

# **The Changing Face of Energy Security**

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The past few years of rapidly rising energy costs, coupled with concerns over the long term stability of oil and gas supplies, have helped bring the notion of “energy security” to the forefront of the international scene. Especially since the 2003 invasion of Iraq, the “resource war” thesis has had an unremitting “fossil fuels case” to support it. Russia and the EU continue tense discussions over natural gas supplies, while the head of Russia’s state-led gas monopoly, Gazprom, was recently elected (installed, some say) as President of that energy-rich state. Ongoing tensions over Iran’s pursuit of nuclear technologies, China’s seemingly relentless search for coal and oil, Canada’s tar-sands, and the global obsession with biofuels, all highlight the importance of energy concerns in relations among the world’s states today. Indeed, one might be tempted to see energy security emerging as a dominant discourse in the field of security in the 21<sup>st</sup> century.

The concept of energy security is often discussed in terms of state and military security, but in recent decades it has also been strongly associated with concepts of “environmental security”. This association, I would argue, has to some extent “environmentalized” energy security concerns, and thereby made them somewhat less urgent than other (state) “security” issues. Environmentalized energy security concerns may still help to drive state actions and interactions (witness the Kyoto Protocol), but states have not (typically) responded to environmental issues with the same intensity and vigour than they will to issues that are more clearly identified as security issues. Thus, despite the significant efforts of activists, academics, NGOs and some state agents to raise the profile of environmental issues, the environment – and with it energy – remain a matter of “normal” politics: prone to disagreement, debate, and delays in effective action. Yet it is beginning to seem that energy security is again moving to the forefront of the security agenda, regaining a place in the high politics of security. Especially in light of growing concerns over “peak oil”, the security (or the sustainability) of modern trends in energy usage is very much in question. This uncertainty has immense implications for the security – energy and otherwise – of modern states and their populations.

## **Energy as a Security Issue**

The prioritization of state security has long been a guiding assumption in the discipline of international relations. Security has traditionally been understood largely in terms of the military (and to some extent economic) power of states, and their capacity to respond to “threats”, where the latter is generally seen to be posed by other states’

military capacities and/or actions. Within this “traditional” security discourse, threats to security were presumed to be objective and observable; and the question of what the security of the state entailed was generally treated as both “obvious and commonsensical” (Sheehan, 2005: 5).

Efforts to expand on this limited conception of security gained momentum with the end of the Cold War. The expansion can be looked at along two axes, those of “broadening” and “deepening” security analysis (Krause and Williams, 1996). The security agenda was “broadened” to include concerns like the environment, refugees and migration, drugs, crime, and piracy as issues of (state) “security”. Scholars started to look beyond the image of threats posed by rival states, then, to issues or “threats” that could not necessarily be identified with “enemies”, nor dealt with by traditional (military and diplomatic) means. On the other hand, while scholars had long looked to the state as both subject and agent of security – as the thing to be secured, as well as that which provides security – a core concern of critical security studies is with overcoming the limitations of a discourse focused on this singular subject of security (Walker, 1996). This attention to the subject led to a “deeper” analysis that recognizes that it is not *only* the security of states that is an issue, but also the security of other human aggregates, including geographical or cultural regions or at a more micro-level, sub-state and local polities, and even the security of the family and the human individual. Indeed, it is now widely recognized that “security is a human condition”, and there is little sense in speaking of the security of the state absent a recognition that this is about the security of people (Hough, 2004: 9-11). Nonetheless, as Ole Wæver insists, discourses of security have a long history of association with the state, an association that invariably intrudes on any use of the concept of security (Wæver, 1995).

These shifts in the focus of security show that security’s object, far from being forever limited to the territorial state, is indeed subject to change. How is it, then, that some phenomena are recognized as security issues, as proper subjects of security, while others are not? In the view of the “Copenhagen School” of security studies, this act or practice of the construction of security concerns is best viewed as a discursive process, or a matter of “speech-acts” that constitute the act of “securitization” (Wæver, 1995). In this act or process, “[i]ssues become ‘securitized’, treated as security issues, through these speech-acts which do not simply describe an existing security situation, but bring it into being as a security situation by successfully representing it as such” (Williams, 2003: 513). The success of such a representation must be measured by the degree to which the relevant audience comes to accept the issue as an objective threat, and thus becomes willing to act upon it as such. The success of a securitization effort may depend on a number of factors, including the quality of the representation of the threat, the epistemic or political authority of the agent who makes the securitizing claim, and the empirical evidence that the threat is significant enough that a “security” response is appropriate (Balzacq, 2005). (Hence a leading scientist may make an effective security claim regarding global warming, and an army general a claim about a specific military threat, but these claims would be far less effective in moving an audience if the speakers’ roles were reversed.)

It is important to note that a claim to security is not simply a matter of applying the term “security” to an issue. According to Wæver, the issue must actually be presented as one that constitutes an “existential threat” to the subject of security: “the

survival of the ... basic political unit ... is the key” (Wæver, 1995: 52). A securitizing act thus puts an issue beyond the realm of “normal” politics, and thereby legitimizes the use of extraordinary means – including the suspension of the regular rules that govern actors’ behaviour – in addressing the threat. In conducting a successful securitization, an actor “thereby claims a special right to use whatever means are necessary to block it” (Wæver, 1995: 54). A successful act of securitization thus “has three components (or steps): existential threats, emergency action, and effects on interunit relations by breaking free of rules” (Buzan, Wæver and de Wilde, 1998: 26). Securitization can be seen, then, to constitute the sovereign’s prerogative to take matters into its own hands, to make them a matter of sovereign “decision” that is effectively “beyond public debate”, and is thus associated with the potential for authoritarian political relations (Williams, 2003: 515). Such a conception of securitization thus places the bar rather high for identifying a security issue, but it is useful in explaining the difference between those (security) issues that are treated with great urgency, and others that seem to never get beyond the realm of merely being “problems” to be dealt with through the normal channels of political commerce.

