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ENERGY SECURITY: THE NEXUS OF NATIONAL SECURITY STRATEGY AND ENERGY POLICY

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USAWC PROGRAM RESEARCH PAPER

ENERGY SECURITY: THE NEXUS OF NATIONAL SECURITY STRATEGY AND ENERGY POLICY

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ABSTRACT

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Thesis Statement:

Initiatives to ensure U.S. energy needs are met should be delineated within the framework of national security strategy.

Energy, primarily in the form of petroleum, is the lifeblood of the economic engine that sustains western societies. The future of United States National Security is intertwined with that of a secure energy supply. Access to adequate energy supplies for all is necessary to build and sustain the favorable world order that is a cornerstone of United States National Security. There is no longer room in the current world and national economic reality to afford the partitioning of energy interests outside those of the United States National Security. Nor can the United States afford a lack of inter-agency cooperation in achieving these goals. From that perspective, policy recommendations are made to enhance United States National Security.

ENERGY SECURITY: THE NEXUS OF NATIONAL SECURITY STRATEGY AND ENERGY POLICY

Initiatives to ensure U.S. energy needs are met should be delineated within the framework of national security strategy. Energy, primarily in the form of petroleum, is the lifeblood of the economic engine that sustains western societies. The future of U.S. national security is intertwined with that of a secure energy supply. Access to adequate energy supplies for all is necessary to build and sustain the favorable world order that is a cornerstone of U.S. national security. To accomplish this goal efficiently and effectively, a union of domestic policy, foreign policy and national security strategy should be formed with national security strategy providing the framework through which the policies are integrated. This integrated strategy would become the essence of Energy Security for the U.S.

Background

"Keeping America competitive requires affordable energy. And here we have a serious problem: America is addicted to oil, which is often imported from unstable parts of the world." This is a direct quote from President Bush's 2006 State of the Union Address.[1] The statement is a powerful one. The use of the word addicted or addict, which according to the *Cambridge Advanced Learner's Dictionary* is "a person who cannot stop doing or using something, especially something harmful", speaks volumes to the security issues faced by the United States vis-à-vis oil. There are two ways that the use of oil for energy can be "harmful" in today's paradigm of the subject; one is harm to the environment and the other is harm to United States security interests. This paper will concentrate on the latter.

Energy, primarily in the form of petroleum, is the lifeblood of the economic engine that sustains western societies. Despite the critical nature of this resource, more than 30% of total U.S. energy needs, which is 50% of the petroleum consumed, depend on unstable countries such as Iraq; undemocratic countries such as Nigeria, Saudi Arabia, Kuwait and Libya; and overtly hostile countries such as Venezuela and Iran.[2] The United States currently consumes 25% of the world's oil production but possesses less than 4% of the proven reserves. Over two-thirds of United States oil consumption is used in the transportation sector of the economy.[3] Worldwide oil consumption is projected to increase over 47% by 2030.[4] More than two-thirds of the world's proven reserves lie in the Persian Gulf, which is not exactly rife with stable democracies.[5] Further complicating the issues of increasing consumption and the volatile history of the area where most reserves are located is the threat that we may have reached, or are rapidly approaching "peak oil". Peak oil is the reference to Hubbert's Peak which is the place in time that world oil production peaks and levels off followed by inevitable decline.[6] M. King Hubbert correctly predicted in 1956 that United States oil production would peak and begin to decline in the early 1970's. Hubbert then predicted in 1974 that world oil production would peak in 1995 but with the change in consumption brought on by oil price shocks, the peak is actually thought to have occurred in December 2005.[7] If production has indeed peaked and begun to decline while demand is rising, current volatility is but a harbinger of events to come.

Unstable producing nations are not the only concern regarding supply. The sea-lines of communication for the transport of oil have choke points that are extremely

vulnerable. Most Persian Gulf oil must flow through the Straights of Hormuz which can be ranged by readily available, older generation weapons systems. The Straights of Malacca which see the passage of the preponderance of the oil imported by Japan, Korea, China and most other western Pacific nations, has the heaviest concentration of piracy of any body of water in the world.[8] The security implications and associated risks for the United States are daunting.

Energy prices and negative economic issues are further exacerbated by the global interconnection of energy markets. Disruption or uncertainty in one geographic region sends price shocks throughout the world. Even if the United States were to limit imports from relatively stable regions – Canada, Mexico and the North Sea – the economy would still be vulnerable to price shocks.[9] Speculators operating in the world energy markets also contribute to the volatility of energy prices.

