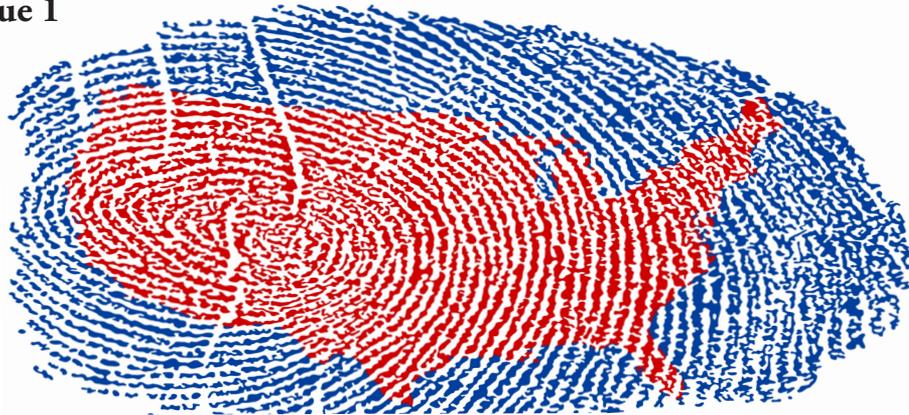


# American Security Quarterly

Vision, Strategy, Dialogue

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**August Cole: LOSING OUR COMPETITIVENESS  
JEOPARDIZES NATIONAL SECURITY**

**Dirk Jameson: We can cut some spending on nuclear  
strategy**

**Dan Grant: Myanmar's Money, Obama's Visit, and China**

**Ashley Boyle: International law takes on cyber: significant  
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**Matt Freear: What the Somali Media Needs to Survive**

**Cheney and Cunningham: Strategic bases vulnerable to climate change**

**Foley: Climate Change: The Missing Link in Tackling the Mali Crisis**

**Wang: A Breakdown of EIA's new Annual Energy Outlook Report**

and

**The reality of climate change can no longer be ignored**

*Lieutenant General Daniel Christman, USA (Ret.),*

*Brigadier General Steve Anderson, USA (Ret.), and*

*Brigadier General Stephen Cheney, USMC (Ret.)*

## INTRODUCTION

It's easy to become distracted by the sensationalism associated with the fiscal cliff, Benghazi, cabinet nominations, and gun control. While ASP agrees that all of these are important issues, it is still wise to refocus our energy on long term solutions to perennial problems that effect our national security - like American competitiveness. August Cole, an adjunct fellow for ASP, has penned an excellent piece on how America is slipping and where we need to go.

Perhaps related to the sequestration issue is nuclear security. We continue to spend billions - yes billions - on weapons centered on an outdated nuclear strategy. LtGen Dirk Jameson USAF (Ret), who REALLY knows the nuclear business from a hands on perspective, offers some innovative thoughts on how we can save a bundle yet make ourselves more secure.

And by now we are all too familiar with Benghazi and what occurred there. But ASP Fellow Matthew Wallin shows us that if we would just invest more into our diplomatic corps, we would reap tremendous benefits.

This is just a taste of what ASP has been up to this last quarter. We are truly non-parisan and have NO agenda other then making our nation more secure. But the issues we take on we will pursue with a passion, hoping to educate everyone on what are critical topics that our government needs to support. Given the divisive arguments of this past quarter, we hope to breathe some hope that bi-partisan consensus can be reached to make us more secure.

Visit our website to see all of what we do - I think you'll like it!

**BGen Stephen A. Cheney USMC (Ret.)**

CEO American Security Project

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# AMERICAN COMPETITIVENESS



## Losing our competitiveness jeopardizes national security

August Cole

[The Hill](#)

29 Nov 2012

America's competitive position is slipping, and it's time to acknowledge this decline as a national security issue.

Current policies and objectives in the public and private sector, taken together, dangerously undercut America's current and future global position through instability, inefficiency and risk. America's political and business leaders must understand that improving our nation's competitiveness is an urgent priority with much higher stakes than is acknowledged today.

For example, the toxic political battle over the country's fiscal future threatens everything from U.S. sovereign credit ratings to geopolitical dynamics in the Pacific, where China and Japan together hold more than \$2 trillion in U.S. debt.

This crisis offers an opportunity to redefine national security in a way that reflects America's true strength and power -- and its vulnerabilities. The U.S. military is unmatched, but focusing on that might as the best measure of American power in the 21st Century is a

strategic mistake. While the U.S. has been at war, nations such as China, India, Russia and Brazil have emerged as economic and geopolitical players with clout the United States is still coming to grips with. With the U.S. out of Iraq and exiting Afghanistan, policymakers have been given a unique chance to construct a vision for the future that is not tied to the political, economic and social dynamics of the past decade.

America's competitive profile is a good place to start. We need to look at its interrelated elements at the same time, rather than careening from one hot-button issue to another. These elements include business climate, infrastructure, national debt, labor market and immigration, defense industrial base, as well as education and healthcare.

There are more signs that this is an increasingly urgent issue.

In less than five years, the U.S. has fallen in one of the main benchmarks of national competitiveness: the World Economic Forum's 2012-2013 Global Competitiveness Report. The report currently ranks the U.S. 7th overall, just behind Germany, while in 2011, the U.S. ranked 5th. The last time the U.S. held the title as the top ranked nation was 2009.

Meanwhile, debt-crisis politics cause credit ratings agencies to downgrade the sovereign debt of the U.S. while high corporate tax rates with extensive loopholes create an unpredictable business climate.

The American Society of Civil Engineers gave the U.S. a "D" rating on its infrastructure report card and found investment in infrastructure underfunded by more than \$1 trillion over a five-year period.

While China and Japan remain taciturn about the fiscal fracas in Washington with each holding more than \$1 trillion in U.S. debt, other nations are becoming increasingly vocal, including Europe's biggest economy: Germany.

The U.S. immigration system is out of phase with a globalized market for the world's brightest workers and can do much more to retain foreign students who study science, technology, engineering and mathematics.

The defense industrial base's small firms often provide crucial technologies and systems yet are becoming increasingly vulnerable to cash crunches and tight lending, while the largest contractors and the Pentagon endlessly wrestle to get major weapons program costs under control.

At the household level, healthcare costs rise year after year and the risk of medical-related financial trouble is ever present. Tuition costs for higher education have surged and only 75% of high school students graduate in four years.

Each of these trouble spots deserves attention given their acuity, yet the only way to make meaningful progress is to address them as part of a consensus that aims to achieve something much bigger: improving America's competitive position in the world.

In Washington, bipartisan political action is fraught with risk. November's election is still in the rear-view mirror and is a reminder of the stakes lawmakers are playing for when they decide to take action, or stand aside. Beyond politics, the public sector in general needs a sense of urgency so that process does not impede progress.

As for the private sector, one of its most important steps will be a self-examination of what the role of business in 21st Century America should be. By extension, one measure will be how a business leader's actions might help or hurt America's competitive position, or national security itself.

This will require balancing some of today's toughest and most contentious issues in a way that is faithful to the needs of shareholders and business owners while also bringing empathy and understanding to the needs of employees and their communities.

However, none of this will be possible without acknowledging the seriousness of the current situation and the clear paths available to improve America's competitiveness, and by extension, our national security.

## **New Mexican administration seeks cooperation from Washington**

William Chodkowski

[Flashpoint Blog](#)

28 Nov 2012

At ASP's event commemorating the release of its [American Competitiveness Report](#) this morning, speakers professed the need for policymakers to interpret national security holistically – to reach beyond traditional state security to long-term issues like economic vitality. America's traditional insulation stems from its geographic position, surrounded by two vast oceans and flanked by friendly neighbors. But globalization erodes those historical barriers and lends even greater weight to efforts to foster economic cooperation and investment.

A [recent Wall Street Journal article](#) outlines the stated commitment of the incoming Mexican administration of Enrique Peña Nieto to engage the second-term Obama administration in improving the bilateral relationship between Mexico and the United States for mutual economic benefit. Mr. Nieto's Institutional Revolutionary Party (PRI) was elected on a platform of encouraging economic growth through reform designed to encourage foreign investment.

Whereas the previous Calderon administration's legacy was marred by the instability caused by drug trafficking organizations (DTOs) responsible for approximately 65,000 deaths over the past six years, the PRI hopes to address cartel-inspired corruption and violence through economic improvement. This presents an opportunity for Washington to indirectly

address controversial issues – immigration policy and drug policy – through cooperation designed to bolster economic growth, trade, and investment.



The U.S. ability to control the [supply and demand of narcotics flowing into the country](#) from Mexico through enforcement measures is highly limited, especially in an effort to uphold a conjugal relationship with the sovereign Mexican state. Nonetheless, strengthened public and private sector ties to the Mexican economy can help build the societal institutions which will delegitimize cartel control: rule-of-law, education, and productive economic activity. The political framework exists in Mexico's stable federal democracy, and the economic framework for improvement through trade and investment was established with NAFTA in the 1990s.

While spillover of cartel violence across America's borders has been limited thus far, the PRI's pledge to work together with their counterparts in Washington should be pursued in the spirit of holistic security. A stable and prosperous southern neighbor in Mexico is preferable to American policymakers for a range of reasons. The [convergence of two new administrations](#) provides an opportunity for bilateral cooperation that should not be squandered.

## Why Nuclear Fusion is Worthy of Further Research and Government Investment

Andrew Holland

[Flashpoint Blog](#)

22 Oct 2012

Last week, I spent two days at the International Atomic Energy Agency's 2012 [Fusion Energy Conference](#) in San Diego. The conference, sponsored by the U.S. Department of Energy's Office of Science and General Atomics, brought together about 1000 fusion scientists from around the world to meet and discuss the state of the art in scientific research to develop fusion energy.

Fusion is a technology that holds great promise in meeting our energy needs. By fusing together two hydrogen isotopes – deuterium and tritium – enormous amounts of energy can be produced, as predicted by Einstein's equation,  $E=MC^2$ . The heat from this reaction creates steam to spin a generator just like any other electricity power plant. Since deuterium comes from ocean water, and tritium can be bred from lithium, fusion holds the promise of providing a nearly inexhaustible supply of energy, with no pollutants, no greenhouse gases, and no radioactive waste. There is no threat of a nuclear meltdown like there is with the nuclear fission reactors of today.

This is the same process that powers the sun, and it could completely revolutionize the energy system when commercialized. However, the problem is that it is fiendishly hard to initiate a reaction anywhere other than under the tremendous gravitational force of a star. Scientists have not been able to confine the heated plasma on earth in such a way that it creates a reaction that generates more power than it put in – a term called “ignition” or “energy gain.” For more detail, see ASP's [mini-site](#) on fusion.

Most of the presentations at the conference were above the scientific knowledge of the average person

(they were certainly well beyond my understanding!). However, I am convinced by my experience there that the scientists believe they are now on a pathway to energy gain.

While in San Diego, I took a tour of General Atomics' DIII-D fusion machine, one of only 3 tokamaks (the donut-shaped reactor designed to confine plasma for the purposes of generating fusion) in the country. The DIII-D has revolutionized the science of containing and controlling the plasma in which a fusion reaction takes place. When operational, the DIII-D fires an experimental 5 second "shot" of plasma through the machine. It was down for maintenance while I was there.

Critics of fusion often say that it is the energy of the future and always will be. However, I would point out that the DIII-D was originally built in the 1960s, and was last substantially upgraded in 1986. Similar trajectories can be noted at the other major American research facilities, like MIT and Princeton. Throughout the 90s, and into today, there have been plans for new machines that could lead to breakthroughs, but persistent budget cuts have prevented new advances.

Even so, scientists at the conference seemed convinced that they are on a pathway to achieving ignition with energy gain over the next decade or two. These predictions are dependent upon the level of government funding – not an easy or guaranteed thing at this time – and some scientific breakthroughs. The ITER project in Cadarache, France promises to achieve energy gain when it is operational by the end of this decade.

Fusion is not tomorrow's energy source, and I am not advocating that we put all our energy research and development eggs in this one basket, but in a world with a population growing towards 9 billion people, with economic growth and prosperity directly linked with the use of finite fossil fuel resources, we must plan for alternative energy sources. Renewable resources can meet some of those needs, but they will become in-

creasingly difficult to mesh with our modern energy grid as their levels get higher.

The presentations I saw last week convinced me that there are many hurdles before the ultimate goal, but that the scientists are on their way. With the quality of the minds working on it, and with the clear benefit that limitless power would bring, this seems like a "Hail-Mary" pass that we should be investing in. Someday, we will realize fusion as a limitless, safe, clean energy. If America does not invest in it, other nations will, and we'll be forced to buy it from them.

I will have future posts on the state of the budget for American fusion, and progress towards fusion in smaller, privately-funded companies. I should also direct readers to my most [recent article](#) up on AOL Energy that discusses Lawrence Livermore's National Ignition Facility, and why the New York Times' editorial page was wrong to attack it.

## **Sequestration or not - change is coming**

August Cole

[Flashpoint Blog](#)

30 Sept 2012

The battle over defense spending continues to intensify, with the latest skirmish at the heart of one of the defense industry's main pressure points.

Last week, the Obama administration effectively told government contractors that if they issued mass lay-off warning notices ahead of the November election, as many threatened earlier this year, the companies would potentially lose out on recouping sequestration-related costs associated with cutting employees or shuttering facilities.

Hundreds of thousands of defense contractor workers

could be warned that their positions may be lost -- a notification coming right before they vote.

This move underscores two urgent elements key to the near-term future, and prosperity, of the industry.

The first: escalating stakes in the political fight over defense jobs. Whoever wins the Oval Office and controls Congress, will help determine whether the next phase in the defense industry's trajectory is cyclical decline or something bigger and structural.

Politics more than policy may be the ultimate factor, and that is a long-term risk. Yet that is why major contractors are willing conjure the spectre of hundreds of thousands of layoffs if sequestration takes effect, an outcome that if it happens would be certain to be pinned on President Obama.

The second element is tied to the industry's business model itself. If sequestration occurs, who shoulders the expense of its impact? Taxpayers? Or shareholders?

The Obama administration's subtle threat in last week's OMB memo speaks clearly to this as it appears to shut down an avenue for contractors to shift the cost of sequestration's impact onto taxpayers. That is a sure way to catch the attention of defense CEOs who are ever mindful of their shareholder responsibility. The upside of the past decade showed how far defense stocks, and executives' stars, could rise.

The next 10 years, sequestration or not, will be a whole new test for corporate leaders, taxpayers and politicians alike.

## continues

August Cole

[Flashpoint Blog](#)

7 Sept 2012

This summer is one of winners and losers.

Yet after the Olympic fanfare in London, another race continues. After the headline-grabbing medalists return home and plot a return to glory, a larger story of competition continues to unfold out of sight as policymakers and executives around the world dive grapple with the issue of national economic competitiveness during the worst economic crisis in a lifetime.

How nations handle this adversity matters more than ever. The latest judgment on the competitive position of the United States comes from the World Economic Forum.

The group's 2012-2013 annual report ranked the U.S. 7th, slipping further from the podium. Last year, the WEF ranked the U.S. 5th out of 144 countries; the U.S. was 4th in the 2010-2011 report.

Out of the 144 countries ranked, the US fared poorly in the business costs of terrorism (ranking 124th), government budget balance as a percentage of GDP (140th) and general government debt as a percentage of GDP (136th).

The study also looked at "the most problematic factors for doing business" by surveying executives. The most commonly mentioned factor: inefficient government bureaucracy. The next two were tax rates and tax regulations.