In this view, then, we must ask: to what extent is energy really a *security* issue? (And indeed, to what extent *should* it be?) Clearly, any state that “thinks like a state” is bound to be concerned with the continuity of resource supplies, especially when these are vital to its defensive (security) apparatus, and so energy would thus seem a somewhat natural aspect of states’ security concerns. But as we have seen, security concerns are neither natural nor objective. Neither security, nor the threats that “it” counters, exist in the absence of value-oriented actors whose imagination is guided by an image of a subject to be secured, and of conditions that constitute a secure condition. These conditions are not necessarily explicit, however, no more than a “threat” is always a known quantity. Indeed, it is precisely the pervasive presence of unknowns and uncertainties in global politics that is said to be behind states’ obsession with (in)security. “Security is about the future or fears about the future... It is about control, certainty, and predictability in an uncertain world” (Dalby, 2002: 163). The pursuit of certainty is an essential factor in garnering the power of the state toward particular ends and in the protection of specific values. Thus to the extent that energy supplies are uncertain, it is evident that energy holds the potential to be a security concern.

Yet while it is clear that energy is a *concern* of modern industrialized states, the question of whether and how energy disruptions might constitute an “epistemic threat”, and to what level of political organization? The state, of course, is the likely candidate: states require energy for military and economic functioning, but we can look further, to the continuity of “industrial civilization” itself. Civilization, after all, is dependent upon our ability to harness energy: as Hall et al. (2003: 318) put it, “the history of human culture can be viewed as the progressive development of new energy sources and their associated conversion technologies.” Indeed, many contemporary dystopian visions see a loss of energy sources and conversion technologies posing a profound threat to the maintenance of complex systems, including the state and the global commercial system (Meadows et al., 1973; Catton, 1980; Tainter, 1990; Diamond, 2005; Homer-Dixon, 2007). Indeed, we may wonder whether the democratic and relatively peaceful forms of life that we have become accustomed to may be less tenable in an era of increasing energy scarcity (Heinberg, 2005). The authoritarian dimension of security may well

emerge as a response to the difficulty of maintaining some form of order under growing constraints. Ironically, such a suspension of normal politics might well be seen as a threat to the population of a state itself, a threat posed by the state in the interests of securing itself against internal disintegrative forces. In an era in which global norms of democratic rule and human rights are widely demanded, states conducting “emergency actions” outside the “normal rules” of politics, may be seen as a threat both internally and to “international security”. The tensions that may arise between the security of the state, as a basic political unit, and the security of those that live within states, describes a crucial juncture of critical security analysis, one that is sure to become even more of a concern as energy scarcity challenges the ability of all parties to maintain their operations, practices and identities.

### **Energy and/as Power: The Military Dimensions**

While the enlarged scope of security studies has been fruitful for the discipline, it also poses complex analytical questions regarding the conduct of security analysis, especially on an issue as little studied (in this light) as “energy security”. In the first instance, an answer to the question, “what exactly is to be secured here?” is difficult to pin down. The first candidate is surely “energy” itself, and this is generally taken to refer to the “securing” of energy sources and supply chains. Securing in this sense, however, means securing for some purpose or actor, which is to say that the energy is largely *a means* to the security of another valued entity (the state, economic activity, livelihoods, identities). That is, securing energy supplies is a means to maintaining all that such energy makes possible, including modern capital accumulation, territorial control, the well-being of a population, and the smooth (!) functioning of the war machine.<sup>1</sup>

Indeed, it is the relationship between securing energy and securing the state that lies at the center of state concerns about energy security. Literally and figuratively, energy is power; and state power in the modern era is intimately related to energy availability. Thus some argue that,

In its most fundamental sense, energy security is assurance of the ability to access the energy resources required for the continued development of national power. In more specific terms, it is the provision of affordable, reliable, diverse, and ample supplies of oil and gas (and their future equivalents) – to the United States, its allies, and its partners – and adequate infrastructure to deliver those supplies to market. (Kalicki and Goldwyn, 2005: 9)

Not surprisingly, the state provides a dominant frame for discussions of energy security, reflecting the major military and state security aspects of energy, most glaringly in the case of petroleum. Britain’s naval strategy in World War I depended entirely on maintaining oil supplies from Mesopotamia. As Winston Churchill, then First Lord of the Admiralty, argued, “We must become the owners or at any rate the controllers at the source of at least a proportion of the oil which we require.”<sup>2</sup> (The Berlin to Baghdad

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<sup>1</sup> The same argument can be made with regard to virtually any subject of security. The state, for instance, may be the thing to be secured, but (arguably) its true value is in all the other values that it enables, including (as Hobbes noted) commerce, industry, the enjoyment of leisure and a respite from fear.

<sup>2</sup> Peter Slulgett, *Britain in Iraq: 1914-1932* (London: Ithaca, 1976): 103-4; cited in Engdahl, 2007, n. 14.

Railway was the ultimately unsuccessful German effort to achieve mastery over the seas, and has also been recognized as a significant factor in precipitating World War I. See Engdahl, 2004.) US pressure on Japan's oil imports drove the Japanese to attack Pearl Harbor, as was a major impetus behind Japan's expansion in South East Asia.<sup>3</sup> And the North African campaign in WWII was, on the part of both allies and axis powers, very much oriented toward securing fuels for the war effort.

