
Article:
Nyman, J. (2018) Rethinking energy, climate and security: a critical analysis of energy security in the US. Journal of International Relations and Development, 21. pp. 118-145. ISSN 1408-6980

https://doi.org/10.1057/jird.2015.26

Article published in the Journal of International Relations and Development, final version available at http://link.springer.com/article/10.1057/jird.2015.26

Rethinking energy, climate and security: a critical analysis of energy security in the US

Jonna Nyman
Department of Politics and International Relations, University of Leicester
E-mail: Jonnaknyman@gmail.com

Understanding the complicated relationship between energy, climate and security is vital both to the study of international relations and to ensure the continued survival of human civilisation in a world increasingly threatened by environmental change. Climate change is largely caused by burning fossil fuels for energy, but while discussions on the climate consider the role of energy, energy security debates largely overlook climate concerns. This article traces the separation between energy and climate through an analysis of the US energy security discourse and policy. It shows that energy security is constructed continually as national security, which enables very particular policy choices and prioritises it above climate concerns. Thus, in many cases, policies undertaken in the name of energy security contribute directly to climate insecurity. The article argues that the failure to consider securing the climate as inherently linked to energy security is not just problematic, but, given global warming, potentially harmful. Consequently, any approach to dealing with climate change has to begin by rethinking energy security and security more broadly, as national (energy) security politics no longer provides security in any meaningful sense.

Keywords: climate change; critical security studies; energy security; environmental security;

United States.

Introduction

> Energy supply is a matter of national security. (Bush 2006)
>
> Producing more oil and gas here at home has been, and will continue to be, a critical part of an all-of-the-above energy strategy. (Obama 2012d)

In the United States, energy security has long been considered an issue of national security, and it remains centred on fossil fuel supply. However, 'the burning of fossil fuels to produce energy is by far the main source of anthropogenic greenhouse gas emissions' (International Energy Agency 2007: 28), a growing source of *in*security for the planet. Energy security and climate change mitigation are intimately related, and it is difficult to imagine how an approach to one can exclude detailed consideration of the other. Any solution to climate change requires rethinking how we use energy. Likewise, in the contemporary world a discussion of energy security which does not consider the impact of energy choices on the climate would seem anachronistic. However, while climate policy discussions both globally and at state levels involve detailed discussions of energy, energy security discussions occur largely at state level and involve little consideration of the climate.

Climate change is the biggest threat facing the world in the 21st century, and it is time for our understanding of (energy) security to change to reflect this. This article traces the separation between energy and climate through an analysis of US energy security discourse and policy. It argues that the failure to consider securing the climate as inherently linked to energy security is not just problematic, but, given global warming, potentially harmful. As can be seen in the quotes above, energy security is linked continually with national security and the need to secure state energy supplies is portrayed as increasingly urgent. Securitisation theory argues that when an issue is successfully constructed as 'security' in these terms it is raised above regular politics, closing down debate and enabling extraordinary measures to deal with it (Buzan *et al.* 1998: 26). Furthermore, drawing on critical security studies, this article argues that the referent object of

security is vital to the meaning of the concept itself: the referent (the 'thing' to be secured) in energy security discourse is almost always the state. The link between energy and national security enables and prioritises a continued emphasis on domestically produced fossil fuels as central to achieving energy security for the American state, while ignoring the impact on the climate. Moreover, despite increasing focus on climate change, energy and climate are often treated separately as policy issues, being institutionally separated and falling under different government departments. In contrast, this article suggests that energy security and climate mitigation are closely related, and that dealing with both requires rethinking fundamentally how we understand security. Ultimately, climate change cannot be dealt with without changing the existing energy security practices.

Using the United States as a case study, this article conducts an in-depth empirical analysis of energy security discourse and policymaking, asking: where is the climate? It shows that despite efforts to take climate change seriously, mainstream energy security policy discourses and practices still view climate mitigation as an afterthought rather than an integral part of energy security. Energy security is continually constructed in national security terms, which both enables very particular policy choices, including continued emphasis on energy independence, and works to prioritise it above climate concerns. This article argues that climate mitigation needs to be an integral part of energy security because of its potential to cause insecurity. This can also be a starting point for rethinking the link between energy and national security. The article starts with a contextual discussion of energy, climate and security, before outlining the theoretical underpinnings and methodological choices made. The main body of the article presents an empirical study of the United States, analysing how energy security policy is constructed in a way that largely excludes climate change, and how this works together with energy security discourses to construct energy security as separate from climate concerns. It then discusses the implications of these findings, making suggestions for further research.

Energy, climate and security

This section outlines briefly the history of energy security in the United States and the academic literature on energy security. It then highlights the lack of critical conceptual analyses of energy security, and how securitisation theory can be used to better understand the relationship between energy and security. The existing critical studies on energy security are then discussed, to show where this analysis fits in and what it contributes. The final sections examine the relationship between climate change and security, drawing on a growing number of critical works in this area and using their insights into 'security' to better understand both energy security and the conflict between security referents which underpins the separation between energy and climate.

Throughout the 19th and the early 20th century, the United States enjoyed abundant domestic supplies of coal, crude oil and natural gas. However, since the mid-1980s US crude oil production has largely declined while consumption continued to rise, and the country became more and more reliant on imports (EIA 2012a). This first became a problem during the oil crises of the 1970s, which have had a big influence on contemporary US understandings of energy security – particularly the 1973 oil price shock, which caused massive price hikes and shortages. The effects were a major shock to a country used to seemingly endless supplies of energy. They are continually referred to in academic and policy writings on the subject (Bamberger 2003) and they are the main source of the dominance of 'secure supplies' and 'stable prices' in energy security discussions today:

> We've talked about this since Richard Nixon. Remember OPEC, '73, and oil – lines at the gas station? And every President has said this is a national security issue, this is a crisis, we've got to do something about it. But we don't do anything about it. (Obama 2010d)

However, neither the key US energy policy acts nor key officials define the term 'energy security' clearly: imprecise terminology around energy security is often exploited by political actors to

promote particular policy options (Littlefield 2013). Still, policy choices and discourses illustrate clearly the centrality of supply and price stability.

Energy security studies is a multidisciplinary field, and in recent years some have attempted to expand the meaning of energy security; one study found 45 different definitions in the literature (Sovacool 2010: 3–6). Conceptualising energy security is difficult; the concept has been called notoriously 'fuzzy' (Valentine 2010; Chester 2010) and academic studies offer and debate a number of competing definitions (Sovacool and Brown 2010; Winzer 2012). However, attempts to broaden the meaning of energy security are much more common in environmental studies and energy technology/policy work – see, for example, Kruyt *et al.* (2009). Vitally, Kruyt *et al.* also note that while the literature shows a wide range of potential energy security indicators, some of which take in climate concerns, most are not actually used in policymaking, where emphasis remains on price and import dependency (2009). Similarly, in the International Relations (IR) literature, energy security remains linked closely with geopolitics and national security. Here, the state's security of supplies at stable prices remains at the centre of a debate dominated by fossil fuels, particularly oil and gas.

In the vast majority of the IR and Security Studies literature on energy security in the United States, 'the objective of energy security is to assure adequate, reliable supplies of energy at reasonable prices and in ways that do not jeopardise major national values and objectives' (Yergin 1988: 111). Within this definition, there is a division between those who advocate a strategic, or realist, approach to dealing with American energy insecurity, and those who promote a more market-based, or liberal, approach.[1] However, both of these approaches tend to focus on security of supply and view energy as a national security issue: they only differ in views on how to solve it. For the strategic approach, the focus is on securing the state's strategic autonomy, as 'security necessitates reducing vulnerability to being subject to the power of others' (Lee 2005: 289; see also Boekestein and Henderson 2005; Klare 2008). Meanwhile, market-based approaches to US energy security focus on ensuring economic security/stability through international energy markets. For

these authors, energy security is 'not a zero-sum game' (see Gault 2006: 9; Bielecki 2002; Schortgen 2006; Vivoda 2009). Over time, the US energy policymaking has fluctuated between these approaches depending on the context and political convictions, usually involving some combination of the two (Bamberger 2003).

However, despite the range of material in the literature on energy security, there is a lack of critical conceptual and normative analyses of energy security (Dannreuther 2010). The implicit link between energy security and the state is rarely questioned. Meanwhile, climate change rarely warrants more than a passing comment. The existing energy security literature is largely methodologically empiricist and positivist; in the words of Ciută, 'abundant analyses of pipeline politics stand in stark contrast to the very few attempts to make sense of energy security conceptually' (2010: 124). In this vein, this article interrogates US energy security discourse and policy from a critical perspective, exploring the role of 'national security' in maintaining the separation between energy security and climate. Discussions on climate change tackle the issue of energy in-depth, recognising that 'mitigating climate change cannot […] be successful without a radical change in the way we produce, transform and use energy' (International Energy Agency 2007: 28). Likewise, the environmental science literature is well aware that climate change 'can be addressed only with large-scale changes to the energy sector' (Jacobson 2009: 149). However, mainstream energy security debates largely fail to engage with climate change. Ultimately, in the traditional energy security literature, 'there simply is no need to debate what energy security is, because we know both *that* energy is a security issue and *what* security is' (Ciută 2010: 124; Simpson 2013).