As the WEF report, and others show, the race globally for competitiveness continues. Getting the U.S. back onto the podium remains more important than ever.

You can read the report here: [The Global Competitiveness Report 2012-2013](#)

## The race globally for competitiveness

## R&D Funding Critical to American Competitiveness

Galen Petruso

### [Flashpoint Blog](#)

17 Dec 2012

In an era of a changing climate and high energy prices, U.S. energy innovation is critical for future prosperity for America. Federal support for research and development (R&D) for a range of cutting edge technologies has long provided the underpinnings for economic growth. A look back at a history of government support, particularly from programs led by the Departments of Energy and Defense, demonstrates time and time again that federal R&D support can lead to successful technological breakthroughs.

Looking forward, with rising powers around the world, it is more important than ever to adequately fund a variety of science and technology fields to create the innovations of tomorrow.

However, science funding is under threat from looming budget cuts, and critical R&D programs may become casualties in deficit reduction efforts.

Recently, the group Securing America's Future Energy (SAFE), a group of private sector and military leaders, hosted a roundtable discussing its new report on "National Strategy for Energy Security."

During the event, Sen. Lamar Alexander (R-TN) [argued](#) that Congress should double the Department of Energy's R&D funding to usher in new scientific breakthroughs that could reduce American dependency on oil and help close the federal deficit.

Similarly, Politico [reported](#) that the White House is undertaking efforts to shield the R&D budget from cuts during fiscal cliff negotiations.

Taken together, the comments demonstrate a sense of bipartisan support for science R&D as well as an interest from both sides of the aisle in investing in energy technology that will lead to innovation.

The support for the science budget comes at a time when funding is actually significantly lower than in previous years. Adjusting for inflation, federal funding for energy-related R&D [has fallen](#) by 70 percent between 1978 and 2006, from nearly \$7 billion to just \$2 billion.

Still, science funding could be cut if Congress fails to prevent sequestration, triggering \$1.2 trillion in automatic spending cuts over 10 years. Sequestration would [cut](#) an estimate \$618 million dollars from DoE programs involved in R&D. This would have obvious ramifications on America's ability to fund advancements in energy.

Even if sequestration is avoided, R&D funding may be slashed as part of a bipartisan package that cuts government spending generally.

Policymakers routinely express a sense of support for R&D in the abstract, but when the rubber meets the road, too often long-term R&D programs are cut. One example is with the Office of Fusion Energy Sciences, which conducts research into fusion energy. Although fusion energy promises to produce clean, safe and abundant energy when commercialized, Congress is considering cutting its budget to save money. This short-term thinking is misplaced.

As ASP noted in a fact sheet published a few weeks ago, the American innovation system has opened up new industries from key technological breakthroughs. Examples can be seen with nuclear power, aviation, GPS and the internet, just to name a few.

Cutting science funding now would be a penny saved and a pound foolish. The challenges are too daunting – from rising global energy demand, to resource scarcity, to climate change – technology

will be needed to solve the biggest global problems. America certainly needs to get its fiscal house in order, but it also needs to also invest for the future.

For more information about the importance of scientific research and our national security read the ASP fact sheet on [science and national security](#)

## New Fusion Report: Shift Focus to Producing Practical Energy

Nick Cunningham

Flashpoint Blog

9 Nov 2012

The Electric Power Research Institute (EPRI), a non-profit research organization supported by major utilities, recently published [a report](#) on the prospects for fusion energy in the coming decades.

There are two main approaches to fusion energy – Magnetic Confinement Fusion and Inertial Confinement Fusion. Both approaches have subcategories (EPRI counts seven approaches in total), and the EPRI report provides some technical explanations of each, including potential advantages and limitations.

EPRI's report issues three key recommendations: 1) direct more fusion research to operational challenges of a power plant, 2) identify common materials and technology needs that could be used in multiple approaches to fusion, 3) monitor and periodically evaluate status fusion research, so as to identify the most promising concepts.

The first recommendation revolves around the notion that fusion energy research needs to be focused more on how to produce fusion for practical purposes – harnessing energy in a power plant. This would be a departure from the current focus, as EPRI suggests, which centers on basic research instead of how to produce practical energy.

The second recommendation relates to the fact that one of the main technical barriers to producing net energy from fusion is in materials science. For in magnetic fusion devices – tokamaks – harness hot plasma to compress fuel. In Inertial fusion, lasers shoot fuel contained in a pellet. However, one major obstacle to both approaches is finding the right materials that can handle the extreme temperatures. If scientists can address that problem, one of the major technical hold-ups can be addressed.

The third recommendation – monitoring the status of fusion research – is an interesting one because as of right now, it is unclear which approach will be successful. Pursuing multiple options will increase the probability of success. However, periodically evaluating fusion programs will allow the fusion community to identify which approaches appear to be the most likely to lead to practical fusion power.

Once fusion research nears commercialization, EPRI provides two follow-on recommendations: the establishment of an advisory group of utilities to plan for fusion power plants; and the need to begin the regulatory framework for permitting and licensing. These two recommendations are important – once fusion power is proven to be viable, the electric power industry and the regulatory authorities need to be ready to pave the way for commercial fusion power.

Getting electrons on the grid from a fusion reactor will take time and investment. EPRI concluded, that “[u]ltimately, demonstration facilities sponsored by the U.S. Department of Energy will be required, just as was the case in the early days of water reactor technologies.”

EPRI concluded that all seven fusion proposals (which includes subcategories of Magnetic and Inertial fusion) are “worthy of continuing R&D funding but that none were ready to be exploited as near-term power sources.”

To see more on ASP's fusion work, click [here](#).

# NUCLEAR SECURITY



## **We can cut some spending on nuclear strategy**

LtGen Dirk Jameson USAF (Ret.)

[Stars and Stripes](#)

14 Dec 2012

Policymakers consumed with avoiding the “fiscal cliff” are missing a critical opportunity to review U.S. nuclear posture. The rapidly changing world, aging nuclear systems, and pressing budget issues make this the right time to update our nuclear strategy for the 21st century.

Today, our nuclear strategy still bears the imprint of the Cold War. The nuclear triad retains our same Cold War arsenal, but reduced in size. It is still far beyond the level that rational military strategists find necessary or practical. With the Cold War seen clearly in our rearview mirror, the U.S. and Russia must continue to reduce the mountain of nuclear weapons so ill-matched to combat modern threats.

Unless a careful reassessment of current needs is made now, we will be spending billions of dollars to extend the life of each leg of the triad. Building a new fleet of nuclear submarines will cost an estimated \$100 billion. A new nuclear bomber could cost up to \$60

billion. The Minuteman III ICBM modernization and replacement program will cost about \$7 billion. Spending billions on nuclear forces beyond a credible deterrent diverts resources from the defense capabilities our troops really need.

A reassessment of the U.S. nuclear strategy must question whether we still need triple redundancy: bombers, submarines and land-based missiles. One element of the reassessment could revalue the overwhelming conventional advantage the U.S. maintains and reduce the triad to two parts, relying upon conventional superiority instead of the third leg.

In addition, other elements of the nuclear complex must not escape scrutiny. Examples of wasteful nuclear programs are everywhere, from a \$10 billion life extension program for B61 bombs in Europe to a \$6 billion facility that produces new plutonium cores for nuclear weapons. These costs add up: In the next decade America will spend more than half a trillion dollars on nuclear weapons programs.

A careful study of the capabilities we have and the planned upgrades in light of the capacity needed will be a crucial exercise in both cost-effectiveness and security needs. Nuclear doctrine is not sacred. Our security environment is different now, and our force structure must be responsive to that environment.

It will be tough sledding to get a fundamental reconceptualization of the Cold War calculus of the triad’s redundancies. The status quo seems safe, and there are deep intellectual and financial investments in the current configuration. But unnecessary spending on nuclear capabilities puts U.S. security at risk. Moreover, an oversized nuclear arsenal sends the wrong message to states with potential nuclear ambitions, undercutting U.S. attempts to prevent and reverse proliferation.

National security experts such as Dr. Frank Miller, a key player in nuclear security matters for many years, and Gen. James Cartwright, former vice chairman of the Joint Chiefs of Staff, have set the stage for

updating U.S. nuclear posture by asking how many warheads and platforms are needed to address today's challenges. As Cartwright noted, "The world has changed, but the current arsenal carries the baggage of the Cold War."

I recommend a presidential commission of experts to help formulate and adjust our nuclear strategy to meet the military and fiscal needs of the 21st century. This commission should contain experts not only in nuclear matters, but those with a deep understanding of current and potential threats. Such a group could find ways to redefine a nuclear force of the future that is smaller, smarter and more effective than the oversized, unwieldy arsenal of the Cold War.

## What Pyongyang's Test Means And Where to Go From Here

Derek Bolton

[Flashpoint Blog](#)

17 Dec 2012

North Korea's recent satellite should come as no surprise, given Pyongyang's repeated attempts to acquire such technology in the face of international condemnation, but the announcement is nonetheless unnerving.

Still, rather than intensified pressure and aggressive military posturing that is sure to threaten Pyongyang (and China), the U.S. should undertake confidence-building measures in an attempt to forge an environment receptive to a larger, more inclusive deal.

The first important fact to keep in mind when considering next steps with North Korea is that the successful launch of the Unha-3 rocket is the first such success story. An intercontinental ballistic missile capable of carrying a nuclear warhead is still several difficult stages away. Confidence in the rocket is [still far](#)

[from the levels](#) necessary to utilize the Unha-3 as an offensive weapon, let alone a carrier device for potential miniaturized nuclear warheads (of which North Korea has none).

Remaining hurdles include developing the technology required for a missile to re-enter the earth's atmosphere once it has been launched, and guidance systems for striking specified targets, all of which will take multiple tests to master. Finally even with the extended range provided by the Unha-3, the DPRK is only capable of striking parts of Alaska, where the U.S. has a number of interceptors already in place.

Secondly, a successful policy towards North Korea must take into account that the test of the Unha-3 was [largely derived](#) from internal factors.

The Unha-3 launch was likely a tribute to Kim Jong Il near the anniversary of his death as well as a showcase for North Korea's "[strong](#)" status in the world. Such a display became especially desirable after the debacle of the North's failed launch this April.

Additionally given the success of its first "space launch" North Korea will now be able to boast of the disparity between its space program and that of [South Korea](#).

Finally one cannot overlook the launch's impact on Kim Jong Un's hold over North Korea. Reports over the past few weeks have indicated an ongoing reshuffling of top military positions within the DPRK, including Defense Minister Kim Jong Gak with General Kim Kyok-sik. The success of the missile launch may boost Kim Jong Un's hold over the military.

Pursuing CBMs could allow for alternative outlets for the North to pursue if when addressing domestic concerns in the future.

This is not to say North Korea should be rewarded for their blatant disregard of [UN resolutions](#) specifically prohibiting them from such tests. But increasing sanctions may do little to alter North Korean policy. Instead Washington, in consultation with Beijing and other regional allies with mutual security interests,

must remind North Korea of the folly in their action, while pursuing CBM's to allow for greater communication, trust, and transparency.

One important aspect of the launch that must be investigated further are the rumors surrounding [possible participation](#) by [Iranian scientists](#). While still lacking sound evidence, such collusion would lead to fears over information proliferation (Iran could benefit from information garnered from the launch), and the extent of cooperation between the two countries.

Isolation has failed to halt North Korea's nuclear progress. Addressing this security challenge will therefore require a joint regional approach focused on fostering an environment suitable to more long-term-overarching engagement that can address non-proliferation issues. This will take substantial time and commitment by all sides, but such efforts are the most likely to bear fruit.

## Experts Support Resizing the Nuclear Arsenal

Mitchell Freddura

[Flashpoint Blog](#)

20 Nov 2012

In an era of fiscal constraint and shifting national security challenges, the United States nuclear security strategy should not be informed by anachronistic Cold War assumptions. A smaller nuclear arsenal would more effectively address today's security threats and free up resources for critical defense capabilities.

This is one of the takeaways of a new report by the Stimson Center entitled, ["A New US Defense Strategy for a New Era: Military Superiority, Agility, and Efficiency."](#) The report, whose defense advisory committee includes experts like ASP Consensus members [Graham Allison](#) and [Amb. Richard Burt](#) and ASP Board member [Lt. Gen. Daniel Christman](#), ar-

gues that U.S. defense strategy and spending priorities should be realigned in light of 21<sup>st</sup> century security threats.

Updating the U.S. nuclear posture is a key part of developing a more effective defense strategy. As the report notes, "the size of US strategic nuclear forces is driven by perceived requirements to deter nuclear attacks on the US or its allies by Russia; no other nation has a comparable nuclear arsenal."

The report recommends that "the US should reduce the size of its nuclear forces as rapidly as possible, preferable through a new treaty with Russia, and make commensurate reductions in planned nuclear modernization programs."

Reducing the number of strategic delivery systems, delaying some modernization programs, and reducing some missile defense systems could save an estimated \$60 billion over the next ten years, the report says.

Some of the experts on the report's advisory committee argue in appended comments that the report does not go far enough in its nuclear recommendations, particularly with respect to the triad of nuclear delivery systems – bombers, submarines, and land-based missiles.

Gordon Adams, a distinguished fellow at the Stimson Center, argues for retaining only nuclear submarines, the most survivable leg of the triad. Similarly, Ambassador Richard Burt and General James Cartwright refer to their [recent report](#) calling for eliminating land-based missiles and maintaining a total stockpile of 900 warheads.

The Stimson report demonstrates that while security experts may disagree on the size and shape of the future U.S. nuclear arsenal, there is a broad bipartisan support for updating our nuclear strategy to reflect the 21<sup>st</sup> century security environment.

In addition to the signers of the Stimson report, supporters of a new nuclear posture include former

Secretary of State Colin Powell, former commander of U.S. Strategic Command Gen. Eugene Habiger, and Sen. Tom Coburn (R-OK), whose recent deficit reduction plan included \$79 billion in savings from eliminating unnecessary nuclear capabilities.

As Lt. Gen. Dirk Jameson (ret.), former deputy commander in chief of U.S. Strategic Command, [recently wrote](#), “Having more weapons doesn’t mean we are ‘winning’—or will even succeed in deterring others from pursuing nuclear weapons. It merely reflects that our nuclear strategy is ill-suited to our times.”

Maintaining unnecessary nuclear capabilities diverts resources from critical defense programs. The U.S. must eliminate Cold War nuclear capabilities and invest instead in a defense strategy for the 21<sup>st</sup> century.

## Nuclear Programs Force Defense Budget Tradeoffs

Mary Kaszynski

[Flashpoint Blog](#)

20 Nov 2012

There are a lot of ways you spend \$640 billion. You might invest in military capabilities that keep our troops safe in the field. You could expand programs that benefit veterans. You might even put something towards paying off the national debt, which is at \$16 trillion and climbing.

Instead, U.S. policymakers are choosing to spend [\\$640 billion](#) over the next ten years on nuclear weapons and related programs.

The [\\$640 billion question](#), as Ploughshares Fund’s Ben Loehrke puts it, is this: “Should the U.S. put its money toward a Cold War nuclear strategy? Or should those funds be spent to equip the military to address 21st century realities?”

Today, two decades after the Cold War, the U.S. still has [over 5,000](#) warheads in its active stockpile. Moreover, we are planning to embark on several ambitious and expensive modernization programs for nuclear bombs and delivery systems.

This oversized nuclear arsenal fails to address the national security threats we face today. As Lt. Gen. Dirk Jameson, former deputy commander in chief and chief of staff of STRATCOM, [recently wrote](#), “Having more weapons doesn’t mean we are ‘winning’—or will even succeed in deterring others from pursuing nuclear weapons. It merely reflects that our nuclear strategy is ill-suited to our times.”