Thus energy, and particularly petroleum, has played a central role in the conflicts of the 20<sup>th</sup> century. It was only during the 1970s, however, that energy supply, and "the oil weapon", became widely recognized in public discourse as a matter of state security. In October 1973, the Arab states of OPEC, in retaliation for US support of Israel, placed an embargo on oil exports to the USA and other states, and a discourse rapidly emerged regarding the "threat" this posed (to the USA in particular).<sup>4</sup> The US Secretary of State, Henry Kissinger, warned that the US might "consider counter-measures if the oil embargo is continued indefinitely or unreasonably" (cited in Krapels, 1980, p. 42). Some months after the embargo was lifted, the US Treasury Secretary described the relationship between oil dependence and national security:

Any sudden disruption in excess [of 1 million b/d] would have a prompt substantial effect upon our economic well-being, and, considering the close relation between this nation's economic welfare and our national security, would clearly threaten to impair our national security. Furthermore, [in the event of a complete loss of oil imports] the total US production of about 11 million barrels per day might well be insufficient to supply adequately a war-time economy. As a result, the national security would not merely be threatened, but could be immediately, directly and adversely affected.<sup>5</sup>

Such statements did much to "securitize" energy issues, and while the 1973-74 oil embargo proved relatively short lived, it had a tremendous effect in generating awareness of the vulnerability of advanced industrial economies to disruptions in energy supply. The 1979 oil crisis, in which Iranian production fell and cut world supplies by some 5% virtually overnight, further reinforced the knowledge that the modern world was utterly dependent upon a resource that was, for the most part, found elsewhere. US President Jimmy Carter later stated that the flow of Middle East oil was a matter of the nation's "vital interests", and declared that any attempt by hostile powers to prevent the flow of oil to the U.S.A. would be resisted "by any means necessary, including military force" (cited in Klare, 2004: 4). According to Michael Klare, the Carter Doctrine, as this

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<sup>3</sup> Indeed, the US embargo – a response to Japan's invasion of China – deprived the island state of some 80% of its petroleum supply; when the Dutch joined the embargo, they removed another 13%. See Levy and Conant (1982), 24-35.

<sup>4</sup> Deese and Nye, 1981.

<sup>5</sup> David R. McDonald, US Department of Treasury Memorandum, "Report of Investigation of the Effects of Petroleum Imports and Petroleum Products on the National Security pursuant to sec. 232 of the Trade Expansion Act, as amended", 13 January 1975. Cited in Krapels, 1980: 43. Nick Turse (2008) observes that US military operations currently consume something in the order of 365,000 barrels a day of oil products "(the equivalent of the entire nation of Sweden's daily consumption)." As he puts it, "The Pentagon needs two things to survive: war and oil. And it can't make the first if it doesn't have the second."

declaration is known, “has been endorsed by every president since Carter and now forms the foundation for U.S. grand strategy in the Persian Gulf region”. As he sees it, “the U.S. government has embraced a sort of ‘globalized Carter doctrine’ that obliges the U.S. military to protect the flow of petroleum on a worldwide basis” (2007: 139-40; cf. Stokes, 2007).

While much has been made, here and elsewhere, of U.S actions in the Middle East as a focal point for ES analysis, we must recognize that every modern state shares similar concerns. Though less overtly a military issue, a fascinating struggle is being played out between Russia and the EU states, as the latter import some 25% of their natural gas from Russia. Moreover, a number of EU states are courting Iran with an eye to its natural gas reserves, a trend that has drawn the ire of the USA. China’s growing energy demand is also very much a matter of public consciousness, and many are debating the extent to which China’s “oil diplomacy” might pose a threat to world peace, as for instance in supporting corrupt and inept governance, with a rather extreme situation in Sudan’s Darfur region (Taylor, 2006; Shaxson, 2007; de Waal, 2007). China also became a net importer of coal for the first time in 2007, a shift that will put even more pressure on global energy markets. The competition between the major powers over global energy supplies may well be the defining military issue of the next century.

Nuclear energy, too, has an important military dimension, as it has from its inception been as much or more a military than a civilian technology. Indeed, nuclear energy has long been notorious for the insecurities it generates: the fact that a decades-long arms race was pursued under the cloud of “mutually assured destruction” highlights the irony in seeking “energy security” via this route. The dangers of a nuclear accident via a malfunction at a power plant remain a real concern, despite significant improvements in safeguards in recent decades. The expanded use of nuclear fuels is also widely seen as posing a threat in terms of terrorists getting hold of nuclear materials, a decades-old concern that thankfully has not (yet) materialized. And not least, of course, nuclear waste poses a tremendous concern to environmental well-being, one for which “containment” remains the only recourse.<sup>6</sup> Yet these risks are widely discussed, and public resistance to nuclear power has been a major factor in limiting further developments in the industry (Stoett, 2003). Thus one would be hard pressed to make the claim that nuclear energy is “securitized” in the sense of Buzan, Wæver and Williams.

Yet now that we have a better understanding of the “threat” posed to the world by Iraq’s purported possession of WMDs, we should perhaps be inclined to look on the nuclear concerns, especially in Iran, with a touch of skepticism. For Iran, the “peaceful” pursuit of nuclear energy – a pursuit supported by the provisions of the non-proliferation treaty – may be seen as part of a strategy to reduce its own dependence upon oil and gas reserves, and to keep these supplies for use in garnering export earnings. Yet, if one takes the “resource wars” thesis seriously, it may seem that those same reserves of oil and gas are a principal cause of the threats now hanging over Iran. Surrounded by nuclear powers (including occupying powers), Iran may be dangerously close to achieving its own demise due to its ostensibly peaceful pursuits. Insecurity, arising from the quest for security, seems an unavoidable aspect of the securitization of energy.

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<sup>6</sup> One might also mention the widespread dispersal of depleted uranium upon “enemy” territory as a particularly egregious route to disposing of the byproducts of “peaceful” nuclear technology.

