# Evolving Natural Resource Insecurities: Evaluating the Energy-Climate Nexus

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**Abstract**

Access to cheap and reliable energy, specifically fossil fuels, has fueled economic growth worldwide, yet natural resources often lie at the heart of conflict and civil strife and can be used as geopolitical tools in foreign policy. Continued reliance on fossil fuels is a reality which also creates an energy future complicated by socio-economic and environmental tradeoffs, issues of sustainability, and the concern over carbon dioxide emissions and climate change.   This paper takes national security studies, and its focus on the politics of scarcity in key natural resources, as a starting point to examine the politics and social context surrounding how  environmental security challenges, from local to global contexts are (and can be) addressed.  A preliminary review of the security literature reveals both the intractability and complexity of the environmental security agenda. In contrast, traditional security issues, those premised upon military concerns and protection of territorial boundaries, seem more tangible and immediate, and still get more attention on the foreign policy agenda.   This paper situates environmental security within the classic security debate with a particular focus on the challenges to the global climate change debate. It takes a decisionmaking and cognitive perspective to evaluate how people frame the issue and thus can shape what policy choices and decisions are made.  The challenge, therefore, is to understand the range of influences and motivations that impact how people perceive the problem and make decisions surrounding pressing environmental dilemmas.

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**Introduction**

Defining and redefining security from a traditional focus on military and territorial defense to one that is more holistic, 'non-traditional,' and emphasizes human welfare, leads to new interpretations of the strategic challenges facing states and peoples.  This emerging, non-traditional conceptualization is broadly understood as human security, whereby the welfare of individuals and communities provide the quantitative operational framework for evaluating and formulating governmental policymaking. Moreover, it provides the political space for a deepening and broadening of security paradigms by moving away from narrowly conceived security perceptions that only consider territorial protection from external aggression, to a legitimization of concerns held by ordinary people seeking security in their daily lives (Fierke 2007; 1998). Some scholars argue that September 11, 2001 catalyzed this convergence of traditional and non-traditional to expand security conceptualizations, which many believe will continue into the foreseeable future. Arguably, this amalgamation has also generated a backlash arising from this radical shift in thinking that this agenda proposes.  This paper investigates the energy-environmental security discussion from multiple vantages to address the great deal of work required for a true shift in security paradigms.  It includes a thorough exploration of the cognitive implications for rethinking the concept of security itself, from the bottom-up as well as from the top-down.[1]

Within traditional international relations, and realism specifically, the national security interest has been narrowly defined to reflect the power aspirations of the Great Powers and structural explanations as to what motivates state behavior. For example, energy security studied from a Great Power competition perspective is centered on how scarcity produces zero-sum equations as unitary states fight for dwindling resources (e.g., explanations for Japanese aggression in the Pacific in the 1930s, Saudi Arabia buying expansive swaths of farmland in Africa, and a Russian submarine planting the country's flag under the North Pole) (see Klare 2008). The desire to control natural resources is seen as a central motive for conflict and aggression, which makes the need for energy an important motivator for the goals, strategies, and behavior of states.  Prominent scholars such as Michael Klare have argued that the dual context of rising powers and the shrinking planet set forth conditions that may lead the current competition for energy resources toward future resource wars (Klare 2008).

Similarly, economist Dambisa Moyo (2012) argues that the growing global demand for key commodities (including water, energy, arable land and minerals), in light of their growing scarcity, creates conditions for increased resource conflicts given how they directly impact billions of people.  This 'reality' leads many security scholars to call for a prudent worst-case policy planning scenario.  Klare (2008) even provides a realist-style structural argument that a "New International Energy Order" system dividing countries into competing energy-surplus (winners) and energy-deficient (losers) nations is imminent. China's 'go forth' foreign policy over seeking energy resources during the last decade seems to support the supposition that a mad scramble is underway.

While growing scarcity in natural resources has implications for human security, many foreign policy scholars would argue that the resulting policy choices are difficult but are not necessarily predetermined toward conflict.  For example, once the energy security debate is freed from the old Cold War distinction of 'high' versus 'low' policy dominating traditional security discussions — which reflects a habituated preference structure artificially separating security

from development/economic discussions — the complex issue linkages that make up a non-traditional view of the resource debate open the discussion to merging development, political, and security perspectives and their various advocates. Ultimately, for those who embrace the perceived opportunities that manifest from economic interdependence, the energy security dialogue exists in a world in which nations and energy markets are so interconnected through a web of interdependence that common interests and shared vulnerabilities can be addressed. This means modern states are interlinked with each other to such an extent that the use of (military) force is discouraged and counterproductive. Thus, factors such as trade and investment, which are central to promoting energy extraction and markets, may bind countries into a web of complex interdependence rather than a future of resource wars. These constraints and vulnerabilities can compel states to search for shared interests and common ground for collaboration rather than competition, and incentivizes states, institutions, and other stakeholders to formulate shared goals. These circumstances instead create opportunities for confidence building in response to disasters and shared security concerns.

