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Security, independence, and sustainability: Imprecise language and the manipulation of energy policy in the United States [☆]

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HIGHLIGHTS

- ▶ This article examines the impact of imprecise terminology on US energy policymaking.
- ▶ Energy security, energy independence, and sustainability are vaguely defined terms.
- ▶ Coordinated interests manipulate debate and exploit public ignorance.
- ▶ Taxes, regulation, and innovation incentives are used to apply policy prescriptions.
- ▶ Vague terminology stifles meaningful public debate over energy policy.

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ABSTRACT

This article examines the impact of imprecise terminology on the energy policymaking process in US, focusing on the manipulation of discourse by different political–economic interests seeking to sway popular opinion. Using the 2012 US Presidential Elections as a backdrop, the analysis highlights the cooption of the concepts “security,” “independence,” and “sustainability” in energy debates by different and often opposing interest groups. The article’s first section traces the malleability of energy terminology to the vagueness of the term “energy” itself and notes how qualifying words like security, independence, and sustainability have been selectively exploited to introduce further ambiguity to an already fungible concept. The second section notes that while energy is a critical and complex factor of macroeconomic production, its main public visibility comes via a few partially representative numbers, like gasoline prices. This mismatch of broad social importance and piecemeal public understanding enables organized interests to leverage vague terminology in support of particular policy ideas. The third section examines three policymaking tools (1) taxation, (2) regulation, and (3) technology promotion and compares these administrative instruments. Ultimately, the article concludes that loosely defined terminology inhibits energy policy discussion and stifles meaningful public debate over and action on energy issues.

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1. Introduction

The sustained political prominence of energy policy in the United States has catalyzed an influx of imprecise terminology as observers seek to generalize energy’s complexities and politicians attempt to gain political leverage. Oil and gas discussions have been framed by security concerns due to the dynamic relationship between political-economic outcomes and energy. Similarly, the concept of “energy independence” has gained renewed political life on the lips

of politicians and political commentators. Longer-term thinking stresses the importance of “sustainability” in energy policy creation. However, in practice such terms are fungible. While a number of authors have sought to coherently define energy terminology (Fialka, 2006; Greene et al., 2007; Hughes, 2009; Hughes, 2012; Orecchini, 2011; Bohi and Toman, 1996; Krut et al., 2009; Alhajji, 2007; von Hippel et al., 2011; Greene and Lieby, 2006; APERC, 2007; WEC, 2007), the systematic dilution of meaning in the energy lexicon continues to inhibit productive policy debate.

Given energy’s critical economic role, untangling the convoluted vocabulary that has emerged around the subject is of genuine political-economic concern. In the early stages of the 2012 US Presidential election energy policy emerged as a key battleground between Democrats and Republicans. Republican presidential hopefuls have made statements such as: “America

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can be the world's next energy superpower, if we give ourselves the chance" (Romney, 2012) and "Contrary to popular belief, America has more energy than any nation on earth. All that's keeping us from becoming energy independent is a lack of political will to do so" (Gingrich, 2012). Such statements build on the Republican energy buzz-phrase from the 2008 election cycle imploring policymakers to encourage oil drilling: "Drill baby, drill!" (Carnevale, 2008). In response to Republican statements Democratic incumbent Barack Obama has advocated an "All of the above" strategy to achieve "energy independence" reflecting his 2008 campaign's promotion of diverse energy sources (Obama, 2012; Reuters, 2008). Most energy policy proposals appear to value popular resonance over practical substance. As US and global leaders seek to forge meaningful energy policy they must cultivate a clear understanding of the threats their constituencies face and the consequences of action or inaction otherwise their decisions may have net negative impacts.

This paper examines the terms energy security, energy independence, and energy sustainability and how they have been abused by US politicians. It argues for the use of coherent terminology in energy policy discussions. While the analysis focuses on the US and the dynamics of the American political system, many of its conclusions are applicable to other countries and regional bodies. Ultimately, this paper argues that language and communication play a vital role in policy making and should be scrutinized in the specific case of energy.