Supply disruptions, price spikes, the indirect costs of maintaining sea-lines of communication for oil transport, have all had profound effects on the economic well being and national security of the United States. The National Defense Council Foundation (NDCF), an Alexandria, Virginia-based research and educational institution completed an analysis of the "hidden cost" of imported oil.[10] Their analysis concluded the following:

- Almost $49.1 billion in annual defense outlays to maintain the capability to defend the flow of Persian Gulf Oil – the equivalent of adding $1.17 to the price of a gallon of gasoline;
- The loss of 828,400 jobs in the U.S. economy;
- The loss of $159.9 billion in GNP annually;

- The loss of $13.4 billion in federal and state revenues annually;
- Total economic penalties ranging from $297.2 to $304.9 billion annually;
- If reflected at the gasoline pump, these “hidden costs” would raise the price of a gallon of gasoline to over $5.28.

While these numbers can be argued, the fact remains that the United States and other industrialized economies have, and will continue to pay significant costs for having volatility surrounding a commodity so central to their economic well being.

Energy Security Defined

From a national power perspective, energy is intertwined with economic power, diplomatic power and military power. This entanglement provides the nexus for National Security Strategy and Energy Policy. The definition of Energy Security is the concept of using a combination of national means to achieve a stable and reliable energy portfolio. Viewing Energy Security as an integral part of National Security is crucial to the continued growth of the national power of the United States.

Rationale for labeling Energy Security as critical to United States National Security

The full economic impact of energy on industrialized nations of the world is fairly intuitive although not always readily apparent upon casual examination. It can certainly be felt by the citizens dependent upon those economies in their standard of living and quality of life. Petroleum products are generally thought of in terms of their energy context but they also have begun to play an increasingly critical role to human life on earth. Without the green revolution and intensive farming practices, the earth could not support the current level of the human population. Most of these intensive practices are

made possible by commercial fertilizers that are ammonia based. The preponderance of the ammonia used to make fertilizer is a product of natural gas.[11] The economic and lifestyle permeation of petroleum doesn't stop there. The majority of the polymers used in everything from clothing to packaging to building products are all derived from crude oil. From a practical standpoint, there is no way to completely stop using petroleum in the near to mid term.

The impact that petroleum has had on producing nations is actually counterintuitive. While the price of oil has skyrocketed post 9/11, the standard of living in most oil producing countries has actually fallen. The most dramatic example is that of Saudi Arabia; in 1982 the Kingdom's per capita GDP was $18,000 and declined to only $9,000 in 2006.[12] Additionally, mineral rich countries such as Sudan and Nigeria have abysmal records in human rights and show little interest in reform. The world beats a path to their door in the interest of Energy Security or in a broader perspective, self help. The vast majority of the non-privileged citizens see their homeland and way of life destroyed by the exploitation of the mineral wealth of their country. To exacerbate the issue, even when oil-rich states try to capture more of the revenues from production, they frequently fail badly, capturing as little as 10% for government coffers.[13] Such seemingly institutionalized inequities make a fertile breeding ground for insurgent and terrorist groups bent on exacting retribution and vengeance in terms of money, power, blood or a combination of the three.

Flash Points with Emerging Powers

The rise of China to a regional hegemon and global power presents issues to be dealt with on multiple fronts. While economic cooperation through trade has been able to follow a reasonably stable set of international rules, cooperation on Energy Security is non-existent. In fact a number of global hot spots have formed in areas where China has engaged in "self-help" to ensure access to oil supplies or where United States interests has blocked Chinese access to energy resources. One of the most dramatic examples of conflict between the United States and China is Sudan. Since 1956 the north and south of Sudan have been in an almost constant civil war. The north is the seat of government and where most of the wealth resides, the south is impoverished but where 80% of where the oil reserves lie. Compounding the issue is the religious divide between the Muslim north and Christian south. In an attempt to stop the atrocities and suffering generated in the war ravaged nation, the United States imposed comprehensive sanctions against the northern government of Sudan. But the sanctions have not had their full desired effects due in no small part to the Chinese economic support in the name of oil. The Chinese not only help produce but they also buy most of the oil coming out of Sudan and in so doing, have helped make Sudan one of the fastest growing economies in Africa.[14] The problems still plaguing Sudan hardly demonstrate a rousing success for sanctions and are an obvious example of the quest for Energy Security trampling Human Rights considerations.

