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The Militarization of Energy Security^[1]

Strategic Insights, Volume VII, Issue 1 (February 2008)

by [Daniel Moran](#) and [James A. Russell](#)

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Introduction

A series of strategy documents promulgated by the last three American administrations all note the decreasing prospect of large-scale interstate conflict.^[2] It is becoming increasingly difficult to imagine realistic scenarios of conventional conflict along the lines of the world wars. Needless to say, this does not mean that violent conflict will cease to trouble the world community. Warfare associated with the fragmentation of states, clashes among warlords and other shadowy contestants for political and economic influence, and attempts by the developed world to suppress dangerous behavior by states operating outside accepted international norms—all remain familiar in the present, and likely in the future.

There is no question that violence of this lesser and still familiar kind can imperil the stability of the international system as a whole. Yet it is able to do so only by virtue of the reactions it may inspire among the system's strongest members. In the final analysis a crisis among such states can only be brought about by their own actions. The only way for "rogue states" and "non-state actors" to achieve true strategic leverage is to induce the most powerful members of the system to act in ways that are self-defeating, even if they are not foreseen as such.

It is also possible, of course, that states with a presumptively strong stake in preserving international order may conclude that the system no longer serves their interests, and that it is better to risk overturning it by force than to suffer a diminution of their role or prospects. Recent history suggests that the chances of such a miscalculation are not large, however. Since 1945 war has been fought exclusively by or against inferior powers and revolutionary insurgencies with limited military potential. Although the results have often been appalling in human terms, the impact of such violence on global order has been far below what would be expected of general war, or required to incite general war.

The Cold War provided many opportunities for the United States and the Soviet Union to fight each other. They never did, preferring instead to underwrite proxy wars conducted on terms calculated to limit the impact on the superpowers' bilateral relationship. Even in its death throes the Soviet Union did not attempt to save itself by rolling the iron dice of war, an expedient well known among doomed regimes of the past. There is little doubt why this happened: the world wars had demonstrated, beyond the illusions of even the most ideologically befuddled statesmen, that the consequences of modern war between advanced societies dwarf any prospective benefits. The spread of nuclear weapons has strongly reinforced this conclusion.

This book does not seek to challenge the prevailing consensus that large-scale conflict among developed states has become unlikely. Its aim is rather to reflect upon conditions in the one area of international life where serious observers still regard it as possible: energy security. It is in the energy sector that strategic planners now find it easiest to imagine major states reconsidering their reluctance to use force against each other. "Energy security" is now deemed so central to "national security" that threats to the former are liable to be reflexively interpreted as threats to the latter. In a world in which territorial disputes, ideological competition, ethnic irredentism, and even nuclear proliferation all seem capable of being normalized in ways that constrain the actual use of military force, a crisis in global energy supply stands out as the last all-weather *casus belli* when the moment comes to hypothesize worst-case scenarios.

This is not a reason to assume that wars over energy are more likely now than in the past. Precisely because such conflicts have been limited and rare up to now,^[3] there is good reason to be cautious about estimating their likelihood in the future. The probabilities are further muddled by the fact that over-emphasis on the possibilities for great-power conflict favors important, and generally conservative, institutional interests within the defense establishments of developed states, particularly the United States. In a security environment that presents increasingly strong incentives to shift force structure and doctrine toward irregular warfare, counter-terrorism, constabulary operations, and so on, the possibility of war to seize or defend energy resources provides a much-needed rationale for preserving the heavy conventional forces that still consume the lion's share of defense spending around the world. This is especially true of naval building programs, whose ostensible purpose is always presumed to include securing the sea lines of communication that connect the producers and consumers of oil.^[4]

The prominence of energy security for military planning and budgeting may be exaggerated compared to its real salience internationally. Yet the anxiety that this issue is capable of inspiring is itself a measure of its significance, irrespective of one's estimate of the probabilities. There were only two world wars in the entire twentieth century, after all, yet that is scarcely a reason to discount their importance. The possibility that access to energy resources may become an object of large-scale armed struggle is almost incontestably the single most alarming prospect facing the international system today. The political stability of advanced societies, and the continued prospects for economic and social improvement in developing countries, are both irreducibly dependent on avoiding such a conflict.

Like all international markets, the market for energy is sensitive to war and upheaval, whatever the cause. Energy markets are efficient at discounting risk, and there is a long history of price spikes and shortages whenever political instability and large-scale violence, chiefly but not exclusively in oil-producing regions, threatens established patterns of production and consumption. The world today is witnessing this time-honored phenomenon in reaction to the U.S. invasion of Iraq, and to political turbulence in crucial producing states like Nigeria and Venezuela. Strategic planners in the United States and elsewhere are well aware of the degree to which the effect of military operations on the price and supply of oil and natural gas needs to be considered in their work; though the result is not necessarily improved clarity of vision. One of the early rationales advanced in favor of the U.S. invasion of Iraq, after all, was that "regime change" there would allow Iraq to pump more oil, thereby reducing the dependence of world markets on Saudi production; a sadly fanciful idea that shows no prospect of being realized anytime soon.