2. Difficulties in definition

Energy is ubiquitous, permeating the earth and extending across the universe in forms as diverse as a star's radiant heat and the motion of planets. The law of energy conservation states that energy is neither created nor destroyed (Patterson, 2007, p. 6). Nevertheless, energy can be directed and transported. As fuel or electricity, it is possible to leverage energy at varying levels of efficiency. Energy is a critical economic input that powers machines and allows humans to accomplish tasks beyond the limits of their own muscular strength. However, Haas et al. (2008, p. 4012) note: "what people need and purchase is not the commercial energy itself, but rather energy services provided by the energy system that converts energy sources and flows from nature into these services." The economic, political, and social value of energy corresponds to the readiness and efficiency with which joules, kilowatt-hours, or BTU can be applied to a particular task. Therefore accessibility, transportability, storage, and stability are critical to the value of an energy source as are impacts of its use like greenhouse gas (GHG) and particulate emissions. Politicians and the public ultimately concern themselves with energy because it facilitates the realization of aggregate social utility.

In the US, questions of energy security, energy independence, and sustainability often center on fossil fuel use as the country's critical energy-related vulnerability. As both primary energy sources, such as oil, and secondary sources, like gasoline, fossil fuels dominate American energy consumption (EIA, 2011). While fossil fuels and their derivatives are market allocated commodities, they are not easily substituted between one another or with alternatives in the short-term—there are few readily alternatives when one fuel's supply drops and it is difficult to swiftly bring new supplies online when demand rises. Given this short-term inelasticity, price responsiveness is key to the smooth flowing of fuel markets. The economy's flexibility against fuel shocks is determined by (1) consumer preferences and (2) the ability of technology to lower demand by improving efficiency and realize new supplies (Greene et al., 1998, p. 65). Primary and secondary

fuels and fuel markets are thus critical to analyzing the concepts of energy security, independence, and sustainability.

2.1. Energy security

Bohi and Toman (1996, p. 1) define energy security as "the loss of economic welfare that may occur as a result of a change in the price or availability of energy." While some researchers echo Bohi and Toman's definition (Bielecki, 2002, p. 237; Bryce, 2008, p. 50), others have refined the concept to facilitate measuring it (Löschel et al., 2010, p. 1666; Sovacool et al., 2011, p. 5846). Due to the breadth of energy's integration in economic activity, the scope of energy security policies is also wide. Daniel Yergin, 2006, p. 76) notes four critical principles that underlie energy security: (1) diversification, (2) resilience against market shocks, (3) recognition of the integration of the worldwide energy system, and (4) the importance of information. Moreover, Yergin adds that there is an increased need for the global nature of energy security to be recognized and for the entire energy supply chain to be protected (Yergin, 2006, p. 77). While international entities, especially the US, have sought to protect energy flows through the establishment of military bases abroad and maintaining force projection capacity, global energy security is too atomized to be labeled a "system". Market forces coordinate the economic dynamics of energy around the world; however, the confluence of myriad military and political forces prevent a systematic coordination of energy security.

Energy security is a fungible concept (Alhajji, 2007; Kruyt et al., 2009, p. 2167). For the consumer driven International Energy Agency (IEA) energy security is "uninterrupted physical availability at a price which is affordable while respecting environmental concerns" (IEA, 2012). To analyze energy systems Hughes (2012, p. 222) breaks the IEA's definition of energy security into three dimensions: (1) availability, (2) affordability, and (3) acceptability. This breakdown mirrors the analysis of a 2007 APERC report – which also included a fourth dimension "accessibility" – and highlights the "security of supply" concerns that animate discussions in energy importing countries. In contrast the oil producer cartel OPEC attempts to counter traditional supply-focused conceptions of energy security by highlighting the dynamic interaction between supply and demand security (OPEC, 2012; El-Badri, 2008). As OPEC's position suggests, energy exporting countries have increasingly advocated for a broader conceptualization of energy security—witnessed in the focus on energy security during the 2006 G8 Summit in St. Petersburg, Russia. This conception of energy security has been labeled "security of demand" (Yergin, 2006, p. 71).

In addition to a traditional emphasis on the consumer perspective, the concept of energy security has historically focused on fossil fuels and, in particular, oil (Jansen and Seebregts, 2010, p. 1654; von Hippel et al., 2011, p. 6720). The focus of energy security discussions on crude oil results from it being the most used and traded fuel due to its demand as a transport fuel alongside its geographically uneven distribution and concentration in politically volatile locations (Bielecki, 2002, p. 237). Nevertheless, energy security is about more than the smooth flow of oil and oil products to markets. The security of an energy grid must holistically account for the delivery of energy services to end users. Infrastructural robustness, diversity of energy sources, and reliability are critical components of energy security. Energy security is thus a function of a user's dependence on potentially erratic energy supplies and distribution systems.

2.2. Energy independence

In a November 7, 1973, speech following the first OPEC oil embargo, US President Richard Nixon outlined the concept of

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