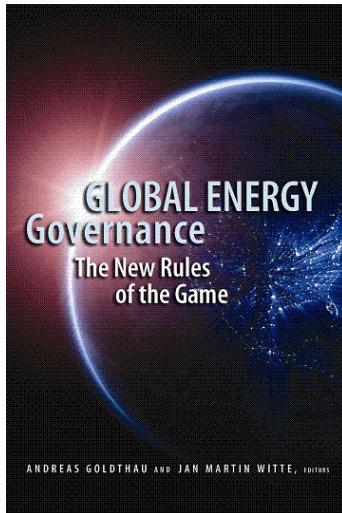


From Energy Security to Global Energy Governance

Written by Andreas Goldthau & Jan Martin Witte
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Energy security is one of the defining policy issues of our day. Dwindling low-cost hydrocarbon reserves, the rise of new and spectacularly hungry energy consumers such as China and India, and the specter of climate change highlight that a fundamental reordering of the global energy system is in the works. That reordering raises many fears and concerns. Unfortunately, so far most policy debates on energy security issues take on a rather myopic character. The predominant focus in policy debates on energy is on "security of supply," suggesting that states around the world are locked into a competition over access to crucial energy resources that provide the key to continued prosperity and state power. This zero-sum perspective on energy security is certainly not new. Ever since Great Britain led the way in opening the Middle East for oil production in the early 20th century, energy security has been understood as an exercise in geopolitical scheming and competition. This paradigm stands to this day, and defines analytical foci and policy prescriptions.

Yet, the world has changed since the "Global Struggle" for oil. Energy markets are increasingly international in nature; in the case of oil, they are truly global. In addition, they are structured by a broad variety of different actors, public as well as private. In addition to governments, private companies, i.e. international energy firms, financial institutions and others interact through market-based transactions, and thus determine outcomes in global energy. These market-based transactions of course do not occur in a political vacuum. International and national energy markets—much like any market—are embedded in institutions that define the rules of the game. Politics and power plays a big role with regard to how markets are organized. And given the important role energy plays for modern societies, both in producer and consumer nations, energy will always be politicized. Nonetheless, a focus on markets and institutions that structure them—or, coined differently, a focus on global energy governance—opens a different perspective on energy security. Most importantly, it steps beyond the myopic view of energy

security as an area fully determined by zero-sum games. Rather, energy becomes a multi-dimensional policy arena where, as Joseph Stanislaw noted some years ago, “the question to ask is not who is winning the battle [for access], but rather how the market can accommodate the divergent needs of the individual players and encourage the cooperation that has become more prevalent in recent years.”

Markets and Institutions: A Governance Perspective on Global Energy

The governance-based approach to energy security is premised on the notion that an exploration of the potential and limits of cooperative energy solutions requires an in-depth understanding of the different players and institutions that shape today’s global energy markets. In contrast to predominant geopolitical approaches in the field, a governance-based perspective tries to unbundle the energy security black box. At the heart of that approach stands the recognition that oil, gas and their renewable counterparts need to be considered first and foremost as commodities. Even though they are often highly politicized, the exploration, trading and consumption of these commodities is predominantly organized by private actors that interact with one another through market-based transactions. Put differently, it is not states drilling for, buying, or selling oil and gas, but companies—even if not all of them are fully privately owned; and it is not governments that decide on allocation of capital, technology and manpower, but primarily markets. In the case of oil, these markets are truly global; in the case of natural gas, they remain regional but still international in nature.

Markets and market-based interactions are however structured by institutions, which can exert incentives or constraints on actors. In that way, energy markets resemble any other market. The institutions structuring energy markets are certainly very political in the sense that they are created by governments—at national and international levels. In other words, a governance approach is far from neglecting the state and the role governments play in energy. On the contrary, states are crucial in determining whether energy is supplied by the market at quantities needed and at prices affordable; whether investment is secure and hence capital is allocated efficiently; and whether externalities such as greenhouse gas emissions are priced in so that transition towards a low-carbon economy can be managed smoothly. This is in fact a point where a governance perspective and that of the energy traditionalists and their geopolitics approaches actually intersect.

What kinds of institutions exist in energy markets, and what do they look like? First, there are institutions to correct for market failures. A standard example for this is the International Energy Agency’s (IEA) emergency response mechanisms to a price shock, or, more specifically, joint rules on the mandatory volumes of Strategic Petroleum Reserves (SPR) among IEA member countries, and joint rules on how to release them if necessary. In the natural gas market, mechanisms to address short-term supply risks are certainly more complicated and costly. In addition, the regionalized nature of the market primarily calls for regional remedies, not for

global ones. Still, certain mechanisms can give transnational systems more resilience in case of a shock, such as European efforts to establish gas storage and interconnectors. Both enable European consumers to buffer supply disruptions stemming from, say, gas disputes between the Ukraine and Russia; and they allow natural gas markets to become more liquid over time, to absorb Liquefied Natural Gas (LNG) increasingly imported from other world regions, and to foster gas-to-gas competition.