Nevertheless, issues of this kind are only a secondary concern of this volume. Our interest is less in the impact of international violence on energy supplies, than on the impact of changes in the supply of energy on patterns of international conflict and alignment, and on the strategic behavior that underlies these. This project does not seek to estimate the likelihood of a major strategic crisis arising in the energy sphere. It seeks instead to survey the range of considerations that might bring such a crisis about. Its concern is with the issues that may arise if control of energy resources, or the rights of buyers and sellers in the energy marketplace, become explicit objects or tools of strategic coercion, either by governments or by others who may be able to seize

control of them. Energy resources may become *casus belli* in themselves; or they may be viewed as alternatives to the use of force by governments, who persuade themselves that wielding the “energy weapon” will somehow obviate or substitute for the use of real ones. Either way, the prospects for global order are sufficiently daunting to bear careful consideration.

“Peak Oil”

Oil, which sits in the foreground of the global energy picture, is a finite resource. Much remains to be discovered about the ultimate extent of global petroleum reserves, and about the economics of their exploitation. In the final analysis, however, there is no disputing that the world’s supply of oil must be depleted sooner or later. This fact casts its shadow over strategic calculations in the energy sphere.

Experts disagree about when what has come to be called “peak oil” will arrive. Some hold that it is already behind us—that we have already used up half of mankind’s natural endowment of oil, and are on the downward slope of a curve whose theoretical bottom represents the absolute disappearance of oil as a natural resource. Most experts reject this idea, however, and in recent years estimates of available reserves have pushed the hypothetical peak of oil farther into the future, generally beyond the twenty- to fifty-year horizon that constitutes the practical limit of even the most ambitious strategic planning.

In reality the true moment of peak oil is likely to be apparent only in retrospect. At the same time, its looming presence somewhere over history’s horizon seems equally certain to be priced into the market before it actually arrives. The idea of peak oil is already becoming established as a subtext or unspoken assumption among strategists and policy-makers, and reinforces the tendency to see the energy sector as one in which especially critical threats are liable to arise. In this sense the timing of peak oil is less significant than the strategic inferences that thinking about it and getting ready for it may inspire.

Peak oil also has a derivative meaning that strategists must struggle to take into account. In theoretical terms peak oil means simply that oil ceases to be useable for present human purposes. The simplest reason for this would be that the world’s supply of oil dries up—peak oil in its most immediate sense. But mankind might reach comparable conditions by a different avenue, should conditions arise that cause all the environmental externalities associated with the use of carbon-based energy to get priced into the energy market. Energy markets in the industrial era have invariably failed to reflect the true immediate and long-term social costs incurred by mankind’s ferocious hunger for carbon-based fuels, costs that have only recently become apparent, and are now accumulating at a rapid rate. In the same way that estimates of world oil reserves have so far proven to be too pessimistic, estimates of measurable environmental effects linked to climate change have proven no less consistently optimistic. If the graph of peak oil has moved consistently “to the right” by virtue of the accumulation of new scientific knowledge,^[5] the metrics of impending environmental crisis have all moved no less consistently “to the left” for the same reason.^[6] Even granting the significant uncertainty that prevails in both areas, it is easy enough to imagine a cross-over point at which the environment impacts of fossil fuel consumption (a category that includes coal, biomass, and natural gas as well as oil) begin to register in strategic terms, so that a condition akin to “virtual peak oil” is reached well in advance of the real thing.

From a market perspective there are risks on both sides of the peak oil problem. A nation that preemptively abandons a petroleum-based economy before others do so may incur additional short-term costs, as an early adopter of new and unproven technologies that place it at a disadvantage relative to competitors that hold on longer to what is still cheap and familiar. A nation that waits too long may find itself paying premium prices for a commodity that has become too scarce to burn, but must be rationed for other, more specialized purposes. The risks

associated with “virtual” peak oil also include the possibility that states will attempt to coerce each other to reduce their consumption of fossil fuels (and the resulting carbon emissions), in effect re-defining environmental pollution as a form of international delinquency, perhaps even as “aggression,” toward which a strategic response is warranted.

Trusting the Market

One reason that such seemingly remote anxieties have crept into the foreground of contemporary strategic thinking is uncertainty about whether such problems can be adequately addressed in the marketplace. The fact that strong states have been prepared to trust their energy security to the workings of international markets is testimony to their faith in the efficiency of those markets, and to their belief that the costs of war aimed at controlling energy resources would be so great as to outweigh the benefits. In these terms “trusting the market” has made profound strategic sense, and it may continue to do so indefinitely.^[7]

Yet it is important to recognize that the complexity of the problems the market is being trusted to solve is destined to increase. Until now energy markets have been expected to do no more than ensure that supply kept up with demand, and that prices remained within a range that buyers and sellers could tolerate. If it is true that oil may eventually become too expensive to use for energy on the current scale, whether because too scarce or too toxic, then the market must gradually learn to do more. It must drive the price of oil up at a rate that provides adequate incentives for the development of alternative fuels—a development that the producers of oil can be expected to use their market position to resist. It must also do this at a rate that is sufficiently smooth as not to dislocate too severely established patterns of consumption in the developed world, nor thwart too severely the aspirations of those who hope to join that world someday. It must also proceed sufficiently rapid as to forestall the advent of “virtual” peak oil.

