greece (Bartsch 1995).¶ The minority rights regime, however, could not prevent the further¶ politicization of the ethnic question in many mandate areas or other¶ dependent territories that were to achieve full independence. It lacked an¶ effective enforcement mechanism, and the rivalry between the colonial¶ empires made a common stance impossible, which led many mandate¶ powers to take the minority rights provision lightly. Most importantly,¶ however, nationalist aspirations of many minorityelites could not be¶ satisfied with language and educational rights and reserved¶ parliamentary seats (Arendt 1951). The spiral of ethnonationalist¶ mobilizations and countermobilizations culminated in a new wave of¶ purges and ethnic cleansings all over Eastern Europe, the Balkans, and¶ Russia.¶ After World War II, the Western policy-making approach changed¶ considerably. The minority rights regime of the League was completely¶ discredited and the new hegemonic power, the United States, placed¶ greater emphasis on individual human rights as opposed to group rights¶ (Krasner and Froats 1998:244). In addition, the imperial powers of France,¶ Britain, Holland, and Portugal soon abandoned the colonial project and¶ sought to foster a process of “nation building” leading the colonial¶ subjects to independence. “Nation building” (cf. Bendix 1964) was meant¶ to overcome “tribal” or “ethnic” particularisms by creating a community¶ of citizens. It was hardly compatible with the notion of “minority rights”¶ that had prevailed in the interwar period. More often than not, however,¶ the colonial masters saw one particular ethnic group, usually the most¶ Christianized, most literate, politically most reliable, and so forth, as¶ representing the core group of the nation-to-be and systematically¶ supported them by recruiting members of this group into the army,¶ bureaucracy, and university system of the embryonic state apparatus,¶ thus laying the ground for many of the postindependence ethnic conflicts¶ (Wimmer 2002).¶ Nation-building was complemented by upholding the territorial¶ boundaries of the new states, usually corresponding to former imperial¶ provinces. There was virtually no Western support for irredentist or¶ separatist ethnonational movements during that period, mostly for fear of¶ uncontrollable domino effects, especially in Africa, where few stateboundaries coincided with linguistic, religious, or other cultural dividing¶ lines. Western governments saw the violent conflicts that were unleashed¶ after independence as the birth pains of the new nations and largely a¶ matter to be settled by the elites of the new countries themselves—as long¶ as the winning parties and groups remained loyal to the former colonial¶ power and ensured that the domains of French, British, or Dutch¶ influence did not shrink.

#### Status Quo means U.S. intervention is inevitable, absent intervention these conflicts become mass atrocities that create regional instability.

Andersen 2010 (COMMANDER KARLYNA L, United States Navy, “HUMANITARIAN INTERVENTION: IS IT AN EMERGING RESPONSIBILITY?”, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA521356&Location=U2&doc=GetTRDoc.pdf>, Vance)

The concept of the responsibility to protect not only the peoples of one's own state but also those people of another sovereign state should that state fail to protect its people has emerged into the national and international debate. Many states, multinational organizations and the UN have adopted this concept to varying degrees. The U.S. has increasingly incorporated this concept into its political rhetoric. Military guidance, the QDR, along with statements from political leaders continue to stress the expectation that the U.S. will face the need to protect citizens of other states from humanitarian suffering from natural or manmade atrocities. The lessons learned from previous humanitarian crises, such as Somalia, Rwanda, Kosovo, Darfur, and Burma have shaped the U.S.'s approach toward intervention. Trends and threats facing the nations of today have the potential to lead to destabilization of governments and threaten national, regional and global security. The U.S. should adopt a flexible and tailored strategy which assesses the justification for humanitarian intervention.

#### Readiness is key to contain and mitigate these conflicts.

Sewall et al 2010 (Sarah, Dwight Raymond, Sally Chin, [Harvard Kennedy School](http://www.hks.harvard.edu/news-events/news/articles/maro-conf) of Human Rights, Mass Atrocity Response Operations:¶ A MILITARY PLANNING HANDBOOK, Pg. 14, Vance)

The Next MARO Situation? It remains to be seen in what context halting mass atrocities will next become¶ a US military mission, but the challenge is virtually certain. Some argue¶ that it is unlikely that, despite advocacy and education to the contrary, the¶ United States will ever decide that it is within its national strategic interest¶ to launch an intervention to stop a mass atrocity, and therefore that planning¶ for this eventuality is not a priority. Such a position is not only ahistorical,¶ it represents an abdication of responsibility to prepare for contingencies.¶ As a presidential hopeful, Barack Obama declared: “America deserves¶ a leader who … responds forcefully to all genocides. I intend to be that¶ President.”18 The recently issued US 2010 Quadrennial Defense Review¶ states: “Not all contingencies will require the involvement of U.S. military¶ forces, but the Defense Department must be prepared to provide the President¶ with options across a wide range of contingencies, which include¶ supporting a response to an attack or natural disaster at home, defeating¶ aggression by adversary states, supporting and stabilizing fragile states¶ facing serious internal threats, and preventing human suffering due to¶ mass atrocities or large-scale natural disasters abroad”19 (emphasis added).¶ This is essentially a warning order to the US military to be prepared to offer¶ options to the national leadership in the event of the widespread killing¶ of civilians.¶ Moreover, nations may not choose a MARO, a MARO may choose¶ them. The next mass atrocity could emerge amidst an initially uncontested¶ peacekeeping or humanitarian relief operation. The targeting of civilians,¶ often an element of insurgency or civil war, could develop into a full-blown¶ genocide or mass atrocity. Military actions to halt the targeting of civilians¶ may therefore develop from, or even coexist with, other operational concepts¶ in the context of a larger campaign in which US forces are engaged.¶ For example, it is easy to imagine how systematic mass atrocities could emerge¶ from a security vacuum created by the withdrawal of a foreign counterinsurgency¶ force. Thus, mass killings could haunt US forces as they exit Iraq