Countering the narrow state-centered narrative is the growing literature in environmental security, such as Simon Dalby's *Security and Environmental Change*. Dalby deepens the contemporary geopolitical environmental security argument to address the ethical and sustainability consequences of the developing world's over-competitive, hyper-consuming, carbon-intensive development model. Citing dire threats that come with the over use of resources and resulting downfall of societies, popularized by books such as Jared Diamond's *Collapse,* Dalby calls on scholars and practitioners alike to rethink security in the Anthropocene (human made) age. While these scenarios point to an emergency and immediate need to "do something", how precisely societies should respond remains unclear. Unlike the relatively clear external threat in the traditional security studies, Dalby's natural resource threats are derived both exo- and endogenously and warrant re-envisioned policy responses. By his analysis, the modern neoliberal, consumer-based economic lifestyle provokes an insatiable quest for resources to sustain this way of life which, in turn, changes the planetary system and creates the byproducts threatening the way 'we' like to live (Dalby 2009). In essence, this dilemma can be understood as a significant normative component that further mires the production of meaningful policy solutions that affect observable changes in climate change phenomenon. That is, policy formulation regarding environmental challenges becomes more complicated because they call into question our prosperity and our very lifestyle choices.[2] Consequently, a severe dependence upon technologically-based solutions has become evident so as to postpone or omit changes to living habits.

Competing conceptions of why and how to address energy and environmental security challenges are coupled with diverse underlying assumptions and worldviews, different perceptions of threat and opportunity, competing frames or definitions of problems, varying imperatives for action, and subsequently different analyses of what should be done. The rest of the paper will delve into an array of considerations raised in the contemporary security literature and provide a cognitive analysis to highlight the nature and consequences of varying frames and conceptualizations of energy and environmental security. Finally, the paper evaluates where the

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[2]The traditional security perspective argues that security concerns are universal and based on rational calculations focusing on key interests. In contrast, others such as post-colonial security studies note the Euro-centric nature of the notion of security threats coming from without (e.g., outside a states borders) rather than from within (e.g., from our own lifestyle choices). Anthropologists concur to argue that local constructions of security are unique and challenge the notion of a universal concept of security (Grovogul 2007).

points of convergence and divergence are (or are not) in the energy and environmental security debates.

## The Changing Energy and Environmental Security Agenda Landscape

The zero-sum realist messaging in Michael Klare's energy security argument resonates deeply with policymakers, scholars, and the public at large. It is the language used to discuss foreign and security policy and the dominant conceptualizations employed in framing most public policy debates. The apparent pragmatism in this messaging is difficult to counter in the context of uncertainty infused across the multifaceted environmental security and human security concerns. The traditional ordering of security challenges has historically subordinated all other interests to its agenda and has sustained a perception of reality that is rooted in Cold War habits of thought. As this sustained security ranking pattern provides an understandable preference ordering and continuity, it means that the global landscape is explained using antiquated Cold War lenses. The inability of another single paradigm or worldview to cleanly replace realism, and its explanations of how to order global politics, further legitimizes traditionalist preferences and agendas.

However, looking at complex issues, such as energy and interrelated environmental issues, provides a window into the complexity of modern challenges and choices that governments, security thinkers, and individuals face. Traditional discussions of energy explore resource scarcity as a threat and as a geopolitical source of insecurity. This militarizes policy responses to help industrial societies to ensure security. From this perspective, states are motivated to control energy resources in order to safeguard their survival. Analyses such as Daniel Yergin's note that the objective of energy security is to "assure adequate, reliable supplies of energy at reasonable prices in ways that do not jeopardize major national values and objectives" (Yergin 1988: 140). This explanation of state power-seeking behavior dominated the energy security debate in two separate waves to focus on the causes and consequences of the energy disruptions from the 1970s oil shocks, granting particular attention to slowing economic growth and rising unemployment (Duffield 2010). These concerns have ebbed and flowed, and resurged during times of conflict or restricted access to energy. The underlying policy goal here is to maintain the current use of energy and the existing consumer lifestyle.