Spending more on nuclear weapons means spending less on more effective defense capabilities. This tradeoff becomes even starker as the Pentagon budget faces budget constraints. Unless we take a hard look at our nuclear spending plan, unnecessary nuclear programs could squeeze more important programs out of the budget.

In a \$640 billion budget, examples of unnecessary programs are not hard to find. The life extension program for the nuclear bombs deployed in Europe, for example, is estimated at [\\$10 billion](#) – more than double last year’s cost estimate. A facility to produce new plutonium pits, the cores of nuclear weapons, could cost close to [\\$6 billion](#). Buying 12 new nuclear-armed submarines will cost about [\\$100 billion](#); operating the fleet will cost billions more, for total lifecycle costs of close to [\\$350 billion](#).

Military leaders, security experts, and policymakers on both sides of the aisle agree that eliminating excess nuclear capabilities will strengthen U.S. national security. [General James Cartwright](#), former head of U.S. Strategic Command, former Secretary of State [Colin Powell](#), [and many others](#) have called for shedding Cold War capabilities for a smaller, more effective nuclear force.

The answer to the \$640 billion question is clear. Spending billions on unnecessary nuclear capabilities

isn't just unwise; it puts U.S. national security at risk by diverting resources from necessary defense programs.

The real \$640 billion question is this: will parochial interests trump national security? Or will policymakers make the right choice to end Cold War thinking and bring our nuclear strategy into the 21<sup>st</sup> century?

## **Wanted: Transparency in the Nuclear Budget**

Mary Kaszynski

[Flashpoint Blog](#)

11 Oct 2012

Even in today's hyper-partisan environment, there's one thing policymakers on both sides of the aisle agree on: eliminating wasteful defense spending is a crucial part of solving the nation's fiscal crisis.

There's just one problem: no one knows how big the nuclear budget is. There's no line item for nuclear spending. The National Nuclear Security Administration doesn't know how much the nuclear enterprise costs. Neither has the Department of Defense. (Or, if they have crunched the numbers, they haven't shared the results with taxpayers or policymakers.)

It's hard for Congress to exercise oversight over the nuclear weapons budget when they can't get a straightforward answer on how big the budget is.

To inject some much-needed transparency into the nuclear budget debate, the [Ploughshares Fund](#), a global security foundation (and, in the interests of disclosure, an ASP funder) has [calculated the costs of nuclear weapons](#) and related programs based on publicly available data.

The conclusion: the U.S. is on track to spend about \$640 billion on nuclear weapons and related pro-

grams over the next decade.

Included in that topline amount is funding for some critical nuclear initiatives, like programs to secure and remove nuclear materials in vulnerable locations. Other nuclear programs are more questionable.

Take [the B61 nuclear bomb](#) modernization program for example. One year ago the price of extending the service life of the nuclear warheads deployed in Europe was pegged at \$4 billion. Today the estimated price tag is \$10 billion. That's \$10 billion for nuclear weapons that most experts agree [serve no military purpose](#).

It seems that the more you dig into the nuclear weapons budget, the more examples of waste and mismanagement you find. The cost estimate for one [new nuclear facility](#) has exploded from \$375 million in 2001 to almost \$6 billion today.

We learned recently that the price tag for another nuclear building - a plant to produce fuel that [no one wants](#) to buy - has [increased by \\$2 billion](#). And then there's the \$6.5 billion facility that has to be re-designed, after half a billion dollars has already been spent on the project, because all the equipment [won't fit in the building](#).

Ending these boondoggles is a good first step towards eliminating the fat in the nuclear budget. But the underlying problem is the outdated nuclear strategy that calls for maintaining unnecessary nuclear capabilities.

Because of this outdated strategy, and members of Congress with [vested interests](#) in nuclear projects, the U.S. is planning to [spend billions](#) to modernize the triad nuclear delivery systems - [bombers](#), [submarines](#), and [land-based missiles](#).

Some current military leaders (again, those with an interest in protecting the nuclear budget) [insist that](#) maintaining all three platforms is the right thing to do, even when spending cuts loom. But many retired military leaders (including General James Cartwright, former commander of the U.S. Strategic

Command) [argue that](#) it's time [rethink the triad](#) and the [Cold War strategy](#) that underpins it.

Maintaining excess nuclear capabilities is a strategic mistake. Nuclear programs that we don't need divert resources from defense programs that we do need to address today's security challenges.

The nuclear weapons budget has been hidden for far too long by shoddy accounting and a lack of transparency. It's time for some transparency and accountability. It's time for policymakers to exercise some oversight, scrutinize the nuclear budget, and eliminate waste and mismanagement. Our nuclear forces, and national security, will be stronger for it.

# NATIONAL SECURITY STRATEGY



## Supporting the Foreign Service Supports our Military

Mathew Wallin

[Flashpoint Blog](#)

18 Dec 2012

The U.S. foreign service is comprised of [roughly 13,300 personnel](#) deployed around the world. This is less than the manpower of [2 carrier strike groups](#), which are often deployed more than two at a time to small regions like the Persian Gulf. With [more than 285 missions](#) overseas, that averages to less than 47 foreign service officers (FSOs) per station. To put things in perspective, many big box retail stores have staffing sizes larger than this, and they often only serve a few square miles in a city. Not surprisingly, the GAO released a report this year indicating [significant experience gaps and vacancies](#) for overseas positions.

Thomas Boyatt, Ronald Neumann, and Abelardo Valdez just authored [an op-ed in The Hill](#) contending that the foreign service needs more support. This goes beyond throwing lump sums of money or issues of diplomatic security. Rather, our FSOs need the training, leadership, staffing and appropriate positioning to succeed in their mission—at far lower costs than

the deployment of a military expeditionary force. The [average annual cost of deploying a single soldier](#) to Iraq was \$685,000, and has been \$1,186,000 for Afghanistan since FY2005.

Just as corporations hire the best suited candidate for specific positions in the private sector, the State Department should place its foreign service officers in the positions they are best suited to serve. It makes no sense to deploy an individual with fluency in Japanese to Kenya. Yes, there are situations in which there may be overabundances or deficiencies of certain specialists and language speakers, but why transfer people around when they are clearly most suited to benefit our national security by serving in a particular region? It would seem that if building relationships with countries is an extended process, that transferring people out of that country after between two and four years is counterproductive.

The foreign service, despite being a diplomatic position, still comes with a degree of risk. While our leaders should not ignore this risk, they should understand that some risk is required in order to gain benefit. Though protecting the lives of our diplomats and foreign service officers is paramount, that ultimately serves little purpose if our diplomats are prevented from doing the jobs they are assigned.

A public diplomat can no better accomplish his or her mission from behind a barricade than from beyond the grave. It's the equivalent of sending a soldier to fight a war without a weapon. Public diplomats' tools for success are their personal, physical presence and humanity, backed up by the support of the American Government. In order to be credible, public diplomats must be seen as caring as much for the people with whom they communicate as they do for themselves, and as supporting their words with actions.

Daryl Copeland, a former Canadian diplomat and author of *Guerrilla Diplomacy*, recently wrote of the difficulties of [maintaining diplomatic security](#) along with the ability of diplomats to actually practice diplomacy. He wrote:

When you turn diplomatic missions into something resembling Fort Apache, and when diplomatic practice is limited by inordinate restrictions arising from concerns about personal safety, the establishment of vital local connections, and of relationships based on confidence, trust and respect, is next to impossible.

Policy makers need to keep an eye on the long-term benefits of true diplomatic engagement. Short-term risks may deliver on long-term payoff at significantly lower cost, decreasing the likelihood of expensive and deadly military commitments down the road. Members of our military risk their lives to carry out our national policies. While diplomats generally do not fight our nation's wars, they sometimes face similar danger doing the work that is intended to make sure we do not have those wars to fight—and that is supportive of our military. Surely, that must be worth some risk.

## **America: Surpassed by the United Kingdom**

Mathew Wallin

[Flashpoint Blog](#)

19 Nov 2012

Word is out that the [U.K. has toppled the U.S. in Monocle's 2012 Soft Power Survey](#). Given all the positive news coming out of the Isles this year, one should neither be surprised, nor particularly worried.

Chances are, there are likely some who are not impressed. As evidenced by the Obama-Maroney photo released by the White House yesterday, American memes have a soft power of their own and American culture is strong.

Certainly, the U.K. has had a lot going for it in the past year, including the London Olympics— a soft power spectacle of the most overt kind. There was also the Queen's Diamond Jubilee, William and Kate's Asia tour, the success of Downton Abbey, Sky-

fall, and much more. 2012 has been about celebrating all things British. Yet since soft power is a subjective measurement, it must be understood that other research publications, such as the Anholt-GfK Nation Brand Index, may produce different results, as indicated in its [2011 numbers](#).

That is not to suggest that America shouldn't be cognizant of its soft power direction—while a drop from number 1 to a measly 2<sup>nd</sup> place ranking isn't exactly drastic, there are a few areas the U.S. could improve on to increase its soft power draw. Americana is an ever-present if not pervasive factor in many countries worldwide, indicating a certain amount of soft power success. Whether music, movies, food, or other forms of American culture, the United States is certainly not in decline. However its existence as part of many people's every day lives may in fact contribute to a subconscious ignorance in some cases, rendering people more aware of soft power advancements by other countries. We should keep in mind that for some, the pervasiveness of American culture creates resentment.

Also notable is that in some countries, a singular instance, such as the rise of K-Pop beyond East Asia this year, can contribute disproportionately to increases in the soft power of that nation. Along this point, [VOA reports](#) that the popularity of PSY's "Gangnam Style" could contribute significantly to South Korea's tourism economy. That's a very real hard power gain from a soft power resource. This year, people around the world are far more aware of South Korea as an exporter of culture. The question is, will any of that awareness seep its way across the DMZ into North Korea? After all, there are those that argue that Rock and Roll played a part in eventually [causing the fall of the Soviet Union](#).

Despite the U.K.'s impressive showing this year, some may wonder exactly how America lost its first place footing. Factors contributing to a drop in stature for America could include the state of our politics, [which Walter Pincus this year called](#) as bad as he has ever seen. The election, while fascinating much of the

world, could be seen as positive in its tale of democracy, yet harmful in its sometimes dirty politics. Further contributing to a decline, America's persistent financial troubles and looming fiscal cliff certainly do not shed a positive light.

In 2012, America's biggest soft power success probably resides in the Mars Curiosity Rover, and policy makers should be well-aware of the inspiring power of our space program. Also not to be forgotten is the U.S. performance in the London Olympics, including Michael Phelps' spectacular accomplishments. But will the U.S. be able to reclaim its #1 spot from the U.K. in 2013? Only time and culture will tell.

## Public Diplomacy After the Election

Mathew Wallin

[Flashpoint Blog](#)

06 Nov 2012

Regardless of who wins the election today, America's public diplomacy must remain a primary consideration in the course of foreign policy.

Here are 5 priorities in PD for the next administration:

Fortify

Relationships with our allies around the world must continue to be fortified. American efforts in combatting terrorism, challenging our enemies, and solving our mutual problems are best bolstered through cooperative relationships with other nations. The world is too interconnected for America to tackle problems on its own. Engaging our allies and working together provides our best chances for geopolitical success and breaking those regimes which wish to do harm.

Leadership

For more than a decade, America's public diplomacy apparatus witnessed a great deal of difficulty in maintaining strong and consistent leadership. Prior to Tara Sonenshine's appointment this year, the Under Secretary for Public Diplomacy and Public Affairs position remained unfilled 30 percent of the time since its establishment in 1999. The next administration must support the importance of this position by continuing its current leadership or minimizing its vacancy. America's message to the world is vital—strong, consistent leadership is vital to supporting that message.

### Follow Through

Words must be backed up with action in order to create trust relationships with foreign populations. The next administration must choose its words and commitments wisely, ensuring that promises made to often-skeptical foreign populations are kept, assuming they are achievable promises in the first place. Words that are not backed up by action and tangible accomplishments damage American credibility in a fashion that has long lasting ramifications. Successes in this field tend to be far outweighed by perceived failures or inconsistencies—minimizing those negatives is crucial. The United States must set an example to be followed, and keeping to our words and commitments is crucial.

### Listen

The concerns, aspirations, and desires of foreign publics cannot be ignored, especially when developing foreign policy solutions that either affect them or otherwise require their cooperation for success. The United States must make greater efforts to truly understand the societies and cultures of foreign countries in order to help develop solutions that best achieve America's strategic goals. Listening gives America credibility as a nation that is not solely self-interested. Ignoring foreign opinion renders these populations less cooperative, and makes America appear to be a less credible communicator.

### Understand

Public diplomacy is not a cure all, and cannot be expected to make up for shortcomings in policy. Policy makers must always consider the basic strategic goal they are trying to accomplish before developing plans to achieve that goal. In order to create successful public diplomacy campaigns, practitioners and policy makers must understand both how it can help, as well as its inherent limits. This will educating policy makers about PD, and developing metrics to better comprehend how it can be effectively used.

## **India's Pursuit of Hydrocarbons: Fueled by More Than Energy Concerns**

Colin Geraghty

### [Oil and Gas Monitor](#)

16 Oct, 2012

India's rise in world affairs since 1998 has been underpinned by rapid economic growth that began with the liberalization measures of 1991. The result is, among other things, a sharp increase in energy needs (India is the world's fourth-largest energy consumer) which its domestic resources are inadequate to meet. While India is seeking to diversify its energy sources, investing in renewable energy, as well as nuclear power, its reliance on coal and hydrocarbons will only grow over the next 20-30 years – and grow faster than its domestic production will. Imports of oil already account for over 16% of India's total energy consumption, while domestic production rose by only 1% in 2011-2012 over the previous year. Despite the landmark civil nuclear agreement between the U.S. and India, nuclear power will not factor in a significant way in India's energy calculations for the next few decades, and recent legislation passed on nuclear liability issues may make progress on this front even slower.

India's growing dependence on imports naturally influences its foreign policy, which now seeks to ensure both access to hydrocarbons and secure the shipping lanes that transport them to India. In January 2012, Prime Minister Manmohan Singh declared that "Energy security has a global dimension. Even with the best domestic effort our dependence on imported energy is expected to increase. We need assured access to imported energy supplies and also access to new energy related technologies. (...) We also need a proactive foreign policy, protecting our access to such resources and to foreign technology."

The interplay between energy needs and foreign policy plays out in two notable ways.

India currently imports a large part of its oil from the Middle East (about 44% of all its oil imports come from that region), but is constantly seeking out new partners. It is actively pursuing oil exploration deals in Myanmar, for instance, and may look to import shale gas from Australia as well. Most of its opportunities require using shipping lanes. Though India is interested in land routes that might transport hydrocarbons into India, potential pipelines for natural gas, such as the Iran-Pakistan-India pipeline, or the Turkmenistan-Afghanistan-Pakistan-India pipeline, do not figure to factor significantly into India's energy equation anytime soon, given the geopolitical complexities and regional turmoil that have hindered meaningful progress to date.