## Energy and “Environmental Security”

If the 1970s oil shocks raised fears about the military vulnerability and economic strangulation of industrialized states, the energy picture began to change with the rise of environmentalism in the 1980s and 1990s. This was an era in which energy, including oil, coal, and natural gas, came to be recognized as among the many “non-renewable resources”, and a broadly “green” movement came to embrace all sorts of renewable and alternative energy sources. Moreover, nuclear energy became an important target of environmentalists’ displeasure due to the dangers of nuclear accidents and the intractable problem of nuclear waste disposal. This is not to say that energy was forgotten as a military concern. The US response to Saddam Hussein’s errors of 1990 assured the world that energy was still going to be taken very seriously. Yet even in that case, one of Saddam’s more notorious crimes was the burning of Kuwaiti oil fields in a classic “scorched earth” move. Yet while access to energy resources remains a significant concern in terms of state security, energy has nonetheless become very much wrapped up in the “green” – and decidedly un-securitized – politics of the environment. Energy has come to be discussed less in terms of enemies and existential threats, and much more in terms of sustainability, environmental impacts, and especially global warming. Many would argue that these are indeed quite serious security considerations, but they do not speak to the sovereign’s use of “extraordinary measures”. Thus while many have argued that the environment has become securitized, in the case of energy we see quite the opposite: energy security has become *environmentalized*.

The means by which this has come about warrant much research, and this paper can only outline a few suggestions for further research. In support of this hypothesis, we might look at energy as a case of desecuritization, “whereby securitization is reversed and issues are moved out of ‘the threat-defence sequence and into the ordinary public sphere’ where they can be dealt with in accordance with the rules of the (democratic) political system” (Floyd, 2007: 330). To the extent to which it has been subject to a process of environmentalization, energy was taken off the (state/security) agenda, or taken down a notch in terms of the severity of the issue and of the means used to address it. The notion of desecuritization is implicit in those arguments that suggest a disjuncture between environmental concerns and the security imperatives of the state (e.g. Deudney, 1990); such a securitization might be seen as a “minor evil”, the application of which (in terms of a politics of exceptions and emergencies) would preferably be limited (Wæver, 1995; Wæver, 2004: 13). The notion of desecuritization thus offers a parallel (or inverse) realm of study to securitization, but to date the mechanisms by which “threats” are turned into challenges, and “security” into “politics”, have been much less thoroughly explored (Wæver, 1995). Even so, it may be that desecuritization is not quite the right term, given that my claim is that energy has, in effect, moved from one security discourse (national security) to another (environmental security).

The various threads of the environmental security literature were at least partly interested in asserting the environment itself as a security issue, perhaps as an even greater security concern than “traditional” security concerns like oil/energy.<sup>7</sup> Thus

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<sup>7</sup> The environmental security literature is sometimes seen in terms of “waves”, in which a “first wave” of literature argued that the environment constituted a threat to the survival of humanity, and ought thereby to be on the security agenda. A “second wave” took a more empirical approach in trying to determine

Lipshutz and Holdren, writing in 1990, listed the calamities that were to befall humanity, and about which we should (they assert) be far more concerned.

[H]as the problem of access to resources really played such a central role in shaping US foreign and military policy in recent decades? We would say no, nor is it likely to play such a role in the future. In fact, a greater threat to international security lies in the ongoing degradation of the planetary environment, and the effects that this may have on the well-being and stability of many Third World countries. (1990: 121)

While the environmentalist discourse tended to push a rather cosmopolitan agenda, one that recognized a moral imperative in the well-being of that apolitical identity known as “humanity”, it was not lost on state-strategists that the state itself might be vulnerable to environmental decline, both directly (i.e. with regard to internal order) and from outside. A popular distillation of these concerns appeared in Robert Kaplan’s notorious article, “The Coming Anarchy”, which saw environmental degradation leading to cataclysmic refugee movements, in which swaths peoples displaced by environmental calamities would seek to penetrate the security of the West’s indefensible borders. Similarly, Thomas Homer-Dixon’s (1991) work identified environmental factors, particularly resource scarcity, as a precipitating factor – what he called a “stressor” – that could contribute to (if not necessarily cause) conflict and disorder, especially within already compromised governance situations.

Critics argued that the notion of “environmental security” was a loaded term that had little to do with state order and survival; rather, it seemed “a rhetorical device aimed at drumming up greater support for measures to protect the environment” (Levy, 1995: 36). While this was no doubt partly the case, the adjoining of the environment and potentially military responses was not always seen as a sensible one. As Daniel Deudney (1990) argued,

Instead of linking “national security” to the environmental problem, environmentalists should emphasize that the environmental crisis calls into question the national grouping and its privileged status in world politics. The environmental crisis is not a threat to national security, but it does challenge the utility of thinking in “national” terms. (Deudney, 1990: 468).

As Deudney and others noted, many environmental issues refuse to respond to human constructs like the borders of sovereign states, a fact that poses a challenge to patterns of behaviour that direct us toward managing our problems through a political system in which that territorial state is a central figure. Thus a “post-sovereignty” discourse enabled a continued exploration of the pursuit of sustainable remedies, until that discourse morphed into one centered on “governance”, which remains a key theme in literature on the global environment.

Not only are ecological issues not well addressed within the system predicated on unassailable sovereign entities, those entities are themselves often seen as responsible for

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whether environmental factors contributed to violent conflict. See McDonald, 2005, 2-3. Others have seen these threads emerging concurrently; cf. Stoett, 1994.

degrading the security of others in their quest for their own. This is as relevant to the environment and energy as it is to, for instance, nuclear weapons, and generates its own set of “security dilemmas”. The sovereign state’s quest for energy security has brought its most egregious assault on the world’s indigenous peoples, and authors like Michael Watts (1999) and Simon Dalby (2002) have done much to point out the inadequacy of concepts of security that neglect the plight of non-state communities – the Ogoni in Nigeria, the U’Wa in Ecuador, the Cree in Quebec – whose livelihoods have been most threatened by international and national energy needs. The history of large dams, of tailings from uranium processing, and of the destruction of land, rivers and livelihoods that is so often associated with practices of petroleum extraction, is a reminder of the divisiveness of security issues at large.