Looking beyond energy, the securitization of the natural resources debate was largely catalyzed by Lester Brown's *Redefining National Security* in 1977, which linked the environment to security discussions, emphasizing access to needed resources. Building from a human development perspective, human security situates the individual in the center for evaluating security, thereby connecting the development agenda and challenges that directly impact the human condition to ecosystem well-being. This security agenda has been adopted by a number of states in Europe and Canada primarily since the publication of the 1994 *Human Development Report* (Suhrke 1999).

Additionally, the Brundtland report, *Our Common Future,* reiterated the potential for resource shortages to instigate conflict and their implications upon the evolving development agenda. Securitizing the traditional development debate and threats to human integrity draws attention to new issues, or in President Obama's terms the 'soft security agenda,' and calls for a reallocation of resources to appropriately manage them. In response, traditional security analysts become concerned that previously uncontested security foci may lose the priority they deserve amidst a broadening of security concerns. These changes impose a new 'should,' prioritizing

different problems, simultaneously entangling new stakeholders inside government policy debates and within the public sector (Indyk, Lieberthal, and O'Hanlon 2012).[3]

**Understanding Different Framings of the Natural Resource Security Debate**

As noted, while the traditional realist approach to security dominates the study of international relations, national security and the "national interest" regarding any state or set of issues is clear because all states follow a predictable rational course of action to improve their power relative to others. Decisionmaking scholars and political psychologists, on the other hand, specifically argue that there is a need to look inside the state to understand the complex motivations influencing a state's foreign policy – namely how people perceive the world, what choices they make, and the rationale behind them (Garrison 2007; Snyder, Bruck, and Sapin 1962; Allison 1971; Allison and Zelikow 1999; Hermann et al. 2001). For constructivists, such as Jutta Weldes (1999), the "national interest" is subjective, a social construction in which decisionmakers engage in a "process of interpretation in order to understand both what situation the state faces and how they should respond to it" (4). As we see in any contentious political setting, be it broad policy debates such as the energy-environmental security discussion posed above or within discrete group settings, discursive practices form what is thought about the policy world and provide insight into the beliefs and assumptions behind policy preferences (Shapiro, Bonham, and Heradstveit 1988: 399). What becomes apparent are competing understandings of a policy situation and the variety of situational variables determining what are considered legitimate policy options.

Human security's broadening of the security debate to embrace a host of development and human rights issues provides new opportunities for human-centered foreign policy agency. To critics, it upsets how scholars and practitioners define security and muddies the current security agenda. The human security agenda is also criticized for expanding security concerns to such a degree that they ultimately becomes meaningless both academically and politically. Other critics argue that the securitization of human needs is a simple cooption of the human rights agenda while nothing gets done (Paris 2001; Buzan 2004; Booth 2007). Although many international relations scholars rhetorically embrace the aspirations of the human security agenda, traditional security specialists and many foreign policy analysis specialists are just beginning to evaluate how the human-centered approach impacts the practical foreign policy agenda (Newman 2010). This is particularly evident in the United States as it continues to hold more tightly to the militarily-oriented definitions of security than European and Canadian allies.

Yet this loss of analytic precision may also be a positive development – in this case it allows the security debate to become relevant again, and more accurate, as it acknowledges that we must focus our attention on issues that affect the security of real people. Studying energy security policymaking forces a discussion outside traditional security frames to include the broader development debate and its many tradeoffs – a context in which environmental and human security issues arise. From a normative perspective, the broader resource discussion and underdevelopment debates have a fundamental prerequisite to equalize access to key essentials – most notably equitable access to energy. Thus, we can see that some frame the energy debate as a development concern, for some environmental concerns are triggered, and for others still

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[3]In the case of critical security studies, the individual is the ultimate referent for security, presenting a pessimistic perspective that global security is scarce in a world in which states make individuals insecure. Neoliberal economics also contributes to this condition (Booth 2007: 395). As these perspectives note, the next great reckoning will come with a series of disasters, including environmental, unless big changes are made to human behavior.

access to technology and sovereignty issues emerge – each of which touches upon issues relevant to the human security agenda. Ironically, the security debate prioritizes short-term thinking and economic incentives and cultivates a strong resistance against acknowledging the importance of operating with more foresight and sustainable agendas.