Maritime transportation will thus remain the key external vector to meeting India's energy needs. India's growing dependence on sea lanes of communication, which carry the vast majority of its imported hydrocarbons, is fueling its deepening engagement with the Indian Ocean region and beyond. Indeed, successive Chiefs of Naval Staff (the highest-ranking naval officer in India) have cited India's energy security, as well as the security of energy flows to and from India, as a key priority for the Indian Navy as it embarks on a large-scale modernization drive. As one of the main

refining nations in the Indian Ocean region (with important facilities at Jamnagar on its West coast, for instance), India's concerns involve the safe flow of hydrocarbons it imports for national consumption and imports to be refined and then re-exported. Energy consumption and trade both contribute to India's growing naval presence throughout the Indian Ocean region. Moreover, India's emergence stems from its economic growth, made possible by its increasing interaction with the global economy. As a result, it is possible that over time India will become more concerned with preventing disruption, whether by non-state actors such as pirates or due to actions taken by another state, of the hydrocarbon highways that flow from the Western Indian Ocean region to the Asia-Pacific nations.

At the same time that energy needs shape India's foreign policy, oil exploration can also be a pretense to achieve other, geopolitical objectives. The agreement ONGC Videsh Limited (OVL) signed with Vietnam for the right to explore oil off the coast of Vietnam, in the South China Sea, may be one of the best-known examples of this dynamic. OVL initially backed out of the deal, citing difficulties "techno-commercial" difficulties including drilling the hard seabed, but reversed that decision in July 2012 after China moved to auction off an area that included the block attributed to OVL, claiming it part of Chinese sovereign territory. Following Beijing's move, the Indian Ministry of External Affairs incited OVL to maintain its contract, even without actively exploiting it. The main value for India of the deal with Vietnam wasn't the potential oil it might exploit, but the additional leverage and flexibility it afforded India vis-à-vis China.

Articles have flourished predicting conflicts between energy-hungry India and China, as both nations place an increasing emphasis on securing access to hydrocarbons in their foreign policy. Such prophecies should be discounted. Both nations will continue to compete for access to hydrocarbons, whether in Central Asia (though transportation difficulties there will continue to impede Indian involvement), in Africa or in coun-

tries such as Burma, but such competition will not boil over into overt conflict. There will even be instances of cooperation, such as in Angola and Sudan, although the limited results such ventures have yielded to date suggest this may not be repeated often moving forward. (There are even reports hinting that lack of progress in South Sudan is due in part to the government's displeasure with China's Sudan policy – in other terms, India's ability to access resources is in this case hindered by the policy of its Chinese partner, a situation it cannot be eager to repeat.)

In short, India will continue to compete for new opportunities to gain access to oil resources abroad, as a key part of its efforts to enhance its energy security and sustain its economic growth, which remains its overriding priority. Indian leaders are increasingly factoring in energy needs as part of its national security, with naval officials playing a lead role, but must do a better job, as experts such as Michael Kugelman have argued. When examining India's pursuit of oil exploration deals, it is important to bear in mind that India's energy needs can shape its actions abroad just as they can be shaped by India's foreign policy considerations.

## **International law takes on cyber: significant challenges ahead**

Ashley Boyle

[The Hill](#)

24 Sept, 2012

Speaking at the U.S. Cyber Command Inter-Agency Legal Conference last week, U.S. State Department Legal Advisor Harold Koh confirmed the U.S. position that international law is applicable to the cyber environment.

In his speech, Koh outlined ten principles guiding U.S. efforts on cyber engagement in the international space, most of which align with key provisions of the Tallinn Manual on the International Law Applicable to Cyber Warfare. Released in early September by NATO's [Cooperative Cyber Defense Center of Excellence](#) (CCD COE), the draft unofficial document was compiled from the opinions of legal and technical experts, and examines how existing international law, jus ad bellum and jus in bello, applies to the cyber environment.

As the incidence of malign cyber operations increases, there is a burgeoning need for an international code of conduct between states – a “cyber relations manual.” Given the novel and preeminently intangible characteristics of cyber, the application of laws designed for kinetic activity to this domain presents several challenges that have impeded further development of legal frameworks. Fundamental principles of international law – thresholds, sovereignty, and attribution – prove particularly challenging to translate to the cyber environment, as demonstrated by the expert opinions set forth in the Tallinn Manual.

**Thresholds** - International law would come into play when a cyber operation conducted within the context of an international armed conflict breaches a threshold that qualifies it as a “use of force” equal to kinetic activity. According to Rule 30 of the Tallinn Manual, a cyber operation would be a cyber attack if “reasonably expected to cause injury or death to persons or damage or destruction to objects.” Considering the intangible nature of a cyber operation, physical damage is a tall, but certainly not impossible, order. Interestingly, the more pressing concerns of surveillance malware, cyber espionage, and financial crimes would likely be relegated to the domestic arena as cyber crime.

**Sovereignty** - International law is grounded in state sovereignty, a somewhat abstract concept that has underpinned the architecture of world order since Westphalia: the independent authority of a government ex-

exercised over a discrete geographic area. Conversely, it would seem that the architecture of the cyber environment has developed outside modern notions of geopolitics, especially given that its end product, information, transcends all geopolitical and social boundaries.

However, a physical infrastructure underlies the cyber environment, from one nation's servers to undersea cables linking continents to satellites bouncing signals overhead. This infrastructure is owned piecemeal by individual nations and is therefore subject to international law. As such, a nation exercises sovereign control over the cyber infrastructure inside its territory or in its possession; a nation also has jurisdiction over any cyber activities conducted within its territory as well as those that use its infrastructure, whether such activities originate within its territory or are simply passing through.

Attribution - Cyber activity lends itself to anonymity via multiple layers of abstraction. To oversimplify, a cyber operation can be launched by a citizen of State A from the territory of State B and target State C. The citizen of State A can use various techniques at the point of origin to obscure his identity as well as route the operation through any number of nations and infrastructures between the operation's launch in State B, and its target, State C.

Determining responsibility for a cyber operation requires both the technical ability to trace the operation back to its creator – an effort that fails more often than it succeeds – and a legal framework by which to assign responsibility. If the perpetrator of a cyber attack were to be found, assigning responsibility remains a complicated matter because it is not relegated solely to the perpetrator. The operation's point of origin, the infrastructures through which it passed, its target, resulting damage, and jurisdiction at each node in the attack would also factor into any determinations on state-level culpability.

Technology has historically preceded the law. Cyber

operations have already far outpaced the development of legal frameworks, which face challenges in translating fundamental principles of international law to the cyber domain. While a cyber operation that unequivocally breaches international law may have yet to occur, the current absence of a legal framework enables actors deserving of punitive action to operate without accountability. It also leaves open the future potential for false-positives (incorrect assignments of responsibility) and unintended consequences. Koh's address was well-timed. There is a growing demand to understand how international law applies in the cyber environment, and it is essential that the U.S. have a leading role in the discussion.

# ASYMMETRIC OPERATIONS



## Drone Knowns and Unknowns

Joshua Foust

[OpenCanada](#)

13 Dec 2012

Why the discussion about drones is vague and muddled at best.

One of the biggest challenges in discussing the way the U.S. uses drones to target suspected terrorists is establishing basic data and agreeing to terms. The debate often rests on muddled and vague terms, which results in a lot of assumption but very little analysis based in fact. In addition, the data to support many public stances on drones is neither rigorous nor exhaustive, which makes drawing firm conclusions about the program difficult, if not impossible.

Put in the simplest terms, the drone debate is not actually about drones, per se – it is really about a broader policy of capturing or (far more often) killing suspected terrorists the U.S. government judges to be a threat. The drones used to carry out these targeted killings are just one weapons system the U.S. military and CIA use – others include helicopters, traditional piloted aircraft, cruise missiles, and even small teams of special operations forces (such as the SEAL team that killed Osama bin Laden).

By focusing so heavily on a single weapons system, many critics of drone strikes can't see the forest for the trees. Referring to remotely piloted aircraft as “killer robots” (as [some writers do](#)) focuses attention on a single platform used to enact a policy, rather than on the policy itself. The policy of killing suspected terrorists is what matters, not the weapon used to carry it out.

Beyond the policy, however, is the issue of data. Few studies of drones and their effects use rigorous methods to collect and analyze data, and all studies of drones are severely hampered by the lack of useful data available: As a result of classification issues, the government will not publicly say when it launches a drone strike (or even a non-drone targeted killing).

Indirect measurements of the effects of drones strikes are incredibly difficult to carry out. In some areas, like the Federally Administered Tribal Areas, the Pakistani government will not permit researchers to directly visit strike locations. In others, such as Somalia, the environment is so volatile that physically getting to a strike location can be difficult.

Interviewing self-described drone victims is not a good way of researching drone effects, either. No published study interviewing supposed victims has included a weapons forensics expert who could correctly diagnose injuries as definitively coming from a weapon fired by a drone. Prominent studies like the NYU/Stanford report “Living Under Drones” rely on anti-drone activist groups in Pakistan to arrange interviews with supposed victims outside of the drone strike areas. There's no way to know if their interviewees really experienced drone strikes or not.

Across the few case studies that exist, there are a few common elements: a reliance on the same databases and data points, the availability of only a limited range of metrics, and analytical weaknesses that potentially exacerbate data bias.

The lack of reliable data is arguably the biggest factor preventing experts from drawing even broad conclu-

sions about lethal drone strikes. The most-cited public databases in studies, created by the [New America Foundation](#), [The Bureau of Investigative Journalism](#), and [The Long War Journal](#), rely on media reports of drone strikes. Less well-known databases based at universities, like the [UMass Drone](#) project, also rely on media reports to assemble data.

Media accounts are a poor basis for generating rigorous data about drone strikes. Stories about drone strikes are almost never directly reported or confirmed (despite [claims to the contrary](#)). Depending on the perspective of the media outlet, reports on the same strike event can vary significantly: American media reports are likely to differ substantially from those of its Pakistani counterparts due to national perspectives alone, let alone willful manipulation for political and social purposes. In the absence of any government or official narrative, it is nearly impossible to reconcile the purported “facts” contained in any media report. Thus, such data are inherently biased, having been compromised at the source level rather than through collection.

The U.S. government, in particular, is not open about its strike data. The drone program in Pakistan is so highly classified the government cannot even acknowledge it exists. Because there are so few sources of data available, many analysts try the best they can to sift through the many incomplete, unverifiable, and often contradictory media reports of drone strikes to try to understand the effects of these weapons.

There is no reason to doubt the intentions of these analysts, but it is important to keep in mind that, ultimately, they are trading in guesswork. The lack of good data makes it difficult to understand the targeted killing program beyond polemics and advocacy.

One way to break the logjam is for the government to acknowledge the serious downsides of its program and respond to them. Whatever its effectiveness or utility, the targeted killing program in Pakistan has [poisoned the bilateral relationship](#) and spurred widespread anti-Americanism. In Yemen, too, this same program

is [creating anti-Americanism](#) in some communities and alienating Yemenis from their government – the opposite of the program’s intended effects. When U.S. officials have publicly defended the use of drones, their comments have been as [vague](#) and [inadequate](#) as the many criticisms of the program.

Right now, the drone debate is more or less deadlocked by outside researchers trying to piece together an incomplete picture of the program while the government issues ambiguous assurances that it is effective and legal. The uncertainty of the debate, its vague and unclear terms, and the severely incomplete data all hurt the public’s ability to understand and evaluate what its government is doing in its name abroad. More government transparency about data, processes, and methods would go a long way toward improving public dialogue and supporting the broad goals of U.S. foreign policy (namely, diminishing the ability for terror groups to strike).

## Myanmar’s Money, Obama’s Visit, and China

Dan Grant

[Flashpoint Blog](#)

3 Dec 2012

Now that the presidential election has been put to rest, Barack Obama has turned his attention to his administration’s most ambitious foreign policy project: rebalancing America’s global focus to East and South Asia.

It’s predicted that close to half of all global growth over the next five years will come from this area, so it’s unsurprising that America would deepen its involvement there. There is a more unspoken element of this policy, however: this shift allows the United States to keep a watchful eye and potential checking power on China.

Elements of this policy have been ongoing since Obama's first term: Australia agreed to host a U.S. Marine base in Darwin late last year; Prime Minister Yoshihiko Noda is subtly altering Japan's defense posture with quiet American support; and the president dispatched Secretaries Clinton and Panetta to the region this week to attend the annual meeting of ASEAN in Cambodia.

The president himself visited Myanmar in a show of solidarity with its newly reform-minded government. It was a first-ever presidential visit to that country, which underscores the seriousness with which the administration views rebalancing.

Myanmar previously had been a student of the North Korean practice of statecraft, consisting of isolation, autarky, and paranoia, most recently evidenced by a refusal of international aid after a catastrophic cyclone in 2008. With Thein Sein's 2011 rise to the Prime Minister's office in Myanmar, however, the changes have been dizzying: the release of political prisoners, openness to economic reform, and a push toward a functioning democracy. The reason for this openness has sprung from several sources: a legitimate desire to join community of nations; the harsh economic realities of isolation; internal power struggles in Yangon – but behind all these is China.

Myanmar has a gold mine of natural gas and oil in its territorial waters. Energy-hungry China wants it, and has pledged billions to assist in their development. It's an understatement to say that China has a complex history with its neighbors, and it's not surprising that Myanmar has judged it prudent not to link its economy too closely to China, and has shifted to include other international partners.

Part of this shift has been a set of subtle, but fundamental, economic changes, including Myanmar's reform of its currency system. The kyat was moved to a managed floating exchange from a fixed rate earlier this year, which has helped spur an influx of investment from abroad.

To solidify its relationship with Myanmar, the United States should do all it can to support these economic reforms. To this end, the Obama administration should commit to the following:

- Assist Myanmar with expertise and logistical support in the next step of its currency reform: the planned phase-out of Foreign Exchange Certificates - Myanmar's dual currency for foreigners - which is scheduled for next year. This will solidify the kyat into a credible, floating, and unified currency, which is one of the fundamentals for attracting investment.
- Push for Myanmar's inclusion in APEC, the Asia-Pacific Economic Cooperation, which promotes Pacific economic development and trade. It operates in parallel with ASEAN, which Myanmar will chair in 2014. Myanmar's entry into APEC would be a natural next step, and would further encourage investors and reassure neighbors.
- Shepherd Myanmar into in the Trans-Pacific Partnership, an Asian trade group spearheaded by the United States, which will ease movement of capital, simplify customs regulations, and provide basic investor protection.

The United States should do all it can to support these changes and make them permanent. They would solidify Myanmar's entry into the international community as an active partner, and quietly dilute China's influence in Yangon.

The fact that the Chinese government's Propaganda Department has mandated that local media downplay Obama's visit to Myanmar indicates how much Beijing has taken notice. Rebalancing needn't necessarily be a repetition of twentieth century American-Soviet Cold War containment, however.

Asia is more than large enough for a great deal of international activity, and Myanmar even

presents a chance for Sino-American cooperation in humanitarian development. That said, Obama's visit to Yangon signals that America's interest in the Pacific is serious, redoubled, and will be at the forefront of U.S. policy for decades.

## What the Somali Media Needs to Survive

Matt Freear

[Flashpoint Blog](#)

28 Nov 2012

As November comes to a close, no media personnel in Somalia have been killed which marks it out as an unusual month for 2012. [International statements of condemnation](#) for the eighteen journalists and media celebrities killed this year have been quick and clear. Yet the reason for this spate of murders remains cloaked in confusion, general hand wringing and quick blaming, but has led to conspicuously little action, at least until now.

Why should the United States care at a time when there are other more apparently important issues higher on the agenda for Somalia? In short, the relative freedom of media to operate goes to the heart of Somalia's destiny both in terms of whether governance will improve to serve its people and what shapes the future of Somalia's national culture.

As a vital cog in political debate, the safety of the media is a strong indicator of the health of the state, as they check the power of government and business interests. An active and relatively independent media also provides an important space for public debate and is central to nurturing a sense of shared nationhood, both of which Somalia sorely needs.