**These Interventions solve- immediate use of hard power is key**

**Western and Goldstein 11** (Jon and Joshua, December, JON WESTERN is Five College Associate Professor of International Relations at Mount Holyoke College. JOSHUA S. GOLDSTEIN is Professor Emeritus of International Relations at American University and the author of Winning the War on War: The Decline of Armed Conflict Worldwide., “Humanitarian Intervention Comes of Age.” Humanitarian Intervention Comes of Age., (accessed via ebsco)CD)

EVER SINCE U.S. marines stormed the Somali coast in 1992, the **international community has grappled with the recurring challenges of modern humanitarian intervention:** establishing legitimacy, sharing burdens across nations, acting with proportionality and discrimination, avoiding "mission creep," and developing exit strategies. **These challenges have not changed, but the ways the international community responds to them have. Today's successful interventions share a number of elements absent in earlier, failed missions.** First, **the interventions that respond the most quickly to unfolding events protect the most lives. Ethnic cleansing and mass atrocities often occur in the early phases of conflicts**, as in Rwanda and Bosnia. **This highlights the necessity of early warning indicators and a capacity for immediate action**. **The UN still lacks standby capabilities to dispatch peacekeepers instantly** to a conflict area, **but national or multinational military forces have responded promptly under UN authority,** and then after a number of months, they have handed off control to a UN peacekeeping force that may include soldiers from the original mission. This model worked in East Timor, Chad, and the Central African Republic, and it guided the international community's response to the impending massacre in Benghazi. Second, **the international community has learned** from Somalia, Rwanda, and Bosnia **that it needs access to enough military power and diplomatic muscle to back up a credible commitment to protecting civilians and to prevail even if things go wrong along the wa**y. Lighter deployments may also succeed if members of the international community have additional forces close at hand that can be accessed if needed. When UN peacekeepers ran into trouble in Sierra Leone in 2000, for example, the United Kingdom rushed in with 4,500 troops to save the government and the peacekeeping mission from collapse.

#### Ideology is structured to make the U.S. military look bad, however we must strive to make the world a better place through pragmatic means.

Rice 2008 (Condoleezza, [Stanford University](http://en.wikipedia.org/wiki/Stanford_University) as a political science professor and the Thomas and Barbara Stephenson Senior Fellow on Public Policy at the [Hoover Institution](http://en.wikipedia.org/wiki/Hoover_Institution), faculty member of the [Stanford Graduate School of Business](http://en.wikipedia.org/wiki/Stanford_Graduate_School_of_Business) and a director of its Global Center for Business and the Economy, Former Secretary of State, “Rethinking the National Interest”, Foreign Affairs, Accessed EbscoHost, Vance)

In these pages in 2000, I decried the role of the United States, in particular the U.S. military, in nation building. In 2008, it is absolutely clear that we will be involved in nation building for years to come. But it should not be the U.S. military that has to do it. Nor should it be a mission that we take up only after states fail. Rather, civilian institutions such as the new Civilian Response Corps must lead diplomats and development workers in a whole-of-government approach to our national security challenges. We must help weak and poorly functioning states strengthen and reform themselves and thereby prevent their failure in the first place. This will require the transformation and better integration of the United States' institutions of hard power and soft power--a difficult task and one that our administration has begun. Since 2001, the president has requested and Congress has approved a nearly 54 percent increase in funding for our institutions of diplomacy and development. And this year, the president and I asked Congress to create 1,100 new positions for the State Department and 300 new positions for the U.S. Agency for International Development. Those who follow us must build on this foundation.¶ Perhaps of greater concern is not that the United States lacks the capacity for global leadership but that it lacks the will. We Americans engage in foreign policy because we have to, not because we want to, and this is a healthy disposition--it is that of a republic, not an empire. There have been times in the past eight years when we have had to do new and difficult things--things that, at times, have tested the resolve and the patience of the American people. Our actions have not always been popular, or even well understood. The exigencies of September 12 and beyond may now seem very far away. But the actions of the United States will for many, many years be driven by the knowledge that we are in an unfair fight: we need to be right one hundred percent of the time; the terrorists, only once. Yet I find that whatever differences we and our allies have had over the last eight years, they still want a confident and engaged United States, because there are few problems in the world that can be resolved without us. We need to recognize that, too.¶ Ultimately, however, what will most determine whether the United States can succeed in the twenty-first century is our imagination. It is this feature of the American character that most accounts for our unique role in the world, and it stems from the way that we think about our power and our values. The old dichotomy between realism and idealism has never really applied to the United States, because we do not really accept that our national interest and our universal ideals are at odds. For our nation, it has always been a matter of perspective. Even when our interests and ideals come into tension in the short run, we believe that in the long run they are indivisible.¶ This has freed America to imagine that the world can always be better--not perfect, but better--than others have consistently thought possible. America imagined that a democratic Germany might one day be the anchor of a Europe whole, free, and at peace. America believed that a democratic Japan might one day be a source of peace in an increasingly free and prosperous Asia. America kept faith with the people of the Baltics that they would be independent and thus brought the day when NATO held a summit in Riga, Latvia. To realize these and other ambitious goals that we have imagined, America has often preferred preponderances of power that favor our values over balances of power that do not. We have dealt with the world as it is, but we have never accepted that we are powerless to change the world. Indeed, we have shown that by marrying American power and American values, we could help friends and allies expand the boundaries of what most thought realistic at the time.¶ How to describe this disposition of ours? It is realism, of a sort. But it is more than that---what I have called our uniquely American realism. This makes us an incredibly impatient nation. We live in the future, not the past. We do not linger over our own history. This has led our nation to make mistakes in the past, and we will surely make more in the future. Still, it is our impatience to improve less-than-ideal situations and to accelerate the pace of change that leads to our most enduring achievements, at home and abroad.¶ At the same time, ironically, our uniquely American realism also makes us deeply patient. We understand how long and trying the course of democracy is. We acknowledge our birth defect, a constitution founded on a compromise that reduced my ancestors each to three-fifths of a man. Yet we are healing old wounds and living as one American people, and this shapes our engagement with the world. We support democracy not because we think ourselves perfect but because we know ourselves to be deeply imperfect. This gives us reason to be humble in our own endeavors and patient with the endeavors of others. We know that today's headlines are rarely the same as history's judgments.¶ An international order that reflects our values is the best guarantee of our enduring national interest, and America continues to have a unique opportunity to shape this outcome. Indeed, we already see glimpses of this better world. We see it in Kuwaiti women gaining the right to vote, in a provincial council meeting in Kirkuk, and in the improbable sight of the American president standing with democratically elected leaders in front of the flags of Afghanistan, Iraq, and the future state of Palestine. Shaping that world will be the work of a generation, but we have done such work before.And if we remain confident in the power of our values, we can succeed in such work again.