Such would be the ideal market solution to the array of energy-related problems that currently confront mankind. It is, by any reckoning, the best-case scenario; which may be reason enough not to cling to it too strongly. It certainly begs the question of what kinds of non-market strategies, if any, might be adopted to hedge against its failure to come to fruition. No one can say for sure whether this sort of juggling act is beyond the power of what Adam Smith called “the invisible hand.” But it is most assuredly a more complicated trick than it has performed recently.

The replacement of oil by other energy forms is nothing like the replacement of radio by television, owing to the complexities of the social arrangements and cultural attitudes that are necessarily arrayed around the way mankind consumes energy. The only comparable example is the industrial revolution itself, during which “the market” was asked to escort Western civilization across the rickety, fog-shrouded bridge that connected its agrarian, wood-fueled past to an industrial, fossil-fueled future—a future in which the early advocates of free markets were sure the natural partnership of peace and prosperity would triumph over the mercantilist obscurantism of the past. That future may yet come. But it is not here yet.

The militarization of energy security requires, in the first instance, that something must change that would cause major participants in the energy market to reject their well-grounded calculation that war for energy (or any merely economic advantage) does not pay. High energy prices would be a likely, but probably not a sufficient, motivation for such a change. In addition, governments would have to believe that the normal mechanisms by which prices adjust to changes in supply and demand had broken down, or were on their way to doing so. Prices in any market demonstrate three basic tendencies: short-term volatility, medium-term momentum, and long-term reversion to the mean. The meaning of these terms varies depending on what is being bought and sold, but their operation is apparent across an enormous range of economic phenomena. They represent, collectively, the self-modulating action of supply and demand, which is the economist’s equivalent of the Law of Gravity.

From the point of view of those who seek to make money in a marketplace, the first two tendencies—volatility and momentum—are of the greatest interest, since it is by mastering these that one has the best chance to “buy low, sell high.” For strategists, however, it is “mean reversion” that matters most, because this longer-term mechanism provides reassurance during periods when volatility and momentum carry prices and supplies to uncomfortably high or low levels. In recent history, international acceptance of the now-irrelevant OPEC price basket represented an attempt to manage mean reversion, by way of acknowledging the legitimate requirement of producing states that the price of their product be both reasonable and predictable. Mean reversion does not require that prices fluctuate in perpetuity around a flat line. On the contrary, the prospect of peak oil (real or “virtual”) implies that mankind as a whole has a positive interest in getting the line to slope upward at a tolerable rate. But mean reversion does require that aggregate price movements describe a relatively smooth trend, whose variance is markedly less than that displayed by short- and mid-term price changes.

Such relationships are no more than mathematical models, which can be calculated in different ways. For our purpose it is not the precise calculation but the general idea that matters, and specifically the military and political consequences that may follow if this general idea is abandoned. Oil prices have more than doubled in the last three years. This development is largely attributable to military and political events that were not widely foreseen, and by no means inevitable. Having occurred, however, there is no assurance that prices will ever revert to the old mean. Before 2003 oil traders regarded \$20 per barrel as the trend around which short-term volatility would revolve. Lately the consensus has shifted closer to \$40 or \$50, an increase of 100 per cent or more in the perceived trend in three years. Should this wave-like process of periodic doubling continue at anything like a comparable pace in the future, it seems certain that questions about the market’s ability to revert to historical norms will grow more urgent among the major consumer states.[8]

What kinds of events or forces might cause governments to conclude that energy prices or supplies will not revert to their established trend? Whatever they may be, it is safe to say they need not be dramatic in themselves. It is most likely that the militarization of energy resource management will occur as a series of small iterative calculations conceived in response to limited crises or opportunities, each of which will erode the willingness of other participants to trust the market going forward. To speak of militarization as a general phenomenon it is necessary to imagine that such activity reaches a scale at which the normal operation of energy markets is compromised. The possibilities that matter need not entail catastrophe in themselves; but they must envision strategic intervention on a scale that is not incidental, and calls into question the future vitality of the market as a whole. A representative list of possibilities would include:

- Direct seizure of energy assets by military means.
- Destruction of energy assets to deny their use to rivals.
- Military confrontation arising from competitive efforts to exploit new energy resources on the high seas, where legal claims of sovereignty are absent; in archipelagic regions like Southeast Asia, where they are routinely contested; or in Arctic and Antarctic, where they are subject to treaty regimes whose resilience has not been seriously tested.
- Indirect control of energy assets through the creation of puppet states.
- Military protection of, or attacks upon, the energy production and transportation infrastructure, including oil fields, refineries, pipelines, port facilities, and so on.
- Active military control of international straits through which energy assets move.
- The development of exclusive energy trading blocs, reminiscent of the systems of “imperial preference” that existed before 1945.
- The conveyance of major military assets to regional energy producers in exchange for preferential market treatment, or with a view to enabling them to impose themselves upon neighboring states.