With forty-four media practitioners killed since January 2007, and a terrible spike this year, Somalia is the second most dangerous place in the world to be a jour-

nalist, after Syria. The death rate is just a small part of a culture of intimidation and censorship, not all of which is apparent. The safety and freedom of journalists in previously stable areas of [Puntland](#) and [Somaliland](#) appears to be worsening too.

Within the re-energized but contested Somali culture landscape journalists are acutely vulnerable. One of the recent victims was a [popular radio comedian](#), who satirized the Islamist militants. As the hardline militants, many of whom are from foreign cultures, have lost ground in Somalia they are increasingly resorting to tactics of terror and intimidation to force their vision of Somalia's future on its people, and they know the media represents a powerful channel of influence. Al Shabaab have claimed responsibility for at least ten of the eighteen murders this year.

Perhaps what is most tragic about the recent spate of murders of Somali journalists and media personnel is that isn't a spate at all; it has become business as usual with reporters seemingly [disposable pawns in high-stakes games for prestige, power and money](#). Owing to low or non-existent salaries for journalists, the corrupting practice of *sharuur*, looks to be on the increase. [This is where reporters are paid to write particular stories on behalf of patrons leaving them vulnerable to attack and acts of revenge](#).

Yet, not a single attack has led to any investigation or prosecution. Blame appears to be hidden in a [complex network of incentives and interests in the business and political world of Somalia](#). [Recent notable attacks as the bombing of a café](#), which killed three journalists, had all the hallmarks of al Shabaab. But there has been a recent increase in a very different style of attack, often by pairs of gunmen, carrying out well-rehearsed murders on individual media personnel at specific times and places, without any claim of responsibility.

In a recent visit to Mogadishu, [Under Secretary of State for Political Affairs, Wendy Sherman, encouraged civil society, of which the media is a part, to hold the government to account](#). To put a check on the

deteriorating situation the United States and others need to revitalize a culture of deterrence and kindle some sense of justice to stem the violence. That is why [the African Commission on Rights called](#) on international partners to support the establishment of an independent commission of inquiry.

It would be easy to jump to conclusions and see a Police conspiracy or at least corruption behind the widespread impunity. However, a virtually non-existent level of investigative capacity among the Somali Police may also be to blame. [The United Nations Human Rights Council recently required](#) member states to consider how to support the Somali authorities and this might need to include technical assistance to carry out better investigations.

Somalia's media will probably need to resolve to clean up their act in order for international partners to fully advocate on their behalf. This is about much more than training, ethics committees and regulation. Incentives need to change. Managing Somalia's dangerous media landscape requires politically strong editors and owners who can lead stronger, better-funded media organizations.

Moves by international partners to better support the media are welcome, as is the President's task force to investigate the spate of murders. Action will need to be brave and far-reaching, however, to enable the media to make their valuable contribution to Somalia's future. Currently, there are too few commonly accepted rules of the game by which journalists can safely navigate their profession in Somalia. Until the culture of impunity is forcefully tackled and the industry systematically bolstered reporters will remain vulnerable to the whims of powerful interests.

## **The Business of Threat Proliferation: Rethinking the Approach**

Ashley Boyle

[Flashpoint Blog](#)

13 Nov 2012

Mainstream examinations of U.S. counterterrorism (CT) strategy frequently adopt a tactical perspective: how large-scale attacks are foiled through law enforcement or military action, or how responsible parties are tracked down and brought to justice. This perspective, however, frequently ignores the enabling factors of organizations and activities that threaten U.S. national security.

A number of inputs are required by illicit organizations to successfully plan and execute criminal acts against the U.S. These actors rely on sound financing that is adequately disguised so as not to reveal either its source or intended use. Threat finance encompasses the means and methods employed by illicit actors to secure financing for operations and activities in a manner that evades detection by authorities. This manner of financing utilizes various forms of [money laundering](#) – ranging from shell charitable organizations, extortion, and kidnapping, to counterfeiting, fraud, or market-based schemes. In 2011, illicit cash flows were estimated to account for [2 to 5% of global GDP](#) (approximately US\$800 billion to US\$2 trillion).

Threat finance is a multifaceted issue the U.S. Government faces as global systems further integrate, driven by technology and communication. Terrorism and crime are businesses, nearly inseparable from this technological innovation and connectivity. Consequently, any effective strategy to combat threat finance must take the following into consideration and call on a range of capabilities to detect, disrupt, and deter these operations.

Terrorism and crime are business operations. This understanding requires a different perspective and approach to degrading the capabilities of illicit actors. Mainstream examinations of terrorism and crime are output-driven, centered on potential and realized damages, as well as recovery efforts. Examining these activities instead as business operations requires an input-side focus on limiting resource availability -- such as money -- and gaining insight into illicit organizations to prevent the realization of their objectives.

Threat finance is intertwined with technological innovation and proliferation. The global financial system (GFS) is ever more integrated due to advances in technology and communication. Global networks, such as [SWIFT](#), enable access to the global marketplace, while international institutions like [BIS](#) aim to regulate and maintain GFS stability. However, this increased connectivity and technological innovation, coupled with the potential for abstracted or anonymized interactions, has also reduced barriers to money laundering. Informal value transfers such as [hawala](#) persist, but many illicit financial activities rely on access to technological resources at some point. Therefore, anti-money laundering (AML) regulation cannot be wholly addressed independent of technological standards and best practices. Of critical import presently is a [lack of cyberspace regulation](#) and threat information sharing in the U.S. -- an enormous gap in oversight easily exploited for illicit activity.

Effectively countering threat finance requires a balanced approach that leverages various capabilities. Degrading illicit financial networks will be countered most effectively through a combination of practice, policy, and education. The diverse characteristics of threat finance necessitate a broad range of technical capabilities in [financial intelligence](#) guided by effective, exacting regulation. Policies and regulations must be effective, but still enable legitimate actors to counter threat finance without bearing excessive costs in doing so.

An opportunity exists in AML efforts for both private

industry and the public to play a much larger role in detecting and reporting questionable financial practices and transactions. These two groups are generally better positioned than authorities to encounter behaviors symptomatic of money laundering and financial crimes. Therefore, establishing best practices, raising awareness, and expanding the availability of reporting mechanisms could significantly augment AML efforts with limited investment.

An effective public-private partnership must be at the foundation of future U.S. AML efforts, predicated on an informed, balanced policy. This partnership, in addition to educating frontline enforcers and consumers about money laundering and its consequences is key. The earlier an illicit financial operation can be detected, the more likely it is to be disrupted before evidence of its existence gets lost in the noise. And though much has already been done on the domestic and international levels to counter money laundering, closer coordination between authorities and better integration of domestic and international practices is needed, while enforcement must be consistent across all levels.

Ultimately, the challenge of degrading illicit financial networks cannot be addressed through comprehensive legislation alone; rather, its individual factors will need to be addressed as such through both policy and practice. Targeting the activities of illicit organizations on the input side (money laundering) complements efforts directed at countering the outputs of their activities (acts of terrorism, trafficking, and other acts). Together, these two sides of a sound counterterrorism strategy will bolster U.S. abilities to discover and dismantle operations posing a threat to U.S. national security, and deter other actors from engaging in similar behaviors.

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The American Security Project will be examining threat finance, financial intelligence, and related issues via its [Threat Finance and Financial Intelligence](#) program, as part of an Asymmetric Operations focus.

## Asymmetric Maritime Threats to the Strait of Hormuz

Elizabeth Deal

[Flashpoint Blog](#)

1 Nov 2012

As Iran refuses to address ongoing concerns regarding its nuclear program, tensions between its leaders and the international community have escalated. The United States has made clear through [multiple statements](#) that a nuclear Iran is a serious threat to national security and that the U.S. will employ all means to prevent it. While military options may still be premature, tough economic sanctions combined with diplomacy are being used by the international community to get Iran to come clean about its nuclear activities.

Existing sanctions have placed considerable pressure on the Iranian regime as they negatively impact Iranian citizens. Even before the European Union approved the [latest round of wide-reaching sanctions](#), Iran had [publicly threatened](#) to utilize its geopolitical influence in the region to hold or close the Strait of Hormuz should it be provoked.

Preventing Iranian exports through sanctions may well be viewed by Iranian leadership as provocation enough to warrant the seizure of the straits. Furthermore, there are [strategic advantages for Iran](#) if it unilaterally decides to close the straits. Because the US has also stated that it will [not accept any interference in the Strait of Hormuz](#), a closure by the Iranians could temporarily distract the US from planning a preventive attack on Iranian nuclear sites. While actions by either side may appear drastic, the strategic importance of the straits cannot be overestimated and all threats should be seen as credible. The Strait of Hormuz is the world's most significant oil chokepoint with over [17 million barrels of oil](#) transported through the straits each day in 2011. Most alternatives to the straits are currently not operational. Ad-

ditionally, with its narrow traffic lanes, the straits are [highly susceptible](#) to attack.

Iran is well poised to exploit the security weaknesses of the straits. The Iranian navy, through geographic location and well-developed capabilities, could effectively hold or close the straits for a short duration. [Regional conflicts](#) have acted as training ground for operations such as mining and missile campaigns.

Mining in particular could be an effective deterrent for the Iranians against US and international pressures. Depending on the method, Iran could set [thousands of mines](#) in a relatively short time period. Iran was estimated to have around [5,000 sophisticated mines](#) at the beginning of 2012, a capability that is expected to continue to grow.

Because the US has staked its credibility on promises to defend the sea lanes, mining of the straits would elicit immediate action. Current US strategy for a closure of the straits relies heavily on [mine countermeasures](#), including the [controversial Littoral Combat Ship](#). There are few viable alternatives to large-scale military action included in the strategy.

Opening the straits would not be easy or without cost.

Clearing could take weeks or months, depending on the number of mines and Iranian employment of anti-ship missiles at the same time. Even if the process was completed relatively quickly, oil markets could [experience effects](#) far into the future. Moreover, the US and the international community would face on-going economic challenges as oil flow was strangled and military forces were again deployed to the Middle East. Iran's closing the straits might in itself be considered an act of war. Alternatively, military action in the straits could potentially [escalate into a larger conflict](#) with Iran.

In the end, securing the Strait of Hormuz would still not meet the ultimate objective of preventing Iran from getting the bomb. All parties involved would incur [high economic costs](#) and the threat of another

attack on trade in the straits would not have diminished.

While Iranian intervention in the Strait of Hormuz is not inevitable, increased pressure on the regime calls for a practical US plan of response in case of attack. Iran should not be granted the opportunity to gain strategic advantage in the region.

## Narco-trafficking in Afghanistan and Mexico: Parallel Lessons?

William Chodkowski

[Flashpoint Blog](#)

26 Oct 2012

The following excerpt is from a [recent article by John Sullivan and Adam Elkus in Small Wars Journal](#):

“[They address] entities with substantial firepower, intelligence, and political clout. Reducing violence as a strategy in order to create a new equilibrium will not in itself resolve the basic political dispute between a state and substate actors looking to seize control or manipulate the state’s legitimate and illegitimate institutions... American involvement will not be ignored or regarded as neutral”

Does the quote narrow down the issue or geographic region they are focusing on? If you guessed Afghanistan, you are incorrect. Sullivan and Elkus are in fact addressing the deterioration of political legitimacy in Mexico through informal economic and political domination by drug cartels. However, if the excerpt from the article brought Afghanistan to mind, the overlapping framework is laid effectively. Though the political environments in Mexico and Afghanistan - and resulting American responses - differ significantly, there are some basic parallels U.S. policymakers should recognize. And perhaps the shortcomings of the Afghan occupation can offer

some lessons for policy responses to narco-trafficking in our next-door neighbor, Mexico.

### Afghanistan

The “kickoff” of an independent Afghan government largely responsible for establishing its internal security, rule-of-law, and legitimate political institutions will officially commence upon the withdrawal of US troops in 2014. [For better or worse](#), it will be left to the Afghans themselves to sort out political and sectarian disagreements and [establish a stable and enduring state](#). A major obstacle they face is the lack of lucrative economic activity to drive growth. In many regions, opium farming is the only realistic source of profit. Resultantly, a self-perpetuating political-economic cycle has developed between poppy producers and their Taliban guardians.

By capitalizing on the relatively static global demand for opium (Afghanistan produces roughly 90% of the world’s supply), the perpetrators of civil conflict find an [enduring economic foundation in illicit drug trafficking](#). The opium-funded insurgency has proven particularly effective in adapting asymmetric tactics to counter American technological dominance. The opportunity for said operations to undermine the central government’s legitimacy is likely to only worsen without strong democratic institutions and social norms to prevent it.

### Mexico

Though Mexico has an established federal government and a productive economy, severe challenges from narco-trafficking organizations, especially against local and municipal governments in remote regions, have vastly undermined the rule-of-law. Critical attempts to label Mexico as a “failed state” are perhaps [exaggerated rhetoric](#), but the prevalence of corruption and cartel influence through all levels of government are widely acknowledged.

As the vast majority of demand for Mexican-routed

# CLIMATE AND ENERGY SECURITY

cocaine and marijuana is from the United States, U.S. policymakers have a direct, vested interest in the legitimacy of the Mexican government and its ability to combat narcotrafficking. The newly-elected Institutional Revolutionary Party (PRI) has thus far willingly cooperated with American anti-trafficking operations and pledged its commitment to take cartels seriously by establishing a paramilitary police force with greater capacity to combat well-armed traffickers.

The tools to address the drug trade are more readily available in Mexico than Afghanistan. Shared geography and mutual trade arrangements with the U.S. drive the necessity for a stable and legitimate Mexican state. The failed American effort to set up de facto governance and mitigate instability in Afghanistan sets a precedent that should be avoided at all costs.



## Strategic bases vulnerable to climate change

STEPHEN A. CHENEY AND NICK CUNNINGHAM

[STARS AND STRIPES](#)

1 Nov 2012

Climate change is scientific fact; it is real and its effects are felt around the world. Climate change poses significant long-term national security threats to the United States. Drought, severe storms, floods and rising sea levels are just some of the consequences of climate change.

These dangers may destabilize fragile governments, exacerbate existing tensions, and feed extremism. Left unaddressed, climate change will present challenges to America's economy and military. These issues are discussed at length in the American Security Project's new "Climate Security Report."

One worrying cost of climate change is the threat to dozens of military installations both at home and abroad. As the 2010 Quadrennial Defense Review Report notes, "In 2008, the National Intelligence Council (NIC) judged that more than 30 U.S.

military installations were already facing elevated levels of risk from rising sea levels. DoD’s operational readiness hinges on continued access to land, air, and sea training and test space.”

According to the Department of Defense 2012 Base Structure Report, the U.S. military manages property in all 50 states, seven U.S. territories and 40 foreign countries, comprising almost 300,000 individual buildings around the globe. These buildings are valued at \$590 billion. The Army alone has more than 14 million acres of property, 2,000 installations and 12,000 historical structures.

Climate change puts these installations at risk. For example, in 1992, Hurricane Andrew nearly wiped out Homestead Air Force Base, Fla., and Hurricane Katrina destroyed 95 percent of Keesler Air Force Base, Miss. These bases were rebuilt, but it took millions of dollars to do so.

Environmental threats to international U.S. military installations have more strategic implications. For example, the island of Diego Garcia in the Indian Ocean is a critical logistics hub for U.S. and British forces in the Middle East. It also houses Air Force Satellite Control Network equipment that is used to control the GPS constellation. The island is extremely vulnerable to the effects of climate change because it is only one meter above sea level. If the island is flooded or inundated completely, the U.S. will lose a strategically vital installation.