## Advantage 2: Liberal Order

#### Hegemony created a world-wide framework for peace. The impact is nuclear war and the escalation of every major conflict.

**Kromah 2009** (Lamii Moivi Kromah, Department of International Relations University of the Witwatersrand, February 2009, “The Institutional Nature of U.S. Hegemony: Post 9/11”, http://wiredspace.wits.ac.za/bitstream/handle/10539/7301/MARR%2009.pdf)CD)

Perhaps the most important way in which the United States used its overwhelming power capabilities after World War II was in its occupation and reconstruction policies in Germany and Japan. It was acting on a lesson learned from the disastrous 1919 postwar settlement within Germany-that it was dangerous to leave in place the defeated and humiliated military and political elites that had fought and lost the war. In a less direct way, the United States was also acting on an argument made by Woodrow Wilson and other liberals during the earlier world war- that democratic and liberal capitalist states pose fewer threats to each other, and that they are more likely to cooperate together in a peaceful political order. In effect, the most consequential act of American hegemony after 1945 was to reorient the "social purpose" of the other major states. From the perspective of fifty years later, it was the political reorientation of Germany and Japan (and to a lesser extent the other Western industrial states) that mattered most. The transformation of the social purpose of these states -how these states define and express the purpose and goals of politics and society -seems to have most altered the course of Western history. It was the transformation of "aims" more than the management of "arms" that most shaped our recent past. But this brings us to the last issue. If the social purpose of the leading states has been transformed, perhaps the world does not need hegemonic leadership in the way it did in the past. In the 1940s, the great powers of the world were a heterogeneous complex of authoritarian, socialist, autocratic, and liberal democratic states. Today, there is still a mix, but it is ultimately a much more homogeneous complex of states. Perhaps America's liberal hegemonic work has largely been accomplished at least the work that requires the most concentrated use of material capabilities and military 31 Rather, we should ask whether, when predominance in the power base declines, the basic regime (the network of rules, norms, etc.) weakens or the ability of the preponderant state to determine rules lessens.32 The United States was the world's foremost military power, and only it had the nuclear "winning weapon." While U.S. preponderance was not so overwhelming as to enable it to set all the rules for the entire world system, it did permit it to establish the basic principles for the new economic order in the over 80 percent of the world economy controlled by capitalist states and to organize a system of collective security to maintain political and economic control over that 80 percent.33 A final major gain to the United States from the Pax Americana has perhaps been less widely appreciated. It nevertheless proved of great significance in the short as well as in the long term: the pervasive cultural influence of the United States. This dimension of power base is often neglected. After World War II the authoritarian political cultures of Europe and Japan were utterly discredited, and the liberal democratic elements of those cultures revivified. The revival was most extensive and deliberate in the occupied powers of the Axis, where it was nurtured by drafting democratic constitutions, building democratic institutions, curbing the power of industrial trusts by decartelization and the rebuilding of trade unions, and imprisoning or discrediting much of the wartime leadership; post war reconstruction of Germany and Japan exhibit all these features. Moderates were giving a great voice in the way government business was done. Constitutions in these countries were changed and amended to ensure democratic practices and martial elites were prosecuted. American liberal ideas largely filled the cultural void. The effect was not so dramatic in the "victor" states whose regimes were reaffirmed (Britain, the Low and Scandinavian countries), but even there the United States and its culture was widely admired. The upper classes may often have thought it too "commercial," but in many respects American mass consumption culture was the most pervasive part of America's impact. American styles, tastes, and middle-class consumption patterns were widely imitated, in a process that' has come to bear the label "coca-colonization."34 After WWII the U.S. established organizations such as the United Nations, NATO and others. In each these new regimes it make Germany a member and eventual an integral partner. Germany's freedom of movement has been limited by domestic institutional constraints overlain by a dense network of external institutional constraints on autonomous decision making in the domains of security and economy. Thus a powerful combination of constitutional design, membership in integrative international institutions and the continued division of Germany achieved the post-war American objective of 'security for Germany and security from Germany'.35 Others are even more sanguine about the prospect of an active German hegemony. One body of literature, such as Simon Bulmer and William E. Paterson, 'Germany in the European Union: Gentle Giant or Emergent Leader?' International Affairs, 72 (1996), 9-32., focuses upon the constraining effects of Germany's 'exaggerated multilateralism' or a reliance upon 'indirect institutional power'." The institutionalization of German power has produced an empowered but non-threatening Germany that sets the European agenda and dominates the institutional evolution of the European Union (EU) and its governance structures.36 The cornerstone of German security policy is the perpetuation of NATO, including the maintenance of U.S. forces in Europe and the U.S. nuclear guarantee. In 1994 German Chancellor Helmut Kohl described the U.S. presence as an "irreplaceable basis for keeping Europe on a stable footing," and that sentiment is echoed routinely by high German officials. German participation in the Western European Union and the Eurocorps has been based on the presumption that European military forces must be integrated into NATO rather than standing as autonomous units. industrial societies, the Second World War destroyed more wealth than it created because it disrupted the global trade on which wealth had come to depend. No longer could states gain in wealth by seizing territory and resources from each other as they had done during the mercantilist period in the seventeenth and eighteenth century. WWII broke the world power of the Western European states. Even without the advent of nuclear weapons, it drove home the lesson of the First World War that the major European states could no longer wage war amongst themselves without bringing about the political and physical impoverishment of their societies, and perhaps destroying them completely. By 1945 it was clear that all out war had become an irrational instrument in relations among major powers. Almost no conceivable national objective short of lastditch survival justified the costs of undertaking it. This lesson was as manifestly true for revolutionary workers’ states like the Soviet Union as it was for conservative, bourgeois, capitalist states like Britain and France.38 A final major gain to the United States from the benevolent hegemony has perhaps been less widely appreciated. It nevertheless proved of great significance in the short as well as in the long term: the pervasive cultural influence of the United States.39 This dimension of power base is often neglected. After World War II the authoritarian political cultures of Europe and Japan were utterly discredited, and the liberal democratic37 elements of those cultures revivified. The revival was most extensive and deliberate in the occupied powers of the Axis, where it was nurtured by drafting democratic constitutions, building democratic institutions, curbing the power of industrial trusts by decartelization and the rebuilding of trade unions, and imprisoning or discrediting much of the wartime leadership. American liberal ideas largely filled the cultural void. The effect was not so dramatic in the "victor" states whose regimes were reaffirmed (Britain, the Low and Scandinavian countries), but even there the United States and its culture was widely admired. The upper classes may often have thought it too "commercial," but in many respects American mass consumption culture was the most pervasive part of America's impact. American styles, tastes, and middle-class consumption patterns were widely imitated, in a process that' has come to bear the label "coca-colonization."40 After WWII policy makers in the USA set about remaking a world to facilitate peace. The hegemonic project involves using political and economic advantages gained in world war to restructure the operation of the world market and interstate system in the hegemon's own image. The interests of the leader are projected on a universal plane: What is good for the hegemon is good for the world. The hegemonic state is successful to the degree that other states emulate it. Emulation is the basis of the consent that lies at the heart of the hegemonic project.41 Since wealth depended on peace the U.S set about creating institutions and regimes that promoted free trade, and peaceful conflict resolution. U.S. benevolent hegemony is what has kept the peace since the end of WWII. The upshot is that U.S. hegemony and liberalism have produced the most stable and durable political order that the world has seen since the fall of the Roman Empire. It is not as formally or highly integrated as the European Union, but it is just as profound and robust as a political order, Kant’s Perpetual Peace requires that the system be diverse and not monolithic because then tyranny will be the outcome. As long as the system allows for democratic states to press claims and resolve conflicts, the system will perpetuate itself peacefully.A state such as the United States that has achieved international primacy has every reason to attempt to maintain that primacy through peaceful means so as to preclude the need of having to fight a war to maintain it.42 This view of the post-hegemonic Western world does not put a great deal of emphasis on U.S. leadership in the traditional sense. U.S. leadership takes the form of providing the venues and mechanisms for articulating demands and resolving disputes not unlike the character of politics within domestic pluralistic systems

