4. ANALYZING ENERGY SECURITY

'Defining energy security takes more than asking around'1

4.1 Introduction

The multiplicity of energy security, its ‘slipperiness’ or ‘multidimensional’ character, is well acknowledged within studies on the concept of energy security.2 With energy as one of the core pillars of modern societies, energy (in)security arguably is everywhere, crossing a wide range of energy sources, actors and positions within the energy supply chains.3 However, chapter 3 on food security showed that this proliferation is not unique to energy security, which leads to the argument that the security logic is driving the proliferation instead of the referent objects of energy or food. This is not how the energy security literature sees it.4 Cherp & Jewell, for example, argue that the proliferation of energy security results from the inherent complexity of the supply of energy, the uncertainties within such a complex energy system, and the conflicting positions that actors have within this system.5 Another recent overview attributes this proliferation to the difference in ‘academic disciplines […]’, historical contexts […]’, levels of development […]’, timeframes […]’, market dimensions […]’, value chain […]’, levels of analysis […]’ and the primary or transformed fuel in question.6 In other words, all aspects and positions of the energy supply chain as well as its broader economic and historical context, including the different disciplinary theoretical reflections on the issue of energy. This chapter turns to this last aspect and discusses how the energy security literature tries to get a hold on the proliferation and complexity of energy in order to secure it.

There are multiple ways to come to grips with the multiplicity of energy security. Three are worth highlighting and are analyzed in this chapter. First, chapter 4.2 discusses how both qualitative and quantitative approaches analyze this multiplicity by categorizing and systematizing the wide range of energy security threats. In turn, chapter 4.3 looks at the theories that are used to handle the complexity. For energy security, there are three main theoretical lenses: a geopolitical, a neoliberal and an historic-materialist analysis.7 Third, chapter 4.4 studies the work of a number

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1 The title of Cherp 2012.
2 Ciuta 2010; Sovacool and Brown 2010, 102; Chester 2010; Dyer and Trombetta 2013; Sovacool and Mukherjee 2011; Sovacool 2011b.
3 Ciuta 2010, 133.
4 With the exception of Ciuta 2010; Bridge 2014.
5 Cherp and Jewell 2011a.
6 Zeniewski, Martinez-Anido, and Pearson 2013, 40.
7 There are many more social theories used to analyze energy (transitions). A place to start is Smits 2015, 21; or Rosa, Machlis, and Keating 1988.
of scholars who are trying to find the driving logics behind energy and energy security practices.

Missing from this chapter is a discussion of the emerging use of Securitization Theory in the energy security literature, but only because this literature is extensively discussed in chapter 5.4. With this in mind, this chapter problematizes the mainstream energy security literature, for while it is necessary to have an idea what energy security is, such a search for definitions does not help to understand what energy security does. And without a reflective understanding of how the search for definitions actually shapes human relationships and human relations with nature, the literature misses a core understanding that could move the field out of its current impasse of the constant struggle to tackle the proliferation of energy security and come to a fuller understanding of the practice that is energy security.

4.2 Defining, Differentiation and Categorization

Qualitative and quantitative research, irrespective the theoretical background, always start with some sort of categorization – all research does. For the energy security literature, a well-known categorization is provided by APERC, which tries to order the complexity of energy security through its four A’s: Availability, Accessibility, Affordability and Acceptability. This, however, is nowhere near the only category available. Quite a number of scholars on energy security at one point in their career produce a list of their own categories, some resembling the four categories of APERC, others with up to 20 dimensions. In addition, quantitative research takes this categorization a step further by providing a range of indicators for each of the categories, with one study finding up to 320 indicators in total. The previous chapters discussed a range of threats to energy and food that are categorized in Figure 1. This figure is based on APERC’s four A’s: Availability, Accessibility, Affordability and Acceptability (Sustainability). While other categorizations are possible, a simple and descriptive one such as Figure 1 provides for a way to include both security of supply and security of demand perspectives and is indicative of the range of threats, the level of analysis, and overall complexity of the security dimension of natural resources.