Yet the pursuit of energy security, finally, does not only threaten or reduce the security of the other. It is clear that, at this late stage of what Dalby calls “carboniferous industrialization”, we as a species have managed to bring ourselves to a state of tremendous uncertainty with regard to our global climate. Our tremendous consumption of energy – a consumption that both enables our modern identities as consumers and, paradoxically, depends upon them – is a principal factor in generating the insecurities posed by global warming. Thus we now speak of “climate security”, somewhat ironically in the case of “America’s Climate Security Act” (before the U.S. Senate environment and public works committee as of this writing), and even capturing the headlines of the US Foreign Policy club’s premier publication, *Foreign Affairs*.<sup>8</sup> *Time* magazine’s “Special Report on Global Warming” (April 3, 2006) bore an image of a lone polar bear, seemingly searching for a piece of ice larger than itself, perhaps on its last shrinking foothold in a sea of crumbling ice. The words, in bold, were insistent: “Be worried. Be *very* worried. Climate change isn’t some vague future problem – it’s already damaging the planet at an alarming pace. Here’s how it affects you, your kids, and their kids as well.” This insecurity, of course, derives from industrial capitalism, the very object of energy security, yet climate change may put into question the very viability of that system and demand a fundamental re-cognition of the identity of the contemporary western consumer/citizen.<sup>9</sup>

As we are well aware, the burning of fossil fuels has brought on a warming climate that may already have passed a “tipping point”, or a point of no return, in which various feedback mechanisms will continue to accelerate the greenhouse effect, no matter what we now consciously do in terms of reducing emissions. James Hanson of NASA has been most outspoken in his warnings that our efforts at “mitigation” need to give way to “adaptation” strategies. This picture of runaway global warming clearly reduces our security in many ways, filling us with a sense of anxiety, catastrophic responsibility, and utter subjection to the whims of nature. Some students of climate change sense an urgency here that will outweigh old-fashioned geopolitics... but here we should be wary. That immense climatic or environmental change is before us is clear... but whether “everything changes” is not. Is climate change going to over-ride politics as we know it, or does environmental change merely pose new problems to an entrenched system of reactive behaviour? Thus, in a recent presentation Homer-Dixon argued that the loss of Arctic sea ice might actually command the attention of decision makers above their

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<sup>8</sup> Friedmann and Homer-Dixon, 2004; Klare, 2007; Podesta and Ogden, 2007.

<sup>9</sup> See Dalby, 2002, esp. Ch. 9, for a fascinating exploration of these themes.

desire to get at the energy resources underneath.<sup>10</sup> While it is surely true that the potential consequences in terms of dramatic climatic shifts, reduced food production, and the loss of a significant amount of valuable coastal real estate, it seems unlikely that states are going to ignore issues of property rights over potential energy reserves in the Arctic, and it is far from certain that interstate competition is going to wane in the face of declining opportunities to secure energy resources. Indeed, one of the more glaring moments in the recent history of energy was the Russian move in 2007 to plant a flag on the floor of the Arctic Ocean, 4200m below the North Pole. The BBC took it to mark “a new gold rush”, while Canada considers expanding its navy, and a US senator has called for the US to reconsider joining the UN Convention on the Law of the Sea (Reynolds, 2007). There is, no doubt, a lot of uncertainty on the horizon, and runaway global warming is going to have immense consequences for food production, the spread of disease, and the value of coastal real estate. But the forces of the state, seeking to maintain their own security within this changing world, seem very likely to fall back upon that which they know as security, in particular the pursuit of energy security (which will enable the pursuit of power).

### **Peak Oil – The Ultimate Security Challenge?**

If the 1990s saw the “environmentalization” of energy security, a discursive shift that effectively *softened* state approaches to energy issues, the 21<sup>st</sup> century appears set to reverse the trend yet again with a return to the securitization, or even the “militarization”, of energy (Goldwyn and Kalicki, 2005; Moran and Russell, 2008; Moran and Russell, forthcoming). While the current prevailing public discourse of energy is firmly embedded in concerns about global warming and emissions, it seems that many analysts and policymakers recognize that we are entering into an era in which energy is becoming increasingly scarce, and that this will likely have tremendous consequences for global politics. The emerging scarcity of oil, in particular, has become the subject of a number of studies in recent years, and many analysts foresee an ongoing competition among the great powers for the last remaining oil resources on the planet (Klare, 2007; Hiro, 2007; Roberts, 2004). The pressure to secure oil and energy supplies is not new, of course, but is significantly more urgent in light of an impending “peak” in world oil production.<sup>11</sup>

“Peak Oil” refers to a maximum quantity of oil production in a given period, a production level that will never be exceeded, due primarily to geological reasons (Goodstein, 2004; Heinberg, 2005). The term is also used to indicate a point in time that this will take place: current estimates place the peak in production sometime between 2005 and 2030.<sup>12</sup> The “theory” of peak oil is based on the fact that oil is a finite resource, and that it must be discovered before it can be “produced” (or more precisely, extracted from its secure place in the ground). Global oil discovery in fact peaked in the 1960s, and many expect that the production peak cannot be much more than a few

<sup>10</sup> [http://www.ecoshock.net/eshock08/ES\\_080404\\_Show.mp3](http://www.ecoshock.net/eshock08/ES_080404_Show.mp3)

<sup>11</sup> While “peak oil” dominates this issue area, it is important to note that peak gas, peak coal, and peak uranium may not be far behind. See Heinberg, 2007.