Securitisation theory argues that constructing issues as 'security' in this way raises them above regular politics, closing down debate and enabling extraordinary measures, often in the form of militarised, state-centric responses (Buzan *et al.* 1998: 26; Wæver 1995: 65). Consequently, interrogating and questioning the link between energy and security is important. While energy security is rarely fully securitised in the US (Nyman 2014), frequent securitising moves still have an

impact on how it is treated in policy terms and securitisation theory provides helpful guidance on the nature of security. In suggesting that (traditional) security politics raises issues above democratic politics and attaches a logic of war to the responses, Buzan *et al.* suggest that, understood in these terms, 'security' is problematic, 'negative' and best avoided (1998: 29). A study by Bang found that there is broad agreement in the US energy policymaking both over the idea that energy is a security issue and that energy independence is a goal worth striving for (2010: 1646). Thus, it is argued here that the link between energy and national security works to enable very particular policy choices, particularly a focus on energy independence, and works to prioritise it above climate concerns. For example, some even argue actively *against* coupling energy security and climate change, arguing that the link between them is problematic as increased focus on climate change may 'risk' energy security (see Luft *et al.* 2010).

As the empirical study of the United States in the second half of this article demonstrates, a very specific traditional, state-centred notion of national security is attached to energy security. The central role of the state as both actor and referent object of energy security sets it up as separate from climate change. A seminal study by Mulligan highlights the way in which the characteristics of energy resources have enabled this separation between energy and environment. Historically, fossil fuels have been considered 'property' of the state in which they are located, 'thus, energy security could be provided for by military means, while also being essential for military superiority' (Mulligan 2010: 89). Energy security concerns emerged long before climate was a priority, agreements remain largely bilateral, and states play a key role in regulating markets, defining priorities, protecting and securing resources – whether through the private sector or via state-owned energy companies. In this way, the link between energy security and national security has become institutionalised in policymaking processes. This, in turn, reinforces the separation between energy and climate, and thus 'there are limited multilateral institutions that deal with energy security, resulting in the higher risks of fostering a zero-sum mentality and an antagonistic attitude which can

be problematic in dealing with climate issues' (Trombetta 2008: 597). For the purpose of dealing with climate change, this link between energy and national security is problematic.

To date, a few critical pieces examining the concept and ethics of energy security have been published, dealing with aspects of the issues raised here. Mulligan argues that energy security is fundamentally an ecological issue. He argues that peak oil can 'be viewed as a serious threat to political order and human welfare, and that it therefore is highly amenable to securitization' (Mulligan 2011: 634). However, he does not explain how securitising peak oil will lead to an approach to energy security centred on human ecology. Moreover, peak oil is an international issue and is not entrenched in national security language in the same way as national energy security discourse. However, Mulligan's study does suggest a potential for (energy) security discourse to be centred around human welfare and ecology, rather than state security. Simpson draws on critical theory to provide an important ethical focus, in a study of large-scale energy projects in Southeast Asia. He notes that 'while the discourse of national *energy security* is employed by dominant interests, the *environmental security* of the local communities can be severely undermined by a project but is rarely considered' (Simpson 2007: 540, 2014). Although his work focuses on energy inequality, it has important implications for understanding the concept of energy security more broadly – particularly for problematising the referent object of energy security and the centrality of the state in dominant energy security discourses. Simpson opens a space for ethical critiques of dominant energy security narratives in noting that 'energy security is not a desirable goal if it is only to be achieved at the expense of some other significant environmental insecurity' (Simpson 2013: 250).

However, the link between climate change and security is also complex. Climate change is increasingly considered a security issue, but differs from traditional thinking on security in that 'the threat that we need to face is our own doing, not something that can be pinned on an external military or a state with evil intent' (Dalby 2009: 92). Likewise, it is unlikely to be solved through state-centric threat/defence thinking as the climate is international. Early debates suggested linking

security and the environment may be harmful (Deudney 1999). An in-depth discussion of the relationship between the environment and security is beyond the scope of this article, but it is tackled in Floyd and Matthew (2013). However, thinking about the nexus between 'climate' and 'security' is important; linking climate change with security has also been said to be problematic as it risks militarising the responses to the issue (Floyd 2013: 280). It is important, therefore, to clarify that while some have indeed argued that climate change should be viewed as a threat to national security, or as a 'conflict multiplier' (Matthew 2013: 266), this is not the argument made here. Indeed, in recent years, the argument that climate change increases the risk of 'climate wars' and conflict has lost much appeal due to the lack of empirical evidence (see Scheffran *et al.* 2012). However, this debate is somewhat separate from the broader debate over the relationship between climate change and security, where a wider notion of security is often used.

Here, I draw primarily on Dalby, but also Trombetta and McDonald. Ultimately, the growing speed of environmental change caused by climate change has profound implications for how we understand security. It 'emphasises the urgency of immediate action to drastically curtail greenhouse gas emissions for everyone's security […]. This is not security understood as preparing for war with rival states, […] [e]nvironmental change now makes the necessity of rethinking security unavoidable' (Dalby 2009: 172). Rather than states securing themselves at any cost, such a change involves putting sustainability 'at the heart of a security strategy', which would also 'require abandoning many of the traditional geopolitical premises of security thinking' (Dalby 2009: 158). If we look beyond the state as the referent object of security, in this case to the climate, traditional 'national security practices' (Dalby 1997: 15) cannot always produce security. Securing the climate alongside continued energy resources will, therefore, require changing both our understanding of security and our security practices.

Moreover, Trombetta's empirical analysis of attempts to turn climate change into a security issue illustrates that, rather than succumbing to a traditional security logic, such attempts have emphasised 'the relevance of preventive, non-confrontational measures' and the role of and the

need for actors beyond the state in providing security (2008: 600). In practice, rather than applying traditional threat/defence national security logics, such attempts illustrate the unfixed nature of security and security practices (Trombetta 2008: 600). McDonald has studied the way in which different environmental issues have been framed as security, including climate change, finding that while security can be problematic, as securitisation theory suggests, it can also be positive and progressive (2012). His study is of vital importance here, as it shows that the meaning or consequences of 'security' or securitisation are not fixed. Thus, following McDonald, what matters is not 'whether environmental issues are positioned as threats or "securitized", for example, but how security itself is understood' (McDonald 2012: 7). Thus, while constructions of energy as national security are problematic, this does not mean that security is always best avoided. It can also be used to raise important ethical questions about whom or what should be secured: in discussions of climate change as a security issue, this is often the global climate or ecosystem rather than the survival of the state. Crucially, despite the fact that some potential problems are attached to framing climate change as a security issue, Obama has already used the language of security explicitly to discuss climate change. What is interesting here is the way in which he has used a very different notion of security in these cases, as will be discussed further in the empirical section.

This article builds on the existing studies to highlight and analyse the ongoing separation between energy security and climate concerns in a case study of the United States. The existing studies, which consider explicitly the links between energy security and climate change (for example, see studies by Jacobson 2009; Bang 2010; Toke and Vezirgiannidou 2013; Vezirgiannidou 2013; Umbach 2012; Jewell *et al.* 2014), tend to focus on energy policy, and their arguments in favour of coupling energy security and climate change do not consider the role of 'security' as a concept in maintaining this separation, which is what this analysis adds. The lack of critical conceptual and normative analyses of energy security is problematic, though Mulligan and Simpson provide a focus on the referent object of energy security. However, this is the first study to date that traces energy security discourse and policy in an empirical case study to show the

connection between energy and national security and how it works to prioritise national energy security over climate change mitigation and enables a continued focus on fossil fuels to secure the state in energy terms. This, in turn, has important implications for dealing with climate change, because as understood in this case study, energy security and the security of the climate are potentially incompatible.

This problem has multiple levels – there is a complex relationship between the policy agendas of energy security and climate mitigation. They affect each other and so some policy coordination is required. However, they aim to secure different referent objects (the state and the global climate/ecosystem), and different actors are involved in doing the secur*ing*, and so the solutions to energy and climate *in*security often conflict. It is becoming increasingly clear that national security and its logic cannot secure the global climate. The solutions to climate insecurity can conflict with individual states' short-term energy security interests. Consequently, there is a need to rethink how we understand security, to emphasise sustainability and recognise referents and actors beyond the state to provide security on a global, regional, state and local level (see Hoogensen Gjørv 2012). If such a 'broader understanding of security is invoked […] then the possibilities for less violent and more constructive responses open up' (Dalby 2009: 129). Meanwhile, an emphasis on sustainability and longer-term security could allow climate change mitigation to become an integral part of energy security.

Theoretical framework and methodology

The theoretical framework for this article is drawn from constructivist and discursive approaches situated within critical security studies; these are used to question the meaning and referent object of energy security. Language is seen as constituting the world it represents (Cienkia and Yanow 2013). Thus, discourse and policy are taken to be co-constitutive, as 'neither ideas nor materiality have a meaningful presence separate from each other' (Hansen 2006: 22). Discourses enable particular practices and policies, while simultaneously these practices and policies then re-enable

particular discourses. Securitisation theory views security in a similar way, in suggesting that security is a 'speech-act' whereby an issue becomes security when an actor labels it as such, which in turn has specific policy consequences (Buzan *et al.* 1998: 26). Consequently, the article analyses 'how' particular energy security discourses and practices work to enable each other, and thus allow particular 'possibilities of practice' to emerge because of the reality that is constructed (Doty 1993: 304).[2] As such, it links a discussion of how particular categories of analysis and identity are constructed, in this case the framing of energy security as national security,[3] with a discussion of what policies are made possible in the process (see Doty 1996: 4). Thus, the focus is on how particular energy security practices and policy in the United States constitute a particular understanding of energy security, which works to separate it from climate concerns. For two other studies highlighting the role of security discourse in energy policy, see Leung *et al.* (2014) and Rogers-Hayden *et al.* (2011).