There is also a need to recognize that because environmental challenges and impacts do not follow national borders, the transnational nature of environmental security challenges do not fit well into traditional national policy responses. The collective behavior which causes these threats are difficult to address given existing nation-state political institutions. In response, scholars such as Dalby (2009) call for an ecological interpretation of events rather than a top-down, state-centric approach for quantifying security challenges. For Dalby, the contemporary tools of natural security offer little to solve real environmental threats and a society based on the individual, economically-oriented, rational man and consumers are the root cause of our unsustainable society (160). Thinking about environmental change and security requires thinking about the interconnected nature of human existence with the natural world. He would argue that if security is about rendering stability then this is difficult to do in the context of environmental change.

As Barry Buzan explains, securitization of the natural resources debate "refers to the process of constructing a threat as existential to some valued referent object and using that to call for exceptional measures in response" (10). This then frames the issue as a special case to place it above politics or, if politicized, something that warrants action and remains central to the public policy debate (Buzan, et. al. 1998: 23; see also Buzan and Hansen 2010). Securitization of issues constructs a new frame by which people perceive challenges through a different lens and with greater urgency. For Buzan, this reframing of priorities should produce a reallocation of resources toward needs that subsequently gain greater importance.

Some policy work has been done with this in mind. The Center for New American Security, for example, designed a climate change war game in 2008 to simulate the range of national security implications for inaction towards climate change. The game also exposed the viability of enhanced cross-border cooperation and interest levels of stakeholders. Most notably, game observers concluded that, while most stakeholders did not necessarily equate security with military solutions during discussions, representatives were ultimately more willing to commit to solutions when environmental dilemmas were posed within a traditional national security framework. That is, an interest in formulating community adaptation measures for implementation was only catalyzed in response to a foreseeable, tangible crisis (Burke and Parthemore 2009).

It is undeniable that economic growth and a worldwide rise in peoples' standard of living is a positive. Yet is has been matched by an accelerating, unsustainable demand for natural resources to support rising rates of affluence. At its most fundamental level, the policy debate centers around the acceptability of varying tradeoffs, such as generally maintaining economic growth while living with resulting environmental repercussions. While climate scientists generally agree that current environmental change phenomena are anthropogenically induced, the majority of governments have failed to formulate and implement policies to adapt to this imperative. The question is why? Some answers can be found in the nature of the pluralistic political system in which we live. More fundamentally, taking a cognitive approach provides one way to understand this paradox.

**Foreign Policy and Understanding Competing Perceptions of Security**

The challenge is to get inside the state and see how actors in the policymaking process perceive threats. This means addressing worldviews, paradigms and how people individually conceptualize security as well as how policy options are framed and acted upon. Foreign policy scholars who study problem representation and issue framing (Garrison 2007; see also Gamson and Modigliani 1987; Garrison 2005; Iyengar 1991) specifically would acknowledge that what we are really dealing with are *perceptions* of national interests with a broad range of possible meanings ascribed in any given situation. In his seminal work, Robert Jervis (1976) argued that perceptions of the world diverge in patterns that we can discern and that we can use this knowledge to explain decisions and improve understanding of foreign policy and international relations. In Harold and Margaret Sprouts' terms, we are explaining the psychological environment rather than the objective reality which realists emphasize as knowable. Thus, the different security perspectives have alternate interpretations of reality, varying cognitive maps, and provide different schemas that uniquely prioritize particular definitions of the national interest (Sprout and Sprout 1965).

In other words, we need to understand the nature of the various stakeholders' beliefs and attributions as well as how the ensuing struggle over how defining a political phenomenon proceeds (Beasley 1998). Consequently, how people and groups *represent* the problems they face is crucial to the options they consider and the decision they ultimately make. In a framing context, how the problem is defined shapes how the threat is perceived and how it can begin to be addressed (Beasley 1998). In both political psychology and constructivist contexts, through the struggle over the framing of policy problems, language becomes the medium that reflects, advances, and interprets alternate choices. By emphasizing an issue framing perspective, we can look more closely at these problem definitions/frames as interpretive schemata that simplify the problem under discussion, which lends coherence to a problem, organizes the presentation of facts, and shapes cognitions (Garrison 2005:13–18; see also Garrison 2007; Gamson and Modigliani 1987; Iyengar 1991; Gamson 1992). Revisiting historical instances from a problem definition perspective exposes the array of factors influencing how an issue is conceptualized and ultimately addressed. For example, looking at President Lyndon Johnson's decision to escalate the Vietnam conflict, Yuen Fong Khong (1992) explained how Johnson used the analogy of Munich in 1938 and its corresponding lesson of appeasement of aggression to frame the problem as Communist aggression which necessitated a hardline military response in the Vietnam context (Khong 1992:169–170). Asking the right questions and defining the problem will determine which schemas and policy choice sets are triggered.