The issues continue with China and Russia over Iran. Chinese trade with Iran both in energy, weapons and consumer goods has had a counterbalancing effect on Western economic sanctions. The Russians have been eager to provide the Iranians with nuclear energy technology which fuels proliferation concerns and once again stymies United States and European diplomatic efforts.[15]

Russian energy resources have also proven to be a flash point with Europe. With continued investment by European energy monopolies in Russian natural gas, Russia could be providing the European Union with 45 percent of its needs by 2020.[16] The problem is, due to bad management of Russia's natural gas resources from government meddling and underinvestment, there is a looming shortage of natural gas from Russia. Further exacerbating the issue, the Russian government has shown little hesitation in shutting the gas off altogether as it did in January of 2007 to Europe in a dispute with Belarus or the previous winter when it shut off the gas to Ukraine.[17] The self-help approach of the Russian government hardly provides Energy Security for the European Union or by extension, the world community.

All of these issues combined with a host of others put the United States and Western powers into a series of diplomatic conundrums. It is rather difficult to fault the Chinese on their Sudan and Iran policies when western governments and oil companies are heavily involved in a similar manner in Nigeria and Saudi Arabia. The unfortunate result of these Faustian bargains that have been struck in the self-help method of attempting to gain Energy Security, is to in fact undermine that very security and add to

the human suffering and misery in energy resource rich countries. A new paradigm must be embraced to achieve broad based Energy Security and protect United States vital national interests throughout the world.

Suggested Policy Initiatives within National Security Strategy

There is a frequently quoted definition of insanity from an anonymous source that is particularly relevant to discussions of United States Energy Security: "repeatedly taking the same actions expecting different results". Much like the driving force behind the National Security Act of 1947, the current competing demands upon national resources preclude narrow, parochial interests from carrying the day. Integrated policies that cross diplomatic, information (technology), military and economic lines should be established to optimize outcomes. The goal of Energy Security will require a balanced, integrated approach under the unifying theme of National Security to overcome departmental inertia and parochial interests.

Africa

The African content is becoming more critical to United States national security as more critical resources continue to be discovered there. Of these resources, oil has the potential to cause strife for inhabitants and zones of conflict for the rest of the world in the quest for Energy Security; particularly in Sudan and Nigeria.

The establishment of the United States Africa Command (USAFRICOM) is a critical step in the quest for Energy Security.[18] The opportunity to achieve synergies with the Department of State's Bureau of African Affairs is tremendous. By working

together, the United States National Interests in both Human Rights and Energy Security can be achieved.

The agreements reached by the Sudanese government, the African Union (AU) and the Unites Nations (UN) in November 2006 on a three-phase support package from the UN to the African Union force in Darfur are an example of an opportunity for United States interagency cooperation to reinforce directions favorable to United States interests. Per the agreements, the UN will gradually increase its logistic and command and control support for the AU until a UN-AU hybrid force is deployed in the western Sudanese region.[19] The Bureau of African Affairs and USAFRICOM should work together to ensure the success of this mission and the sponsorship of the political process in Sudan. By facilitating African nations working together to solve problems within the region and promote stability, the need for outside powers, such as China, to station troops in the area to protect their energy interests are dramatically diminished. It also has the happy coincidence of "putting an African face" on the solution versus maintaining the stigma of continued outside interference and exploitation of the continent and its people.

A similar effort is necessary to stem the rising tide of violence in the Nigerian delta region. By working with and through the AU and UN, The Bureau of African Affairs and USAFRICOM could once again, facilitate a peaceful outcome and provide long term stability to a critical energy producing region. By utilizing Effects Based Operational Planning in a focused inter-agency effort, the outcomes in these two vital areas can provide a stable supply of energy from the region as well as a respected leadership position for the United States.

Russia and Saudi Arabia

The engagement of key energy producers to help align their security interests with those of the West is of vital importance to establishing Energy Security. Investment in infrastructure is a critical component. The United States needs to encourage the European Union (EU) to adopt the EU commission's energy strategy. The strategy calls for building interconnecting pipelines and power lines to avoid the "energy islanding" that currently exists – Germany is gas poor and the Netherlands gas rich yet the two have no pipeline between them.[20] Additionally, the construction of a gas pipeline connecting Europe to fields in the Middle East and beyond would greatly decrease the threat of a supply disruption. This action would then require Russia to behave in a more thoughtful way toward her customers and less likely to take actions (like shutting off the gas) that cause supply disruptions. With this action taken, investment in Russia of both money and technology to help them develop and maintain their hydrocarbon assets provides further global Energy Security versus empowering those wishing to use those same resources as a weapon.