<sup>12</sup> Production figures are sometimes presented as an amount per month, but may also be looked at in terms of total annual production; the choice may give a quite different assessment of the “moment” of peak production. See “Peak Oil Update - December 2007: Production Forecasts and EIA Oil Production Numbers,” posted on *The Oil Drum* by [Khebab](#) on December 29, 2007; retrieved from <http://www.theoil Drum.com/node/3439>, April 11 2008.

decades beyond that (Heinberg, 2005: 83-136). These estimates depend not only upon geology, however, but also on so-called “above ground” factors like terrorist attacks on oil infrastructure, or reduced investment due to safety concerns. (Production in both Iraq and Nigeria, for instance, is currently very much reduced due to violence and instability more than geology.) Above ground factors may also include political or economic decisions to reduce, delay or save production. (Some recent suggestions from producer states suggest they are looking to hold onto some oil for future generations, rather than producing at maximum capacity.) These caveats lead many to doubt or deny the likelihood of an imminent peak in oil production (Clarke, 2007), but the dominant image of the future of oil is now one of ever-increasing efforts to produce more, along with diminishing returns on energy and capital investments.

Peak oil is thus high on the agenda for certain investors, including Matthew Simmons, T. Boone Pickens, and Jeff Rubin, who have all been widely cited in the popular press. Industry representatives have also recognized the prospects of diminishing supply: the COE of Shell Oil recently sent out a letter to all employees discussing two scenarios, which he dubbed “blueprints” and “scramble”, representing the options of cooperative planning or competitive and reactionary responses to energy scarcity. Officials with the International Energy Association, an understandably muted organization, have been suggesting for many months that the world is facing a “supply crunch” in oil.<sup>13</sup> Even George Bush appears to acknowledge that OPEC’s reluctance to increase production may not be a matter of choice. In the heart of the cold winter of 2007-08, as heating oil prices were rising rapidly in the USA, he observed, in reference to Saudi Arabia: “If they don’t have a lot of additional oil to put on the market, it is hard to ask somebody to do something they may not be able to do.”<sup>14</sup>

Though concerns about supply constraints appear to be growing rapidly among business and government figures, there are to date only a handful of official reports that take on peak oil directly. Among the most well known is a US Department of Energy-commissioned study from 2005 examining the likely impacts of a peak and decline in oil production. “The Hirsch Report”, as it is commonly known, concluded that the peak could be imminent, and recommended that a “crash program” of mitigation efforts be initiated immediately in an attempt to avoid the most disruptive effects on economic and social stability. Their analysis, which has received little response from either mainstream academics or other government agencies, offers a thorough assessment of the routes through which increasing scarcity of “liquid fuels” will affect modern economic systems, though they stress that mitigation efforts could help offset the worst consequences. The authors point out that:

The world has never faced a problem like this. Without massive mitigation more than a decade before the fact, the problem will be pervasive and will not be temporary. Previous energy transitions (wood to coal and coal to oil) were gradual

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<sup>13</sup> See “IEA boss denies and confirms peak oil in same breath,” posted on *The Oil Drum* by Jerome a Paris, July 13, 2007, retrieved from <http://europe.theoil Drum.com/node/2761>, July 14, 2007; and “Top IEA official: without Iraqi oil, we hit the wall in 2015,” posted on *The European Tribune* by Jerome a Paris, June 28, 2007, retrieved from <http://www.eurotrib.com/story/2007/6/27/173221/933>, April 21 2008.

<sup>14</sup> Bush made the statement on ABC’s Nightline, January 16, 2008. Links to the webcast, and a discussion, can be found at <http://www.theoil Drum.com/node/3514>, as of April 22, 2008.

and evolutionary. Oil peaking will be abrupt and revolutionary. (Hirsch et al., 2005: 64)

Other studies have appeared, though the responses have again been muted. The US GAO followed up on the Hirsch Report with a supporting statement, “Uncertainty about Future Oil Supply Makes It Important to Develop a Strategy for Addressing a Peak and Decline in Oil Production” (GAO, 2007). The US Army Corps of Engineers has also weighed in with a fairly blunt assessment of the possibilities in its 2005 report, “Energy Trends and Implications for U.S. Army Installations”, which suggests that:

The supply of oil will remain fairly stable in the very near term, but oil prices will steadily increase as world production approaches its peak. The doubling of oil prices in the past couple of years is not an anomaly, but a picture of the future. Peak oil is at hand with low availability growth for the next 5 to 10 years. Once worldwide petroleum production peaks, geopolitics and market economics will result in even more significant price increases and security risks. To guess where this is all going to take us ... would be too speculative. Oil wars are certainly not out of the question. (Westervelt and Fournier, 2005)

These perspectives fly in the face of the official stance of leading energy agencies like the IEA, which, while recognizing that supply constraints are close at hand, nonetheless projects an increase in consumption to 116 million barrels a day by 2030, from the current 85 million (IEA, 2006). There is increasing doubt that such numbers are remotely attainable, even with unconventional sources (i.e. Alberta’s tar sands) and expansion of biofuels. To achieve the increase projected by the IEA would require an additional 31 million barrels per day, or almost three times what Saudi Arabia now produces!

Michael Klare (2008) is particularly blunt in his assessment of the emerging “energy world order”:

This new world order will be characterized by fierce international competition for dwindling stocks of oil, natural gas, coal, and uranium, as well as by a tidal shift in power and wealth from energy-deficit states like China, Japan, and the United States to energy-surplus states like Russia, Saudi Arabia, and Venezuela. In the process, the lives of everyone will be affected in one way or another - with poor and middle-class consumers in the energy-deficit states experiencing the harshest effects.