#### Hegemony is shifting to smart power in the status quo.

Nye 2010 (Joseph, distinguished professor at Harvard,“The Future of American Power Dominance and Decline in Perspective”, (http://isites.harvard.edu/fs/docs/icb.topic1038752.files/Facilitation%20Articles/Fac\_20120305\_1.pdf)CD)

It is time for a new narrative about the future of U.S. power. Describing power transition in the twenty-first century as a traditional case of hegemonic decline is inaccurate, and it can lead to dangerous policy implications if it encourages China to engage in adventurous policies or the United States to overreact out of fear. The United States is not in absolute decline, and in relative terms, there is a reasonable probability that it will remain more powerful than any single state in the coming decades. At the same time, the country will certainly face a rise in the power resources of many others-both states and nonstate actors. Because globalization will spread technological capabilities and information technology will allow more people to communicate, U.S. culture and the U.S. economy will become less globally dominant than they were at the start of this century. Yet it is unlikely that the United States will decay like ancient Rome, or even that it will be surpassed by another state, including China. The problem of American power in the twenty- first century, then, is not one of decline but what to do in light of the realization that even the largest country cannot achieve the outcomes it wants without the help of others. An increasing number of challenges will require the United States to exercise power with others as much as power over others. This, in turn, will require a deeper understanding of power, how it is changing, and how to construct "smart power" strategies that combine hard- and soft-power resources in an information age. The country's capacity to maintain alliances and create networks will be an important dimension of its hard and soft power. Power is not good or bad per se. It is like calories in a diet: more is not always better. If a country has too few power resources, it is less likely to obtain its preferred outcomes. But too much power (in terms of resources) has often proved to be a curse when it leads to overconfidence and inappropriate strategies. David slew Goliath because Goliath's superior power resources led him to pursue an inferior strategy, which in turn led to his defeat and death. A smart-power narrative for the twenty-first century is not about maximizing power or preserving hegemony. It is about finding ways to combine resources in successful strategies in the new context of power diffusion and "the rise of the rest." As the largest power, the United States will remain important in global affairs, but the twentieth-century narrative about an American century and American primacy-as well as narratives of American decline-is misleading when it is used as a guide to the type of strategy that will be necessary in the twenty-first century. The coming decades are not likely to see a post- American world, but the United States will need a smart strategy that combines hard- and soft-power resources-and that emphasizes alliances and networks that are responsive to the new context of a global information age.