In terms of methodology, the empirical analysis focuses on energy security policy discourses and practices from 2000 onwards, starting with the first Bush administration and continuing on till the present day. The United States makes a particularly interesting case study as energy has long been on the security agenda. The empirical work is based primarily on documentary analysis of approximately 600 texts produced by the Bush and Obama administrations. The texts chosen represent a wide range of documents, from presidential and ministerial speeches to legislation and other documents outlining policy. Key texts work as 'monuments' in that they play a central place in the policy debate, have 'broad reception' and are often cited (Neumann 2008: 67): these played a central role in the analysis and make up the bulk of the cited material. The analysis also uses some interview data based on interviews with US energy policymakers conducted during 2012 (see Appendix). Interviews focused on how officials involved in energy security policy interpret energy security as a concept. The focus is largely on the documentary analysis, with interview data used to supplement this. Like all research, this study has some limitations: it focuses only on the United States, on the national level, and on a limited time period. However, the analysis still provides some

important insights. Overall, energy security discourses and practices under Bush and Obama share a number of common themes, relying heavily on 'conventional discourses' (Strauss 2013) and so, in the empirical section, a thematic approach is used rather than separating the data chronologically or by administration – where there are clear differences between the two, this is noted. The texts were explored using discourse analysis (see Milliken 1999: 232), focusing on *how* energy security was constructed, what policy priorities were emphasised, and how these discourses enabled particular practices. The next section presents these constructions thematically, starting with discourses and then moving onto practices, asking: where is the climate?

Where is the climate? A critical analysis of energy security in the US

This section presents a critical analysis of energy security discourse and policy in the US, showing how both the Bush and Obama administrations construct energy as separate from climate through discourse and practice. It starts by looking at how energy security is constructed in discourse, exploring the key themes which emerged in the discourses analysed, before looking more specifically at what is being secured and where the climate fits in. It then looks at what practices these discourses make possible, focusing on energy choices, energy policy and legislation, and the energy security policymaking process.

Energy security discourses

The US understandings of energy security remain shaped by the 1970s oil crises, and the key focus remains 'assured access to energy, at an affordable price' (Interview 2012b). This was clear both in the documentary analysis and in the interviews undertaken for this research. These two components relate to national and economic security, as states need reliable access to energy supplies at reasonable prices for economic growth and stability, and when this fails it becomes an issue of national security and state survival. At an extreme, energy security is considered essential for 'maintaining national power' (Interview 2012a).

Energy security is defined continually as a priority issue: speeches and documents on energy security continually emphasise survival and urgency, and national security is continually linked with energy supply and price security. When George W. Bush took office in 2001, America was going through was he called an energy 'crisis' (National Energy Policy 2001). The solutions presented emphasised the need 'to diversify and increase the supply of energy', and oil and gas were seen as central to this (Bush 2001a). Obama has continually stated that 'American energy security' is 'an issue that has been a priority for my administration since the day I took office' (Obama 2010b). The importance and urgency of energy security is emphasised clearly in statements like:

> These are extraordinary times, and it calls for swift and extraordinary action. At a time of such great challenge for America, no single issue is as fundamental to our future as energy. (Obama 2009a)

He has also referred to the possibility of a future 'crisis in terms of oil supplies' and its possible effect on the economy and national security (Obama 2010c). So energy is represented as important, it is a crisis, because both national security and the economy depend on it. The 'threat' usually referenced is 'dependence', or supply insecurity (see Obama 2011), and it is the American state that is under threat.

Another key theme in the US energy security discourses is an emphasis on energy as essential for economic security and growth. Bush repeatedly called for expansion of 'domestic oil and natural gas production', 'to reduce pressure on prices' (Bush 2008). The focus on domestic sources of production is key here, as supply security, and thus economic stability, cannot be left to untrustworthy 'foreign' states: 'for the sake of our economic and national security, we must reduce our dependence on foreign sources of energy' (Bush in White House National Economic Council 2006). Under Obama, this focus on energy as 'absolutely critical to our economic future' (Obama 2009b) continues, though clean energy also becomes considered key to growth, which will be discussed in more detail later. The focus on 'domestic' sources of energy continues, and is a key

part of the energy strategy that Obama announced in 2011 (White House 2011). Throughout, the idea of domestic/foreign sources of energy is emphasised – with the former identified as good, while the latter is identified as bad and leaving America 'vulnerable' (Obama 2009e).

American representations of energy security also emphasise the idea of strategy and power politics, which relates back to national security, and distinguishing 'America', or 'us', from external 'others', who may be hostile. While more pronounced under Bush, this continues through to Obama. It constructs energy 'dependence' as a threat which 'leaves us more vulnerable to hostile regimes, and to terrorists' (Bush 2007). Under Obama, 'homegrown' sources of energy, whether fossil fuel or 'alternative', are said to 'make us more secure' (Obama 2012b). The focus on securing 'us' from 'them' also makes competition a key part of energy foreign policy, while other countries are considered 'aggressive' (Obama 2010a). Thus under Bush, energy security was a necessary 'priority of U.S. trade and foreign policy' (National Energy Policy 2001) necessitating strengthening relationships with key producer nations, a strategy which has continued under Obama (Obama 2011).

Energy independence plays a central role in discussions about energy security under both Bush and Obama (see also Herbstreuth 2014). In terms of priorities, it consistently ranks higher than climate change. Energy independence is central to US understandings of energy security, and has been promoted by every president since Nixon. It contrasts the threat of dependence on 'foreign oil', with energy independence which 'makes our economy stronger and our nation more secure' (Obama 2009a). Energy independence thus works to construct a zero-sum, competitive understanding of energy security, and has led to increased production of and subsidies for domestic fossil fuels, particularly oil and gas. Meanwhile, it is unlikely to make energy prices more stable because, whether or not it is domestically produced or imported, oil is still traded openly on the world market. Overall, 'in terms of the political debate [energy security is] often referred to in a sense of producing more domestically' (Interview 2012e). Under Bush, this involved increased drilling for oil and gas as well as continued investment in coal, nuclear energy and 'clean coal'

technologies (White House National Economic Council 2006). Under Obama, it led to the development of the 'all-out, all of the above' strategy, announced in his 2012 State of the Union, 'that develops every available source of American energy' (Obama 2012a). In practice, this was a refocus on traditional sources of energy, increased drilling for oil and gas, and 'cleaner' coal and nuclear, while continuing the focus on efficiency/clean energy. This will be discussed more in the practice section.

Overall, it is the American state which is being secured in the energy security discourses: '[t]he basic focus is American energy security, promoting that, protecting that' (Interview 2012b). The state is distinguished as that which needs to be protected, creating clear identities and boundaries between the state, or 'us', as distinguished from 'them', who are 'foreign', external, may be 'hostile' and may cause 'harm' to the United States. Energy is constructed as important and elevated as a national/economic security issue because it is key to maintaining 'national power', and competition with others over energy is constructed as necessary. The discursive reinforcement of national boundaries makes it actively more difficult to deal with cross-border issues like climate change, where it is necessary to work with others to deal with global and local insecurity, all of whom are 'foreign' and, therefore, potentially hostile according to these discourses.

Meanwhile, as long as the national power of the American state is considered central to energy security, climate change is unlikely to be considered a priority. The environment and the climate are largely disregarded in the US energy security discourse and policymaking. In the early years, Bush questioned what he considered the 'incomplete state of scientific knowledge of the causes of […] global climate change' (Bush 2001b). By 2007, his position had changed and he announced a strategy to 'help confront climate change', pointing to the administration's allocation of 'nearly $29 billion to climate-related science, technology, international assistance, and incentive programs' (Bush 2007). However, much of this funding went towards scientifically proving the existence of climate change rather than any measures to improve the climate (Floyd 2010). In practice, figures given to 'prove' a commitment to combating climate change often conflate

investment in energy security and climate mitigation (for example, see Bush 2007; White House 2008), suggesting the vast majority of funding was in practice allocated to energy security measures, many of which contribute directly to climate change. For example, in a document stating that the president takes a 'balanced' approach to confronting energy and climate change, it is also announced that 'the President […] took steps to increase domestic oil exploration to reduce our dependence on foreign oil' (White House 2008).

Under Obama, at least in rhetoric, clean energy is considered increasingly important to energy and national security, largely as a route to energy independence and economic growth. There is recognition that 'the sources of energy that power our economy are also endangering our planet' (Obama 2009f). Clean energy is broadly considered a jobs creator, and a 'potential engine for economic growth' (Obama 2009d). Overall, the focus remains on national security and control, which clean energy can help by improving the possibility of energy independence (Obama 2012c). Competition over energy remains key, even with clean energy, where competition with potential challengers like China is considered key (Obama 2010a). Thus, Obama constructs a choice: 'We can remain the world's leading importer of foreign oil, or we can become the world's leading exporter of renewable energy' (Obama 2009c). This sets up a particularly strange dichotomy between oil as dirty/foreign/imported, and therefore bad, and renewable energy as clean/domestic/good, a means to increase economic competitiveness – ignoring increases in domestic oil production and suggesting that the main benefit of renewable energy is as an exported good producing economic growth.