Next, institutions have been designed to lower transaction costs of involved market players. The global oil market, for instance, is notoriously non-transparent and characterized by a general lack of encompassing and reliable data. As a consequence, market participants act under incomplete information, which, as the 2008 price hike has neatly demonstrated, fosters speculation. The IEA's and OPEC's data-gathering exercises aim at addressing this problem. Another example would be the lately established Joint Oil Data Initiative (JODI), which has great potential in making oil markets more transparent and data more reliable. All of these mechanisms and initiatives have the same central goals: reducing information asymmetries, and lowering transaction costs.

Finally, institutions exist to set rules and standards for energy market exchanges. These include the World Trade Organization (WTO), various regional trade bodies such as NAFTA or the Energy Charter Treaty (ECT), as well as myriad bilateral trade and investment agreements that have an impact on energy. All of these—to a greater or lesser extent—stipulate rules for trade and investment in energy and services, both for the fossil fuels market and for the emerging biofuels market. Such rule-setting frameworks also include emerging systems for the regulation of greenhouse gas emissions, on a global level within the UNFCCC process, and on a regional level through carbon markets such as the EU emissions trading system (ETS). They even comprise emerging standards, such as the 2008 Santiago Principles for the investment behavior of Sovereign Wealth Funds (SWFs), which are often fed by resource revenues.

In all of these cases, oil, gas and biofuels remain commodities that are traded on markets. Yet, public action frames and complements these markets. To be sure, not all of the mechanisms and institutions work well. Nor do they form a well crafted, consistent and comprehensive institutional framework. In fact, the existing system of global energy governance rather resembles a patchwork of governance mechanisms, featuring significant overlaps but also sizeable gaps. As further discussed below, regional and bilateral trade and investment treaties, for instance, risk being partly at odds with each other; institutions designed to enhance information cover only parts of the entire range of energy market transactions; mechanisms to buffer supply shocks leave key players out; and global trade regulations treat bioethanol as an agricultural good, which makes a key emerging fuel subject to protectionist policies of the US and the EU, preventing global biofuel markets from emerging. Yet, global energy governance mechanisms exist and structure interaction among actors involved in financing, extracting,

processing, trading and exchanging energy goods on an international scale.

Adopting a governance based perspective on global energy has far-reaching analytical implications. While hard nosed security approaches treat the emergence of new Asian consumers, the stronger role of national oil companies or revived resource nationalism as a security threat to established Western consumers, a governance perspective would primarily regard these trends as a challenge to existing institutional mechanisms that allow global markets to work effectively. From this angle, the rise of China, for instance, no longer necessarily challenges the US hegemony in global energy, but rather calls for an adaptation of complex international oil markets to accommodate the new consumer heavyweights. Further, such a perspective allows moving away from pure zero-sum approaches and gives way to thinking in terms of win-win. To use the same metaphor as before: accommodating the Asian newcomers calls for a change in the rules of the game to ensure that markets keep on functioning well, rather than keeping the newcomers out all together. And finally such a governance perspective points to different units of analysis, i.e. the real players in global oil and gas, which are not necessarily states but state-owned and private oil companies and financial market actors—intermediaries, traders and regulators—just to name a few. In other words, a governance approach opens up black boxes and asks who the players are in the energy game, what interests they have, and how they try to maximize their welfare.

Policy Implications: Strengthening Markets and Institutions

A focus on governance of global energy markets also radically shifts the policy debate on energy security. Instead of focusing on geopolitics and state power, it emphasizes the role of markets and institutions, and how they can be strengthened to foster win-win games in global energy. The recent discussion on China's upstream strategy in oil illustrates the point.

China's aggressive purchasing of significant up-mid-and downstream energy assets around the world has been reason for much concern in recent years. Other consumers—especially Europeans and Americans—view China's forays into producer countries as a threat to their security of supply. Analysts wedded to the geopolitical paradigm usually suggest that the appropriate response to the Chinese challenge would be to counterbalance those efforts.

Yet, from a governance angle, bilateral deals struck by Petrochina in Africa, Central Asia or elsewhere are not the primary problem. The oil brought on-stream either ends up being sold on the global market or is shipped back home to China, thus taking pressure off global demand. The real problem is that this crude is no longer made 'visible'. Thus, the return of bilateral deals adds to a prevalent transparency problem on the market, which has come to be dominated by state companies. These companies are often opaquely governed and not obliged to report on a

quarterly basis. As a consequence, available information on actual supply (and demand) is restricted and market transparency suffers, which opens the floor for enhanced speculation and, thus, price volatility. Policies tackling this problem should therefore focus on mechanisms enhancing market information.

