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The New Rules
of the Game
ANDREAS GOLDTHAU AND JAN MARTIN WITTE, EDITORS

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Foreword

In his contribution to this volume, Joe Stanislaw writes about the "monumental, multigenerational global challenge" that we are confronted with in the energy domain today. He is not exaggerating. Dwindling low-cost hydrocarbon reserves, the rise of new consumers such as China and India, and of course the specter of climate change dictate a fundamental reordering of existing energy systems. That reordering will be neither easy nor cheap. Whether we will succeed in tackling the resulting challenges depends on our ingenuity and particularly on the availability of sufficient political will to make change happen.

Traditionally, discussions on energy security have focused primarily on the supply side of the energy equation. With the onset of the Industrial Revolution and the rising prominence, especially of oil, in fueling economies as well as modern warfare, access to oil has emerged as a key strategic foreign policy goal of nations around the world and thus the object of high-stakes geopolitical competition. To this day academic and policy discussions on energy security tend to remain stuck in this geopolitical paradigm.

This paradigm, however, is not useful in analyzing contemporary global energy challenges or, for that matter, the development of policy solutions. For one thing, the focus on state-to-state competition suggests that global energy politics is a zero-sum game. That however is utterly misleading. In addition, and even more

important, the geopolitical lens ignores the fact that markets and nonstate actors (in particular international energy companies, financial institutions, and others) play a key role in determining outcomes in global energy. Thus it is important to understand how energy markets, which are increasingly global in nature, are structured and how they must change in the years ahead to adapt to the new realities of the twenty-first century.

Building on a governance approach, this book offers an innovative and complementary perspective in analyzing global energy politics. It is based on the premise that the analysis of the historical and present roles of energy producers and consumers, as well as the detailed study of rules and institutional mechanisms, is crucial to give shape to a global energy governance system that not only incorporates the above-mentioned challenges but also maximizes the strengths of interconnecting institutions working to manage them. By focusing on competition and collaboration and the role of markets and rules in mediating positive-sum outcomes on international energy markets, the contributions to this book seek to provide clear-cut policy recommendations toward the reform of the nascent global energy governance architecture.

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WOLFGANG REINICKE
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1

The Role of Rules and Institutions in Global Energy: An Introduction

Andreas Goldthau and Jan Martin Witte

Current public policy debates on energy security are characterized by a sharp focus on questions regarding access to resources and associated geopolitical and geoeconomic challenges. China's new "scramble for Africa" has already become the stuff of legend; access to the gas resources of the Caspian Sea region is the subject of extensive geopolitical scheming; and the race for the presumed resource wealth of the Arctic has begun in earnest.

This focus on the geopolitics of energy is rooted in the deep fears of consumers about security of supply, leading them to put strong pressure on policymakers to come up with effective fixes. In the United States, where during 2008 gas prices that briefly reached US$4 a gallon created a jittery political climate, energy independence emerged as a top issue in the recent election campaigns and will continue to play a prominent role on the agenda of President Obama's administration. In Europe, where consumers are more accustomed to consistently high energy prices, the debate has long been less shrill. However, high imports of Russian natural gas, combined with dwindling resources at home, have created a volatile political environment and have fueled fears of an energy weapon, with Russians and Europeans trading not just gas but also, increasingly, accusations. Russia's violent forays into Georgia in 2008 and the unresolved Russian-Ukrainian energy disputes have further heightened tensions over crucial

Eurasian transit routes. The more recent slackening in oil prices, and the global financial crisis, may take energy issues off the top of the political agenda for a time but will certainly not do so for long.

Oil and gas have always been politically charged commodities, as they have been (and will continue to be for decades to come) the primary sources of global energy supply. Oil is forecast to remain the single largest element in the primary fuel mix, supplying an estimated 30 percent of global energy until at least 2030. Gas, which accounted for 21 percent of energy on the world market in 2006, will increase its share to an estimated 22 percent by 2030. The world's total primary consumption is expected to increase by 45 percent during that same period.[1] Thus for consumers reliable access to oil and gas at a reasonable cost will continue to be of prime strategic value and consequently subject to significant government intervention. For producers, oil and gas are often dominant sources of state revenues and thus key growth engines for their economies.

However, this lopsided attention to the geopolitical dimension of energy security is based on the myopic and erroneous presumption that global energy politics is necessarily a zero-sum game, in which one country's energy security is another's lack thereof. This preoccupation deflects attention from some key issues that policymakers need to consider in their attempts to establish effective global energy governance: first, the central role played by increasingly international (in the case of oil, thoroughly global) energy markets in balancing demand and supply; second, and even more important, the significance of the rules of the game—national as well as international—that structure these markets. These rules of the game—that is to say, the institutional architecture that underpins global energy—govern central aspects of financing, trading, and hedging oil and gas ventures via financial markets, investment treaties, and trade agreements. These rules also address short-term supply risks in the event of market failure or disruption.