#### The DoD reliance on oil directly trades-off with the effective practices of the military during the transition. Solar fixes this.

Wu 2012 (Michael is Truman’s Advocacy Policy Director, “Renewable Energy is Key to Military Strategy”, <http://trumanproject.org/doctrine-blog/renewable-energy-is-key-to-military-strategy/>, Vance)

Our military leaders have one paramount priority: keeping America safe. The military identifies and confronts threats to America’s security. As a part of that mission, the military recognizes that its reliance on fossil fuels poses a strategic threat. The Department of Defense is leading the way in developing clean, renewable sources of energy to provide secure supplies of energy for our warfighters. Unfortunately, amendments introduced in the House and Senate versions of the National Defense Authorization Act for FY13 threaten to undercut our military’s strategy to keep America safe with clean, renewable energy.¶ These amendments [shut the door](http://www.wired.com/dangerroom/2012/05/senate-cuts-off-navy-biofuel/) on investments in clean, reliable fuels needed to keep America safe. One, introduced by Sen. James Inhofe (R-OK) and Rep. Mike Conaway (R-TX), would prevent purchases of fuel that are currently more expensive than the diesel fuel used in nearly all military vehicles and generators. Another, introduced by Sen. John McCain (R-AZ), would prevent the Department of Defense from constructing their own biofuels refineries. The military has been investing in advanced biofuels because military leaders recognize that being beholden to global oil markets makes us vulnerable to unstable and unfriendly regimes. Those investments are paying off: the Navy predicts that advanced biofuels [will be cost competitive](http://bnef.com/PressReleases/view/188) with fossil fuels by 2020 if the military continues to invest.¶ Rep. Conaway would also exempt the Department of Defense from Section 526 of the Energy Independence and Security Act of 2007, which ensures that the Department consider all relevant factors in purchasing fuels. The Department of Defense [opposes any exemption](http://switchboard.nrdc.org/blogs/bsiu/department_of_defense_on_secti.html) from Section 526, stating that repeal or exemption “could hamper the Department’s efforts to provide better energy options to warfighters and further increase America’s reliance on non-renewable fuels.”¶ The U.S. military is the largest institutional consumer of fuel in the world, accounting for 2% of our nation’s petroleum use and 93% of the U.S. government’s energy use. For every $10 rise in the price of oil, the Department of Defense must come up with an extra $1.3 billion annually, which must be diverted from training, maintenance, and other mission-essential items in the DoD budget. That means our reliance on oil directly threatens the readiness of our troops.¶ The military has a strategy to confront its reliance on oil. Growing fuels at home instead of importing them from abroad protects against price spikes in oil markets. Harnessing solar and wind energy to power military bases helps ensure bases don’t go dark if our fragile electric grid is damaged. Solar panels on remote forward operating bases reduce the number of dangerous fuel convoys needed to resupply troops on the front lines. Members of Congress [should support](http://www.slate.com/articles/news_and_politics/war_stories/2012/05/navy_biofuel_program_why_the_house_armed_services_committee_was_shortsighted_to_ban_it_.html) the energy security strategy of our military leaders, and put America’s security above shortsighted politics.

#### US exercise of military is inevitable- it’s a question of effectiveness.

Kagan 2011(Robert is a contributing editor to The Weekly Standard and a senior fellow in foreign policy at the Brookings Institution. JAN 24, VOL. 16, NO. 18 The Weekly Standard “The Price of Power” http://www.weeklystandard.com/articles/price-power\_533696.html?nopager=1)CD)