Further, resource nationalism tends to be regarded as an attempt of reserve holder countries to exert pressure on import-dependent nations through controlling production and export of fossil fuels. From a governance perspective, the real challenge lies in the question whether price signals are effectively translated into supply adjustments in countries strengthening the state grip on resource extraction. To put it differently, in principle it does not make a difference whether a state owned or a private corporation extracts the crude oil out of the ground, as long it becomes part of the global supply and demand chain. It however does make a difference whether the corporation in charge responds to changes in the market in a timely and effective manner. This means ramping up investments if the price increases, adjusting production down once it decreases, and mobilizing the technological skills, expertise and financial resources to explore and find new fields. Here, state-run companies, often charged with political agendas, tend to fall short, adjusting to changed international market environments with a time lag or not at sufficient scale. Policies tackling this problem would therefore focus on mechanisms that strengthen the provision of consumers and other market participants with reliable information on planned investment levels and upstream volumes in key producer countries. They would also try to communicate the consumers' long term energy choices to producers, so that they can plan investment and depletion strategies accordingly.

Finally, the rise of new Asian consumers is often portrayed as a threat to existing Western importers, reducing the latter's share of the global energy pie. From a governance perspective, however, the problem rather lies in increased risks of market failure. Since the newcomers are not integrated into the IEA's emergency response mechanisms, and have just started to build up their SPRs, the existing instruments to buffer price risks become ineffective in case of supply shock. Such a shock will not only affect Western motorists at the pump, but particularly developing countries, as their economies tend to have a comparably higher energy intensity, i.e. they use more oil to produce a single unit of GDP. Policies aimed at mitigating market-failure-related risks would, for instance, seek to integrate newly emerging consumers into the existing emergency mitigation frameworks, and align their policies of SPR releases.

Moving Forward on the Research Agenda

A governance approach to global energy does not seek to primarily replace more security informed approaches; rather, it complements them. A governance framework is analytically powerful, a fact that is underlined by the compelling results of a recently finished two-year research project on Global Energy Governance ([Goldthau and Witte 2009](#)); and it enables analysts to generate results and clear policy recommendations. Yet, despite the work carried

out, the current analytical understanding of the role of institutions in global energy remains in its infancy and requires further research. The agenda is vast, but a few issues stand out that require specific attention. First, given the basic but important insight that binding institutions are hard to establish on a global level, it seems important to further explore and understand under what conditions such institutions emerge. As the examples of the IEA, OPEC, and most recently, the International Renewable Energy Agency (IRENA) along with various carbon trading schemes seem to suggest, energy institutions were formed in response to a particular crisis. In order to go beyond policy recommendation and to foster implementation, the political-economic dynamics underlying the emergence of new rules and institutions in the energy domain need to be further understood. Useful lessons can undoubtedly be learned from the recent major oil price shock and counter-shock.

Second, reform dynamics themselves require more analysis. Institutions governing global energy are all but static and constantly need to adapt to a changing global environment. Questions in this context would concern the conditions under which energy institutions adapt, how the internal institutional logic determines reform paths, what “toolbox” prominent concepts, such as new institutional economics, provide in this context, and how potent they are in addressing and explaining institutional change in global energy. Third, and as stressed, the existing global energy governance arena is characterized by a patchwork of overlapping and sometimes competing rules and institutions. Future research will have to determine in more detail where and how the different institutional forums tie together, how they compete and what implications this has for the effectiveness and efficiency of global energy governance.

Finally, and going beyond the ‘traditional’ sphere of energy policy analysis, it seems imperative to further explore the implications of institutional reform for the global development agenda. Most energy-related goals in aid and development, such as fostering more sustainable energy use, lowering energy intensity or translating resource wealth into veritable economic growth, require an assessment of the existing rules of the global energy game. This comprises issues such as resource governance or the potential economic benefits of biofuel usage for developing countries; it also relates to energy poverty and the need to utilize the ongoing energy transition towards a low carbon future in order to empower the developing world in terms of sustainable energy supply and use. Here, a more encompassing approach is needed to fully understand the needs of developing countries when it comes to setting rules for trade, investment and regulation in global energy. This approach also asks what incentives are needed to foster knowledge- and technology-sharing, especially in order to assist developing countries in their efforts to promote low-carbon energy resources, and what global public policy agenda follows from that.

Andreas Goldthau is Associate Professor in the Department of Public Policy, at Central European University in Budapest and a Fellow at the Global Public Policy Institute. Jan Martin

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Witte is the Associate Director of the Global Public Policy Institute in Berlin.