In order to prepare for these changes and to secure our military investments worldwide, the Department of Defense must conduct a comprehensive assessment of the vulnerabilities of military installations to climate change. Such an assessment could determine how climate change affects both the physical integrity of our military outposts and national security strategy.

The American Security Project ranked the five military installations that are most at risk due to climate change. They are:

1. Diego Garcia is vulnerable to coastal erosion and

flooding.

2. Bahrain houses the U.S. 5th Fleet, and the fleet has fixed installations on and around the Persian Gulf island-state. As a low-lying island, U.S. bases are at risk to climate instability and coastal erosion.

3. Guam is home to one of the most strategically important U.S. bases in the Western Pacific Ocean. Because the island is exposed in the open ocean, it is susceptible to extreme storms, sea-level rise and erosion.

4. Eglin Air Force Base, Fla., is the largest Air Force base in the world. Since it is on the coast in the Gulf of Mexico, it faces storm surges, sea-level rise and saltwater infiltration, which causes problems with freshwater resources in the area.

5. Norfolk Naval Air Station, Va., is one of the largest naval complexes in the world. Because of its location on the southern tip of Virginia, it is at risk of sea-level rise and storm surge, but it may also face threats from hurricanes in the Atlantic.

American national security strategy depends on military installations positioned around the world. In order to reduce the risk of climate change to these bases, the U.S. should take prudent, farsighted measures to invest in low-cost adaptation options — sea walls, storm surge barriers, coastal setbacks, and others.

In the end, if the seas continue to rise and storms grow stronger, the challenge of adaptation will only become more costly. Ultimately, the security of American military installations is at risk to a changing climate.

## Small modular reactors provide path forward for nuclear power

Nick Cunningham

[The Hill](#)

23 Oct 2012

Earlier this month, I took a tour of the Calvert Cliffs nuclear power plant, located on the shores of the Chesapeake Bay in Maryland. A two-unit, 1700-megawatt power plant, Calvert Cliffs generates about one-fifth of the power needs for the entire state of Maryland, or equivalent to the electricity demand for the city of Baltimore. We saw the generators, peaked into the control room, viewed video of the spent fuel pools, and discussed some of the safety features needed to keep the plant safe.

What we did not see was the third reactor building. That is because it was never built. Constellation Energy, now a subsidiary of Exelon, applied for a construction and operating license in 2007 to build a third reactor that would have been equal to the size of the first two reactors combined.

However, in October 2010, Constellation Energy decided to scrap its plan to build a third reactor because DOE requested an \$880 million fee in exchange for a \$7.6 billion loan guarantee, an amount Constellation said was “unreasonably burdensome.” DOE argues the fee is necessary to compensate taxpayers for taking on risk.

Leaving aside who was right and who was wrong in this situation, the fact remains: large nuclear power plants suffer from extraordinary upfront costs. This is a big problem, especially when considering the role nuclear power plays in our energy mix: it is the only source of large base load power that emits zero greenhouse gas emissions.

So, what do we do? One path forward for the nuclear industry is through the construction of Small Modu-

lar Reactors (SMRs). SMRs are nuclear reactors that are intentionally designed to be less than 300-megawatts, or about one-third of the size of conventional large reactor. By making them small, they have several key benefits not available to large reactors. These issues are discussed at length in a new American Security Project (ASP) report, “Small Modular Reactors: A Possible Path Forward for Nuclear Power.”

First, SMRs offer flexibility. Since they are small, they can be added to the electric grid incrementally. Slow incremental additions better match the slow energy demand growth in the United States, which is projected to be less than 1% per year. Utilities have little interest in building a huge nuclear reactor when demand is not rising quickly enough to justify the investment.

Second, SMRs are designed with several safety features that are an improvement over large reactors. By using simpler designs with fewer coolant pipes and components, the risk of a safety accident declines.

Third, and perhaps most importantly, SMRs have an advantage in cost over large reactors. While a typical large reactor can cost between \$6 and \$9 billion, an SMR has an estimated price tag of only \$250 million for a 100-megawatt reactor. With smaller upfront costs and shorter construction timeframes, utilities can get loans with lower interest rates.

Despite these advantages, no SMR has been constructed to date. Why isn't the industry building SMRs right now? The biggest obstacle for SMRs is that the Nuclear Regulatory Commission (NRC) has licensed no SMR design.

A second impediment is the lack of a track record on performance. Without an example to point to, the burden is on the nuclear industry to prove that the advantages of SMRs discussed above are indeed an improvement over conventional reactors. Until the first plant moves ahead, uncertainty remains.

A third problem is low natural gas prices. The nuclear

industry remains bullish on their prospects over the long-term, and with assets that last 60 years, it is essential to not get swept up in the latest hype. However, low natural gas prices present real problems for industry, at least in the near-term.

For Calvert Cliffs, a third large reactor no longer makes economic sense. While hurdles remain, moving forward with an SMR may offer a viable alternative.

Whoever occupies the White House come January 2013, the administration will need to lay out an ambitious energy agenda, one that will shape our energy mix for years to come. Nuclear power will likely play a prominent role in America's energy future, but in order to do so, the nuclear industry must chart a new course. SMRs offer a possible path forward.

## The reality of climate change can no longer be ignored

Lieutenant General Daniel Christman, USA (Ret.), Brigadier General Steve Anderson, USA (Ret.) and Brigadier General Stephen Cheney, USMC (Ret.)

### [Global Post and Alaska Dispatch](#)

10 Dec 2012

Last week, Hurricane Sandy put climate change back in the political discussion. Sandy gave the American people a painful taste of what is likely to be in store for us as the planet's weather continues to change rapidly. The storm inflicted significant damage on regional infrastructure, crippled transit, and left millions without power. Only the extraordinary accuracy of our weather prediction and foresight in preparations by state and local governments prevented a catastrophic loss of life as well.

And yet, while our political leaders treat threats like terrorism, Russia, or cyberwar as existential threats to America's national security, they lump climate change into an issue that only special-interest "environmental" campaigners care about. While no one doubts the existence of al Qaeda, many otherwise serious politicians have questioned the underlying facts about climate change.

This has to change, and it starts with the facts. First, climate change is real and it is already underway. The temperature record is undisputable. Over the past century, the average mean global temperature has risen [about](#) 1.4°F (0.8°C). The warmest decade on record was the 2000s, with each of the three decades previous to that warmer than the decade before. While it is true that the earth's climate has always undergone periods of fluctuations, this period is notable because it is especially rapid and unprecedented in the prehistoric record.

Next, climate change is largely caused by a global surge in greenhouse gas emissions that were introduced at beginning of the Industrial Revolution. While the climate and weather systems are very complex, the science behind the "Greenhouse effect" is relatively simple. The earth is habitable because gases like carbon dioxide (CO<sub>2</sub>) and methane trap heat, like a blanket around the earth. However, humans have added more greenhouse gases to the atmosphere by burning fossil fuels. This causes the atmosphere to trap more and more heat.

These basic facts should not be in dispute. An estimated [97 percent of climate scientists](#) agree with these basic facts. There are disagreements – as in every field of science – that are largely focused on the sensitivity of the climate to precise additional emissions and the impact that those emissions have on weather patterns. Many scientists contend that the earth is likely to suffer [greater harm than the scientific consensus says](#). It is simply not credible for a politician or a commentator to question those facts by cherry picking evidence or claiming that there is no scientific consensus.

The effects of climate change have never been more apparent. Sea levels are rising by about [3 mm per year](#). Arctic sea ice fell almost 50 percent [below](#) the 1979-2000 average. In 2012, more than 15,000 heat-related records in the United States were broken. This summer the US experienced the worst drought since the 1930s. Unprecedented fires occurred across the western United States. And, last week, the East Coast was hit by a storm [unprecedented](#) in size. Climate change is happening and is getting harder to ignore.

While projections of how much the climate will change are clearly uncertain, we do know that the longer we wait, the worse it gets.

Reducing greenhouse gases while implementing adaptation measures is basic risk management. Military planners and business executives routinely operate under uncertainty and make decisions based on incomplete information. If a battlefield commander waited until all facts were known about an advancing enemy, he would put his troops at risk. When 97 percent of the experts tell us that operating on a business-as-usual trajectory will exponentially increase risk, why is it that we dismiss them?

Facts will eventually force action. Although the presidential campaign was largely devoid of a discussion on climate change, the President Obama, during his second term, and the Congress will be forced to take serious steps to address this real and accelerating problem. As the American Security Project's new Climate Security Report makes clear, climate change threatens national security. It acts as an accelerant of instability around the world and it poses clear dangers to America's homeland security.

Climate change will impose costs. There are costs of inaction. We can either pay now by investing in clean energy technologies and sensible measures to adapt to the consequences of a warming climate, or we will pay later in disaster response. These investments will not be cheap. Investments in flood gates and surge barriers to protect vital harbors will cost billions,

as they did 50 years ago in The Netherlands. Clean energy solutions in the United States are necessary, but must be paired with action around the world. Climate change is a global problem that will require global solutions. By unleashing American ingenuity and entrepreneurship to develop solutions, we can avoid the worst consequences of climate change and protect our vital national security interests in the process.

Lieutenant General Dan Christman, USA (ret.) was a member of NATO's Military Committee in Brussels and was superintendent of the US Military Academy at West Point. Brigadier General Steve Anderson, USA (ret.) was Deputy Chief of Staff, Logistics for the Multi-National Force in Iraq under General David Petraeus. Brigadier General Stephen Cheney, USMC (ret.) was the Commanding General at Paris Island and the Inspector General of the Marine Corps.

## U.S. Must Adapt to Climate Change

Nick Cunningham

[Flashpoint Blog](#)

19 Dec 2012

Last week, an AP-GfK poll [indicated](#) that the portion of Americans who believe climate change is a serious problem is growing. An estimated 4 out of 5 Americans say that the world is warming and that it will present serious problems to the United States if nothing is done about it. Also, 57% of those polled said that the U.S. government should take steps to address the effects of climate change, up from 52% in 2009.

What was more striking was the shift in opinion from people who are skeptical of climate science. About 1 in 3 people polled are skeptical of climate scientists, and among them 61% believe the climate is chang-

ing, up from 47% in 2009.

And for good reason. Over the past several years, the world has seen an alarming number of serious climate events. Here's a sample: Russian wildfires in 2010 (which killed thousands and caused global food prices to spike), record drought and wildfires in the U.S., floods in Pakistan, record low sea ice in the Arctic, and extreme storms hitting the east coast of the U.S.

To make matters worse, earlier this year, [scientists estimated](#) that the world is approaching a biological tipping point, in which rising greenhouse gas emissions and changes to ecosystems are threatening to irreversibly alter the climate. The consequences of such a change will lead to diminished productivity from agriculture, fisheries, and waterways. It will also mean increasing severity in extreme weather events such as droughts, floods, and storms.

These events illustrate the rising threat to stability and prosperity around the globe. Hurricane Sandy recently offered a painful glimpse into this new world and makes a clear point that preparing for climate change is more urgent than public opinion would have it. Public opinion is a lagging indicator of action; proper national security means using foresight to prepare for and address threats before they become overwhelming. Because this debate has relied on public opinion, we may already be too late.

The question is what to do about it? With substantial changes in the climate already assured over the next several decades, we need to begin to take steps to adapt to the most damaging effects of a changing climate.

To that end, a group of Senators from areas ravaged by Sandy are offering legislation to provide the tools that state and local officials need to plan for extreme weather events. Cosponsored by Sens. John Kerry, Frank Lautenberg and Kirsten Gillibrand, the "[Strengthening The Resiliency of Our Nation on the Ground \(STRONG\) Act](#)," would direct the White House's Office of Science and Technology Policy

(OSTP) to chair a working group to assess all of the activities by various government agencies related to planning for extreme weather. Once gaps are identified, OSTP will implement a plan to improve support to state and local resiliency efforts.

This piece of legislation is merely one example of what is needed to adapt to climate change. Other steps that the U.S. needs to take include building infrastructure to withstand floods where it makes sense to do so, improve land-use planning and insurance schemes so that we make smart decisions on where and where not to build, and enhancing resiliency and redundancy in the electric power grid and other infrastructure, just to name a few.

Climate change presents a rising national security threat to the United States, and we must begin planning on how to adapt to this changing world.

To see more of ASP's work on climate change, click [here](#).

## U.S. to Begin Exporting Natural Gas?

Martin Bee

[Flashpoint Blog](#)

11 Dec 2012

Last week, DOE released its much-anticipated report examining the impact of U.S. [liquefied natural gas](#) (LNG) exports on the global and national markets. The "[Macroeconomic Impacts of LNG Exports from the United States](#)," written by [NERA Economic Consulting](#), used a series of scenarios with a wide range of different assumptions about production costs, export levels, and market conditions, to assess the economic impacts of different limits on U.S. LNG exports. The main takeaway from the report was that America received modest net economic benefits from allowing LNG exports.

The report itself is a lengthy two hundred and thirty pages, but, in particular, it highlighted several key findings resulting from the scenarios.

The report finds that while allowing natural gas exports will push up prices, the global market will limit how high American natural gas prices can rise due to LNG export pressure. In other words, other countries will not purchase American LNG if it becomes more expensive than LNG from other places, thus putting a cap on how high natural gas prices will rise. This finding is particularly pertinent to the ongoing debate in the U.S. over whether or not to allow exports for fears of impacts on domestic consumers and manufacturing.

The second overall finding is that increasing American LNG exports raised energy costs and depressed real wages and the return on capital in all other industries. As natural gas exports rise, so do the prices for natural gas as they converge to the world price. This makes domestic users of natural gas worse off.

However, the third significant finding is that across all scenarios American economic welfare improved as LNG exports increased. The costs of allowing exports to move forward – higher natural gas prices for American consumers; reduced manufacturing competitiveness – would be more than offset by revenues from exports. Only roughly 10% of the American manufacturing industry (0.5% of total U.S. employment) has energy expenditures larger than 5% of the value of their outputs. Thus, while there will certainly be distributional effects of expanding natural gas exports, net welfare to the U.S. as a whole is positive as exports increase. As the report notes, this is consistent with accepted economic trade theory when barriers to trade are removed.

While these findings are interesting, what is more intriguing is how companies and organizations are responding to the report. Many LNG producers view NERA's report as a green light to ramp up American LNG exports. With only modest negative effects pro-

jected, an overall American economic gain, and less fear of a domestic price explosion, drillers are eager to expand their market.

On the other side, domestic manufacturers, in particular chemical manufacturing companies, have viewed this report with unease. Many believe that exporting natural gas would increase the domestic price, harming their businesses. Dow Chemical has been [particularly critical](#) of the DOE report, suggesting that it failed to appropriately measure the damage that will be done to American manufacturing. Environmentalists are also hesitant about the report, as they believe it will lead to more domestic fracking and drilling.

Some, like ASP's Nick Cunningham, view the LNG export issue as being "[overblown](#)" and argue that, in reality, the impact of increasing American LNG exports will only be marginal, both for LNG producers and domestic manufacturers. Also, Steve LeVine of Quartz suggested that the opportunity to make money by exporting U.S. LNG to Asia may be smaller than some think because "[the math doesn't add up.](#)" ASP's Andrew Holland argues in the [Consumer Energy Report](#) that the issue should be left to the open market. To this end, he suggests that the government deregulate LNG exports so that it is treated like other tradable goods.

As it stands, however, exporters must obtain a permit from the Federal Energy Regulatory Commission (FERC) if they are exporting to countries with which the U.S. does not have a free trade agreement. Currently, FERC is processing 18 such permit applications. Without their approval, exporters may not be able to get their product to the global market, but the latest LNG report is a positive sign for opening up America's LNG market.