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9 Including this thesis, although here categories are approached more loosely, to be defined and discarded (see the shift from definitions to reflection in chapters 5 and 6) just as fast.
10 APERC 2007.
11 Hughes 2009 (4 categories); Sovacool and Mukherjee 2011; APERC 2007; Ang, Choong, and Ng 2015; Sovacool and Brown 2010; Vivoda 2010 (11 categories with 44 indicators); Sovacool 2011c (20 dimensions and 320 indicators).
Figure 1: Perceived Threats to and from Natural Resources
On closer examination, Figure 1 shows that threats to natural resources are three-sided. They can be found in the threats to a stable and continuous use of natural resources (supply interruption), in the threats that follow from an actual disruption in the use of natural resources (economic services, health impact), and in the threats that result from a stable and continuous resource use (climate change). In fact, the (in)ability to respond to potential disruptions is nowadays itself seen as a potential threat in relation to natural resources. In such a case, the precautionary security logic that drives this (see chapter 5.2) makes anything or anybody that hinders the construction of a more resilient energy system circumspect in its own right. In other words, energy and energy systems are often both object of security and subject of security. They are in need of protection while also giving cause for concern.

More indirectly, Figure 1 also points toward energy security concerns and how they do not only differ per referent object and the value attached to the referent objects (either the resources, the services provided by the resources or the workings of the economy as a whole), but how the threats differ in scope as well. For Winzer, these scopes specify how energy security concerns differ not only in magnitude (the size) of the possible impact but also on the speed of the impact, or whether something comes as a shock or not. In addition, he mentions that the duration (the sustentation) and the scale (the geographic spread) of the impact play a role, as does the uniqueness (the singularity) of the threat. Lastly, Winzer differs security concerns based on the perceived sureness of a possible impact. In other words, whether a threat is 'predicted', probable, or totally unknown.

Simultaneously, the benefit of the Figure 1 is limited for a number of reasons. First, any categorization is always incomplete. What is more, the political effects of the categorization should not be underestimated. As Cherp & Jewell conclude in a similar discussion on energy security:

the basis for these classifications is rarely systematically justified: they often seem almost as arbitrary as the lists of energy security concerns which they seek to structure. Moreover, classification is not integration. Placing several concerns in one group does not necessarily help us to understand them better or to develop integrated solutions.

Figure 1 is a prime example of this. It is per definition incomplete and its systemization is based on implicit assumptions on the meaning of the four categories in terms of

13 Cherp and Jewell 2014, 418.
14 Johansson 2013.
15 Winzer 2012.
16 Ibid., 37–39.
17 Cherp and Jewell 2011b, 209.
Analyzing energy security

geography and technological prowess, politics and society, economics and ecology. More important, the close connections between the subcategories makes the initial differentiation often arbitrary. Subcategories like government regulation and technology are interwoven in all four categories and could be read as threat and solution at the same time.

Second, the chosen definition of energy security often pre-structures the conclusions that can be drawn, as such definitions fixate assumptions on energy, energy security and temporality. To be fair, that is exactly the purpose of simplification. On the other hand, this often leads to an acceptance of a pre-agreed upon status quo. This was exemplified in the discussion on food security, when the food security literature showed how hunger is often put forward, implicitly, as a supply problem that can only be solved by adding more supply without regard for social entitlements that hinder the distribution of available supplies. It also returns in qualitative energy research where, for example, Von Hippel et al. and Valentine show how studies that take a longer timeframe often value stability over costs whereas short-timeframe studies favor costs above all else. Likewise, Zeniewski, Martinez-Anido & Pearson argue that quantitative approaches regularly favor free market solutions while qualitative approaches, which are often more socially oriented, prefer regulated energy markets. As they conclude:

On a practical level, the definition of energy security and its scope conditions will crucially affect how both policy-makers and academics identify, order and manage risks and vulnerabilities affecting the energy system, in whatever form it is analysed.

Clearly, scholars like Valentine or Zeniewski, Martinez-Anido & Pearson want to draw attention towards a performative understanding of energy security. Such a performative reading would highlight that definitions of energy security always contain two aspects: what energy insecurity is, as well as what energy security should be. A definition of energy security thus always closes down a situation by defining it as a form of energy insecurity and simultaneously offers a specific normative alternative orientation as its solution. Defining does not come without a normative judgement on how to secure.