In theory, the United States could refrain from intervening abroad. But, in practice, will it? Many assume today that the American public has had it with interventions, and Alice Rivlin certainly reflects a strong current of opinion when she says that “much of the public does not believe that we need to go in and take over other people’s countries.” That sentiment has often been heard after interventions, especially those with mixed or dubious results. It was heard after the four-year-long war in the Philippines, which cost 4,000 American lives and untold Filipino casualties. It was heard after Korea and after Vietnam. It was heard after Somalia. Yet the reality has been that after each intervention, the sentiment against foreign involvement has faded, and the United States has intervened again. That is one intervention every 4.5 years on average. Overall, the United States has intervened or been engaged in combat somewhere in 52 out of the last 112 years, or roughly 47 percent of the time. Since the end of the Cold War, it is true, the rate of U.S. interventions has increased, with an intervention roughly once every 2.5 years and American troops intervening or engaged in combat in 16 out of 22 years, or over 70 percent of the time, since the fall of the Berlin Wall. The argument for returning to “normal” begs the question: What is normal for the United States? The historical record of the last century suggests that it is not a policy of nonintervention. This record ought to raise doubts about the theory that American behavior these past two decades is the product of certain unique ideological or doctrinal movements, whether “liberal imperialism” or “neoconservatism.” Allegedly “realist” presidents in this era have been just as likely to order interventions as their more idealistic colleagues. George H.W. Bush was as profligate an intervener as Bill Clinton. He invaded Panama in 1989, intervened in Somalia in 1992—both on primarily idealistic and humanitarian grounds—which along with the first Persian Gulf war in 1991 made for three interventions in a single four-year term. Since 1898 the list of presidents who ordered armed interventions abroad has included William McKinley, Theodore Roose-velt, William Howard Taft, Woodrow Wilson, Franklin Roosevelt, Harry Truman, Dwight Eisenhower, John F. Kennedy, Ronald Reagan, George H.W. Bush, Bill Clinton, and George W. Bush. One would be hard-pressed to find a common ideological or doctrinal thread among them—unless it is the doctrine and ideology of a mainstream American foreign policy that leans more toward intervention than many imagine or would care to admit. Many don’t want to admit it, and the only thing as consistent as this pattern of American behavior has been the claim by contemporary critics that it is abnormal and a departure from American traditions. The anti-imperialists of the late 1890s, the isolationists of the 1920s and 1930s, the critics of Korea and Vietnam, and the critics of the first Persian Gulf war, the interventions in the Balkans, and the more recent wars of the Bush years have all insisted that the nation had in those instances behaved unusually or irrationally. And yet the behavior has continued. To note this consistency is not the same as justifying it. The United States may have been wrong for much of the past 112 years. Some critics would endorse the sentiment expressed by the historian Howard K. Beale in the 1950s, that “the men of 1900” had steered the United States onto a disastrous course of world power which for the subsequent half-century had done the United States and the world no end of harm. But whether one lauds or condemns this past century of American foreign policy—and one can find reasons to do both—the fact of this consistency remains. It would require not just a modest reshaping of American foreign policy priorities but a sharp departure from this tradition to bring about the kinds of changes that would allow the United States to make do with a substantially smaller force structure. Is such a sharp departure in the offing? It is no doubt true that many Americans are unhappy with the on-going warfare in Afghanistan and to a lesser extent in Iraq, and that, if asked, a majority would say the United States should intervene less frequently in foreign nations, or perhaps not at all. It may also be true that the effect of long military involvements in Iraq and Afghanistan may cause Americans and their leaders to shun further interventions at least for a few years—as they did for nine years after World War I, five years after World War II, and a decade after Vietnam. This may be further reinforced by the difficult economic times in which Americans are currently suffering. The longest period of nonintervention in the past century was during the 1930s, when unhappy memories of World War I combined with the economic catastrophe of the Great Depression to constrain American interventionism to an unusual degree and produce the first and perhaps only genuinely isolationist period in American history. So are we back to the mentality of the 1930s? It wouldn’t appear so. There is no great wave of isolationism sweeping the country. There is not even the equivalent of a Patrick Buchanan, who received 3 million votes in the 1992 Republican primaries. Any isolationist tendencies that might exist are severely tempered by continuing fears of terrorist attacks that might be launched from overseas. Nor are the vast majority of Americans suffering from economic calamity to nearly the degree that they did in the Great Depression. Even if we were to repeat the policies of the 1930s, however, it is worth recalling that the unusual restraint of those years was not sufficient to keep the United States out of war. On the contrary, the United States took actions which ultimately led to the greatest and most costly foreign intervention in its history. Even the most determined and in those years powerful isolationists could not prevent it. Today there are a number of obvious possible contingencies that might lead the United States to substantial interventions overseas, notwithstanding the preference of the public and its political leaders to avoid them. Few Americans want a war with Iran, for instance. But it is not implausible that a president—indeed, this president—might find himself in a situation where military conflict at some level is hard to avoid. The continued success of the international sanctions regime that the Obama administration has so skillfully put into place, for instance, might eventually cause the Iranian government to lash out in some way—perhaps by attempting to close the Strait of Hormuz. Recall that Japan launched its attack on Pearl Harbor in no small part as a response to oil sanctions imposed by a Roosevelt administration that had not the slightest interest or intention of fighting a war against Japan but was merely expressing moral outrage at Japanese behavior on the Chinese mainland. Perhaps in an Iranian contingency, the military actions would stay limited. But perhaps, too, they would escalate. One could well imagine an American public, now so eager to avoid intervention, suddenly demanding that their president retaliate. Then there is the possibility that a military exchange between Israel and Iran, initiated by Israel, could drag the United States into conflict with Iran. Are such scenarios so farfetched that they can be ruled out by Pentagon planners? Other possible contingencies include a war on the Korean Peninsula, where the United States is bound by treaty to come to the aid of its South Korean ally; and possible interventions in Yemen or Somalia, should those states fail even more than they already have and become even more fertile ground for al Qaeda and other terrorist groups. And what about those “humanitarian” interventions that are first on everyone’s list to be avoided? Should another earthquake or some other natural or man-made catastrophe strike, say, Haiti and present the looming prospect of mass starvation and disease and political anarchy just a few hundred miles off U.S. shores, with the possibility of thousands if not hundreds of thousands of refugees, can anyone be confident that an American president will not feel compelled to send an intervention force to help? Some may hope that a smaller U.S. military, compelled by the necessity of budget constraints, would prevent a president from intervening. More likely, however, it would simply prevent a president from intervening effectively. This, after all, was the experience of the Bush administration in Iraq and Afghanistan. Both because of constraints and as a conscious strategic choice, the Bush administration sent too few troops to both countries. The results were lengthy, unsuccessful conflicts, burgeoning counterinsurgencies, and loss of confidence in American will and capacity, as well as large annual expenditures. Would it not have been better, and also cheaper, to have sent larger numbers of forces initially to both places and brought about a more rapid conclusion to the fighting? The point is, it may prove cheaper in the long run to have larger forces that can fight wars quickly and conclusively, as Colin Powell long ago suggested, than to have smaller forces that can’t. Would a defense planner trying to anticipate future American actions be wise to base planned force structure on the assumption that the United States is out of the intervention business? Or would that be the kind of penny-wise, pound-foolish calculation that, in matters of national security, can prove so unfortunate

## Observation 3: Solvency

#### Solar saves the military grid- Diesel generators fail

Castillo 2012 (Ariel, Ph.D., School of Engineering and Applied Science of The George Washington University, “Determination of Solar Energy Transition Potential of Large Organizations: An Application to Department of Defense Facilities and Non-Tactical Vehicles”, ([http://gradworks.umi.com/3481180.pdf)CD](http://gradworks.umi.com/3481180.pdf%29CD))

2. Critical missions at military installations are vulnerable to loss from commercial power outage and inadequate backup power supplies” (DSB, 2008)39

Providing for distributed energy operations on DoD bases could help meet electric grid vulnerability challenges, solving the second energy challenge described by the Under Secretary. These bases would be able to sustain distributed energy operations, avoid electric grid vulnerability challenges, and provide continuous operational capability. Bases that implement solar energy technologies would be able to maintain improved continuity of operations, thus, helping them meet the electric grid vulnerability challenges facing the DoD and promote energy security.