Most of the possibilities on this list are not strategically distinctive in themselves. Even those that are most obviously lamentable—the establishment of puppet regimes, or the transfer of military assets to potentially dangerous clients—are sufficiently familiar that they do not pose a *prima facie* threat to global stability. The unique problems that will arise from the militarization of energy resources only become apparent when these kinds of actions are envisioned as occurring in a context in which the stability of energy supplies is also recognizably at risk.

In such circumstances the great difficulty, from the point of view of both analysis and action, is to account for the enormous range of secondary effects that may follow once force is used on a significant scale. One must assume, for instance, that war by a major power to protect or to interfere with energy supplies would coincide with, or inaugurate, a period of sharply declining performance by the world economy, a development whose effects would be felt by the states immediately concerned, and also by potential opponents, collaborators, and by-standers. In general, the militarization of energy security needs to be envisioned as occurring within a context of strategic anxiety and severe economic stress, in which economic productivity is far below what people are used to, and in which the perennial peace-time trade-offs between guns and butter had become correspondingly more contentious. Such conditions have arisen before, in the 1930s, when the developed world's demand for security increased rapidly, under conditions that made the relative social cost of that security extremely expensive. It remains difficult to this day to see how war could have been avoided under such circumstances.

The relationship between spiraling energy costs and global stability—social, political, and strategic—are not easy to anticipate in detail. On the whole it is reasonable to assume that the West and the rest of the developed world will be in the best position to afford higher costs. But they may also be the most susceptible to the pressure of public opinion and powerful economic interests. They also possess the most formidable military resources with which to intervene in the market, should they wish to do so. Developing states that are consumers of oil probably have the least leverage in market terms; but this may only make them more willing to choose the military option in moments of desperation. Such states are often disconnected from, and even hostile to, those features of economic globalization that are driving growth and development elsewhere, and may feel that they have little to lose in challenging a system that is failing them in any case. Oil-producing states can benefit from high prices only as long as demand does not collapse, or become translated into calls for direct action outside the boundaries of the market. In the latter case they can be expected to seek the protection of more powerful consumer states. Indeed, the emergence of such relationships, in anticipation of a deteriorating energy market, is one of the more likely ways in which the militarization of energy security may unfold.

A state that chose a militarized energy strategy would of course need to consider that other states might gang up against it, and that it risked being excluded from other markets in which it might have preferred to continue to participate. Nothing of strategic significance that happens in the world of energy can realistically be considered without simultaneous reference to the workings of global financial markets, a realm in which the United States occupies a position comparable to that of the Middle East with respect to oil. States need energy not for its own sake, but in order to be able to make things to consume and to sell. This means they also need customers, investors, and creditors, all of whose reactions must be taken into account in order to obtain a complete strategic picture of what the militarization of energy security would entail.

The strategic complexity that surrounds the problem of energy security arises mainly from the need to understand these second-order interactions, whose daunting appearance is not an illusion. The militarization of energy resources would involve a general retreat from “globalization,” a process whose inexorability is too readily taken for granted by policy-makers. The dynamics of globalization are routinely characterized as tending to diminish the influence of states, whose preeminence as shapers of the international order is being reduced by the rising power of multinational corporations, global financial and commodities markets, new information technologies, and so on. It is important to recognize, however, that the basic enabling conditions

that allow these institutions and processes to operate—enforceable contracts, liquid currencies, and physical security of the great global commons (air, sea, and space)—are created and maintained by governments. While states may not have the means to control all the results of the processes that they have enabled, they most certainly have the means to bring those processes to an end by withdrawing the juridical and security guarantees that make them possible.

Energy Security and the “War on Terror”

The international energy market has always rested on the possibility that major market participants might be required to use force to defend or manage its operation. The prospect was made plain even before the end of the Second World War, when Franklin Roosevelt took it upon himself to guarantee the territorial integrity of Saudi Arabia, by way of securing its cooperation in the orderly production of oil in line with American requirements.^[9] The energy market has never been immune to political and strategic influence. Oil has been used as a “weapon” in the past, and its price (along with that of natural gas) is reflective of a range of political pressures to which a perfectly efficient, strategically agnostic market would be indifferent. Nevertheless, the uncoerced, non-violent interaction of buyers and sellers has been the primary determinant of how energy resources have been produced and consumed throughout the period when those resources have traded freely in global markets—roughly since the final unraveling of European empires, and the emergence of the United States as a net importer of oil. If this situation were to change, such that the strategic interactions of governments and other contestants for political power were to prevail over the commercial interactions of buyers and sellers, a great deal else would change as well.