The importance of a performative reading of energy security becomes apparent when realizing that the definitions and indicators of energy security are, if not defined, then strongly influenced by the IEA, an organization by and for developed

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18 Valentine 2011.
19 von Hippel et al. 2011b; Valentine 2011.
20 Zeniewski, Martinez-Anido, and Pearson 2013, 41.
21 Ibid.
countries and their search for secure energy supplies (compare with the knowledge broker role of the FAO in chapter 3.6). In other words, modern understandings of energy security build upon definitions written by a small number of capital-intensive consumer countries and their identification of indicators based on their particular experiences.\(^{22}\) In time, Cherp & Jewell argue, these indicators are exported to other parties who are unable to develop such indicators on their own.\(^{23}\) This contrasts with food security where there exist a clear counter discourse with food sovereignty, made by and for communities within underdeveloped countries.

A performative reading also discounts with any remaining ideas that energy security contains both absolute and relative aspects. Chester, for example, argues that Availability and Accessibility are absolute aspects of energy security as they are measurable, while Affordability and Acceptability are relative aspects that depend on weighing and agreement.\(^{24}\) However, the idea that there are absolute numerical aspects of energy security clearly overlooks the actual politics of energy reserves. A good example of this politics is the increase between 1982 and 1988 of the officially proven reserves by a number of OPEC members in the run up to new OPEC production quotas. These increases are circumspect as those countries were not witness to any obvious exploration or technological advancements in that time, while their respective quotas were going to be based on their total reserves.\(^{25}\) As the 2010 World Energy Outlook stated:

> Definitions of reserves and resources, and the methodologies for estimating them, vary considerably around the world, leading to confusion and inconsistencies. In addition, there is often a lack of transparency in the way reserves are reported: many national oil companies in both OPEC and non-OPEC countries do not use external auditors of reserves and do not publish detailed results.\(^{26}\)

Another example can be found in Reynolds’ analysis of the Canadian decision in 2003, together with the American EIA, to count the Canadian oil sands as full-fledged oil reserves. Reynolds describes how Canada’s oil reserves increased from 6 to almost 174 billion barrels after the political decision to 1) stretch the concept of crude oil to include oil sands bitumen and 2) to decree these oil sands as proven reserves instead of ‘remaining established’ reserves without physical, technical or

\(^{22}\) Cherp and Jewell 2011a.
\(^{23}\) Ibid.
\(^{24}\) Chester 2010.
\(^{25}\) Salameh 2004.
\(^{26}\) IEA 2010a, 115; Cobb 2012.
analyzing energy security. In other words, Chester’s absolute dimensions of availability and capacity are not as absolute as they seem and are effectively subject to a politics of ontology (see chapter 7).

4.3 Theories of Energy Security

An alternative to analyzing the contents of energy security through categorization is a theoretical reflection on energy security. While a range of theories and disciplines is applicable to energy in general, the specific focus on energy security is primarily discussed by theories that are borrowed from IR and IPE, namely neorealist geopolitics, neoliberals focusing on markets and institutions, and critical historical materialist reflexive theories. As these latter are still only marginally used, Aalto et al. are right in claiming that the field of energy security lack theoretical ambition. From a social science perspective and especially from the humanities, there is little theorizing on energy security.

This leaves two positivist theories from IR: a neorealist inspired geopolitics and a neoliberal inspired reading of energy security. First, geopolitics is the study of how geographic factors interact with international relations. It has a long history, but the demand from Asia and the 2008 oil price shock reinvigorated this approach for energy security from 2006 onwards. The geopolitics practiced within energy however has less to do with the theory of geopolitics and more with the politics of geographically dispersed natural resources. Actually, not even with the resources themselves, but instead with the politics of control over natural resources and the ‘political intentions’ behind it. For this, it takes a particular mix between neo-Malthusian ideas about scarce resources and neorealist IR theory. Neorealism within IR assumes an anarchic system with unitary and rational states that are concerned with survival. Combined with Malthusian assumptions, it proposes a self-centered zero-sum struggle over the last remaining resources in the world, to be protected or acquired for and by the state. Problems that are highlighted through this approach are a growing dependency on foreign energy resources, resource nationalism