While some distributed energy capability on bases presently exist in the form of generators, these technologies do not seem to sufficiently allow for an adequate level of continuity of operations. The 2008 *More Fight – Less Fuel* report, for example, states that “…these generators do not seem to be sufficient to meet long term mission demands for twenty four hours a day, seven days a week. Backup power systems at these installations are larger, but are still based on diesel generators and fuel supplies sized for only short-term commercial outages and seldom properly prioritized to critical loads because those are often not wired separately from non-essential loads.” (DSB, 2008)40 A conceptual graph depiction of operational times and maintenance necessary for current base generators is provided at Figure 8.

#### PPA’s for domestic military solar power has empirically worked and cut costs.

Shannon October 8 2012 (John columnist Borderstan, for green energy, sustainable and economic development, “[Solar Power Gets the Might of the U.S. Military Behind It](http://www.borderstan.com/10/solar-power-gets-the-might-of-the-u-s-military-behind-it/)”, <http://www.borderstan.com/10/solar-power-gets-the-might-of-the-u-s-military-behind-it/>, Vance)

As the production of solar panels have ramped up, prices have dropped dramatically. In fact, prices have dropped so quickly that some solar manufacturers have filed for bankruptcy due to their inability to stay with the market. Lower-priced materials, manufacturing and technology have all conspired to force a huge price drop.¶ Faced with budget cuts and the need to lower long-term costs, the U.S. Navy has turned to an old, reliable partner – solar power. In October 2010 the Navy set a goal to produce [50% of its onshore energy needs from renewables by 2020](http://greenfleet.dodlive.mil/files/2010/04/Naval_Energy_Strategic_Roadmap_100710.pdf) .¶ For one example of this, the [Space and Naval Warfare Systems Command](http://enterprise.spawar.navy.mil/) (SPAWAR) complex in San Diego has installed 1.3 megawatts of solar panels at the Navy’s headquarters for high-tech military command, communications and surveillance.¶ SPAWAR now has the [U.S. Navy’s largest contiguous rooftop solar array](http://www.solarworld-usa.com/news-and-resources/news/solarworld-solar-panels-power-spawar.aspx) with 5,376 high-performance SolarWorld photovoltaic solar panels providing electricity for the site. Any surplus electricity generated on site is to be sold to the San Diego grid.¶ For another example, U.S. [Naval Air Weapons Station China Lake](http://maps.google.com/maps?ll=35.6855555556,-117.691944444&spn=0.03,0.03&q=35.6855555556,-117.691944444%20%28Naval%20Air%20Weapons%20Station%20China%20Lake%29&t=h) (NAWS China Lake), California, is installing an entire photovoltaic solar power plant which is to be financed through a 20-year power purchase agreement between SunPower and the [U.S Navy](http://en.wikipedia.org/wiki/United_States_Navy) .¶ Under the terms of the agreement the Navy has no upfront costs. The plant is expected to produce 13.78 megawatts of power and cover 30 percent of NAWS China Lake’s energy needs.¶ With zero capital investment and giving up only unusable land, the [Navy will reduce costs by saving an estimated $13 million](http://www.marketwatch.com/story/sunpower-breaks-ground-on-1378-megawatt-solar-power-plant-at-naval-air-weapons-station-china-lake-2012-01-18) over the next 20 years on their NAWS China Lake electricity bill.¶ President Obama, in his [State of the Union address on January 24, 2012](http://www.nytimes.com/interactive/2012/01/24/us/politics/state-of-the-union-2012-video-transcript.html) , said,¶ “…the Department of Defense, working with us, the world’s largest consumer of energy, will make one of the largest commitments to clean energy in history — with the Navy purchasing enough capacity to power a quarter of a million homes a year.”¶ Beginning in 1999, the U.S. military has [installed solar power systems at many bases](http://www.defense.gov/home/features/2010/1010_energy/) , including [Nellis Air Force Base](http://maps.google.com/maps?ll=36.2361111111,-115.034166667&spn=0.01,0.01&q=36.2361111111,-115.034166667%20%28Nellis%20Air%20Force%20Base%29&t=h) in Nevada, Pearl Harbor, Fort Dix, Coronado Island, and the Air Force Academy in Colorado Springs, Colorado — among others.¶ The vast [United States military](http://en.wikipedia.org/wiki/United_States_Armed_Forces) often sets precedent for the rest of the country and this is the case with solar energy. Cities and utility companies have taken careful note of the power purchase agreement model used between the U.S. military and utility companies. Many more such agreements are pending.