Rather than focusing exclusively on the supply side and thus the geopolitical dimension of energy security, it is imperative for researchers and policymakers to broaden their perspective and assess whether and to what extent the existing institutional architecture of global energy needs to be reformed in response to three major trends: first, rapidly changing framework conditions, driven above all by the rise of new consumers such as China and India; second, the growing relevance of state players in oil and gas markets; and third, emerging regional and global climate mitigation regimes.

1. International Energy Agency (2008), p. 78.

This book makes a first attempt to apply such a broader perspective by identifying and analyzing the important role that rules and institutions play in determining outcomes in international oil and gas markets, by examining how current trends are affecting the existing rules of the game, and by highlighting the consequences for public policy.

Why Markets and Rules Matter in International Oil and Gas

Current public policy debates on energy are shaped primarily by geopolitical and mercantilist frameworks. Typically, international energy policy is portrayed as being fashioned by states that compete for resources and are thus locked into a competitive struggle with zero-sum outcomes. This state-centered perspective not only neglects the fact that market forces matter in international oil and gas, it also ignores the fact that during the past three decades market forces have assumed a position of prime importance in determining outcomes in global energy, driven by reforms that were in many cases demanded by producers and consumers alike.

Already in Place: A Liquid and Competitive Global Market for Oil

Since the late 1970s international oil markets have been fundamentally transformed. One important consequence of these transformations is the existence of a liquid, competitive, and truly global market for oil. Before the first oil shock in 1973 international oil markets were dominated by the internal trading schemes of the major Western oil companies that had concessions in oil-exporting countries. Alongside these arrangements, though less prominently, ran state-to-state deals between consumer and producer nations. As a result, most of the globally traded oil was bound up in long-term bilateral contracts, resulting in low liquidity in international markets. These bilateral contracts were drawn up in an era during which supply cutoffs were simply not expected and rarely materialized (the few exceptions included the closing of the Suez Canal in 1956 and the embargo on Iranian oil exports in 1967 after the nationalization of the Anglo-Iranian Oil Company by the shah).

The oil shocks of the 1970s fundamentally changed the rules of the game in international oil. Consumers found themselves facing tremendous difficulty in replacing oil supplies lost as a result of the 1973 embargo and the political turmoil in the Persian Gulf region at the end of the decade. In the immediate aftermath of the 1973 crisis (compounded by the removal of U.S. import quotas by the Nixon administration), finding alternative sources proved complicated and costly. While oil market conditions eased significantly in the late 1970s, consumers had,

for the first time in history, seen the effective application of the oil weapon by producer nations.[2] This perceived vulnerability also triggered the sense that a forum for consumers was needed for effective information sharing and emergency coordination in response to supply shocks.[3]

Thus in the aftermath of the oil shocks, consumer nations of the Organization for Economic Cooperation and Development (OECD) created emergency sharing mechanisms and combined forces in the International Energy Agency (IEA). At the same time, oil exporters' efforts to nationalize domestic production not only deprived Western Big Oil of concessions and hence access to reserves, it also broke up the vertical integration of the industry and, as a consequence, deprived the newly created national oil companies (NOCs) of refining and retail outlets in importing markets. This process had dramatic results, significantly increasing the fungibility of crude oil and thus helping to create a virtual global pool of oil that made price formation more transparent and predictable. In fact it marked the starting point of large-scale liberalization of the global oil market. This push toward liberalization was at least tolerated by some of the producer countries (most notably Saudi Arabia), which hoped to attain a higher degree of control over government budgets that were highly sensitive to fluctuating oil prices. While admittedly driven by market forces rather than government design, this process also resulted in the creation of spot oil markets in New York and London and of oil futures contracts (paper oil), thereby crafting a new oil world no longer depending on bilateral long-term contracts.[4] In turn, the liberalization of international oil generated major efficiencies, facilitated the development of new supplies, and fostered price competition.[5]

The liberalization of international oil markets proved spectacularly effective. Today the bulk of oil is traded on exchanges or at least under relatively short-term contracts whose prices are linked to prices on the commodity exchanges. In that it has become "visible." A certain amount of oil produced remains bound in long-

2. As it turned out, however, the years following the 1973 embargo saw an easing of oil market conditions, primarily as a result of the global economic downturn, which depressed demand for oil. In addition, the price hike initiated by OPEC also triggered powerful conservation and technology-switching efforts in consumer countries, which progressively reduced the energy intensity of consuming economies.