An examination of policy design and management regarding responses to environmental problems with the potential to shift the trajectory of human-ecological systems towards a more or less desirable state offers a window through which to examine the array of uncertainties, interactions between human and natural systems, and the importance of understanding beliefs, perceptions, and decisionmaking processes. Looking at the literature in the cognitive and neuroscience fields offers new insights into this black box of the state and various security perspectives by providing explanations for how people perceive the world, act within it, and how the human brain operates. Broadly speaking, the cognitive disciplines offer the possibility of re-examining the highly complex real world by considering "the layers of systems, from neural circuits to interpersonal relationships and providing useful insights into the bridges across these levels of analysis" (Smith and DeCoster 2000).

*Cognitive Structures and Processes*

A general understanding of the mind's internal processing has been increasingly linked to decisionmaking mechanisms, conceptualizations, and rationales. At the most basic level, researchers categorize human thought as a system of reasoning or as a processing mode: "a rapid 'nonconscious' (or preconscious) mode and a more effortful 'conscious' mode" (Smith and DeCoster 2000: 109). Nonconscious processing involves a re-contextualization of a current situation by drawing on previous beliefs and relevant knowledge (Milner 2000). Conversely, conscious actions or decisions are "based on the assumption that the results of a given action or event in a particular situation will be very similar to the results of similar actions or events in similar situations" (Smith and DeCoster 2000: 110). Conscious actions and thoughts require the individual to be actively engaged and possess the cognitive capacity to do so. There is also a sense of awareness that the individual can control the process (Reisberg 1997). Most importantly, while nonconscious operations allow people to deal with situations and thoughts more efficiently, conscious processes are significant in that they allow people to be adaptable and strategic (Milner 1998). There is also a significant nonconscious heuristic component.[4]

Yet this general understanding of brain functioning has proven to be oversimplified in light of continuing discoveries within fields of cognition and neuroscience. Briefly, memories are linked neural pathways and firings at the most fundamental level and present a vast frontier that is not well understood (McClelland 1998). Memories can subsequently be built upon one another via complex processes within the mind and enable people to perform high-level actions and thoughts (Dagenbach 1990). Sensory inputs catalyze activity within the brain to call on memories and eventually produce actions and/or thoughts. Resulting decisions made in the present therefore represent recalling a specific set of experiences and are a function of which neural pathways have been activated and how particular memories were stored (McClelland 1998). Repeated use of certain pathways and memories increases their accessibility and ultimately solidifies patterns in a person's behaviors and decisionmaking outcomes (Milech 1998).[5]

Furthermore, regularly accessed pathways can form the basis of heuristics to streamline decisionmakers' thought processes, affect preferences, and minimize the opportunity for 'rational' choices (Rosati 2000). This means that decisionmakers do not know consciously understand the means and reasons by which their brains referenced previous information to evaluate and navigate a current set of conditions. The development of conscious decisions and actions are subsequently incorporated into a person's experiential cache and made available for future referencing via nonconscious processes (Berntson 2006).

Formally, the continued usage of particular neural pathways create schemas or "dynamic, cognitive knowledge structures regarding specific concepts, entities, and events used by individuals to encode and represent incoming information efficiently" (Harris 1994: 1). At present, schemas are understood to be ultimately responsible for "contextualizing one's experiences" (Markus and Zajonc 1985: 40) as well as functioning as "direct information acquisition and processing, in addition to being knowledge repositories" (Markus and Zajonc 1985: 34).

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[4] In fact, roughly 98% of the brain's work is not conscious, with additional findings suggesting that "overt (conscious) reasoning" contains a significant nonconscious heuristic component. Consequently, "we are usually unaware of the process of our thoughts; we are instead aware only of the products that result from that process" (Reisberg 1997: 30)

[5] Perhaps the mind's tendency towards nonconscious procedures is most evident during the evolution and framing of a problem (Rosati 2000). Generally, decisionmakers assume that they possess more knowledge of the issue and all of its components and, inadvertently, through nonconscious mechanisms, do not examine the problem's related variables to sufficient depth (Dagenbach, Horst, and Carr 1990).