#### The DoD use of a 30 year power purchase agreement makes creates a financial incentive to create solar energy.

Stoltenberg April 2012 (Blaise Sr Engineer at National Renewable Energy Laboratory, “Funding Solar Projects at Federal Agencies: Mechanisms and Selection Criteria”, <https://financere.nrel.gov/finance/content/funding-solar-projects-federal-agencies-power-purchase-agreements-energy-service-contracts-utility-enhanced-use-leases>, Vance)

Federal on-site renewable power purchase agreements (PPAs) are contracts for energy. On-site PPAs have been used to finance solar projects in the private sector since 2003 and are now commonly used for commercial installations. Under an on-site renewable PPA, a private entity installs, owns, operates, and maintains the customer-sited, solar energy generation system. The federal facility purchases electricity or thermal energy through a long-term contract with specified prices. Payment is based on actual energy (kilowatt-hours or MMBtu) generated from the solar equipment and consumed by the site. On-site renewable PPAs are more common for solar electric than solar thermal installations, but they can be used for either system type [[3](https://financere.nrel.gov/finance/content/funding-solar-projects-federal-agencies-power-purchase-agreements-energy-service-contracts-utility-enhanced-use-leases#references)]. FEMP offers more details in its [PPA Quick Guide](http://www.nrel.gov/docs/fy11osti/51662.pdf) .¶ Advantages Private developers may be eligible for tax incentives, RECs, and accelerated depreciation, and these savings can be passed along to the agency in the form of a lower electricity rate¶ Agency is typically not required to provide upfront capital¶ Renewable energy system owner provides O&M for the duration of the contract¶ Government only pays for energy delivered¶ Agency typically receives a known long-term electricity or thermal energy price for a portion of the site load, reducing the price risk of fluctuating utility energy prices¶ Developer has incentive to maximize system production because energy payment is based on actual production¶ Without constraints of appropriated funding or required savings, PPAs can enable a system size that best meets site goals ChallengesTransaction costs may include a significant learning curve and time investment¶ Federal-sector experience is limited both in terms of agencies and developers capable of executing due to sector-specific challenges¶ Civilian agencies are limited to a maximum 10- year term for PPA contracts; however, the U.S. Department of Defense (DOD) is permitted up to 30-year terms under 10 USC 2922a¶ Possible contracting issues due to federal regulations include termination for convenience, land-use agreements, and assignment and innovation¶ To secure needed financing, developers usually require solar PV projects to be at least 500 kW in size (solar thermal thresholds are unknown because of a lack of projects); smaller solar PV systems are sometimes acceptable and could be aggregated to achieve minimum scale¶ Some states do not allow third-party PPAs An on-site renewable PPA may warrant further investigation if:¶ There is not enough funding to cover the upfront cost of the project¶ The size of the project is greater than 500 kW¶ The state in which the project is located does not apparently disallow PPAs (check[www.dsireusa.org/documents/summarymaps/3rd\_Party\_PPA\_map.ppt](http://www.dsireusa.org/documents/summarymaps/3rd_Party_PPA_map.ppt) )¶ The project is for the DOD and the 10 USC 2922a 30-year contract authority is an option¶ The project is in Western Area Power Administration's (Western) territory; Western has long-term contract authority and can act as contractual intermediary for federal agencies. The Western service territory map can be accessed at:[www.wapa.gov/crsp/customerscrsp/pdf/region2.pdf](http://www.wapa.gov/crsp/customerscrsp/pdf/region2.pdf) .¶ As noted above, making an on-site renewable PPA economically attractive usually requires a long-term contract. Without specific long-term contract authority, PPAs need to be creatively designed to meet economic thresholds. Innovative options have included:¶ Using Western as a contractual intermediary with long-term contract authority, as was done at the U.S. Department of Energy's National Renewable Energy Laboratory and Fort Carson. Western does not work under the FAR construct, and therefore it does not need to meet those requirements. Sites must be in Western territory to use this option. Other federal power administrations may have this contracting authority, but no projects have been completed at the time of this writing.¶ Making a large PPA payment in the first year and using a typical 10-year contract. In this case the agency must have sufficient funds in the first year and confirm form of payment is within agency's authority.

#### Current incentives already exist, but fail due to split incentives and lack of information required to internally complete their task.

Castillo 2012 (Ariel, Ph.D., School of Engineering and Applied Science of The George Washington University, “Determination of Solar Energy Transition Potential of Large Organizations: An Application to Department of Defense Facilities and Non-Tactical Vehicles”, ([http://gradworks.umi.com/3481180.pdf)CD](http://gradworks.umi.com/3481180.pdf%29CD))

Specifically, two major problems hindering energy management in DoD facilities and non-tactical vehicles include flawed incentives and a lack of information. These were called out in the DUSD I&E’s testimony as major impediments to help solve energy issues across the DoD. The most common example of a flawed incentive is a split incentive that requires a large capital investment but yields savings over time. Oftentimes the entity responsible for capital spending is different from those responsible for operations and maintenance, leading to under investment in certain projects. Further, if a base commander succeeds in reducing fossil energy consumption by implementing a solar energy project, the base is not able to keep the savings. Instead, its budget is reduced in anticipation of future savings. Another flawed incentive is related to the vulnerability at facilities to power grid disruption. Implementation of solar energy for facilities and non-tactical vehicles would have national security value far greater than the economic valuerelated to reductions in fossil energy consumption. The mission argument has been difficult to represent by the DoD. Typically, business case analysis and models ignore the benefit to national security because of sensitivity of mission related data. In addition, there is not a clear understanding about how to appropriately correlate solar energy implementation to improved mission readiness. The lack of available information is a problem associated with effective and efficient energy management for facilities and non-tactical vehicles. The DUSD I&E further stated in his February 2010 testimony that, “[t]he Department currently lacks an enterprise-wide energy information management system that can provide the appropriate

information on energy consumption at various levels of aggregation, including the individual building, the installation, the geographic region and the Military Department.” (DoD, 2010)15 Approaches to consolidate energy data would improve the ability to recommend appropriate solar energy implementation strategies across DoD bases. Further, it would allow for targeted investment decisions at specific bases and facilities.