3. See also Maugeri and Lyons (2006), p. 116.

4. See, for example, Biolsi (1995).

5. Price competition is primarily a result of the fact that, in a liberalized market, new oil producers find it easier to sell through spot markets because long-term contracts are often out of reach in the absence of a significant, long-term production record.

term contracts and bilateral deals. Yet even if it is assumed that only 50 percent of all globally produced oil is subject to market mechanisms, that amounts to more than 40 million barrels a day being currently traded under open-market schemes.[6] Thus there exists a liquid, global market at volumes that exceed the markets of almost all other commodities—in terms of physically traded volumes as well as derivatives.

The existence of a global and liquid market for oil has several important consequences. First, it makes effective oil embargoes literally impossible. Therefore talk about the oil weapon, which has recently come back into fashion, simply does not make sense. Once oil is sold on the global market, no producer can control where and to whom it goes.[7] Also the extensive strategic reserves developed by most consuming nations in recent decades effectively reduce the potency of potential disruptions. Second, given the competitive forces to which the global oil market is subject, price stability through national or even international policy intervention is an unattainable goal. A case in point is OPEC's repeated failure in its attempt to steer global production and, with it, prices. That does not mean that betting on price levels may not force oil prices up or down in the short term. It does mean that the global price for oil is first and foremost a function of market forces and cannot be artificially lowered or increased by policy design in the long term. In fact, attempts to manipulate price levels or otherwise influence the global oil market will prove inefficient and, as demonstrated on occasion, even counterproductive.

In the Making: A Global Market for Gas

To date, primarily as a result of transport based on pipelines, natural gas has remained mostly a regionally traded commodity. Major markets are by and large geographically restricted to Eurasia, North America, and the Asia-Pacific region. As a consequence, markets for gas have been slower to liberalize, with the bulk of supply contracts remaining long term in nature. While major consumer markets, in particular the United States, have liberalized, much gas trading, notably in Eurasia, remains tied to long-term bilateral deals characterized by destination clauses and prices indexed to a gas substitute, most commonly oil.

6. Moreover, excluding volumes from trading does not necessarily mean they cost less; that will depend first and foremost on the contract in question.

7. It is important to note that some OPEC producers tend to sell oil under contracts entailing destination clauses that limit further resale by the buyer. Hence the most successful spot markets are located in the United States and Europe.

However, recent years have begun to see a global market for gas in the making, driven primarily by the expanding role of liquefied natural gas (LNG). Falling indigenous supplies of natural gas, combined with rising demand, falling costs, and enhanced technologies for the liquefaction of gas, are turning LNG into an increasingly attractive, indeed necessary, alternative source of energy, particularly in Europe.[8] True, the recent economic slowdown has yet again turned the European market into a buyers' market, while recent discoveries of unconventional gas have helped to slow down the need for increased LNG imports into the United States. Yet the widely expected gas glut in Europe may turn out to be rather short-lived once the economy picks up again—and particularly if the EU is to comply with its ambitious climate goals. In the liberalized U.S. market, depending on evolving cost structures, LNG may still play an important role in gas-to-gas competition.

For consumers, LNG both helps diversify sources of supply (thereby fostering energy security) and contributes to price competition in gas markets (since price arbitrage is possible across different, previously disconnected regions). On the basis of recent trends the IEA projects that by 2010 up to 20 percent of demand for gas in the OECD countries will be met by LNG. In fact it is believed that LNG will account for 80 percent of the increase in interregional trade up to 2030.[9]

Clearly, a truly global market for gas does not currently exist and will take time to develop fully. In addition, as is argued in further detail in this book, a global gas market will not have the same characteristics as the global market for oil. Cost structures in the two industries are fundamentally different; the costs of liquefaction, transport, and regasification will remain significant, despite technological advances; and in contrast to oil, gas deteriorates over time, rendering storage difficult. In consequence, even an internationalized market for gas is likely to remain dominated by long-term contracts. Yet the natural gas business is in flux and is likely to further integrate in the years to come. In this context, the rise of LNG may fuel the development of spot markets for gas (already operating, albeit on a fairly small scale) and thus provide an additional buffer for consumers, who may be confronted with unexpected supply disruptions triggered by political or other events.

No Markets without Institutions: The Rules of the Game

Thus despite all the talk about access and the often-invoked specter of supply disruptions, it is important to recognize that both oil and gas are commodities that

8. See also Yergin (2004).
9. International Energy Agency (2008), p. 119.

are already (in the case of oil) or increasingly (in the case of gas) traded on a global scale. Market forces of demand and supply, mediated by the price mechanism, are key factors in determining levels of investment in, as well as the production and consumption of, oil and gas.