In noting the predominant usage of nonconscious over conscious thought processing, the idea of cognitive consistency emerges, whereby well-accessed schemas become engrained as central beliefs and habits that increasingly dictate how one perceives and navigates the world (Harris 1994). To remain internally consistent, people also frequently work to maintain and reinforce coherent belief systems, subsequently further strengthening certain schemas (Harris 1994). This is strongly evidenced by policymaking trends and how global leaders or decisionmakers interact within the international landscape (Rosati 2000).

Yet schemas do not represent intransigent elements of the mind. A restructuring of schemas is possible via conscious processes. This most commonly occurs during instances in which the mind is alerted to a situation that is a high priority or critical, consequently activating conscious modes. Perhaps what is most significant to note with regard to issue framing is that the level of importance given to a situation is not necessarily a reflection of the issue's true severity, but instead how a person perceives it (Milech and Finucane 1998). Problem awareness then ultimately determines a person's ability and willingness to seek either a broader or more narrow range of solutions (Harris 1994). By noting that schemas are uniquely developed, on account of individual histories as well as how sensory inputs are categorized within the mind, the variety of human responses to a problem set and formulation of values is exposed. To briefly illustrate, people can possess an array of mindsets about environmental security and ecosystem management, with some broadly prioritizing urban development for economic benefits while others opt for preservation or conservation efforts. Stimuli, such as preference differences in the aforementioned example, that are deemed neurally-inconsistent with a person's current belief system, are crucial in catalyzing conscious mind functions (Milner, Squire, and Kandel 1998). As Jerel Rosati (2000) notes, the types of stimuli received by decisionmakers, and the subsequent information sets that manifest for problem solutions, provides valuable markers by which policy outcomes can be analyzed.

*Cognitive Capacities for Change*

In terms of examining foreign policies, the cognitive approach provides a useful avenue by which to examine the capacity and mechanisms for behavior change of decisionmakers and ultimately, the likelihood of changes to policy debates and presented policy options. Stimuli, or "focusing events" (Olsson, et. al. 2013: 23) and the way in which they are conceived is closely coupled to the mind's biology. Continued exposure to novel ideas must occur for an extended period of time in order to integrate them into schemas and become available for later nonconscious thoughts (Harris 1994). As such, a one-time occurrence or experience, particularly under non-urgent circumstances is not likely to invoke behavior changes. When compounded with complex scenarios, the mind must sift through the flux of incoming and previously stored data until it can be integrated into some sort of predictive model that will guide subsequent actions. In other words, the brain works to simplify the surrounding environment into previously conceived, related outcomes and situations (Milech and Finucane 1998).

Neuroscience discoveries underscore the remarkable capacity people possess for dealing with complexity by strategically filtering and selecting various inputs. Yet these filtering processes can also produce what many researchers refer to as cognitive biases (Evans et al. 2003; Harris 1994). Furthermore, this cognitive design is adapted from survival lifestyles of human ancestors and enabled them to consider only the necessary incoming information to survive. Given the small community sizes of human ancestors, the inputs that humans are most sensitive to today are therefore those that have greater spatial and temporal repercussions for individuals and small groups (Berntson 2006). However, this cognitive makeup simultaneously narrows the scale and scope of one's perception of the current landscape. Further compounding this

narrowing is the dominance of nonconscious thought processes in constituting the bulk of decisionmaking instances. Sufficient consideration for longer-time-scale or more extensive events are not necessarily precluded from decision making processes, they simply entail a more conscious effort (Milech and Finucane 1998; Dagenbach, Horst, and Carr 1990).

*Consequences of the Cognitive Approach for Environmental Security Approaches*

The previously summarized neural structuring and processes that condition the human mind to operate within seemingly predictable pathways directly clashes with the complexity of environmental and human security issues and the nature of policymaking processes, as well as the governing dynamics of the natural world. Environmental challenges are complex and ecosystems are multidimensional and expansive both geographically and temporally. Furthermore, many ecosystem inner-dynamics and relationships are poorly understood by scientists. Again, this directly contrasts humans' tendencies and need for simplifying situations to focus on issues while the reality of environmental systems is vastly complex (Rosati 2000).

Considering the different perspectives in terms of individual mental processes, the thinking about environmental security falls into certain predictable habits of thought and, at times, habituated black and white thinking. From a foreign policy analysis perspective, we understand that governments are made up of many decisionmakers with the political debates over these issues becoming complicated by pluralistic actors and the complex reality of the multiple stakeholders involved the public policy debate.