Obama's rhetoric did change somewhat in 2013, linking climate change more directly to security. In noting that there is a need to 'act before it's too late' on climate change and that, therefore, he may need to act without the Congress (Obama 2013c), Obama created a sense of urgency and emergency associated with security discourse. However, the commitment to domestic fossil fuel production was retained with a promise to 'keep cutting red tape and speeding up new oil and gas permits' (Obama 2013c). In Berlin, he called for joint action on climate change, explicitly

labelling it 'the global threat of our time' (Obama 2013a). He presented a new plan 'to lead the world in a coordinated assault on a changing climate' (Obama 2013b). Here, energy and climate are linked directly in a way which had not been emphasised previously, together with an emphasis on cooperation rather than competition. However, because of the difficulties of acting through the Congress, the plan centres around the Environmental Protection Agency (EPA), which has affected the policy choices (for an in-depth discussion of this, see MacNeil and Paterson 2012). While it has had little impact on oil and gas production, the use of the EPA to regulate efficiency and set standards for emissions has had some impact on emissions (*Economist* 2014). Problematically, while the change in rhetoric is significant, the 2014 State of the Union noted the continuing 'commitment to American energy', the all-of-the-above energy strategy and energy independence, as well as continued increases in natural gas (Obama 2014). Ultimately, Obama's recognition of climate change as a serious and joint security threat is significant, but follow-through action has been limited – not least because of the difficulty of legislative action on climate change through Congress. Obama has called repeatedly for the Congress to end tax breaks and subsidies for big oil companies, with little success (Obama 2014).

To sum up, even when climate and clean energy are considered, climate change is largely an afterthought when it comes to energy security in the US policy discourses. With the exception of a few recent statements, it is still the state which needs to be secured, whether in economic or strategic terms, and clean energy is only a priority when it fits into this understanding of security. Energy security is considered more important for economic and national security and, therefore, remains the policy priority.

Energy security policy

This section looks at three key areas in which the Bush and Obama administrations practice energy security, and their impact on the climate. Firstly, energy legislation and laws made in the name of energy security, which also often affect fuel choice and use. Secondly, sources of energy

consumption and production, and choices made in terms of which fuels to promote via subsidies, regulation, federal grants and other measures. Lastly, it looks at continuity and change in the energy security policymaking process. All of these areas of practicing energy security say interesting things about the relationship between energy security and climate change in the United States.

Producing legislation and regulations is a key part of energy security policy. This is heavily related to energy consumption and choice, promoting and enabling particular energy sources over others. While the energy industry in the United States is market-based, legislation and regulations allow the state to direct national energy consumption and production in line with its energy security priorities. In August 2005, Bush signed into law the Energy Policy Act of 2005, an act 'to ensure jobs for our future with secure, affordable, and reliable energy' (Energy Policy Act 2005: section 1). Again, this act aimed for energy self-sufficiency (independence) within North America, heading these provisions under a subtitle shortened to the 'SAFE Act', or 'Set America Free Act' (Energy Policy Act 2005: title 14, subtitle B). The Act provided tax incentives, subsidies and loan guarantees for various types of domestic energy production, including oil, gas, coal, nuclear and renewables. It also reduced taxes on fossil fuels and nuclear energy, increased coal production and provided more investment into clean coal (Energy Policy Act 2005). Meanwhile, it exempted the oil and gas industries' use of fluids in fracking from clean air and water legislation. *The Washington Post* called it a 'piñata of perks for energy industries' (Grunwald and Eilperin 2005).

In 2007, the Energy Independence and Security Act was introduced by the Democrats, focused on achieving energy independence and security through efficiency savings, mandating use of biofuels and fuel economy (Energy Independence and Security Act 2007). The act originally aimed to cut petroleum subsidies, but this did not pass in the Senate. Meanwhile, the environmental benefits of corn-based ethanol, in practice the key biofuel focused on in the act, have been increasingly questioned (Gies 2010). Other legislation affecting both energy and climate worth mentioning, though failed, include Obama's cap and trade bill, which would have capped carbon emissions, and his attempt to cut fossil fuel subsidies in 2012, which also failed to pass the

Congress. Under Obama, tension remains between energy and climate priorities. During the first two years of his first administration, there was more focus on climate change, but after the failure of the cap and trade bill and the Libyan revolution and the spiking of oil prices that followed, the administration discovered the oil market, though 'it's not much of an organised approach' (Interview 2012a). Even when he unveiled a new climate strategy in June 2013, the plan 'remains fatally compromised by Obama's unflinching commitment to the maximum possible exploitation of fossil fuels' (Ahmed 2013). One interviewee noted that, in practical terms, climate change is off the energy security agenda. It is assumed that 'it will happen or get dealt with along the way to new energy technologies', and has become a political issue, partly because the Congress is divided on the issue. Dealing with energy security, 'you're not allowed to say climate change anymore' (Interview 2012d). Overall, the focus on energy independence has enabled legislation to increase domestic production of energy, with a heavy emphasis on fossil fuels.

In terms of sources of energy, political administrations tend to have clear priorities regarding what sources of energy they see as key to the US energy security. In terms of consumption, Obama has placed emphasis on clean energy and energy efficiency; in practice, changes in consumption have been minimal, as can be seen in **Figure 1**.

[Figure 1 here]

Obama has been a vocal supporter of clean energy and has pursued a number of initiatives under the Recovery Act, including investments doubling renewable energy generation (White House 2014; White House 2012). To a degree, this can be seen as a success, and he has managed an increase in renewable energy production and consumption, as well as energy efficiency. However, as can be seen in **Figure 1**, despite Obama's best efforts to promote renewables as a key part of energy security, fossil fuel use remains near the 2001 levels, though there was a dip in fossil fuel and total energy consumption at the height of the financial recession. A study by the Environmental

Law Institute into energy subsidies in the period from 2002 to 2008 found that 'energy subsidies highly favoured energy sources that emit high levels of greenhouse gases over sources that would decrease our climate footprint' (Environmental Law Institute 2009b). Meanwhile, 'the largest subsidies to fossil fuels were written into the US Tax Code as permanent provisions', while 'many subsidies for renewables are time-limited initiatives implemented through energy bills, with expiration dates that limit their usefulness to the renewables industry' (Environmental Law Institute 2009a).

In terms of production, both Bush and Obama have promoted increased domestic production of fossil fuels through a range of measures (see **Figure 2**).

[Figure 2 here]

Bush's National Energy Plan (NEP) focused on increasing supply, removing regulations to allow increased exploration and drilling, expanding coal use and allowing increased pollution (National Energy Policy 2001). Under Bush, efficiency standards were weakened, and there were several attempts to weaken the existing clean air legislation to allow more coal plants to be built (Barringer 2008). The NEP was influenced heavily by fossil fuel industries, with their recommendations incorporated 'often word for word, into the energy plan' (NRDC 2002). Bang has also noted the role of the fossil fuel industry in preserving 'the status quo in energy policy' (2010: 1647). Under Obama, focus on energy independence continues, together with an emphasis on increased domestic production of energy. Thus far, this has included more focus on renewables and clean energy alongside fossil fuels, however, as can be seen in the second graph, at the time of writing this article, this has meant little in practice. Obama's 'all-out, all of the above' approach to energy has involved a massive expansion of oil and gas exploration, drilling, production and pipelines in the name of energy independence: 'last year, American oil production reached its highest level since 2003' (Obama 2011). Obama's approach put 'everything on the table', which

enabled a refocus on fossil fuels and represented a change from previous Democratic administrations which tended to focus more on renewables and efficiency (Interview 2012d).

US energy security discourses and practices thus far have placed little emphasis on climate change, enabling energy consumption and production choices in the name of energy security to continue to focus on fossil fuels through heavy federal subsidies. Unconventional oil and gas (including use of fracking) have reduced the dependence on imports, in some cases replacing coal (and opening up discussions about coal exports). In part, this suggests the 'success' of Bush and Obama's energy security strategies, at the cost of climate considerations. However, what has really been secured here is the profitability of American energy companies, economic growth being central to national security: in practice, it has had very little positive impact on the climate (particularly with increasing arguments in favour of exporting the US coal, oil and gas – which would mean losing the climate benefits of the domestic consumption reduction as the fuels would simply be consumed elsewhere).

The separation between energy and climate security is also institutionally embedded. Institutional factors in the policymaking process heavily affect how energy security is practiced in the United States. Energy security policy is made by the White House and the President together with his administration who set the agenda. Meanwhile, legislation has to pass through the Congress. Once the President identifies priorities, different government departments are tasked with carrying these out, from the Department of Energy, to the Department of State and the Department of Transportation, as well as the EPA, which has some power to regulate greenhouse gas emissions under the Clean Air Act since 2009 (EPA 2012). Lastly, emergency energy security policy is made when considered necessary by the National Security Council, usually on an *ad hoc* basis (Interview 2012c). While Bush produced his NEP via the National Energy Policy task force, which was set up aside from other institutions and tasked with developing a policy to enhance national energy security (in consultation with the fossil fuel industry) (National Energy Policy 2001), Obama has prioritised climate change more.