It is thus reasonable to ask who, among present-day occupants of the international stage, would like to see a great deal changed? to which the immediate answer would obviously be the ramshackle assemblage of rogue states and revolutionary movements whose machinations consume such a disproportionate share of time and attention from the defense establishments of the world. As noted earlier, energy security looms large in the strategic planning of advanced societies in part because, to the extent that it holds out some prospect for the resumption of major interstate war, its requirements make it easier to justify cherished force structures and budgets. Yet military planners and civilian strategists are also inclined to point to the potential threat that terrorists and other disenfranchised groups pose to global energy markets; and indeed they have good reason to do so.

That terrorists and their ilk are interested in attacking energy-related targets is hard to dispute. A review of data compiled by the National Memorial Institute for the Prevention of Terrorism, or MIPT, indicates that terrorist groups mounted at least 330 attacks against oil and gas facilities around the world during the period 1990-2005.^[10] Most of these incidents occurred in eight countries: Iraq, Russia, Columbia, Ecuador, Philippines, Turkey, Pakistan and Algeria. Since the American invasion of Iraq insurgents have systematically attacked the country’s oil export terminal at Basra, various oil pipelines traversing Iraq, and the electrical power grid. These actions have been a serious complicating factor in restoring Iraqi oil production to their pre-war levels.

The congruence between terrorist stomping grounds and the world’s major energy producing regions is apparent. The world’s most celebrated international renegade, Osama bin Laden, casts the West’s consumption of Persian Gulf energy as a central part of a complicated narrative that features the plundering of the Middle East’s riches.^[11] In a videotape released on the fifth anniversary of the September 2001 attacks, his deputy Ayman al-Zawahiri repeated accusations that the West is stealing Muslim oil, and called for stepped-up attacks in the Gulf.^[12]

Islamist insurgents appear to have taken these calls at least somewhat to heart, and have mounted episodic attacks against energy targets. In the summer of 2002, Saudi authorities

arrested a group of militants plotting to sabotage the Saudi offshore oil terminal (the largest in the world) at Ras Tanura.^[13] Later that year, in October 2002, the French supertanker Limburg was rammed off the coast of Yemen by a small boat loaded with explosives.^[14] In April 2004 Iraqi insurgents attacked Iraqi oil terminals at Khor al-Amaya and Basra that shut down the terminal for two days.^[15] In February 2006, the Saudis thwarted an attack on the oil processing facility at Abqaiq and later seized 1.5 tons of explosives that were to have been used in additional attacks on oil facilities.^[16] In September 2006 security officials in Yemen successfully prevented attacks against oil installations at the port of Dubba and the refinery at Mareb.^[17] In the fall of 2006, the Royal Navy released a warning to all merchant vessels in the Gulf to be on the alert for suspicious activities throughout the area.^[18]

It is an alarming picture; yet the consequences of all these actions combined have barely ruffled the consciousness of world opinion, because their material effects have been so small. Nor are the motives that would lead terrorists to choose such targets necessarily easy to discern. In this connection it is worth distinguishing between the motives of revolutionary insurgents seeking to overthrow a particular government, for whom attacks on energy infrastructure may make perfect sense in instrumental terms, and those who wish somehow to direct hammer blows against the inequity of the world system as a whole. It is the latter group whom men like bin Laden and Zawahiri purport to lead, and for them the energy sector presents a puzzle.

To the extent that terrorists operate according to the same kind of instrumental rationality that motivates other strategic actors, their reasons to attack energy assets would presumably be to inflict harm on their adversaries, and to draw attention to their cause by way of demonstrating competence and attracting recruits. In the energy arena these things can be accomplished in two general ways: by attacking major oil production and refining nodes; or by disrupting the transportation of oil through critical chokepoints like the Strait of Hormuz and the Bab el Mandeb, or (more plausibly) via the network of oil and natural gas pipelines throughout the Middle East and Central Asia. Both are possible, but both also present serious obstacles if the aim is to achieve sustained, strategic-level effects that would disrupt the functioning of global energy markets.

The impact of terrorist attacks on energy targets has been negligible until now. While the (unsuccessful) al-Qaeda attack on the Saudi oil refining facility at Abqaiq in February 2006 resulted in a \$2-per-barrel price increase over night, the market soon recovered its equilibrium.^[19] Despite repeated attacks in South America by various groups on energy targets in Columbia, Venezuela and Ecuador, markets have had little difficulty dealing with the resulting short-term perturbations. It also goes without saying that producing states take the security of their single most valuable asset quite seriously. The Saudi refining complex at Abqaiq and its export terminal at Ras Tanura are said to be among the best-defended civilian facilities in the world.

By some lights the formidable nature of such places might be a reason to attack them. A successful attack against a "hard" target like Abqaiq would test the operational limits of a group like al-Qaeda, but if it would pay off dramatically in increased prestige, both in general and among the disenfranchised Muslim youth who constitute its main recruiting base. It could also set in motion excessively violent or otherwise self-defeating reactions among oil-consuming states, which the perpetrators might be able to exploit to their advantage, assuming they were not destroyed in the process. Yet a failure would be no less conspicuous, and while it may be true that there is no such thing as bad publicity, a moment comes when even the most unconventional strategic actor must be able to show that it can connect actions and results in some meaningful way.