## Competing Interpretations of Environmental Security and Human Development

The debate over climate security provides a lens into the complexity of the competing policy frames around energy and environmental approaches and in their underlying cognitions. For advocates who seek to address the climate change challenge to produce a "fair future," the priorities are to change how society uses energy, curb over consumption, and guarantee sustainable commodity access to people in a globalized economy (Sachs and Santarius 2007). The related green economy argument poses a solution that by decarbonizing the global economy we not only reduce conflict over resource extraction, but reduce the problems caused by greenhouse gas emissions and climate change – the major source of insecurity that they see looking forward. This perspective makes a case for climate justice, argues that climate change is the greatest moral dilemma of our time, and looks at the consequences of current practices and the need to adjust behavior accordingly (Vanderheiden 2008). A number of policy shops have adopted this agenda including the Brookings Institution, the New America Foundation, International Crisis Group, and Center for American Progress, among others. For example, the Center for American Progress has a robust climate security project focusing on cumulative challenges and the imperative to look at the nexus of climate, security, and migration in key areas of Africa, Asia and the America's (see Center for American Progress, https://www.americanprogress.org/issues/security/). This is a foreign policy agenda in which climate change is at the root of foreign policy and development challenges.

A 2010 Center for New American Security report, *Sustaining Security: How Natural Resources Influence National Security,* presents complexity as its starting point in its discussion of the interconnection of natural resources and the resulting broad strategic foreign policy consequences. For instance, energy and climate change, along with issues such as food and land use and forest systems are all intimately interrelated and influence the broader development debate. In this study, security experts are called upon to incorporate the potential impact of conservation and environmental restoration into traditional security strategies. To take such a

systemic approach, therefore, involves the recognition of the geostrategicand operational vulnerabilities associated with a resource scarce global system (Parthemore and Rogers 2010: 11-12).

According to the International Crisis Group, what has been missing in the global response to environmental threats and consequently sustained environmental policy intractability is the lack of the collective sense of threat. In essence, there is no sense of urgency to unite against climate change largely on account of institutional failures and given an absence of assertive leadership.  The group claims that a sense of global collective security must therefore be revitalized. It is only with political willingness and institutional stamina that the re-growth of security conceptualizations that extend beyond national borders can be achieved (Evans 2005).

Decarbonizing the economy has costs and many critics.  Opponents of the climate change policy agenda argue it is based on a shaky set of assumptions which have far-reaching implications for American business and the everyday lives of Americans. They note that the data should be more firm before potentially jeopardizing America's productivity and system of free enterprise.  Some groups that resist decarbonization of the global economy delve into issues of energy poverty and justice focusing on access to energy for the world's poor.  This perspective can be seen in Peabody Energy's "Advanced Energy for Life" campaign, which puts coal front and center as a solution to fighting global poverty.  Their campaign, launched in February 2014, reframes the debate in human development terms to argue that the lack of affordable, clean energy is "the world's number one human and environmental crisis." The campaign is premised on the sense that too much emphasis has been placed on the dangers of climate change and the environmental impact of greenhouse gases.  They focus instead on the 3.5 billion people (1.2 billion of them children) who are without adequate energy today.   This perspective argues that people's health and quality of life can improve without environmental impacts (see Peabody Energy, http://www.peabodyenergy.com/).

The skeptics of human-caused global warming, such as Benjamin Zycher from the American Enterprise Institute, counter anti-carbon agenda policies such as the Health Climate and Family Security Act of 2014 by warning that that decarbonizing the global economy will artificially inflate energy costs, distort resource use and people's purchasing power, and raise the level of real prices consequently harm consumers and the economy by transferring revenue to governments (Zycher 2014).

Similarly, The Heritage Foundation argues that climate policy is a tool of special interest advancing a politically driven environmental agenda that seeks to centralize power in Washington. Denying that a consensus on climate change exists, the Foundation argues that science should be but one tool to guide climate policy and that efforts to reduce pollution should yield measurable environmental and health benefits.  They also critique the 2007 United Nations Report on greenhouse gas emissions claiming that it has created a policy agenda that unfairly burdens traditional energy producers in favor clean energy.  In response, The Heritage Foundation suggests that Congress should avoid picking winners and that all energy technologies should succeed or fail on their own merits. In other words, policies that bolster a select few ultimately distort the market, impede American business, and increase costs for American taxpayers (Loris 2010).