At this level, then, peak oil is clearly a global problem, and may be a problem best addressed in terms of a more cosmopolitan approach, even through a quest for “global security”. Thus energy security might well ally with environmental concerns that also look upon ecological threats as operating outside the constraints of state boundaries. Foremost among these, at least in the popular imagination, is global warming, and so the relationships between energy security and climate security is essential to imagining what security may mean for, and in, our future.

### **Peak Oil, Global Warming, and the Future**

That there are strong links between peak oil and global warming is evident, yet we are bound to see some divisiveness on the question as to which of these two issues is “the bigger problem”. The answer to that question is surely “both”: “the two problems of climate change and peak oil together are worse than either by itself” (Heinberg, 2007: 113). In part, the magnitude of the “problem/threat” will depend on what responses are taken up by decision makers, though more to the point, it depends on who is looking at the problem as it applies to their own circumstances. That is, the problem (threat) is not the same between Montreal, Iqaluit, the Australian outback, rural Maharashtra, and Vanuatu. Farmers, firefighters, and air conditioner salesmen will experience problems that are particular to their own lives. The problems may not even be problems: some humans, and some other species, will no doubt profit while others perish. Yet despite the perspectival nature of the twin concerns, we can nonetheless see that in one sense the two issues are quite complementary: both peak oil and global warming are directly related to the modern consumer society’s intense dependence upon fossil fuels. The appropriate response to many, then, is to reduce that dependence and the accompanying consumption. Both peak oil and global warming recommend the pursuit of alternative and renewable energy sources, particularly wind, solar and oceanic power, and sincere efforts at energy conservation on a massive scale, through improvements in transportation patterns, architecture, and urban/community planning, among others. These efforts involve changes that may well slow our energy descent and that could thus (as per the Hirsch Report) help to maintain a reasonable pace in economic contraction, while also lowering emissions of greenhouse gases and (optimistically) limiting the effects of emissions upon the climate.

On the other hand, there are reasons to believe that our concerns for peak oil and global warming will generate responses that are in conflict. For example, Jim Hanson of NASA’s Goddard Institute of Space Studies imagines the effects of peak oil on global warming may be quite positive, in the sense that a decline in liquid fossil fuel supply may lead to reduced emissions, especially from the transport sector. His analysis, however, also envisions significant efforts to phase out the use of coal, which even in the absence of a public acknowledgement of and response to peak oil seems a rather distant hope.<sup>15</sup> Coal still provides some 50% of US electrical production, and an even larger (and growing) share of China’s.<sup>16</sup> The likelihood that “renewable” energy sources can replace this, in order to maintain current electrical production, is fairly slim, at least in the short term. Yet as oil supplies wane, one important adaptation may be moves toward electrified transportation, especially rail transport.<sup>17</sup> However, to the extent that electrification replaces petroleum-based transport, electricity demand will rise accordingly, and coal is almost certain to be among the fuels used to meet that demand. Thus we might well see increasing emissions of CO<sub>2</sub> from coal, even as emissions from petroleum products are reduced. (On the other hand, high oil prices [and their trickle-down effects] are likely to contribute further to the current global economic slowdown, which may alleviate some electrical demand.) Moreover, the utilization of liquid fuels with an even lower Energy

<sup>15</sup> Pushker and Hansen, 2007. See the discussion at <http://www.theoil Drum.com/node/2559>.

<sup>16</sup> China Daily, “Coal to remain top energy source for China”, March 30, 2005; retrieved April 10, 2008, from [http://www.chinadaily.com.cn/english/doc/2005-03/30/content\\_429544.htm](http://www.chinadaily.com.cn/english/doc/2005-03/30/content_429544.htm)

<sup>17</sup> See especially Gilbert and Perle, 2008. Electrified rail transport has long been advocated by participants on *The Oil Drum*, most notably Alan Drake (“AlanfromBigEasy”).

Return on Energy Invested (EROEI), such as bioethanol and Alberta's tar sands, promise to result in increased emissions, as production is ramped up to offset the declining oil supplies.

On the other hand, some analysts believe that the much-touted vastness of the world's coal reserves may not be so impressive as is generally believed. According to a series of studies by the Energy Watch Group, a German think tank, if global coal consumption continues to rise, it will probably be able to do so for not much more than a decade or two before coal, too, reaches its peak and declines.<sup>18</sup> Kjell Aleklett, Uppsala University physicist and president of the Association for the Study of Peak Oil & Gas (ASPO), has argued that the facts of fossil fuel depletion have been neglected in the climate debates, but could change the likely scenarios considerably.

In the present climate debate, ... the amount of available fossil fuels does not appear to be an issue. The problem, as usually perceived, is that we will use excessive amounts in the years ahead. It is not even on the map that the amount of fossil fuels required in order to bring about the feared climate changes may in fact not be available.<sup>19</sup>

As he goes on to show, the IPCC "worst-case" scenario (which some see as overly optimistic, but that is another story) is based on energy consumed between now and 2100 equaling some 70-90 zeta-Joules (10e21) – yet the widely regarded *BP Statistical Review of Energy* posits that *the total sum of all fossil fuel resources* that industry considers accessible amounts to some 36 zeta-Joules, or half of what the IPCC scenario assumes will be consumed (in the worst case) *in this century alone*. Hence, Aleklett argues, "compared with what has been previously asserted, we are going to be much better off in terms of carbon dioxide emissions".