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27 Reynolds 2005, 55.
29 For the first two see: Stoddard 2012a.
30 Aalto et al. 2014.
31 Sovacool 2014. With exceptions, of course, see for example: Urry 2014.
32 Correljé and van der Linde 2006; Bosse and Schmidt-Felzmann 2011; Barnes and Jaffe 2006; Criekemans 2011; Klare 2008; Kropatcheva 2011.
33 Stoddard 2012a, 7; quotes: Ciuta 2010, 130. See also Casier 2011b.
34 Waltz 1988.
and terrorism.\textsuperscript{36} It is a highly state-centric theoretical position that is inherently mistrusting of other actors, but also, as Campbell notes, focused ‘solely on the supply of oil without interrogating the demand for this resource.’\textsuperscript{37} Although the work of geopolitics scholar Criekemans, for instance, shows that geopolitics can be applied to other energy sources as well, including renewable energy, demand is indeed hardly ever discussed in this line of reasoning.\textsuperscript{38}

Such a pessimistic neorealist reading of geopolitics contrasts with a positive neoliberalist understanding of energy security. A neoliberalist reading of energy builds upon non-zero sum understandings of neoliberalism in international relations believing that cooperation is possible if there are absolute gains to be made and international institutions are put forward to structure these international relations for an ongoing functioning of the international markets.\textsuperscript{39} This is the political underpinning of the economic perspective described above in relation to both energy and food security. It perceives markets as the best way to extract, distribute and consume natural resources. For this strand of literature, security, especially the simplistic neorealist geopolitical form of security described above, is a danger to the circulation of energy because it has the potential to dislocate energy markets. The main dilemma for all those involved in energy is therefore, according to Van der Linde, ‘how to weigh the short-term risks of a serious disruption or undersupply against the longer-term security of more domestically produced (cleaner) energies as long as prices do not reflect all the risks?’\textsuperscript{40} This latter observation - that prices do not reflect everything - in turn reflects the main, economic line of argumentation nowadays encountered that reinforces the importance of markets. Simultaneously, it highlights an aversion of power and active political manipulation of markets for goals other than profit.\textsuperscript{41}

These two strands of literature are often used to analyze energy security debates as they take place in academia and public policy. Besides studies using Securitization Literature (chapter 5.4), the discussions in the chapters on energy security and food security showed another, albeit marginal strand of literature. Both energy security and food security are witness to critical analyses that question the power relations behind the respective systems of supply, distribution and consumption. Modern analyses of food and energy regimes, discourse analyses of energy and food security and the application of Securitization Theory to energy and food security are all attempts to break with the dominant policy orientation of neorealist geopolitics.

\begin{itemize}
\item Labban 2011, 326.
\item Campbell 2005, 954.
\item Criekemans 2011.
\item Stoddard 2012a; Goldthau and Witte 2009.
\item Van der Linde 2007, 70.
\item Stoddard 2012a, 10.
\end{itemize}
and market liberalist perspectives. These theoretical analyses, irrespective their diversity, principally share an understanding that theory is part of the reality that is analyzed. The reason why a neorealist geopolitical theoretical analysis seems so applicable is not because of the theory itself, but due to the fact that policy makers use that same theory to justify their decisions and their fears. When these non-critical theories analyze the world in terms of friend and foes, they propose a binary understanding of the world that actually helps create a difference between them and us or between politics and the market. These differences are as artificial as the theories themselves (thus real) and become part of reality as they are enacted in the policy application of these theories. The difficulty of a critique on neorealist and liberal theoretical approaches to energy security, however, is that its subject is no longer energy security but the theories and other historical knowledge patterns that are in place about energy security. As such, this more critical strand of literature has a peculiar position within the overwhelmingly practical policy orientation that is prevalent in the field of energy security.

4.4 Searching for Logics of Energy Security

Besides categorization and theorization, an increasing number of scholars is searching for all encompassing logics and discourses behind energy security. The search for (discursive) logics attempts to cross the level of detail of categorization and the perceived loss of practicality in theorization. This section briefly discusses three examples of such work on logics behind energy. It starts with the Energy Trilemma as an example for the relations between energy security and other logics of energy in general. Subsequently it moves to two recent contributions that search for logics of energy security in particular. Lastly, this section pushes the logics approach to a reflection on the logic of self-sufficiency and the logic of security itself to show that a search for logics is also not a final silver-bullet answer.