This brief review of the campaign claims demonstrates strikingly divergent policy prescriptions and cognitive logics.  These debates pit competing frames and schemas of those committed to the environmental security agenda against critics and security traditionalists. This kind of pluralistic thinking and debate is not surprising given the nature of the political system in

which we live.[6] The cognitive approach shows how and why these competing worldviews persist and how they can be impervious to counter arguments and compromise.

## Conclusion

Advocates for the environmental security agenda point to the overwhelming evidence for humans' role in instigating climate change, arguing that it presents the most alarming security threat for the international community. This 'reality' has clearly been accepted by some people, but not by others. Beyond the climate skeptics who reject this perspective, there are deep rooted cognitive reasons for ordinary people to resist the change. It is not an easy shift because it calls for a change in values and current materialistic lifestyles, which demand a carbon-rich energy model. The challenges strike at deeply entrenched habits of thought and behavior and policy solutions would therefore obligate significant shifts in lifestyles. As such, there are immediate consequences to how people live if the climate security agenda is adopted, while climate consequences, which are generally viewed as less imposing on individual lives, therefore become less urgent. This is additionally complicated by the growing belief that new technologies have created a situation of energy abundance rather than energy insecurity.

The continued intractability behind global environmental issues is not surprising given the complexity of the issues and the deep divide between perspectives. Ultimately, humans and policymakers are cognitive actors and the cognitive approach assumes a consistency and tendency toward stability. In terms of examining the energy and climate security debates from previously discussed expanded security conceptualizations, traditional agendas offer a stability against these competing frames. The complexity of the issues involved and the agendas they represent, make convergence between the perspectives difficult. As the national security perspective seeks to protect the status quo order, the environmental security perspective strives to change existing consumption patterns on the basis that current energy consumption is accountable for the threats we face collectively. However, within the cognitive perspective there is also the explanation that a conscious engagement of issues can trigger more complex human reasoning processes that guide decisionmaking. Thus, seeing people are motivated tacticians who can be strategic, provides an opening for convincing argumentation. By remaining cognizant of this reality, change becomes possible, albeit difficult and necessitating a reframing of issues discordant with core values and beliefs of the climate change skeptics. To bridge the gap in our analysis, environmental challenges could be reconceptualized to show the common ground between perspectives. The concept of 'societal' security focusing on a society's ability to persist in its essential character amidst threats or fluctuating conditions offers a possible middle ground (Waever, et. al. 1993: 23).

Moving forward, how can security specialists make practical use of such revelations? Perhaps the most tangible starting point is realizing the exclusion or overlooked relevance of political psychology to security discussions. There is a need for a thorough review of security studies and how foreign policy analysis perspectives help us understand how policymakers perceive security threats.

More broadly from a societal perspective, the more heterogeneous knowledge base provides strength in any system and enhances a society's resiliency when responding to new challenges or adapting. A well-distributed knowledge set implies that a wider range of people,

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[6] Within democratic theory, neither elite theory, which explains politics based on a small but exceedingly powerful group of rulers in any society (who possess the skill and ideological commitment to pursue a particular policy agenda (Waler 1966; Dahl 1961) nor pluralist theory which holds that the political system is open to multiple competing interests which mobilize pressure explains precisely how the political process will play out.

and therefore expertise, are included. This in turn creates a more representative, informed foundation to draw on during policy formulation and produce more resilient human-environment conditions. Establishing collaborative relations by integrating a wider scope of individuals across the global community provides opportunities for change and policy enhancement. Cognitively speaking, it grants the mental space and resources for restructuring personal and communal schemas. More precisely, discourse across social interactions of all scales affords the stimuli by which schemas can then be reconstructed (Harris 1994; Olsson, Folke, and Hahn 2013). This kind of effort takes more time to bring about a change in thinking.

Instances of change are activated primarily in response to crises. Stakeholders and governments can capitalize on crises by proactively viewing them as windows of opportunity for such change. Although this approach does explain why there is so much resistance to change it also explores the capacity for changing a person's mind. This perspective notes the limits to people's rationality, but also shows how the mind can cope with and adapt to complexity. When threats to environmental security become salient to a person's values and beliefs there is an opportunity to motivate people to change their interpretations of a problem and thus the choice sets from which they operate. People are not trapped by an evolutionarily limited hardwiring and under certain circumstances can be motivated to change.

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