Obama has used the EPA to write regulation using existing laws to improve the environment without involving the Congress – this strategy was reiterated in his 2013 climate change plan (Obama 2013b). As noted by Bang, while combining energy and climate resulted in more climate-friendly policy, 'the established energy policy majority preferred to focus exclusively on energy security issues and disregard the effects for climate change, trying to keep it off the agenda' (2010: 1649). Moreover, 'the design and structure of the political institutions and their voting rules prevented radical change away from the status quo' (Bang 2010: 1652). When taking office, Obama created a White House Office on Energy and Climate Change, though funding for this was cut in 2011. He also created a Bureau of Energy Resources in the State Department in 2011 to integrate energy security into the US foreign policy. The US energy policymaking takes place in a wide variety of institutional locations, but throughout, there is a problematic division of labour between policymakers on energy security, and on climate change. This is the case both within departments and, to an extent, between departments and institutions (Interview 2012a). This tension left 'some significant hard policy choices where those two [energy and climate priorities] were in tension' (Interview 2012a). Within most departments dealing with energy security, there is a division between staff dealing with energy security and staff dealing with climate, and even during the brief existence of the White House Office on Energy and Climate Change it dealt largely with climate issues: 'they didn't do international energy or energy security at all' (Interview 2012a). Meanwhile, the Environmental Protection Agency is an entirely separate entity dealing with climate regulation as best it can within institutional limitations, rather than an integral part of the energy security policymaking process. It is worth noting that there is more action on climate change and renewables at the state level.

The Department of Defence, meanwhile, runs its own climate change and energy security programmes in parallel and has played an interesting role in the energy/climate debate. In some ways, the Department could be seen as a leader on climate change. It was one of the first institutions to speak of climate change as a security threat and has an impressive record of investment in new

energy technologies (US Department of Defense 2010, 2014). However, as noted by Hartmann, Defence interests have constructed climate change largely as a national security issue, in a way which could militarise the issue and distort policy (2010). The 2010 Defence Review talks explicitly of 'crafting a strategic approach to climate and energy challenges' (US Department of Defence 2010: 3) and very much constructs energy security and climate change in problematic national security terms.

US energy security discourses and practices work together to constitute energy security as a state-centric issue, where the American state needs to be secured from external threats to supplies, making domestic production and energy independence key solutions to energy insecurity.

Theoretical and practical implications

With respect to energy security, oil (and to some extent gas) is the primary focus of security policies in the US. Rather than resource depletion, it is the threat from foreign states or 'dependence' which is considered key, and the preferred policy response is increasing domestic production. While energy is often constructed in national security terms, it is rarely fully securitised (Nyman 2014). Energy security remains central to state survival. However, the focus on energy as an urgent, important, 'national security' issue enables a separation between energy and climate concerns, allowing continued focus on fossil fuels and domestic production in the name of economic and national security. In this way, energy security discourse and policy practice work together to constitute a reality where energy-as-national-security is prioritised above the security of the climate, enabling practices which are often directly detrimental to climate change mitigation. Yet, 'energy policy and environmental policy are inextricably intertwined and must be addressed together […] [t]he prospect of climate change represents the greatest threat' (Wirth *et al.* 2003: 135). The need to combine efforts on energy security and climate change to get action on the climate is increasingly acknowledged in the literature, and studies show that addressing energy security and climate mitigation together is both possible and may even be cheaper (Jacobson 2009; Bollen *et al.* 2010;

McCollum *et al.* 2013). There have been (less successful) attempts to bring the issues together, as seen in the creation of the White House Office on Energy and Climate Change. Thus, this article argues that it is first essential to recognise that the separation between energy security and climate change is not superficial, but rather closely connected with the different understandings of security which underpin them.

By showing how the link between energy and national security underpins the separation between energy security and climate mitigation, this article opens space for a conversation about rethinking energy security away from national security. The few existing critical pieces which examine the concept of energy security note the dominance of state-centric national security, and go some way towards providing suggestions for alternative ways of framing energy security around human ecology or justice and sustainability (Mulligan 2011; Simpson 2013). They open the space for discussions of the ethics of energy security, particularly about who or what should be secured. Here, the focus is on the link between energy security and climate change and the need to deal with the two issues together. As illustrated by the empirical analysis, this has to involve rethinking (energy) security away from narrow, national security. Drawing on McDonald and Trombetta, this article argues that security is not in itself the problem: security does not have to be negative. Instead, it is the link between energy and a particular, state-centric notion of national security which is problematic. As argued by McDonald, security means 'different things to different groups in different contexts', and it can, therefore, also be positive and progressive (2012: 11). Indeed, when Obama speaks of climate change as a security issue, security is framed in inclusive, cooperative terms; which stands in clear contrast to the dominant narratives on energy security.

As recognised by the Copenhagen School, security is a powerful word: if we can harness its positive potential to mobilise resources while drawing on more progressive notions of security, which are not framed in militarised, threat/defence terms, it is possible that security can be used to bring about positive change. There is a growing amount of work on positive notions of security in critical security studies which can provide a base for this: McDonald emphasises emancipatory

notions of security (2012); Floyd is developing 'just securitization theory' (forthcoming); and Roe is publishing a book on Positive Security (forthcoming), and Nyman and Burke have contributed an edited volume on Ethical Security Studies (forthcoming). These authors all emphasise the ethical potential in security and the potential for progressive change. Thus, while constructions of energy as national security are problematic, this does not mean that security is always best avoided. It can also be used to raise important ethical questions about whom or what should be secured: in discussions of climate change as a security issue, this is often the global climate or ecosystem rather than the survival of the state.

It thus becomes increasingly clear that any attempt to deal with climate and energy security together has to involve rethinking the very notion of security which underpins them. Climate change presents a global threat to the survival of the planet and life as we know it. As noted by Dalby, this makes rethinking security essential: traditional geopolitical state-centric security thinking simply does not makes sense as it no longer provides security in any meaningful sense (2009). The climate and global ecosystem cannot be secured using traditional threat/defence measures. Further, as argued by Simpson, energy security is not desirable if it causes other substantial environmental insecurities (2013). Any rethinking of energy security away from national security towards more positive terms has to involve an emphasis on sustainability and a move away from securing the state in traditional state-centric threat/defence terms which causes further insecurities. Focusing on securing global ecosystems necessitates a shift towards renewables, which will also provide longer-term energy security.

This has clear theoretical and practical implications. Scholarship on both climate and energy needs to consider the relationship between the two more critically, with a particular emphasis on the role and nature of security, to allow an integration of energy and climate policy. The notion of security underpinning thinking on energy security has to change to provide security in a changing world – starting with rethinking the basic understanding and role of energy in a world increasingly affected by climate change. In practical terms, progress on climate change requires more than

integrating energy in climate policy discussions. Any attempt to deal with the threat posed by climate change has to begin by addressing the way in which states understand and approach energy as a security issue. Energy security policymaking needs to deal with climate change systematically, by rethinking energy security away from traditional geopolitical premises and maximising domestic supply in the name of national security, to put *sustainability* at the centre. Even when energy policy is made by states, it needs to engage with climate change more comprehensively, and this may in turn work to separate energy from national security to provide security in a more meaningful sense. If such a 'broader understanding of security is invoked […] then the possibilities for less violent and more constructive responses open up' (Dalby 2009: 129).

Conclusion

This article has argued that energy security and climate change are closely related, and dealing with both requires fundamentally rethinking security. The growing speed of environmental change caused by climate change has profound implications for how we understand security. National security and its logic cannot secure the global climate. The solutions to climate insecurity conflict with individual states' energy security interests. Consequently, there is a need to rethink how we understand security to recognise referents and actors beyond the state to provide sustainable security on a global, regional, state and local level. While this article has illustrated some of the problems of current constructions of energy security, much more research is needed into the details of possible alternative visions of (energy) security. The analysis of the US energy security discourse and policy presented here has shown that energy remains closely linked with national security, elevating it above and separating it from climate security. Energy security is constructed in zero-sum terms whereby strategic autonomy framed as energy independence is key, enabling continued emphasis on domestically produced fossil fuels as the solution to energy insecurity. Such an understanding of energy security contributes directly to climate change and *in*security for the planet and the global ecosystem.

If we are going to take climate change seriously as a threat/security issue, then we need to realise that one of the biggest impediments is how mainstream approaches to energy – the main source of greenhouse gas emissions – construct and practice energy security in outdated national security terms, largely ignoring the impact that this has on the climate. In practice, climate change cannot be dealt with without changing the existing energy security practices. This process has to involve rethinking the concept of security away from traditional, state-centric threat/defence terms which cannot provide security once the referent object is no longer the state. Climate security discourses themselves may be a useful starting point here, as they have 'avoided the identification of enemies and […] involved actors others than states, both in the securitizing moves and in the security provisions' (Trombetta 2008: 598), but there needs to be more research into the possibilities of changing both security more broadly and energy security specifically, to provide sustainable security. As illustrated by Jacobson, it is possible to have an energy policy which does not contribute to increased environmental change and climatic insecurity (2009). This can also be seen in Germany's more radical energy transition plans, which provide an interesting model (Rommeney 2013). Ultimately, climate change is the biggest threat facing the world in the 21st century, and it is time for our understanding of (energy) security to change to reflect this.

Acknowledgements

The article was supported by the ESRC, research grant ES/I901825/1. Thanks to Adam Quinn, Rita Floyd, Michael Hulme, Simon Dalby, Liam Stanley and David Norman for providing comments and advice on an earlier draft of this article.

Notes

[1] Some authors position themselves in the middle, combining approaches to promote a 'comprehensive' approach (see Tunsjø 2010; Jaffe and Lewis 2002), but still subscribe to a traditional understanding of energy as national security.

[2] The role of the relationship between discourse and practice in co-constituting energy security as a concept logically leads to an empirical section structuring the analysis around discourse and practice to understand the concept in the case study. There are, of course, many ways to structure such an analysis, as the wide range of securitisation scholarship illustrates. Moreover, by going beyond the discursive constructions to also consider practice, the article provides a deeper analysis and explanation of how the concept of energy security has been constructed through both discourse and practice in the United States and the implications that this has.

