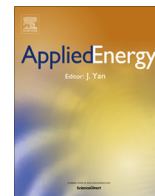




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Securitization of energy supply chains in China

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HIGHLIGHTS

- Three sources of energy security risks, namely sovereignty, robustness and resilience, affect China's energy chains.
- Energy security issues in China both have shaped and at the same time were shaped by ideas and institutions.
- China remains rigid with equating 'security' with 'national security' and the notion of "national" is socially constructed.
- Powerful actors, such as Chinese NOCs, inclined to interpret the problem so that it fits their preferred solution.
- Securitization of any energy supply chains results from their historical roots, system properties and institutional agents.

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ABSTRACT

Energy policies in China, the world's largest energy consumer, are an important factor in shaping the global energy system. While scholars agree that energy security is a major driver of China's energy policies, there is insufficient understanding of what exactly constitutes China's energy security from the policy perspective. We apply recent insights from the Global Energy Assessment, particularly the idea of vital energy systems, and the securitization theory to propose a framework for explaining China's energy security policies in their historic evolution. We pay specific attention to explaining how particular energy supply chains are constructed and securitized. We draw data from over 300 Chinese and over 100 English publications and 30 interviews with energy officials and experts in China. We demonstrate that China's focus on vulnerabilities of its oil supply chain at the expense of improving the reliability of domestic electricity supply is not accidental. It has its roots in historic events, properties of energy systems, as well as the presence of powerful institutional agents interested in securitizing the oil supply chain but not other vital energy systems. We suggest that this focus on the oil supply chain is likely to be maintained in the future, possibly accompanied by increasing concerns over natural gas supply chains. Our proposed framework for energy security policy analysis can be used for other countries and jurisdictions.

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1. Introduction

Energy policies in China, the world's largest energy consumer, are an important factor in shaping the global energy system and its governance [1]. While scholars e.g. [2–5] concur that energy security is among the key drivers of these policies there is less agreement and understanding of what exactly constitutes China's energy security and how it translates into policy discourse and measures.

One reason for this lack of clarity is that the literature often lacks an explicit method for attributing a particular energy issue to energy security concerns. Most scholars implicitly equate China's energy security with the security of its oil imports [6,4]. However, already in 2003, Chen Xinhua (cited in [7]), a former programme manager for China at the International Energy Agency (IEA), was dissatisfied with this focus and stated that "energy security must first be dealt with domestically".

More recently, [8] and other scholars have highlighted domestic energy issues relevant to China's energy security: most notably the reliability of electricity supply. Some have attempted to draw very broad boundaries of energy security: for example, [9] list 16 dimensions of energy security, extending to 'minimiz[ing] destruction of forests, land and soil' and 'provid[ing] available and clean

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water', but curiously excluding reliability of electricity and oil products supply chains. These authors' interpretation of energy security as a sum of perceptions of various stakeholders is not suitable for defensibly drawing the boundaries of energy security and for prioritizing and reconciling conflicting or opposing opinions. It cannot explain why and how energy issues become energy security issues and thus important policy drivers [10].

In spite of the repeated assertion in scholarly literature that "oil imports are merely one dimension of China's energy security concerns and not even the most important" [11], China's energy security policies have focused almost exclusively on oil supply chains, particularly on oil imports. Casted as *the* energy security issue, oil supply has continuously commanded attention of China's leaders, despite other acute energy problems.

Researchers use different theories to explain this stubborn and seemingly irrational focus on oil supply chains. The most popular "fragmented authoritarianism" model developed by [12] and used by [13,6,14,15,1,8,11,16], sees policy choices as results of negotiations between bureaucratic interests rather than of rational pragmatism or of democratic processes. In this framework, the focus on oil is largely explained by the traditional power of the giant State Owned Enterprises (SOEs) in the oil sector. [11] Elaborates this theory demonstrating how botched governance reforms of the 1990s and the early 2000s as well as the low status and capacity of the central energy authorities resulted in this configuration of power within the energy sector.