The preponderance of Saudi oil flows to world markets in ships. Maintaining free Sea Lines of Communication (SLOC) is a vital interest for Saudi Arabia. The United States Navy is one of the few forces in the world that can routinely guarantee that freedom but the capability comes at a high cost. Diplomatic initiatives to ensure bilateral and multilateral agreements are maintained and flourish must be continued. The Saudis must be encouraged to be intimately involved in the security of SLOC through the encouraging of regional stability. They must provide substantive input and

their input must be taken seriously and implemented wherever possible to ensure a stable worldwide energy supply. The Saudis must as well insure that the funds from their energy production don't get siphoned off by those bent on destabilizing world Energy Security for their own ends.

And so it is with all the regions containing energy wealth. It must be made in their best national interest to ensure a stable and secure supply to world markets. By soberly and earnestly considering their positions on regional security matters, they become vested in the outcome and more likely to facilitate rather than impede Energy Security.

China, India and Brazil

Engagement of emerging energy using powerhouses such as China, India and Brazil in the interest of mutual Energy Security will become a key factor in United States National Security. For China and the rest of Asia, Straights of Malacca are a choke point through which their needed oil must flow. China is now second only to the United States in oil imports. By helping China ensure the unmolested transit of its oil needs through the Straights, the United States would help set in place a new paradigm of Energy Security cooperation versus the old style "oil diplomacy" of oil-for-arms relationships with hostile producers such as Iran and Venezuela. Expanded security cooperation in the Straights of Malacca combined with continued diplomatic efforts in South China Sea issues, bilateral military exchanges and exercises (focused on maritime security in the Straights) would help foster a reduction of tensions in the region and reduce the self help need of the Chinese for a blue water navy.

India and Brazil each have their special circumstances surrounding their Energy Security positions with regard to the United States. India is a declared nuclear power with a rapidly growing economy and few natural resources in a very troubled part of the world. Brazil on the other hand has one of the most established ethanol production capacities in the world.[21] It is critical that the industrial and transportation infrastructure they develop is sustainable. Development aid in the form of technology transfer and monetary assistance (loans, grants, etc.) should be utilized to facilitate a sustainable outcome.

All three countries should receive incentives to ensure they develop their infrastructures in a way that contributes to both Energy Security and the best interests of their own people. By using sustainable development methods, all three countries can hope to avoid or reduce some of the negative impacts rapid industrialization has brought them. The major population centers in all three countries are suffering from the choking pollution of air and water that ill planned growth, and its ferocious appetite for energy, can cause. The mitigation strategies the established industrialized nations have learned should be shared and encouraged through incentives for those new to the table. There is also a tremendous opportunity to utilize these developing infrastructures as laboratories for sustainable practices. It is much more cost effective to build a clean, energy conscious infrastructure initially rather than to retrofit a dirty, inefficient one. There is plenty of benefit for the industrialized nations to provide this money and technology; pollutants have the inconvenient tendency to travel throughout the world's ecosystem and not just stay where they originate. There is then, a happy possibility of a cleaner environment coincident with Energy Security.

Iran and Venezuela

Containment of energy producers hostile to the United States is a necessary and difficult task in the current global economic reality. Iran and Venezuela are countries with governments that are hostile to the United States. They do, however, differ greatly in their threat to United States National Security. Iran seems intent on using its oil wealth to acquire nuclear weapons. It also sits astride the Straits of Hormuz through which 20% of the world's oil production passes.[22] Venezuela on the other hand, is more of an issue for the United States itself. The Chavez government acts as more of a counterweight to United States policy in South America through both rhetoric and funding of socialist guerrilla groups in neighboring countries such as Columbia.

Continued diplomatic pressure coupled with military and economic incentives to resist temptations to meddle in regional neighbors' affairs are the primary options available. Standing the moral high ground, enabled by the other initiative discussed, would also greatly bolster the credibility of United States positions on such issues as land reform in South America. While these issues may not seem directly related, the effort to achieve global Energy Security has the potential to provide a boost to efforts in a vast number of policy areas.

Develop domestic energy sources, particularly renewables, in a manner similar to that of the strategic oil reserve.

Near term, a particularly critical part in the domestic energy development effort is the development of an alternative energy source for transportation. As stated earlier, two thirds of United States oil consumption is in the transportation sector of the

economy. The commercialization of cellulous ethanol for use in transportation would provide rapid and highly significant reduction in United States demand for imported oil. The export of the technology to the developing industrial nations of China and India would dramatically decrease world demand and help eliminate the leverage of despot regimes to exploit their citizens and loot their natural resources. Oil could be used primarily for its polymers and other useful compounds versus being futilely burned getting from point A to point B. Success in this area would have the potential to dramatically alter the world's diplomatic reality. Human rights may finally find their place at the head of the line in consideration of United States foreign policy thereby allowing true globalization of the world economy.