[3] Aalto *et al.* provide an interesting discussion of how different actors frame energy security differently (2014), though such an approach would not work here as the focus is on the relationship between energy, climate and security rather than providing a survey of the energy security policy field in the US.

References

Aalto, Pami, David Dusseault, Michael D. Kennedy and Markku Kivinen (2014) 'Russia's energy relations in Europe and the Far East: towards a social structurationist approach to energy policy formation', *Journal of International Relations and Development* **17**: 1–29.

Bamberger, Robert (2003) 'Energy policy: historical overview, conceptual framework, and continuing issues', Congressional Research Service, available online at http://www.nationalaglawcenter.org/assets/crs/RL31720.pdf (last access on 26 September, 2012).

Bang, Guri (2010) 'Energy security and climate change concerns: Triggers for energy policy change in the United States?', *Energy Policy* **38**(4): 1645–53.

Barringer, Felicity (2008) 'Decisions shut door on Bush clean-air steps', *New York Times*, available online at http://www.nytimes.com/2008/07/12/washington/12enviro.html?pagewanted=all&_moc.semityn.www (last access on 23 September, 2012).

Bielecki, J. (2002) 'Energy security: is the wolf at the door?', *Quarterly Review of Economics and Finance* **42**(2): 235–50.

Boekestein, Brent and Jeffrey Henderson, (2005) '"Thirsty Dragon, Hungry Eagle": Oil Security in Sino-US Relations', *IPEG Papers in Global Political Economy* 21.

Bollen, Johannes, Sebastian Hers and Bob Van der Zwaan (2010) 'An integrated assessment of climate change, air pollution, and energy security policy', *Energy Policy* **38**(8): 4021–30.

Bush, George W. (2001a) '2001.05.16 Bush on NEP', Office of the Press Secretary, available online at http://georgewbush-whitehouse.archives.gov/news/releases/2001/05/20010516-7.html (last access on 20 September, 2012).

Bush, George W. (2001b) 'Text of Letter from George W Bush', White House, available online at http://www.gcrio.org/OnLnDoc/pdf/bush_letter010313.pdf (last access on 2 September, 2011).

Bush, George W. (2006) '2006.04.25 Bush discusses energy', Office of the Press Secretary, available online at http://georgewbush-whitehouse.archives.gov/news/releases/2006/04/20060425.html (last access on 21 September, 2012).

Bush, George W. (2007) '2007.01.23 Twenty in ten', George W Bush White House Archives, available online at http://georgewbush-whitehouse.archives.gov/stateoftheunion/2007/initiatives/energy.html (last access on 21 September, 2012).

Bush, George W. (2008) '2008.07.29 Bush energy fact sheet', Office of the Press Secretary, available online at http://georgewbush-whitehouse.archives.gov/news/releases/2008/07/20080729-6.html (last access on 21 September, 2012).

Buzan, Barry, Ole Wæver and Jaap de Wilde (1998) *Security: a new framework for analysis*, Lynne Rienner Publishers.

Chester, Lynne (2010) 'Conceptualising energy security and making explicit its polysemic nature', *Energy Policy* **38**(2): 887–95.

Cienkia, Alan and Dvora Yanow (2013) 'Why metaphor and other tropes? Linguistic approaches to analysing policies and the political', *Journal of International Relations and Development* **16**: 167–76.

Ciută, Felix (2010) 'Conceptual Notes on Energy Security: Total or Banal Security?', *Security Dialogue* **41**(2): 123–45.

Dalby, Simon (1997) 'Contesting an essential concept: Reading the dilemmas in contemporary security discourse', in K. Krause and M. C. Williams, eds, *Critical Security Studies: Concepts and Cases*, 3–31, London and New York: Routledge.

Dalby, Simon (2009) *Security and environmental change*,

Cambridge: Polity Press.

Dannreuther, Roland (2010) 'Energy Security', in J. P. Burgess, ed., *The Routledge Handbook of New Security Studies*, 144–53, Abingdon: Routledge.

Deudney, Daniel H. (1999) 'Environmental security: A critique', in D. H. Deudney and R. A. Matthew, eds, *Contested grounds: Security and conflict in the new environmental politics*, 187–219, New York: SUNY Press.

Doty, Roxanne Lynn (1993) 'Foreign Policy as Social Construction: A Post-Positivist Analysis of U.S. Counterinsurgency Policy in the Philippines', *International Studies Quarterly* **37**(3): 297–320.

Doty, Roxanne Lynn (1996) *Imperial encounters: the politics of representation in North-South relations*, Minnesota: University Of Minnesota Press.

Economist (2014) 'Curbing climate change: the deepest cuts', *Economist*, available online at http://www.economist.com/news/briefing/21618680-our-guide-actions-have-done-most-slow-global-warming-deepest-cuts?zid=313&ah=fe2aac0b11adef572d67aed9273b6e55 (last access on 1 October, 2014).

EIA (2014a) 'US primary energy consumption 1995–2013', Energy Information Administration, available online at http://www.eia.gov/beta/MER/?tbl=T01.03-/?f=A&start=1995&end=2013&charted=12-5-4 (last access on 2 October, 2014).

EIA (2014b) 'US primary energy production 1995–2013', Energy Information Administration, available online at http://www.eia.gov/beta/MER/?tbl=T01.02-/?f=A&start=1995&end=2013&charted=1-2-3-4-13-6 (last access on 2 October, 2014).

Energy Independence and Security Act (2007) Energy Independence and Security Act of 2007, US Congress.

Energy Policy Act (2005) Energy Policy Act of 2005, US Congress.

Environmental Law Institute (2009a) 'Estimating US government subsidies to energy sources: 2002–2008', Environmental Law Institite, available online at

http://www.eli.org/Program_Areas/innovation_governance_energy.cfm (last access on 23 September, 2012).

Environmental Law Institute (2009b) 'US tax breaks', Environmental Law Institute, available online at http://www.eli.org/pressdetail.cfm?id=205 (last access on 23 September, 2012).

Floyd, Rita (2010) *Security and the Environment: Securitisation Theory and US Environmental Security Policy*, Cambridge University Press.

Floyd, Rita (2013) 'Whither environmental security studies?', in R. Floyd and R. A. Matthew, eds, *Environmental security: approaches and issues*, 279–92, London and New York: Routledge.

Floyd, Rita and Richard A. Matthew (2013) *Environmental security: approaches and issues*, London and New York: Routledge.

Gault, John (2006) 'Energy Security, Globalization and Global Security', *GCSP Policy Brief* **8**: 1–17.

Gies, Erica (2010) 'As ethanol booms, critics warn of environmental effect', *New York Times*, available online at http://www.nytimes.com/2010/06/25/business/energy-environment/25iht-rbogeth.html?pagewanted=1 (last access on 23 September, 2012).

Grunwald, Michael and Juliet Eilperin (2005) 'Energy Bill raises fears about pollution, fraud', *Washington Post*, available online at http://www.washingtonpost.com/wp-dyn/content/article/2005/07/29/AR2005072901128.html (last access on 23 September, 2012).

Hansen, Lene (2006) *Security as practice: discourse analysis and the Bosnian war*, London: Routledge.

Hartmann, Betsy (2010) 'Rethinking climate refugees and climate conflict: rhetoric, reality and the politics of policy discourse', *Journal of International Development* **22**(2): 233–46.

Herbstreuth, Sebastian (2014) 'Constructing Dependency: The United States and the Problem of Foreign Oil', *Millennium – Journal of International Studies* **43**(1): 24–42.

Hoogensen Gjørv, Gunhild (2012) 'Security by any other name: negative security, positive security, and a multi-actor security approach', *Review of International Studies* **38**(4): 835–59.

International Energy Agency (2007) *Energy Security and Climate Policy: assessing interactions*, OECD Publishing.

Interview (2012a) 'Interview 1, July 2012'.

Interview (2012b) 'Interview 2, June 2012'.

Interview (2012c) 'Interview 3, June 2012'.

Interview (2012d) 'Interview 4, June 2012'.

Interview (2012e) 'Interview 5, June 2012'.0

Jacobson, Mark Z. (2009) 'Review of solutions to global warming, air pollution, and energy security', *Energy & Environmental Science* **2**(2): 148–73.

Jaffe, Amy and Steven Lewis (2002) 'Beijing's oil diplomacy', *Survival: Global Politics and Strategy* **44**(1): 115–34.

Jewell, Jessica, Aleh Cherp and Keywan Riahi (2014) 'Energy security under de-carbonization scenarios: An assessment framework and evaluation under different technology and policy choices', *Energy Policy* **65**: 743–60.

Klare, Michael (2008) *Rising powers, shrinking planet: how scarce energy is creating a new world order*, Oxford, Oneworld.

Kruyt, Bert, D. P. van Vuuren, H. J. M. de Vries and H. Groenenberg (2009) 'Indicators for energy security', *Energy Policy* **37**(6): 2166–81.

Lee, Pak K. (2005) 'China's quest for oil security: oil (wars) in the pipeline?', *Pacific Review* **18**(2): 265–301.

Leung, Guy C. K. (2011) 'China's energy security: perception and reality', *Energy Policy* **39**: 1330–37.

Leung, Guy C. K., Cherp, Aleh, Jewell, Jessica and Wei, Yi-Ming (2014) 'Securitization of energy supply chains in China', *Applied Energy,* 123**,** 316-26.