A popular way to depict the underlying dynamics of energy policy is the use of the Energy Trilemma as depicted in Figure 2. It depicts energy security, economic equity (access and affordability, often just plain costs) and environmental sustainability concerns (regularly limited to CO2 emissions alone) as the “fundamental” policy positions that need to be combined in a tradeoff for any reasonable energy policy to work. In doing so, this trilemma shapes the debate on energy, as it sees the different positions as radical opposites that need to meet in the middle. What the middle is,
differs per actor. Often it includes some form of a sustainable renewable energy system, but whether this system includes nuclear electricity or CCS depends on the specific agent. In other words, it can be argued that the trilemma flattens the complexity of energy debates not only into three distinct positions but also to a single level, while in reality all agents involved have to find their own middle ground on all of these positions before they can even participate in public energy debates. Agents are never purely security focused, as even the most dedicated energy security scholar defines energy security with economic and ecological aspects in mind. In addition, the trilemma excludes alternative views like social reflections on distribution, a focus on demand reduction or more functional discussions on maintenance. It also discusses energy in terms of private commodities instead of the services or public goods that are to be provided.

Another way to analyze energy security, to find some stable structure within these debates, is to search for the logics behind energy security. Two recent articles by Ciuta and Cherp & Jewell try to find such logics. Interestingly, both articles find precisely three logics or discourses that are present in energy security. First, Cherp & Jewell identify a discourse of sovereignty, which refers to military and geopolitical security of supply considerations as put forward by nation states. This comes close to the pessimistic and conflict prone neorealist geopolitical position discussed above and is comparable to Ciuta’s first logic of war, by which he refers to political-military conflicts over energy and other resources. Secondly, Ciuta identifies a security logic of subsistence, where energy is seen as an unavoidable driving force behind biological life. Energy from this perspective needs to be secured because it is a basic need that needs to be fulfilled. Lastly, Ciuta identifies what he calls ‘total’ energy security. In this reading, energy is a necessity for social life, as there is not one aspect of life that is not in some way enabled by the extraction, distribution and consumption of energy resources. In contrast to Ciuta, Cherp & Jewell move in another direction, away from the need for energy itself towards the protection of the socio-technical energy systems that provide for them. They identify a logic of robustness, which focusses on the technical vulnerability of production and transport capacity within the socio-technical energy system. Clearly, this takes an engineering perspective to security and

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46 Mulligan 2010; Patterson 2008.
47 Cherp and Jewell 2011b; Ciuta 2010.
deals with the safety and stability of the physical infrastructure. Lastly, they identify a logic of resilience, by which they refer to an alternative meaning of security that focusses on multiple unpredictable complex systemic disruptions to which people need to adapt and mitigate. This includes infrastructure systems and rolling blackouts, but also instances like price volatility and ecological feedback loops. To some extent, the logics that Cherp & Jewell identify are closely connected to the academic disciplines behind them. Sovereignty follows a political science and IR reading of energy security, engineers look at the robustness of the energy infrastructure, and systems analysts, insurers and economists look at the resilience behind energy systems.

The question is whether these logics and discourses are not just another way to categorize (and prioritize) certain phenomena within energy security debates. Noticeable in this respect, is that both articles share a sovereign/war logic. Also interesting is that it would be easy to add to this logic, for example by adding the logics that structure how people deal with dependency (or the perceived lack of control over the access to a resource). In this respect, briefly, there are three extreme logics that a person, country or company can follow in response to a sense of “otherness”, which marks a dependency relationship characterized by fear and addiction. First, the agent can follow an isolationist (autarky) logic and become completely self-sufficient. Second, s/he could follow an imperialist logic that degrees that one is entitled to the resources no matter what. Third, one can follow a “shared fate” logic and accept a level of dependency knowing that the situation is mutual. In reality, the choice for any of these logics is heavily influenced by neorealist and liberalist readings of international energy relations (reinforcing their political impact). The isolationist logic is excluded based on ideas about (economic) progress and an addiction to acquired lifestyles. The imperialist logic returns strongly in neorealist approaches to international energy relations. And the “shared fate” logic is propagated by the

48 Not many scholars describe what dependency means for them. Somebody who does is Le Billon, following Ribot and Peluso, who discusses dependency by separating access from control. Whereas access is "the ability to derive benefits" using all possible means, control should be seen as either 'gaining, controlling or maintaining access'. Hence, 'control can be defined as the ability to enforce the rights to benefit from resources, using all possible means'. See: Le Billon 2007, 175–176 quotes Ribot and Peluso 2003, 173; Ribot and Peluso 2003.