## A Breakdown of EIA's new Annual Energy Outlook Report

Yong Wang

[Flashpoint Blog](#)

10 Dec 2012

In November, the International Energy Agency's [World Energy Outlook](#) report announced positive prospects for U.S. energy, specifically the U.S. overtaking Saudi Arabia as the world's largest oil pro-

Figure 100. Nonhydropower renewable electricity generation capacity by energy source, including end-use capacity, 2010-2035 (gigawatts)

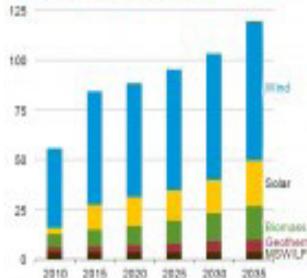
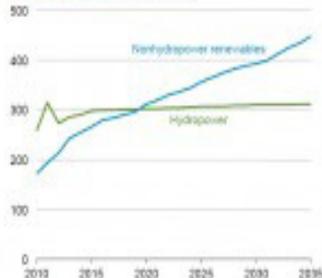


Figure 101. Hydropower and other renewable electricity generation, including end-use generation, 2010-2035 (trillion kilowatt-hours)



ducer before 2017. The U.S. Department of Energy's Energy Information Agency (EIA) added to the good news this week with their [Annual Energy Outlook 2013 Early Release Overview](#) report that predicts greater oil production; improved fuel efficiency; the U.S. becoming a net exporter of natural gas; and rise in natural gas and renewables' shares of electricity generation. This is all good news for energy producers in the country.

The report found that oil production will experience an annual production growth of 234,000 barrels of oil per day through 2019. This increase in production will derive largely from onshore oil production. EIA expects domestic crude oil production to increase by more than 1 million barrels a day by 2020, to 7.5 million barrels per day. Corresponding with this rise in production is a decrease in foreign imports by a quarter between 2010 and 2020.

Natural gas usage in the industrial sector will increase from 6.8 trillion cubic feet per year in 2011 to 7.8 trillion cubic feet per year in 2025. The EIA also finds that in the electric power sector, natural gas will continue to capture market share from coal, rising from 24% of electricity generation today to 27% in 2020 and 30% by 2040.

Motor gasoline consumption is projected to fall due to tougher corporate fuel economy standards. Separate from the report, the Department of Transportation found in September that [travel on all roads and streets decreased by 1.5% or 3.6 billion vehicle miles](#) compared to a year ago, demonstrating soft demand in the transportation sector for the foreseeable future.

The EIA predicts that by 2016 the U.S. will become a net exporter of liquefied natural gas and by 2020 net exporter of total natural gas, two years earlier than [last year's projections](#). This year's report added that the U.S. is projected to export 1.8 trillion cubic feet of liquid natural gas by 2020, double that of the last year's projection.

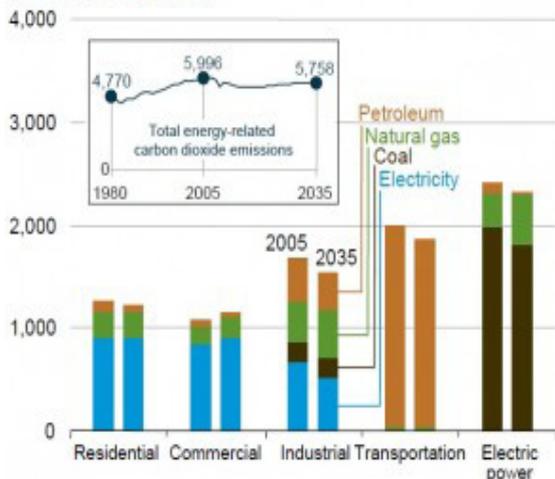
Solar, wind and other renewables only make modest gains over the time frame representing 15% of electricity generation by 2035, up from 13% today. [Biofuel](#) consumption is expected to increase by 1.2 million barrels per day between 2010 and 2035. Most of this biofuel will be produced domestically.

While the energy outlook seems promising, the downside is the climate picture. The EIA doesn't expect U.S. energy related carbon dioxide emissions to decrease significantly - carbon dioxide emissions will only decline by 5% between 2005 and 2035.

Meanwhile, scientists released an article in the [Nature Climate Change](#) journal on December 2nd, stating that they expect a 2.6% rise in worldwide emissions this year. Also, the [World Bank recently released a report](#) suggesting that the world may be on a trajectory in which the climate is changing more rapidly than previously thought.

The EIA report reflects the ongoing enthusiasm over surging oil and gas production in the United States. While this can be seen as good news, the fact remains that fossil fuel production will begin to decline at some point. The United States still needs [clean, safe, and abundant sources of energy](#) over the long-term.

Figure 122. U.S. energy-related carbon dioxide emissions by sector and fuel, 2005 and 2035 (million metric tons)



## With military’s push, biofuels can grow

Andrew Holland

[Christian Science Monitor](#)

3 Dec 2012

One of the most remarkable changes over the last five years has been the military’s ‘awakening’ on energy issues. Before the [Iraq War](#), [the Pentagon](#) just ‘assumed’ energy was always available when it waged conflicts. But we now know that availability of energy – especially liquid fuels – is critical for our ability to fight and win our wars.

The [US Department of Defense](#) is the largest user of petroleum in the world. In fiscal year 2011, it used 117 million barrels of oil – almost 5 billion gallons

of petroleum products in one year. This amounts to about 2 percent of the total usage of the country. This all came at a cost of \$17.3 billion in 2011. This adds up to about 80 percent of the government’s total energy consumption.

Napoleon used to say that an army marches on its stomach. Our military today fights based on a sea of oil. During World War II, our Army used about one gallon of fuel per day, per soldier. We now use an average of 20 gallons per day, per soldier when deployed in [Afghanistan](#).

For strategic and budgetary reasons, the military has identified this dependence on oil – a single point of failure – as a threat to national security. The Air Force and (especially) the Navy have embarked on a program to address this threat. Put together, the potential market for Air Force and Navy biofuels is expected to be about 700 million gallons per year by 2020. For an industry that is only just beginning to commercially produce fuel now, that will require significant investment. But it also should give investors some certainty that there will be a buyer for these fuels, so long as they are available. Once capital is made available for commercial-scale plants, this sector can grow very quickly.

On Wednesday and Thursday of last week, the Senate passed amendments to the 2013 Defense Authorization bill that restore the military’s ability to buy biofuels. A previous amendment by [Sen. James Inhofe \(R\) of Oklahoma](#), inserted earlier this year in the committee markup, would have prohibited biofuels purchases, unless they were cheaper than petroleum fuels. Sixty two senators voted in favor of the amendment, and restored the Department of Defense’s ability to choose how it fuels and equips its forces.

The military has a long tradition of incubating and stimulating new industries, ranging from steel to the Internet, microchips to nuclear power. The advanced, drop-in biofuel industry could be the next industry that is stimulated by the military’s vast buying power.

## Resources in the South China Sea

Xander Vagg

### [Flashpoint Blog](#)

4 Dec 2012

[The South China Sea](#) has long been considered a flashpoint for regional tensions in East and Southeast Asia. Tensions are so high the maritime territory is “[at risk of becoming Asia’s Palestine](#)” according to Surin Pitsuwan, the outgoing Secretary-General of the ten-member Association of Southeast Asian Nations (ASEAN). China has caused fresh international controversy by [authorizing a revised map in its new passports](#) that shows disputed territories to be under Chinese sovereignty. More recently, on December 4, 2012, [Vietnam accused a Chinese fishing boat of cutting a seismic cable attached to a Vietnamese vessel](#) exploring for oil and gas near the Gulf of Tonkin, an act seemingly designed to prevent Hanoi from pursuing energy deposits.

While a range of academics, policy-experts, NGO’s, and government agencies from around the world have offered an enormous amount of commentary on this issue, most have focused on the territorial and political disputes in the region without fully discussing what the conflict truly centers on: a concentration of energy resources. Below is an energy profile for each resource located in the South China Sea.

### Resources in SCS: [Hydrocarbons](#)

Region of South China Sea	Potential Oil and Gas Reserves
Southern China	1500 million barrels
South of Hainan Island	210 million barrels
Gulf of Tonkin	95 million barrels
South Vietnam	2847 million barrels
Sunda Shelf	180 million barrels
Borneo/Sarawak	9260 million barrels
Philippines	409 million barrels

Source: Swire Institute of Marine Science and Department of Ecology and Biodiversity, University of Hong Kong: <ftp://ftp.fisheries.ubc.ca/l.teh/destructive%20fishing/South%20china%20sea.pdf>

### Oil

Though total estimates vary, the region is thought to contain oil reserves of at least [7.7 billion proven barrels](#), with more optimistic estimates reaching as high as [213 billion barrels](#). This is a huge sum, and if true, would be the equivalent of about 80 percent of the oil reserves of Saudi Arabia. The varied estimates demonstrate that [no consensus has been formed on the numbers](#). Though Beijing has suggested the Spratly and Paracel Islands may also contain oil reserves, [no reliable estimates have been on these areas either](#). However, many believe there to be a significant hydrocarbon prize in the region.

### Natural Gas

Natural gas might be the most abundant and sought-after hydrocarbon resource in the South China Sea. [Natural gas reserves](#) are estimated to total around 266 trillion cubic feet and make up about 60-70 percent of the region’s hydrocarbon resources. Indeed, most of the hydrocarbon fields explored in the exclusive economic zones of Brunei, Indonesia, Malaysia, Thailand, Vietnam, and the Philippines contain natural gas, not oil.

As with oil, estimates of the region's natural gas resources vary widely. [One Chinese estimate for the entire SCS estimates natural gas reserves to be 2 quadrillion cubic feet,](#) with the hope that Beijing can produce [15 billion cubic meters of LNG a year.](#) Yet another Chinese report estimates 225 billion barrels of oil equivalent in the Spratly Islands alone. It is hypothetically possible therefore, that [total gas resources \(as opposed to proved reserves\) in the South China Sea would be almost 900 trillion cubic feet \(Tcf\).](#) This would be equivalent to the amount of natural gas in Qatar, which sits on the world's third largest reserves.

## Metals

### Rare Earth Metals

As defined by the [International Union of Pure and Applied Chemistry](#), rare earth metals are a set of seventeen chemical elements in the periodic table, specifically the fifteen lanthanides plus scandium and yttrium. The metals are important because they provide critical components in next generation technology; everything from hybrid cars to flat screen TVs to top-of-the-line smart phones have rare earth metal elements. Though the availability of REM's in the South China Sea is still being determined, large deposits [have recently been found just off Japan's east coast,](#) and [China has previously used its virtual monopoly on the minerals to punish Japan](#) in the Senkaku/Diaoyu island conflict.

### Food Materials

#### Fish

According to studies made by the Filipino Department of Environment and Natural Resources, [the South China Sea holds one third of the entire world's marine biodiversity and provides about ten percent of the world's catch.](#) Major marine species include hairtail, chub mackerel, black scraper, anchovy, shrimps, crabs and smaller fishes. According to some estimates however, [40% of the stocks are collapsed or overex-](#)

[ploited and 70% of the coral reefs are heavily depleted.](#) Overfishing and destructive practices such as dynamite and cyanide fishing primarily contribute to this depletion.

In spite of the focus on hydrocarbon reserves, some scholars suggest that [disputes over fishing rights have emerged as a larger driver of conflict.](#) Indeed, depleting supplies have led to clashes in the past, [and annual Chinese fishing bans](#) under the auspices of environmental protection are seen as simply another way of claiming sovereignty. The South China Sea is filled with fishing vessels; [China alone sent 23,000 fishing boats in August of this year](#) after the annual ban was lifted.

For an ASP Fact Sheet on the South China Sea, [click here.](#)

## **Complexity: World Food Prices, Fuel, Ethanol, and Conflict**

Andrew Holland

### Flashpoint Blog

3 Dec 2012

Late last week, I was quoted in an article in [National Defense](#) disagreeing with a study from the [New England Complex Systems Institute](#) (NECSI) about the correlation between food prices and ethanol production. As usual, a short quote in an article cannot say all that goes into my thinking on this.

I wanted to put up a blog post to expand on my thoughts, and to counter some of the arguments that the study puts out. First, I have cited some of the work that the NECSI has done before - they are ab-

solately correct to link spikes in food prices as a prime underlying cause of unrest around the world. I have cited them in our paper on [climate change and the Arab Spring](#).

But – I think their conclusions in this paper are not complete. They say that ethanol is responsible for a gradual rise in world food prices, with financial speculation responsible for food price spikes. This paper has received added attention because it was partially funded by U.S. military agencies, including the Office of Naval Research, the Air Force Office of Scientific Research and the Army Research Office. There are more factors responsible, and it is more complex than their model assumes.

Warning - this gets a bit long-winded.

First, on price spikes. A combination of weather, energy prices, and bad government policies are more responsible for price spikes than purely speculators, as their paper assumes. Consider the 2010 heatwave, drought, and fires in Russia and Ukraine. Not only did this destroy 1/3 of their wheat crop, it also caused the Russian government to ban all wheat exports. This had the effect of feeding the speculators, who drove up prices.

The same could be said of the 2007-08 food spike: India banned all exports of rice, causing other countries to respond by either banning their own, or engaging in panic buying. You even had the weird phenomenon of the Philippines at one point having more orders for rice than there were in the world. So – weather and/or bad government policy acts as a trigger, which then sets off the speculators. The upshot of this is that good government policy can counteract the speculators – like Japan's selling of its vast rice stores in the Spring of '08 that quickly took the bottom out from the global rice prices. Once Japan moved, then the speculative money all went to the down-side on rice and wheat.

I think that volatile oil prices are much more important to world prices than the report makes out. The

report casually dismiss this in Figure 3(f) by noting that the price of wheat came down before the price of oil. I would counter that by saying that without the Japanese government's reaction in '08, mentioned above, the price would have only come down when the price of oil broke (only a couple of months later). Now, whether the global price of oil is caused by excessive speculation is another matter entirely. So – speculation may be the vector in which the spikes play out, but weather, energy prices, or bad policy are most responsible for the speculators' moves.

Second – regarding the contribution of ethanol to a gradual rise in food prices – I am not convinced that its that simple either. Fossil fuel prices are a huge input into farming, whether you're talking about diesel for the tractor, or natural gas for the fertilizer. As we've seen the price of fuel go up around the world over the last decade, we have also seen the price of food rise commensurately. As America has ramped-up its use of ethanol, we have also ramped up the amount of corn that we produce.

Also, the report betrays some its bias when it says that 40% of the corn crop goes to ethanol. While it is true that 40% of the corn crop goes to ethanol plants, a large percentage of that corn is re-used as animal feed – called distillers grains. A more correct ratio would be that [17.5%](#) of the corn crop is devoted to ethanol.

Finally, as a point of policy, even if ethanol was driving up prices (gradually – not spiking them- price spikes are very very bad), that may not be a bad thing. I actually think that a model in which the entire world relies on US food exports in order to keep their food prices low is a flawed model. The lessons from the Green Revolution in SE Asia, India, and Latin America are that agricultural efficiency gains at a local and regional level are important for both food security and economic development. Simply relying on cheap American imports of food undercuts local farmers, taking away a prime source of capital accumulation that can be used for other economic development. I would also say that this 'cheap food' model has en-

couraged over-consumption here in the US – contributing to our obesity epidemic.