[2] Proposes another approach to explaining China's energy security policies. Instead of considering power as exclusively vested in institutions, Constantin derives it from ideas or policy paradigms which he calls 'frames'. He loosely identifies oil security with the 'strategic' frame, coal and electricity generation with the 'market' frame, and environmental sustainability (including energy efficiency and decentralization) with the 'scientific development' frame. In support of this 'ideational' view of policy making, Constantin refers to the traditional importance of ideology in China's policy and the fact that in spite of the peculiar setup of China's energy governance, most of its energy security policies are not unique but instead 'mimic' policies of other countries (most notably Japan, the U.S. and Russia).

Although the 'institutional' and the 'ideational' approaches provide plausible explanations for the existing China's focus on oil supply security they both fail to predict whether and under which conditions this focus might change. Constantin expresses explicit optimism about the 'new energy security' becoming the main focus of China's energy policy as the 'scientific development' paradigm prevails (Though he retains some pessimism explained by what he calls China's 'primordial' preference for autarky). Likewise [1,8] observes that energy policy-making in China is becoming more 'like in the U.S.' (i.e. reflecting a wider range of interests and able to produce pragmatic decisions). Based on this observation he also expects the shift of the energy policy towards domestic energy issues and even climate change mitigation. In contrast to these expectations, there is little empirical evidence that China's pre-occupation with energy security extends much beyond oil, and some scholars predict that China will react to its oil supply chain vulnerabilities even more forcefully in the future.

In light of these unanswered questions and disagreements the aim of this article is to propose and apply an explanatory framework for China's energy security policies. Our framework does not reject the institutional or ideational theories of policy making but enhances them to specifically explain energy security policies. First, we draw on the concept of securitization [17] to explain how an energy policy issue may become an energy security issue. Secondly, we use several ideas – especially that of vital energy systems – from the Global Energy Assessment [10] to explain securitization of certain energy supply chains through their

representation as vital energy systems. In analyzing how energy supply chains become 'vital energy systems' we draw on a recent theory of Global Production Networks (GPN) [18,19] which consider the importance of governance institutions in shaping GPNs and thus energy supply chains. Synthesizing insights from these three scholarly traditions allows us to develop an approach, explained in Section 2, which not only throws light on energy security policies of China, but may also be useful as a framework for energy security policy analysis in other countries.

2. Framework and method

2.1. Theoretical framework

According to the securitization theory, a policy problem becomes a security issue if an agent manages to cast it as an 'existential threat', or a 'supreme priority' which requires treatment and intervention by extraordinary means [17]. Echoing this logic, an energy policy problem is an energy security issue if it is presented and perceived as affecting the stability (and in critical situations, the survival) of a nation [20], the 'functioning' [21] and 'continuity' [22] of the economy or the realization of 'major national values and objectives' [23].

According to [17], securitization of a problem requires the presence of 'securitization agents' capable of successfully labeling it as a 'security issue' by using the rhetoric of certain structure and rules. Our analysis focuses on identifying the agents as well as the rhetoric instrumental for securitizing certain energy policy issues and energy supply chains in China. It is based on the assumption that successful securitization rhetoric should identify an energy supply chain that can be portrayed as (a) critically important, (b) highly vulnerable and (c) possible to protect. In other words, it should convincingly answer three questions¹:

- What to protect?
- From what risks?
- By what means?

With respect to energy, the first question "What to protect?" is closely linked to the concept of a *vital energy system* introduced in the Global Energy Assessment [10] and further elaborated by [26]. A vital energy system has two essential characteristics. First, it is "vital" in a sense that it supports critical functions of a modern society. Secondly, it is a "system" which means that it consists of elements (natural resources, technical infrastructure, and social institutions), which are connected to each other stronger than they are connected to elements outside the system. This means that in case of a disruption the elements within the system can be substituted by one another much easier than by the elements from outside the system.

Vital energy systems can be defined by their geographic or sectoral boundaries. Geographically, it is possible to speak of energy security of an individual nation, a sub-national region, or, for example, the global energy system as a whole. Sectorally, it makes sense to speak of security of primary energy sources, energy carriers or end-use sectors, as well as complete energy supply chains. A combination of sectoral and geographic boundaries yields a potentially large number of vital energy systems that may in principle become the focus of energy security policies and unpacks variegated geographies of "global energy dilemmas" [27]. Only certain energy supply chains become securitized: those which can be cast as under threat by powerful securitization agents, which leads us to the second question.

¹ These questions are mentioned by [24], with reference to [25]. They are subsequently used to construct an analytical framework for energy security assessment by [26].

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