Littlefield, Scott R. (2013) 'Security, independence, and sustainability: Imprecise language and the manipulation of energy policy in the United States', *Energy Policy* **52**: 779–88.

Luft, Gal, Anne Korin and Eshita Gupta (2010) 'Energy security and climate change: a tenuous link', in B. K. Sovacool, ed., *The Routledge Handbook of Energy Security*, 43–55, London and New York: Routledge.

MacNeil, Robert and Paterson, Matthew (2012) 'Neoliberal climate policy: from market fetishism to the developmental state', *Environmental Politics* **21**(2): 230–47.

Matthew, Richard A. (2013) 'Climate change and security', in R. Floyd and R. A. Matthew, eds, *Environmental security: approaches and issues*, 264–77, London and New York: Routledge.

McCollum, David L., Volker Krey, Keywan Riahi, Peter Kolp, Arnulf Grubler, Marek Makowski and Nebojsa Nakicenovic (2013) 'Climate policies can help resolve energy security and air pollution challenges', *Climatic change* **119**(2): 479–94.

McDonald, Matt (2012) *Security, the Environment and Emancipation: contestation over environmental change*, Abingdon, Routledge.

Milliken, Jennifer (1999) 'The Study of Discourse in International Relations', *European Journal of International Relations* **5**(2): 225–54.

Mulligan, Shane (2010) 'Energy, Environment, and Security: Critical Links in a Post-Peak World', *Global Environmental Politics* **10**(4): 79–100.

Mulligan, Shane (2011) 'Energy and human ecology: a critical security approach', *Environmental Politics* **20**(5): 633–50.

National Energy Policy (2001) 'National Energy Policy', US Department of Energy, available online at http://www.ne.doe.gov/pdfFiles/nationalEnergyPolicy.pdf (last access on 21 September, 2012).

Neumann, Iver B. (2008) 'Discourse analysis', in A. Klotz and D. Prakash, eds, *Qualitative methods in international relations*, 61–77, London and New York: Palgrave Macmillan.

NRDC (2002) 'The Cheney Energy Task Force', National Resources Defence Council, available online at http://www.nrdc.org/air/energy/taskforce/tfinx.asp (last access on 20 September, 2012).

Nyman, Jonna (2014) 'Red storm ahead: securitisation of energy in US-China relations', *Millennium,* 43(1)**,** 43-65.

Nyman, Jonna and Burke, Anthony (forthcoming 2016) *Ethical Security Studies: A New Research Agenda,* London and New York, Routledge.

Obama, Barack (2009a) '2009.01.26 Obama on energy independence', *Washington Post*, available online at http://projects.washingtonpost.com/obama-speeches/speech/51/ (last access on 20 September, 2012).

Obama, Barack (2009b) '2009.02.14 Obama to Congress', White House, available online at http://www.whitehouse.gov/the_press_office/Remarks-of-President-Barack-Obama-Address-to-Joint-Session-of-Congress/ (last access on 20 September, 2012).

Obama, Barack (2009c) '2009.03.23 Obama remarks on clean energy and technology', Office of the Press Secretary, available online at http://www.whitehouse.gov/the_press_office/Remarks-by-The-President-on-Investments-in-Clean-Energy-and-New-Technologies-3-23-09/ (last access on 27 September, 2012).

Obama, Barack (2009d) '2009.03.24 Obama press conference', Office of the Press Secretary, available online at http://www.whitehouse.gov/the_press_office/News-Conference-by-the-President-3-24-2009/ (last access on 20 September, 2012).

Obama, Barack (2009e) '2009.09.21 Obama in Troy', Office of the Press Secretary, available online at http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-on-Innovation-and-Sustainable-Growth-at-Hudson-Valley-Community-College/ (last access on 20 September, 2012).

Obama, Barack (2009f) '2009.11.23 Obama on education', *Washington Post*, available online at http://projects.washingtonpost.com/obama-speeches/speech/59/ (last access on 20 September, 2012).

Obama, Barack (2010a) '2010.02.03 Obama addresses governors', *Washington Post*, available online at http://projects.washingtonpost.com/obama-speeches/speech/177/ (last accessed on 3 September, 2012).

Obama, Barack (2010b) '2010.03.31 Obama on offshore drilling', *Washington Post*, available online at http://projects.washingtonpost.com/obama-speeches/speech/210/ (last access on 20 September, 2012).

Obama, Barack (2010c) '2010.08.17 Obama at Seattle fundraiser', *Washington Post*, available online at http://projects.washingtonpost.com/obama-speeches/speech/371/ (last access on 20 September, 2012).

Obama, Barack (2010d) '2010.09.13 Obama remarks on the economy', *Washington Post*, available online at http://projects.washingtonpost.com/obama-speeches/speech/395/ (last access on 20 September, 2012).

Obama, Barack (2011) '2011.03.11 Obama news conference', *Washington Post*, available online at http://projects.washingtonpost.com/obama-speeches/speech/586/ (last access on 20 September, 2012).

Obama, Barack (2012a) '2012.01.24 Obama State of the Union', Office of the Press Secretary, available online at http://www.whitehouse.gov/the-press-office/2012/01/24/remarks-president-state-union-address (last access on 21 September, 2012).

Obama, Barack (2012b) '2012.01.25 Obama in Cedar Rapids', Office of the Press Secretary, available online at http://www.whitehouse.gov/the-press-office/2012/01/25/remarks-president-conveyor-engineering-and-manufacturing-cedar-rapids-io (last access on 21 September, 2012).

Obama, Barack (2012c) '2012.01.27 Obama in Ann Arbor', *Washington Post*, available online at http://projects.washingtonpost.com/obama-speeches/speech/907/ (last access on 20 September, 2012).

Obama, Barack (2012d) '2012.03.22 Obama in Cushing', *Washington Post*, available online at http://projects.washingtonpost.com/obama-speeches/speech/972/ (last accessed on 22 January, 2013).

Obama, Barack (2013a) 'Remarks by Obama at the Brandenburg Gate', White House, available online at http://www.whitehouse.gov/the-press-office/2013/06/19/remarks-president-obama-brandenburg-gate-berlin-germany (last access on 24 March, 2014).

Obama, Barack (2013b) 'Remarks by the President on climate change at Georgetown University', White House, available online at http://www.whitehouse.gov/the-press-office/2013/06/25/remarks-president-climate-change (last access on 24 March, 2014).

Obama, Barack (2013c) 'State of the Union', White House, available online at http://www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address (last access on 24 March, 2014).

Obama, Barack (2014) 'State of the Union', White House, available online at http://www.whitehouse.gov/the-press-office/2014/01/28/president-barack-obamas-state-union-address (last access on 24 March, 2014).

Rogers-Hayden, T., F. Hatton and I. Lorenzoni (2011) '"Energy security" and "climate change": Constructing UK energy discursive realities', *Global Environmental Change* **21**(1): 134–42.

Rommeney, Dirk (2013) 'Germany's radical energy plans', *China Dialogue*, available online at http://www.chinadialogue.net/blog/6437-Germany-s-radical-energy-plans-/en (last access on 25 October, 2013).

Scheffran, Jurgen, Michael Brzoska, Jasmin Kominek, P. Michael Link and Janpeter Schilling (2012) 'Disentangling the climate-conflict nexus: empirical and theoretical assessment of vulnerabilities and pathways', *Review of European Studies* **4**(5): 1–13.

Schortgen, Francis (2006) 'Protectionist capitalists vs. capitalist communists: CNOOC's failed Unocal bid in perspective', *Asia Pacific: Perspectives* **6**(2): 2–10.

Simpson, Adam (2007) 'The Environment: Energy Security Nexus: Critical Analysis of an Energy "Love Triangle" in Southeast Asia', *Third World Quarterly* **28**(3): 539–54.

Simpson, Adam (2013) 'Challenging inequality and injustice: a critical approach to energy security', in R. Floyd and R. A. Matthew, eds, *Environmental security: approaches and issues*, 248–63, London and New York: Routledge.

Simpson, Adam (2014) *Energy, Governance and Security in Thailand and Myanmar (Burma): A Critical Approach to Environmental Politics in the South*, Farnham: Ashgate.

Sovacool, Benjamin K. (2010) 'Introduction: defining, measuring and exploring energy security', in B. K. Sovacool, ed., *The Routledge Handbook of Energy Security*, 1–42, London and New York: Routledge.

Sovacool, Benjamin K. and Marilyn A. Brown (2010) 'Competing Dimensions of Energy Security: An International Perspective', *Annual Review of Environment and Resources* **35**(1): 77–108.

Strauss, Claudia (2013) 'How are language constructions constitutive? Strategic uses of conventional discourses about immigration', *Journal of International Relations and Development* **16**: 262–93.

Toke, David and Sevasti-Eleni Vezirgiannidou (2013) 'The relationship between climate change and energy security: key issues and conclusions', *Environmental Politics* **22**(4): 537–52.

Trombetta, Maria Julia (2008) 'Environmental security and climate change: analysing the discourse', *Cambridge Review of International Affairs* **21**(4): 585–602.

Tunsjø, Øystein (2010) 'Hedging Against Oil Dependency: New Perspectives on China's Energy Security Policy', *International Relations* **24**(1): 25–46.

Umbach, Frank (2012) 'The intersection of climate protection policies and energy security', *Journal of Transatlantic Studies* **10**(4): 374–87.

US Department of Defence (2010) 'Quadrennial Defence Review', Department of Defence, available online at http://www.defense.gov/QDR/QDR_as_of_29JAN10_1600.pdf (last access on 29 September, 2014).