Given the increasing probability of a runaway greenhouse effect taking hold, however, it may be that (in terms of global warming) we don't actually need all that much energy in order to get where we don't want to go. Nevertheless, given the aspirations of the world's poor to live a little less poorly, and of the rich to hold onto their lifestyles, it is virtually certain that demand pressures on energy will continue to increase. Many look to renewable energy sources for some relief, and there is no doubt much that can be done in that regard. However, the prospects for renewable electricity to meet the demands of the fossil fuel based economies of the west, at least in their current form, are inadequate by far. Thus an ongoing contest between the developed and developing states – and between individuals and groups within states – over what energy is available is almost certain. No doubt there are also ample opportunities for cooperation, from binding targets on reducing consumption to technology sharing and market management. Yet the best multilateral efforts to date designed to manage oil, the OPEC and the IEA, can hardly be seen as tools for global unity. The capacity of the nuclear Non-Proliferation Treaty to encourage the peaceful use of nuclear energy remains limited, due in part to the strains of non-members like India, Pakistan, North Korea and Israel, and also to the mistrust that still prevails between member states, most notably the US and Iran. In the

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<sup>18</sup> Energy Watch Group, 2007. The group acknowledges that, as is the case with many energy resources, reliable data on coal reserves is hard to come by, hence the variance and uncertainty of these projections.

<sup>19</sup> Aleklett, 2008. This thesis was earlier presented in Coghlan, 2003.

face of peak oil, and with limited supplies of coal, natural gas, and even uranium ahead, a massive global effort at harnessing alternative energies, alongside a comparable effort at using less, is perhaps the only way to “secure” a future that is not immeasurably different than that we now know. On the other hand, of course, immense changes may also mean opportunities for the betterment of the condition of human beings and other species, and an energy descent may point us toward a vastly improved relationship with the planet upon which our species lives.

Simon Dalby (2002) argues that security hinges upon matters of certainty, of an ability to hold expectations, and especially of having the means to maintain our identity. The image of energy futures presented here might leave us very insecure indeed. The severity of the threats posed by the two converging crises of global warming and peak oil will undoubtedly be affected by the responses of governments and other agents. Yet the treatment of these matters to date suggests that the threat they pose is only somewhat effective on policy makers. That is to say, the securitization of these issues is thus far incomplete: neither climate change nor peak oil is present in the public discourse as a realm of *existential threat*, to be met with extraordinary measures via the decisive action of the sovereign. While broadly recognized as potentially catastrophic, the climate change debate has been played out in a typical beggar-thy-neighbour fashion by some states. While much of the rhetoric calls for significant change, not only are many states reluctant to pursue such measures, but even those that are being pursued are largely pursued in the spirit of a rational, calculated politics. It may be that what is needed, if the challenges of energy security are to be met, is a far more decisive – that is, a less democratic – approach on the part of those in power. Perhaps what is needed is a sovereign, or a group of sovereigns, who are capable of suspending the normal workings of politics in order to meet the security challenges posed by peak oil and climate change.

One might, however, make the case that just such a stealthy process of “securitization” is taking place before our eyes, though the manner in which it is being conducted – through deception, denial, and distraction – supports Balzacq’s notion that the speech acts of securitization are *strategic*, more than they are *conventional*. That is to say, Balzacq would argue that securitization must be seen as action within “a field of power struggles in which securitizing actors align on a security issue to swing the audience’s support toward a policy or course of action.” As he notes,

The strategic or pragmatic action of discourse ... operates at the level of persuasion and uses various artifacts (metaphors, emotions, stereotypes, gestures, silence, and even lies) to reach its goals... (Balzacq, 2003, 172-73)

Indeed, in a securitized situation it may well be that leaders feel a justified need to withhold the facts and the actual reasons for their actions, as has long been the case with matters of national security. One might recall the remarkably successful secrecy around the multi-year Manhattan project, a project that was only “revealed” in the form of a massive mushroom cloud over Hiroshima on August 6, 1945. On that note, US Congressmen Mark Udall and Roscoe Bartlett, who together constitute the Peak Oil Caucus, frequently make reference to the Manhattan Project as an idea of the efforts that will be required to address the energy crunch. According to Bartlett:

The February 2005 'Hirsch' report by the U.S. Department of Energy and a September 2005 report by the U.S. Army Corps of Engineers both note that it would take a minimum of 20 years to avoid devastating consequences from peak oil. The CERA report [2006] supports the urgency and necessity for the U.S. government to adopt a crash mitigation program. A crash program will need the total participation of the American public like we had with WWII Victory Gardens, the technological focus of the Apollo Moon program, and the urgency of the Manhattan project.<sup>20</sup>

The analyses of Klare, Heinberg and others suggest that peak oil may well be a driving force already in global politics, one that is already guiding superpower actions. The denial of such motives from administration officials, both at the time and extending for years, suggest an almost pathological reaction to what Alan Greenspan called the “political inconvenience” of acknowledging “what everyone knows: the Iraq war is largely about oil”.<sup>21</sup> Indeed, one might go further and suggest that the attention paid to climate change, and to mitigation strategies and “emissions reductions” that will greatly assist in dealing with peak oil, provide a cover for attending to the latter without actually making the admission that the worst energy crisis in human history is now upon us. If the moment is at hand that sovereign actors are taking “exceptional measures” to secure energy resources – and the so-called war on terror certainly provides for such measures, though for a different enemy – then it may be that energy has indeed become securitized, and that the sovereign is already acting outside the normal rule structure. If this is the case, the future holds a number of important developments, and as observers we may find the recognition of this realm of securitization helpful in sorting out what is really behind the global contests of the coming century.

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<sup>20</sup> “Congressional Peak Oil Caucus Co-Chairmen Reps. Roscoe Bartlett and Tom Udall Say CERA Study Confirms Urgency for Crash Mitigation Program by the U.S. Government”, Press release of the Peak Oil Caucus, United States Congress; retrieved from <http://www.relocalize.net/node/5328>, May 10, 2008.

<sup>21</sup> Beaumont and Walters, 2007. A number of these denials are documented in Stokes, 2007: 245-46.

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