A low price, ‘cheap food’ model also doesn’t help American farmers – low prices take away incentives for planting more crops – or even to engage in farming at all. If our ethanol policy has helped increase the returns for farming, so much the better. Moreover, making policy is also about priorities: it is a very good thing that a prime goal of America’s ethanol policy is to reduce our dependence on oil – and we have been successful in getting about 10% of our gasoline supply now comes from corn ethanol.

The American farmer is clearly capable of producing vast surpluses above what we can eat. Instead of shoving the extra down our throats or dumping it on foreign markets, we should use these surpluses as a way to reduce our country’s crippling dependence on oil.

## **Climate Change: The Missing Link in Tackling the Mali Crisis**

Catherine Foley

[Flashpoint Blog](#)

20 Nov 2012

The drums of war are beating loudly in northwest Africa. Over the last year, after a March coup d’état in the Malian capital of Bamako, the country has slipped towards failed-state status. The chaos in Bamako in the country’s south led to a vacuum in the country’s north. There are growing fears that al Qaeda-linked groups are moving to fill that vacuum. Today, military and security experts are beginning [planning](#) an intervention in Mali, to be led by regional militaries.

But, before the world rushes to intervene, planners should consider the sources of insecurity.

One of the major underlying drivers of conflict in

this region is climate change. Since 2006, America’s generals and strategic planners have been calling climate change a “threat multiplier” or an “accelerant of instability.” Just two weeks ago, on November 1, the American Security Project released its [Climate Security Report](#) which detailed how climate change is harming American and global security. Today’s conflict in Mali is a prime example of that threat. A changing climate should be considered as a driving force that has allowed the coup and the rise of terrorist organizations.

This has important implications for planners. A military intervention may be able to restore stability in Mali but climate change will continue to increase instability among the country’s poor as agricultural yields decrease and water shortages become the norm. Mali is already among the 10 [poorest countries](#) in the world; climate change is exacerbating this poverty and insecurity.

The underlying pressure from climate change means that military action will not be sufficient to tackle the problems Mali faces; a humanitarian and political agenda must work in tandem with military action to tackle the effects of climate that exacerbate instability across the region.

Climate change is the missing link to understanding the Mali crisis – it is not merely a peripheral issue. Today’s crisis in Mali is the perfect example of how climate change acts as a “threat multiplier” by exacerbating pre-existing tensions or trends.

Northern Mali and the surrounding Sahel region are burdened by chronic droughts. Nearly [15 million people](#) in Mali are farmers or herders whose livelihoods are threatened as rivers shrink, fertile land turns to desert and insect infestations become more prevalent. We see that the effects of a changing climate are pushing thousands of people out of their villages towards urban centers and squeezing natural resources to their limits. This exacerbates existing tensions.

Climate change did not cause the coup or conflict: people start wars, not the weather. But, it certainly exacerbated existing feelings of anger and resentment in Mali. The Tuaregs, a traditionally nomadic group of herders who rely heavily on the land for their livelihood, have led the armed rebellion. They have been deeply affected by the changing climate. The Tuaregs have been calling for separation from the south for over two decades but have not been successful until recently. Climate change has strengthened, multiplied, and accelerated this already existing tension.

The government's inability to confront the underlying issues led to greater threats and instability. The flow of heavy weapons from Libya into Mali was the most likely proximate cause of the successful uprising, but the roots of the tension come from the endemic poverty caused by a changing climate and the government's lack of action. As thousands lack basic resources such as food and water, the Al Qaeda in the Islamic Maghreb (AQIM) offers the hope of stability to those looking for something more than poverty and hunger. This poses a direct threat to U.S. interests.

Understanding the effects of climate change in the Sahel region will be a key part of preparing an international response to the crisis.

The bottom line is that climate change didn't cause the problems in Mali. However, it is an underlying factor that will prevent a long-term resolution unless it is addressed. Preparing for climate change must be an integral part of planning for a stable Mali in the future.

You can find more about Mali [here](#).

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## Sandy & Homeland Security: Inflection Point or Affirming the Status Quo?

William Chodkowski

### [Flashpoint Blog](#)

2 Nov 2012

Initial [positive indications from officials](#) regarding emergency management during Hurricane Sandy suggest that national resilience to unforeseen events has vastly improved, especially since 9/11 and Hurricane Katrina, two formative events in the homeland security discourse. Whether this improvement is due to formal federal reconfiguration, informal acknowledgment of the need to respond swiftly, [strong executive leadership](#), or (likely) a combination of the aforementioned, Sandy likely cements the recognition of natural disaster response as a part of our collective domestic security.

As clean-up from Hurricane Sandy continues and the rebuilding process begins, our national response to the historic storm should be examined through the lens of governmental organization. Though many of the ground-level emergency personnel from [FEMA](#), [DoD](#), and state/local agencies would likely have made it to the scene in some capacity as part of a natural disaster response fifteen years ago, the coordinating mechanism has been jiggered considerably. This is a result of a targeted effort to expand our collective concept of homeland security to include personal security as discussed in American Security Project's recently released [Climate Security Report](#).

Expanding homeland security to all elements of safety provision beyond the traditional Westphalian state model [described yesterday by ASP board member Lt. General Daniel Christman](#) includes building national capacity to respond to a plethora of natural, technological, and economic threats in addition to defense from non-state actors. Whereas the defense

and intelligence communities are largely tasked with preventative action against state and non-state aggressors, [DHS's range of duties](#) includes both preventative and responsive action.

The evolution of homeland security to its current inclusive state has been a somewhat rocky process. Christopher Bellavita observes that simply establishing a cabinet-level department of that name hardly etched out [a well-defined identity](#), especially among so many previously separate agencies. While the department's early mission was more focused on the prevention of terrorism, the all-hazards definition of homeland security as presently en vogue began to take root later, around 2007. Even then, the all-hazards approach was not explicitly broadcast to the public by DHS. However, as the frequency of natural disasters – and the resulting need for emergency responses by governmental agencies – outpaced domestic terrorism at an exponential rate, the shift toward all-hazard response was solidified. Conveniently, the same infrastructure and process that exists to respond to a natural disaster could also be employed in the event of a far less probable terrorist or state attack upon the US homeland.

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Christopher Bellavita, "Changing Homeland Security: What is Homeland Security?." Homeland Security Affairs 4, issue 2 (June 2008)

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The response to Sandy demonstrates an effective transformation allowing FEMA to serve as the figurative head of the unified effort while DoD (including National Guard), Coast Guard, and state/local emergency responders and law enforcement serve as the functioning body parts. The enhanced coordination is likely a result of the institutionalization of DHS's administrative function solidified after ten years of existence. The logistical and personnel capacity lacked by DHS is more than made up for by the supporting agencies and their willingness to take orders during an emergency response. Certainly at the state and local levels, responders hardly sit on

their hands waiting for orders from FEMA, but the federal support function missing in New Orleans following Katrina is no longer cited as a shortcoming as we react to Sandy.

As the [causal link](#) between climate change and natural disaster frequency/intensity becomes more evident, Hurricane Sandy places a bulls-eye on that relationship. Scientific research alone may be insufficient to cause policy change, but [public opinion acknowledging the effects of climate change](#) should drive lawmakers' accountability to ensure preparedness and enable agencies to mitigate the effects of natural disasters. As that process progresses, DHS (FEMA in particular) appears to have found solid footing in disaster planning and response as an accepted aspect of homeland security. The longstanding debate over whether FEMA – and its response mission - belongs in DHS becomes a moot point if an inclusive concept of homeland security is embraced through government agencies and the public, beyond the department. Sustained leadership and outreach should aim to widen the American definition of national security to the holistic range of challenges spanning from the environment to economics.

## **The IEA's World Energy Outlook and American Energy Independence**

Xander Vagg

[Flashpoint Blog](#)

15 Nov 2012

Earlier this week, the [International Energy Agency](#) released its annual flagship publication, the "[World Energy Outlook.](#)" Proponents of the goal of North American "energy independence" (the idea that the United States can rely exclusively on its own energy sources for consumption and therefore protect itself from shocks in the world energy system) [have been](#)

[quick to add the IEA’s report to their arsenal](#) without fully understanding the whole picture.

IEA forecast for U.S. oil production and demand vs. Saudi Arabian production (Million barrels/day)

Note: Not all policies are currently in place to achieve the U.S. demand reductions in this forecast.

	2015	2020	2025	2030	2035
Saudi Arabia Production	10.9	10.6	10.8	11.4	12.3
U.S. Production	10	11.1	10.9	10.2	9.2
U.S. Demand	17.5	16.6	15.4	13.9	12.6

Source: Oil Change International, <http://bit.ly/TB-Dtmi>

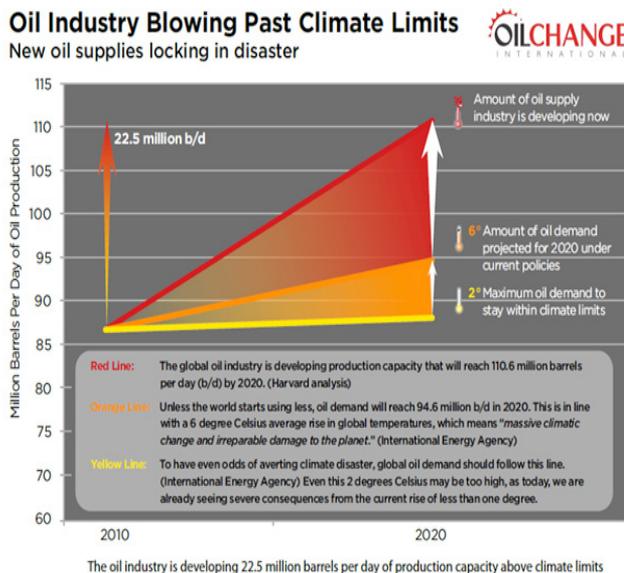
[The section of the report in question](#) predicts that the U.S. will become the world’s largest oil producer before 2017, vastly increasing its fossil fuel production and revenue as the tech-driven hydrocarbon revolution in the United States accelerates in full force. Some in the energy industry are therefore reading the 2012 “World Energy Outlook”, as a signal that private sector production of hydrocarbons should be pursued with all possible haste. The technological change, according to oil enthusiasts, [will somehow solve most of the financial woes of New York and California, conquer deficits, and fund education and social programs](#). Further, achieving energy independence will mark a decades-long achievement that presidential administrations as far back as Richard Nixon have all sought.

However, actually digging into the real message of this year’s World Energy Outlook paints a very different picture. Most of the coverage summarized above focuses on only a handful of the report’s nearly 700 pages that discuss the ongoing U.S. oil boom. The majority of the report provides a firm warning against the unchecked exploitation of domestic American oil in three primary areas.

First, the United States’ ability to lead the world in oil production is [realistically limited to between five and ten years at most](#). Second, in order to achieve

the production levels necessary to reach the status of number one oil producer for even such a short time, the United States would have to excavate almost all of its fossil fuel reserves, [greatly contributing to catastrophic climate change](#).

Because, according to the IEA, over two-thirds of today’s proven reserves of fossil fuels need to still be in the ground in 2050 in order to reach the “2 °C goal,” the internationally recognized temperature increase limit needed to prevent disastrous global warming. Third, according to the IEA’s main scenario, which assumes a certain amount of efficiency policy that is yet to be implemented, [the U.S. could still be consuming 5.5 million barrels per day more than it is producing in 2020](#), when the oil boom is likely to peak.



Source: Oil Change International, <http://bit.ly/QD-WkT4>

The myth of energy independence is one that [we here at ASP have repeatedly attempted to puncture](#). As Michael Makovsky, a Pentagon official in the George W. Bush administration has argued, [“the oil market is still global, and the North American oil market will still be greatly impacted by developments in the Middle East.”](#) Regardless of U.S. domestic production, the prices at our pumps at home are set by international market forces far beyond unilateral American influence.

In a strategic context, maintaining the stability of oil shipments through contentious hotspots like the Suez Canal and Strait of Hormuz ([50 percent of the global oil trade is expected to regularly pass through the latter in 2035](#)) will remain a priority for the American military regardless of the domestic energy boom. A disruption to the security of these waterways would affect all consumers of oil, including the U.S. and its allies.

Finally, it should be obvious that burning American rather than Saudi oil brings few environmental advantages. As the IEA points out, the damage to the climate will continue as long as fossil fuels play such a huge role in our energy consumption. The ongoing oil boom in the United States, while seemingly a positive development, will do little for America’s long-term energy security, and to the extent that it delays a transition to alternative sources of energy, it will exacerbate climate change. The IEA report should therefore not be taken with wild optimism; rather, it should offer a reminder that much work is needed to accelerate the development of cleaner energy technologies.

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## Further Reading

### American Security Quarterly

Volume 1

[4<sup>th</sup> Issue: October 2012](#)

[3<sup>rd</sup> Issue: July 2012](#)

[2<sup>nd</sup> Issue: April 2012](#)

[1<sup>st</sup> Issue: January 2012](#)

# ASP Major Reports 2012:

## Energy and Climate Security

[Climate Security Report](#)

[Critical Energy Choices for the Next Administration](#)

[Small Modular Reactors](#)

[Offshore Oil Drilling in the Arctic](#)

[Fusion map: Fusion's Reach Across America](#)

[Cause and Effect: U.S. Gasoline Prices](#)

[America's Energy Choices](#)

## American Competitiveness

[America Competitiveness – An Issue of National Security](#)

[Science and America's National Security](#)

[Law of the Sea – Separating Fact from Fiction](#)

## Nuclear Security

[Iran Facts and Figures](#)

[The Benefits of the New START Treaty](#)

[U.S. Missile Defense and European Security](#)

[The Nunn-Lugar Cooperative Threat Reduction Program](#)

[North Korea's Nuclear Program](#)

[Why the U.S. Cannot Ignore Pakistan](#)

[The Comprehensive Test Ban Treaty](#)

[Critical Nuclear Choices for the Next Administration](#)

## Public Diplomacy and Strategic Communications

[The New Public Diplomacy Imperative](#)

[The United States Information Agency](#)

[An Examination of the Fulbright Program](#)

[The National Security Need for Public Diplomacy](#)

## Asymmetric Operations

[War on Terror, One Year On \(Essay Collection\)](#)

[Measuring Success: Are We Winning? 10 Years in Afghanistan](#)

[U.S. Strategy in Afghanistan: Five Lessons We Should Have Learned](#)

[The Strategic Context of Lethal Drones](#)

[Critical National Security Challenges \(Essay Collection\)](#)

[Critical National Security Challenges](#)

## **Building a New American Arsenal**

The American Security Project (ASP) is a nonpartisan initiative to educate the American public about the changing nature of national security in the 21st century.

Gone are the days when a nation's strength could be measured by bombers and battleships. Security in this new era requires a New American Arsenal harnessing all of America's strengths: the force of our diplomacy; the might of our military; the vigor of our economy; and the power of our ideals.

We believe that America must lead other nations in the pursuit of our common goals and shared security. We must confront international challenges with all the tools at our disposal. We must address emerging problems before they become security crises. And to do this, we must forge a new bipartisan consensus at home.

ASP brings together prominent American leaders, current and former members of Congress, retired military officers, and former government officials. Staff direct research on a broad range of issues and engages and empowers the American public by taking its findings directly to them.

We live in a time when the threats to our security are as complex and diverse as terrorism, the spread of weapons of mass destruction, climate change, failed and failing states, disease, and pandemics. The same-old solutions and partisan bickering won't do. America needs an honest dialogue about security that is as robust as it is realistic.

ASP exists to promote that dialogue, to forge consensus, and to spur constructive action so that America meets the challenges to its security while seizing the opportunities the new century offers.



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