The energy sector offers a vast array of "soft" targets too, of course, above all the pipelines by which oil and gas are moved from production sites to refineries and export terminals. In physical terms much of this system is simply indefensible, and attacks upon it have been frequent as a consequence. Yet the global market impact that can be achieved by blows of this kind is limited

and transient. The oil pipeline system of the Middle East especially was built with security in mind. The threat it was designed to counter was not terrorism, but the treachery of neighboring governments, whose willingness to allow someone else's oil to flow through their territories without interference could never be taken for granted. Yet the resulting infrastructural redundancy serves equally well to mitigate the effects of terrorist attacks. If anything, the use of oil and gas pipelines as instruments of strategic coercion is better-suited to governments than to international outlaws.[20]

From a terrorist's perspective, then, the energy sector presents a complex set of problems and opportunities. The efficiency of global energy markets and the redundancy of global infrastructure makes the sector relatively resilient to the disruptive effects of all but the most apocalyptic physical attack. The air travel industry has taken years to recover from the psychological effects of the 2001 attacks on its customers. It is difficult to imagine an attack on a comparable scale having anything like a comparable effect on the energy sector. It is one thing to get people to reconsider their travel plans, another to get them to reconsider driving to work or heating their houses. Nevertheless, despite the difficulty of achieving strategic-level impacts on global markets, it would be a mistake to dismiss the threat out of hand. Saudi Arabia is a particularly attractive candidate for a sustained effort of disruption, because it boasts much of the world's excess oil production capacity, the existence of which is critical to the management of oil prices. The consequences of a nuclear or radiological attack on a major Saudi facility might well achieve effects of broad and enduring consequence, by virtue of the anxiety it might inspire, or by destabilizing the Saudi regime itself, whose radicalization or overthrow would pose considerable risks to the system as a whole.

Globally significant conflict could also arise over the actions of non-state groups with close ties to oil-producing states, whether acting as proxies or simply with their support. The Hezbollah–Iranian relationship is a case in point. It is by no means impossible to imagine that a regional war started by Hezbollah or Israel might lead to Israel (or even the United States) targeting Iranian energy facilities, the revenue from which is part of the foundation of Hezbollah's existence.[21] Such a scenario merely reinforces the point made earlier, however, that the path to strategic disruption of global energy markets, for terrorists or anyone else, lies through the actions of the market's strongest participants. Such leverage as terrorists may gain in this area is entirely dependent on their ability to anticipate correctly the psychological and political reactions of their adversaries.

War for the Market

The militarization of energy resource management poses special problems for the United States, whose national interest is strongly identified with the preservation of market-based access to energy. Much is made of American dependency on "foreign oil," and on the sensitivity of American domestic opinion to high oil prices. In the final analysis, however, America's fundamental interest is not in the maintenance of oil prices at a given level, nor in buying oil produced in a given region. It is in the maintenance of the global market mechanism by which the price is set. For the United States the question is not whether the market can be trusted. It is whether, and how, it can be defended, should it require defense. No country is more ideologically committed to the idea of "the market" as the ultimate arbiter of how goods and services are distributed. Prices and supplies that rise and fall, however sharply, in response to the realities of supply and demand cannot in themselves pose a threat to America's long-term interest. But the possibility that the price and supply of energy may become subject to strategic pressure, disconnected from the demands of the marketplace, is something to which the United States can be expected to react in strategic terms. A harbinger of what such a reaction might entail was provided by President Carter, who declared in January 1980 that Soviet penetration of the Persian Gulf would be met by force, up to and including the use of nuclear weapons.[22]

International markets have always been sustained indirectly by the armed forces of major participants, above all by the great maritime powers (first Britain, now the United States), whose interest in the expansion of global commerce was and is backed by armed forces that secure an essential piece of the system: free transit of goods across the high seas. But the beneficial effects of such forces are best exemplified during those long historical periods when they have not been required to act too frequently. Such forces play the same role internationally that police forces play in relation to domestic markets: their presence reduces interference by non-market actors to manageable levels. If the New York City Police were ever to burst, guns blazing, onto the floor of the New York Stock Exchange, the effect on the market would not be reassuring. If such things were to happen on a regular basis, the functioning of the market as such would be cast into doubt. The same sort of circular conundrum operates internationally: the overt use of force to protect market practices, if done persistently and on a sufficient scale, runs the risk of demolishing what it seeks to build up.

The question of how an institution that forswears violence can be defended by force immediately presents the problem of how such operations can be crafted so as to make their strategic purpose clear. A military operation that seizes control of energy assets or transit systems in order to insure that they are not removed from the marketplace is not necessarily distinguishable on its face from one intended to improve America's own energy security by military means.^[23] The suspicions that such an action would inspire are easy to anticipate. Many of the major participants in the global energy market are not ideologically committed to markets as such, nor to the promotion of economic freedom among their own populations. Such states are unlikely to lend much credence to American claims that it is acting in the interest of international order and the general good. The picture is further complicated by the fact that the United States is, in both per capita and absolute terms, the largest consumer on energy on the planet. This raises the suspicion that American military action in the energy arena will have no other purpose than to defend a pattern of consumption that much of the rest of the world already resents.