49 See Friedrichs 2010.

50 Self-sufficiency is much debated, also in food. The FAO discusses this by separating self-sufficient in terms of production from self-sufficiency in terms of the holistic farming system. The EU might be self-sufficient because it produces more than it consumes, but at the same time this is based on massive imports of animal feeds and fuels, which both are open to political misuse and neither will turn out a relieve in case of a wrong harvest. Instead, the FAO states that the EU is food secure because of its material wealth and because it operates in a (self-promoted) open market that enables the EU to trade at will. See FAO 1996a, 285. A second distinction can be made between self-sufficiency and self-reliance. The latter implying that countries are able to ensure domestic availability of food, including imports and hence the capacity to acquire the foreign exchange needed for those imports. See FAO 2003, 35.
(neo) liberalist understandings of a relationship of (complex) interdependency or reciprocal dependency. On the one hand, the search for logics helps clarify processes and assumptions behind energy security. On the other, the two articles and discussion above show that it is a rather arbitrary process with strong links to categorization and heavily influenced by the theoretical assumptions and disciplines that are said to observe energy security relations. According to Ciuta, ‘energy is not, in this sense, the problem.’ The problem instead comes in two ways. First, what is problematic are the knowledge practices behind energy security and its subsequent policies. A second problem relates to the fact that it is not energy that is secured. What is secured are the infrastructure, the markets, the price agreements, the system and so forth. Energy security in this sense is an empty concept that only ‘acquires meaning through a series of assumptions regarding the linkage between growth, sustenance and the environment.’ The problem for Ciuta therefore ‘is that of formulating different concepts of security and creating context where these can acquire legitimacy and political grip’. This is exactly what Ciuta and Cherp & Jewell achieve. In simplifying the debates through a search for security logics, they manage to break with a simple understanding of security. That said, neither of these articles fully engages with the complexity of insights that is available within the CSS literature. Furthermore, they still try to define what energy security is – e.g. particular logics – and do not engage with what energy security does.

4.5 Reflection

This chapter discussed how energy security is analyzed by the literature and how the literature makes sense of the proliferation of the concept of energy security. It identifies three core strategies: categorization, theorization and a mix of both with the search for underlying logics. First, categorization was attributed to both the qualitative and the quantitative energy security literature and their search for core definitions and indicators of energy security. With categorization seen as an inherently artificial and incomplete political activity that delineates concepts and practices, its value cannot be separated from its real world effects. Secondly, theorization of energy security proved

51 In case of energy, especially oil and gas, this interdependence can even be asymmetrical as the short-term disruptive power of gas suppliers is only balanced on the medium to long term by the income dependency of producers. See Stoddard 2012b, 347.
52 Ciuta 2010, 139.
53 Ibid., 128.
54 Ibid., 139.
55 As will be discussed in chapter 5, the scholars working on energy with the help of Securitization Theory take this up, but are often incomplete as they neglect the shaping of the self and are too instrumental in their use of the theory.
to be limited with realist geopolitics and market neoliberals offering competing interpretations and solutions to energy security. The critically inspired theories identified as a third strand of theorization pointed towards the performative power of these theories and the self-referential tendency within them as they selectively derive from and in turn help shape their own reality. The last approach, which was dubbed the search for logics, dealt with a combination of categorization and theorization in that it shifts focus to generalizable processes and discourses that repeatedly drive action and interpretation. These logics can be found on all levels. On energy in general, on the response to energy insecurity through different interpretations of dependency, and on the security logics behind energy security practices. Especially this last discussion opens up to the question and realization that there is a need for a deeper understanding of security itself to understand energy security.
PART II