Mid-term efforts should include programs to drive investments in long-lived capital assets such as electrical power plants and the North American vehicle fleet to use less oil and natural gas. Electrical generating facilities can have an economic life approaching fifty years. Using federal incentives to push for the use of "clean coal" type plants such as Integrated Gasification Combined Cycle plants that avoid the environmental problems frequently associated with the burning of coal will allow the use of hydrocarbon resources of which the United States has an ample supply. Likewise, raising the Corporate Average Fuel Efficiency (CAFÉ) standard for new vehicles will take upwards of 15 to 20 years to reach the entire United States vehicle fleet.[23] Long lead time initiatives such as this require government mandates in lieu of economic forces to position infrastructure to meet the needs of the nation in mid-century.

On a pure security front, the United States should look at an intermediate solution for nuclear waste (100 year storage) versus the long-term solution being debated and fought over at Yucca Mountain. Consolidation of nuclear waste makes obvious sense from a security standpoint. Trying to safeguard nuclear waste in the current scattered arrangement is a tremendous waste of resources and an excessive risk of a security breech. By storing nuclear waste in a set of consolidated facilities designed for intermediate term storage, a great number of problems are addressed and an even greater number of risks mitigated. In an intermediate term storage facility, monitoring of the waste should be required and facilitated by design. The arguments against unseen calamities then disappear. The final and best intuitive reason for such a stepped approach is the rationale that science should have a much better understanding of how to dispose of nuclear waste in 100 years than it does now. Why not give researchers the extra time to ensure a large scale environmental disaster is avoided while simultaneously allowing a very practical form of energy to be utilized?

Long-term efforts should remain focused on investment in both public education and research on resource management strategies for North America to support the projected 400 million persons in the United States population by 2050.[24] Energy conservation is only one of many areas that demand this type of attention. The wise stewardship of our national resources is critical to supporting a population of the size projected. Probably as critical as oil is to continued economic development, so are fresh water resources. The parallels in approaches required are strikingly similar, making the domestic initiatives taken to reduce petroleum consumption a template for action in other areas of sustainable resource management.

Research into resource management strategies is critical to providing alternatives to policy makers in an effort to continue growing the economic engine that provides a continually increased standard of living for citizens. The other side of the same coin is public education. Paradigms must be shifted over time to reflect that resources, including but not limited to oil, are finite. Public policy will need to carefully balance resource availability with the needs of economic growth. Science and technology will play the part of supplying alternatives to critical resources thereby helping them go farther and provide for more people.

Conclusion

All of these suggestions come replete with unintended consequences. The United States dollar is the dominant currency used in the oil markets. This condition is completely expected given the United States' position as the world's largest consumer of oil. One of the positive outcomes from this situation for the United States economy is that most countries hold United States dollars in their reserve which in turn creates a demand for the currency thereby increasing the value of the currency. Higher currency values help finance the national debt and keep domestic interest rates lower. What becomes evident as this path is followed is that no part of the entity known as the United States of America can change without that change being felt throughout even the most remote and seemingly unrelated areas.

For policy makers the world is truly volatile, uncertain, complex and ambiguous. The complexities of the interrelationships within the world economic system and the critical nature that energy plays within that system cause many to argue for maintaining

the status quo. In fact, Sheikh Ahmed Zaki Yamani, the Saudi oil minister from 1962 to 1986, is credited with the statement: “The Stone Age did not come to an end because we had a lack of stones, and the oil age will not come to an end because we have a lack of oil.”[25] His fear was alternative energy technology would develop to a point that would undermine the dominant role of petroleum in the world economy and thereby reduce OPEC to a curiosity of history. There is a completely reasonable fear that unforeseen consequences could negatively affect the wellbeing of the citizens of the United States and the entire industrialized world. The problem with choosing that path is it requires the cooperation of all the other interests in the global community if the status quo is to be maintained. History has proven such cooperation nonexistent. Thomas Friedman astutely points out that “The World is Flat” with regard to the leveling of the economic global playing field.[26] United States policy must adapt to changes globalization is forcing; namely that the developing world is commanding a greater share of the world’s resources. The United States can either lead the process of increasing the size of the energy “pie” the world has to consume or face the ugly consequences of ever increasing competition for waning resources. Neither choice is without peril, but the choice of leadership provides hope. Policymakers must overpower parochial interests to provide that leadership and the National Security linkage provides one of the most powerful vehicles. Failure for the United States to achieve Energy Security represents an unacceptable risk to the national security and endangers the future of United States hegemony.

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