These kinds of considerations suggest that, in the energy sphere as in all others, the successful application of military force will depend on how it is framed in political terms. Force exercised within the context of international law—in whose further development the United States has a strong, if lately dormant, interest—or at any rate with the blessing and support of major market participants, is manifestly preferable to unilateral action, whose self-interested motives are liable to be taken for granted even by friendly by-standers. Unilateral policies are especially ill-suited to an arena in which effective action will almost certainly require the synchronization of military and economic pressure. Sanctions regimes, boycotts, restrictions on the transfer of technology, and so on, are all difficult to employ by any state acting alone. A militarized energy strategy could scarcely be undertaken without imposing sharply higher prices, and correspondingly reduced consumption, on the American public. That being the case, efforts to reduce consumption in advance of a crisis might well be strategically advisable. Doing so would help to insulate the American economy from the negative effects of its own strategic behavior. A country that has demonstrated strong consciousness of the need to conserve energy resources is also more likely to be perceived as an honest policeman by other market participants.

It is also apparent that the military intervention to defend the operation of the global energy market, even if successful, harmonizes imperfectly with American policies oriented toward the spread of democratic institutions in parts of the world where these are currently unknown. In the broadest terms the picture is natural enough, since there is no question that the most reliable participants in any international market are going to be democratic states presiding over a free citizenry. In the short run and in practice, however, the attempt to bring such conditions about by strategic means—that is, by the calculated use or threat of force—is certain to introduce additional instability and risk into the international system. As recent experience in the Middle East has demonstrated, it is not easy to stabilize a region and to transform it at the same time. To choose transformation is to choose instability, the price of which may be judged quite high in the marketplace.

Any state that is committed to defend international markets in their current form must face the unpleasant necessity of accepting other, less attractive aspects of the international status quo, including the prominent role of market participants whose values and outlook may be deeply disturbing in other contexts. Failure to do so risks setting in motion precisely the kind of spiraling movement away from the market that the United States wishes to avoid. In the same way that it is not easy to choose both transformation and stability, it is not easy to be both policeman and revolutionary. These are no more than the perennial puzzles that have attended American foreign policy since it first achieved something like its present form, at the turn of the twentieth century. It is merely that, as applied to the problems of energy security, the consequences of misjudgment become that much more severe. Misjudgments by buyers and sellers may eventually be redeemed by "reversion to the mean," but in the strategic arena mistakes can acquire a kind of finality unknown to other forms of public life. All the more reason to think carefully before embarking on bold initiatives, from which there may be no meaningful retreat.

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References

1. The paper the follows is a draft of the introductory chapter of *Energy Security and Global Politics: The Militarization of Resource Management*, edited by Daniel Moran and James A. Russell, forthcoming from Routledge (June 2008). It originated as the concept paper for a conference on the Militarization of Energy Security, held at the Naval Postgraduate School in November 2006, and sponsored by the Long Range Analysis Unit of the National Intelligence Council, whose support is gratefully acknowledged. It goes without saying that nothing in it has been reviewed or endorsed by the National Intelligence Council, the Department of Defense, or any other government agency.
2. Since the end of the Cold War the unlikelihood of conflict among advanced societies has been prominent theme of the policy documents known as the "National Security Strategy of the United States," an annual series produced under the mandate of the Goldwater-Nichols Department of Defense Reorganization Act of 1986. The most recent such statement can be found at <http://www.whitehouse.gov/nsc/nss/2006/>. The reports on "[National Military Strategy](#)," also mandated to appear annually, have lagged somewhat in their willingness to shift the focus away from conventional operations; though the most recent is quite plain in insisting on the importance of irregular warfare.
3. The chief exceptions in recent times are the Iraqi invasions of Iran and Kuwait in 1980 and 1990, which included among their motives a desire to seize energy assets by brute force. The significance of these attacks is not easy to assess. Some regard the fact that such wars occurred at all as a harbinger of worse to come. Others view their successful containment and suppression as evidence of the resilience of the present international order.
4. The outstanding example in this regard is of course China, whose rapidly growing (though still modestly capable) navy is universally viewed as derivative of that nation's export-driven economic expansion, and corresponding dependence on raw materials imported by sea. See the reports on "[The Military Power of the People's Republic of China](#)," produced annually since 2002 by the United States Department of Defense, collected at *DefenseLink.mil*.
5. Duane Chapman and Neha Khanna, "The Persian Gulf, Global Oil Resources, and International Security," *Contemporary Economic Policy* 24, no. 4 (October 2006): 514.