UNPACKING ENERGY SECURITY
The goal of Part I was to introduce the notion of energy security and its changing use over time. Two things stand out from the discussion so far. First, the inherent empty nature of energy security and its constant proliferation in terms of ascribed content and scope. Second, the limited available critical literature on energy security (in comparison to the equivalent food security discussion) and the realization that the definitions, categories and theories dealing with energy (and food) security are anything but neutral indicators as they help shape what they analyze. For this thesis, what is lacking from the academic discussion on energy security is a more abstract theoretical reflection on what the concept and its definitions do besides the deliberations of what they are. What is missing is an understanding that the proliferation of the concept of energy security, which is based on demands for emancipation, in its totalizing categorical tendencies hides the multiplicity of energy and the daily political choices that are constantly being made and remade on its behalf.

In other words, while the proliferation of energy security shows the range of choices that can be made regarding the future of energy, it does not detail why those choices have been made. The conceptual analysis in Part I does not analyze the politics behind the choices; it only highlights the perceived need for security and a desire for energy. It does not question why certain issues are feared as a security problem and others not. It does not help us understand why people constantly need more energy. These desires and threats are often taken as self-evident in the traditional literature. But are they? And what is behind the constant proliferation of energy security (and food security)? What are the consequences of state-centrism for energy security compared to food security and what does it mean that food security has a clear counter-discourse in food sovereignty? What role does the scientification of food and energy security play in the governance of these fields? Why does the literature differ between a security of supply and a security of demand, but not between a security of abundance (protecting what we have) and a security of scarcity (gaining that what we do not have), or between a politics of insecurity (the use of security to highlight a new threat) and the politics of security (the use of security to deal with routine threats)? These are all questions that call for a deeper theoretical engagement with security and other aspects of the underrepresented humanities literature in the field of energy.1

The four chapters that follow take up this call and together problematize any remaining notion that energy security is merely an identifiable problem in need of a solution. Chapter 5 builds on the wider critical security literature to provide a theoretical foundation for the concept of security in order to shed light on the constant proliferation of energy security. Chapter 6 on scarcity offers a deeper understanding of the desire for natural resources and aims to question the implicit assumption

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1 Sovacool 2014.
that energy is scarce and hence worth obtaining, irrespective all the accompanying politics of dependency, energy markets, etc. Both of these chapters follow a similar line of argumentation: they start by discussing what security and scarcity are – in both cases quickly breaking with any narrow descriptions of these concepts – only to move slowly onwards to discuss what these concepts do when people call upon them. Together these two chapters on security and scarcity provide at least some theoretical grounding to explain the constant proliferation of energy security.

Another aspect from the chapters on security and scarcity is the attention to social constructs and the linguistic power of these conceptualizations. Together with the performative stance taken in this thesis, this calls for Chapter 7 to engage with both social constructivism and the performativity of concepts, and to discuss how knowledge relates to nature and material artefacts, like the energy infrastructure and its resources. In studying the logics and politics of security, the political economy around scarcity, and the relation between knowledge and materiality a single author kept returning. Chapter 8 will therefore introduce and discuss the later work of Michel Foucault on (bio) power and biopolitics in depth. In particular, it will detail his focus on the exercise of power or the governing that is done in the name of security through knowledge gathering practices and the role of the non-discursive (e.g. material) in this. To be clear, Foucault provides not the approach to energy security, but his work offers a thought-provoking lens to think about the relationship between security and political markets as a governing of the present.

One caveat is in order. Where Part I discussed the concept of energy security, the chapters that follow here in Part II are no longer about energy security as such; they discuss their respective topics in breadth and on their own terms, in line with Figure 3. The goal of this thesis has never been to develop a theory, methodology or specific performative approach to study energy security but to problematize current understandings and knowledge practices of energy security through a rigorous theoretical reflection of its underlying practices. In fact, following its critical disposition, this thesis is antithetic to such a totalizing goal as any single theory, method or performative approach simplifies the inherent complexity of each of these topics and would inherently break with the contextualization that is of such importance to understand energy security. These chapters

![Figure 3: The Drivers of Energy Security](image-url)
therefore offer as much breadth as possible for a more complete understanding of
the processes at work behind energy security (and the political economies of other
natural resources). The illustration in chapter 5.4 and the two larger illustrations
in Part III do so by showing how a performative reading could proceed and what
potential insights it offers.