US Department of Defence (2014) 'Quadrennial Defence Review', Department of Defence, available online at http://www.defense.gov/pubs/2014_Quadrennial_Defense_Review.pdf (last access on 29 September, 2014).

Valentine, Scott Victor (2010) 'The fuzzy nature of energy security', in B. K. Sovacool, ed., *The Routledge Handbook of Energy Security*, 56, London and New York: Routledge.

Vezirgiannidou, Sevasti-Eleni (2013) 'Climate and energy policy in the United States: the battle of ideas', *Environmental Politics* **22**(4): 593–609.

Vivoda, Vlado (2009) 'Diversification of oil import sources and energy security: A key strategy or an elusive objective?', *Energy Policy* **37**(11): 4615–23.

Wæver, Ole (1995) 'Securitization and de-securitization', in R. Lipschutz, ed., *On Security*, 46–86, New York: Columbia University Press.

White House (2008) 'Fact Sheet: Diversifying our energy supply and confronting climate change', White House, available online at http://georgewbush-whitehouse.archives.gov/infocus/energy/ (last access on 27 September, 2012).

White House (2011) 'Blueprint for a secure energy future', White House, available online at http://www.whitehouse.gov/sites/default/files/blueprint_secure_energy_future.pdf (last access on 20 September, 2012).

White House (2012) '2012.03.12 A secure energy future: progress report', White House, available online at http://www.whitehouse.gov/sites/default/files/email-

files/the_blueprint_for_a_secure_energy_future_oneyear_progress_report.pdf (last access on 12 October, 2012).

White House (2014) 'The Recovery Act and renewable energy investments', White House, available online at http://www.whitehouse.gov/recovery/innovations/clean-renewable-energy (last access on 1 October, 2014).

White House National Economic Council (2006) 'Advanced Energy Initiative', George Bush White House Archives, available online at http://georgewbush-whitehouse.archives.gov/stateoftheunion/2006/energy/energy_booklet.pdf (last access on 21 September, 2012).

Winzer, Christian (2012) 'Conceptualizing energy security', *Energy Policy* **46**: 36–48.

Wirth, Timothy, C. Boyden Gray and John D. Podesta (2003) 'The future of energy policy', *Foreign Affairs* **82**(4): 131–55.

Yergin, Daniel (1988) 'Energy Security in the 1990s', *Foreign Affairs* **67**(1): 110–32.

Figure 1: US energy consumption 1995–2013, EIA 2014a

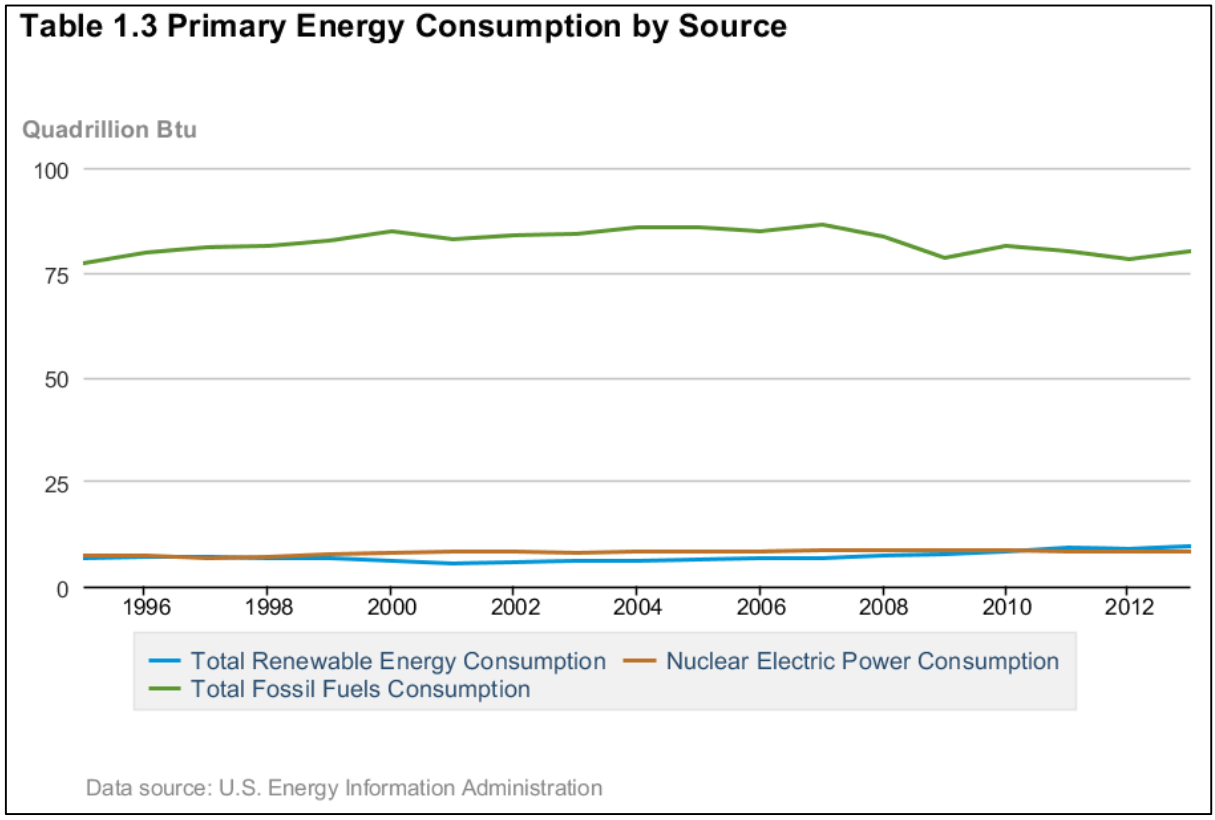
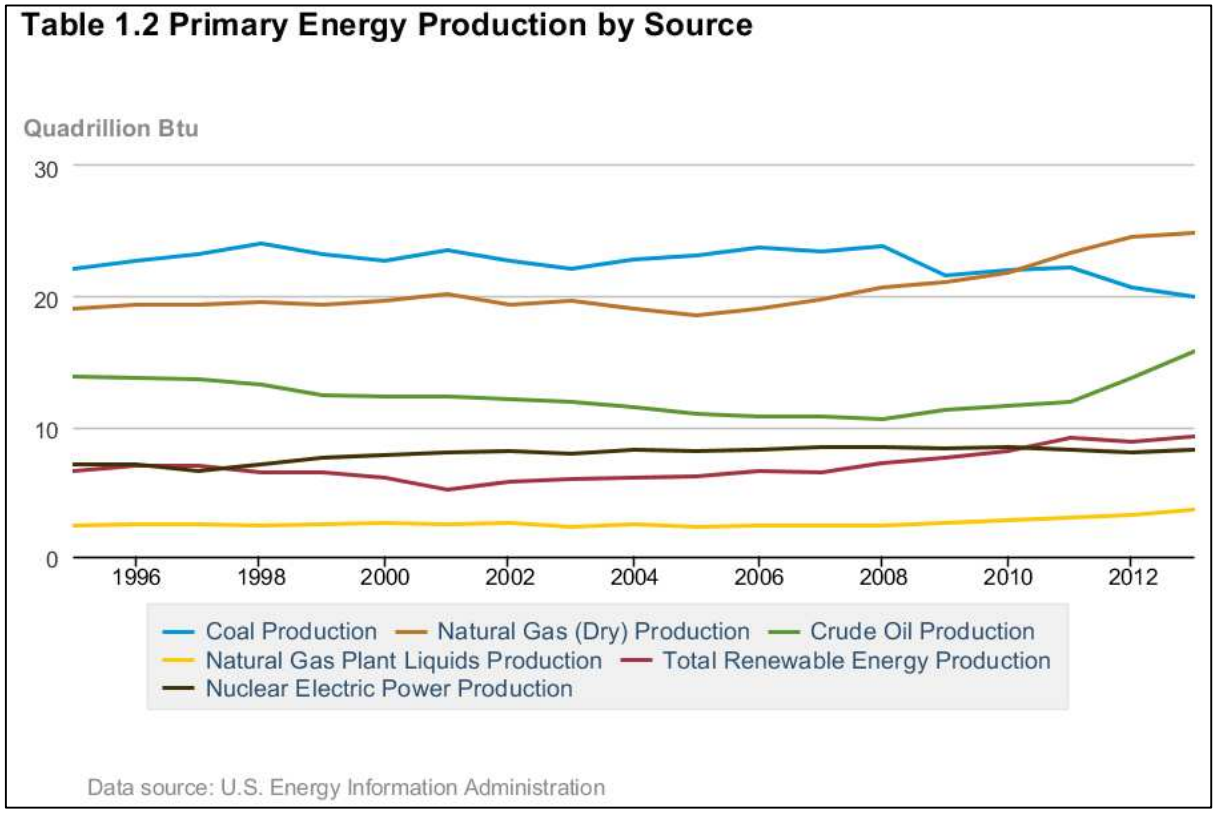


Figure 2: US energy production 1995-2013, EIA 2014b



About the Author

Jonna Nyman is a Teaching Fellow in International Relations at the Department of Politics and International Relations, University of Leicester. She works on energy security and critical security studies, with a focus on the United States and China. She has an article published in *Millennium* titled ‘Red Storm Ahead: securitisation of energy in US-China relations’, and a forthcoming co-edited volume (with Dr Anthony Burke) *on Ethical Security Studies*, to be published by Routledge in 2016.