6. Bill McKibben, "How Close to Catastrophe?" *New York Review of Books* 53, no. 15 (November 16, 2006): 23-5.

7. For a balanced but reasonably confident exposition of this view, see Steve Yetiv, *Crude Awakenings: Global Oil Security and American Foreign Policy*, Ithaca: Cornell University Press, 2004. For a less reassuring interpretation of similar evidence see Michael T. Klare, *Resource Wars: The New Landscape of Global Conflict*, New York: Metropolitan Books, 2001. All serious students of energy security are of course aware that the resilience of global energy markets is significantly contingent upon the persistence of manageable (if not exactly "stable") political conditions in the Middle East; and on the continued willingness and ability of the United States to employ its military resources effectively to support the market. To that extent the line between energy security and military force will always be a short one, however thick or thin one may wish to draw it.

8. In describing economic activity the image of a wave is much less common than that of a circle or a line, by which recursive and progressive processes are usually represented. Among economic historians wave-like change is mainly associated with the idea of "price revolution," a particularly precarious form of economic transformation. It is beyond the scope of this project to consider whether the recent acceleration in the rate of energy price inflation is symptomatic of such a revolutionary change; but see David Hackett Fisher, *The Great Wave: Price Revolutions and the Rhythm of History*, Oxford: Oxford University Press, 1996, especially 179-234.

9. See Rachel Bronson, *Thicker than Oil: America's Uneasy Partnership with Saudi Arabia*, Oxford: Oxford University Press, 2006, 36-60.

10. Memorial Institute for the Prevention of Terrorism, "[Incidents by Target](#)," *The Terrorism Knowledge Base*.

11. There are two collections in English of bin Laden's public statements and writings: Bruce Lawrence, ed., *Messages to the World: The Statements of Osama bin Laden*, London, Verso, 2005; and Randall B. Hamud, ed., *Osama Bin Laden: America's Enemy in His Own Words*, San Diego: Nadeem Publishing, 2005.

12. "[Knowledge is for Acting Upon—The Manhattan Raid](#)," *Mininova.org*.

13. John C. K. Daly, "[Saudi 'Black Gold:' Will Terrorism Deny the West its Fix?](#)" *Terrorism Monitor* 1/7, 4 December 2003.

14. Brian Whitaker, "[Maritime Wars](#)," *Yemen Gateway*, 25 October 2002. For a general discussion of the prospects and limitations of maritime terrorism, see Richard Ferrell, "Maritime Terrorism: Focusing on the Probable," *Naval War College Review* 60/3, Summer 2007, 46-60.

15. James Glanz, "[15 Miles Offshore, Safeguarding Iraq's Oil Lifeline](#)," *New York Times*, 6 July 2004.

16. Kahlid R. al-Rodhan, "[The Impact of the Abqaiq Attack on Saudi Energy Security](#)," *Saudi-U.S. Relations Information Service*, 28 February 2006.

17. "[Yemeni Security Forces Foil Attacks on Oil Installations, Kill 4 Terrorists](#)," *GlobalSecurity.org* [citing VOA News], 15 September 2006.

18. Jim Krane, "[Gulf Ships on Alert over al-Qaeda Threat](#)," *The Scotsman*, 28 October 2006.

19. "[Terrorist Attack at Abqaiq Oil Facility Thwarted](#)," *Saudi-U.S. Relations Information Service* (SURIS), 25 February 2006.

20. Naji Abi-Aad of Qatar Petroleum has noted that, to the extent that the redundancy of the Middle East pipeline system was intended to provide insurance against the political instability of the region, it has not succeeded: "An assessment of the historical record of the petroleum pipelines in the region until the end of 2006 reveals that, of the 360 years representing the cumulative age of the international export pipelines (crossing at least one state boundary), some 165 years of actual pumping, or only 46 per cent, have been recorded. It is also interesting to note that every international export pipeline in the region was shut down at least once." Naji Abi-Aad, "The Middle East: Petroleum Supply Security or Political Stability?" paper presented at the PETROSEC SEIF-CF Conference, University of Salzburg, September 2007, 5. The oil pipelines of the Middle East afford producers and consumers a range of options that are absent from the natural gas pipelines of Central Asia, which were constructed to insure that control remained in the hands of the Soviet leadership, a role that has been taken over by Russia.

21. On Iran's patronage of Hezbollah and other regional terrorist organizations see Shaul Shay, *The Axis of Evil: Iran, Hizballah, and the Palestinian Terror*, New Brunswick, NJ: Transaction Books, 2005.

22. President Jimmy Carter, "[State of the Union Address](#)," 23 January 1980
<<http://www.jimmycarterlibrary.org/documents/speeches/su80jec.phtml>>.

23. The United States' current presence in the Gulf illustrates this point. The Bush Administration has always denied that the American invasion of Iraq was motivated by anything other than security concerns—counter-terrorism and the proliferation of weapons of mass destruction most particularly. It denies having acted to improve American access to oil, or even to protect the global energy market. Yet suspicion that America's real interest in Iraq lies in control of its vast oil reserves (which would guarantee our access to it, and afford us much greater leverage in the management of global oil prices).