But it is equally important to recognize that these markets, like any others, do not function without institutions. Following a definition developed by Douglass North almost two decades ago, institutions can be defined as the rules of the game according to which actors play.[10] Institutions are composed of formal rules (laws, regulations) and informal constraints (norms, conventions) and usually embrace some form of enforcement mechanism. The study of institutions is based on the recognition that markets would work perfectly only in the absence of transaction costs. As we do not live in such an ideal world, institutions are crucial in order to lower transaction costs and to set incentives for market participants to compete on price and quality.

A comprehensive typology of institutions in energy markets is beyond the scope of this volume, but in brief, institutions can be classified according to various principles, for example by source (public, private, or public-private), enforcement mechanism (on a continuum from legal fiat to voluntary compliance), and function (what they do or are supposed to do). For the purpose of this volume, we set out a functional categorization of institutions in global energy markets and use it as a purely heuristic device to highlight and emphasize the important role these institutions play in making energy markets tick. On the basis of such a functional categorization, institutions in international energy markets can be grouped into three types.

First, some institutions are designed to correct market failures. International oil and gas markets are no nearer perfect than any other market structure. As a prime example, and as also discussed in further detail in this volume, following the 1973–74 oil price shocks major energy-consuming nations established the IEA. In addition to acting as a source of energy market statistics, the IEA introduced distinct rules for two specific mechanisms of short-term supply (risk) management: the International Energy Program (IEP, founded in 1974, which established national emergency oil stocks among members) and the Coordinated Emergency Response Mechanism (CERM, founded in 1979). The linchpin of the framework is the reserve system of IEA member states, maintaining mandatory emergency oil reserves (strategic petroleum reserves, or SPR) equivalent to at least ninety days' worth of their respective oil imports.

10. North (1990).

The SPR enables a stock draw—the release of reserves—during a crisis, producing barrels immediately, with a simultaneous calming effect on global prices.[11]

Second, some institutions are designed to lower transaction costs (such as by sharing and disseminating information). Examples include mechanisms to foster consumer-producer dialogue, such as the International Energy Forum (IEF). As yet the IEF is a rather soft institution, with the role of promoting informal dialogue, as opposed to a forum for decisionmaking or negotiations. While producers and consumers usually disagree on price levels, both sides have a primary interest in promoting transparency. As is explained in further detail later in this volume, more transparency would reduce uncertainty in international energy markets and thus adjustment costs for both consumers and producers. The IEF enhances mutual understanding and allows the discussion of long-term issues between producers and consumers. The IEA's data-gathering and data-sharing activities are another example of lowering transaction costs. The database maintained by the IEA has emerged as a key tool with which market players can enhance their knowledge about present and (expected) future national, regional, and global consumption levels, thus fostering planning security.[12]

Third, some institutions are designed to set rules and standards for market exchange. These institutions prescribe, encourage, or constrain certain behaviors on the part of market participants. At the international level this includes rules set and surveyed by bodies such as the World Trade Organization (WTO). The primary objective of the multilateral trading system as established by the WTO is to provide mutual market access without barriers. Hence trade in energy goods is in principle covered by WTO rules.[13] In the past this has however been of little consequence, as is also further discussed in this volume.

The Energy Charter Treaty (ECT) is another rule-setting institution. The ECT, concluded in 1994, explicitly addresses the energy sector, especially natural gas, petroleum, and petroleum products, linking free-market policies with an open-access investment regime. The parties to the ECT include producing coun-

11. It is important to note that supply disruptions do not necessarily occur only as a result of market failure. As Hurricane Katrina and the First Gulf War reveal, natural disasters or political events may also disrupt supplies and require a release of strategic stocks to stabilize prices. Yet while these events can be regarded as wild cards exogenous to the market, the emphasis of our argument lies on the market structures as such and on the governance mechanism that characterizes them.

12. For a discussion, see Mitchell (2005).

13. For an overview, see Jiménez-Guerra (2001), pp. 191–218.

tries (such as Russia), consuming (European) countries, and transit countries (such as Ukraine). The ECT establishes a clearly defined set of rules for investment, transit, and trade in the energy sector, complemented by a dispute settlement mechanism. However, since some signatory states have yet to ratify the treaty, the ECT continues to be applied only provisionally by certain key actors, including the Russian Federation.[14]

In general, enforcement mechanisms vary across the rules of the game. Some institutions provide formal compliance mechanisms; others rely on voluntary commitments and peer pressure to promote implementation. However, all such mechanisms have an element designed to foster implementation and enforcement; this sometimes involves sanctions but in most cases is incentive based.

In sum, these rules of the game play important roles in determining outcomes in international oil and gas markets. Obviously, the historical evolution underlying these rules of the game to some degree reflects the realities of the cold war era—an era characterized by significant increases in the discovery of supply stocks (and by occasional supply shocks); intensifying conflicts between producer and consumer nations following decolonization and the formation of OPEC; and the geostrategic competition for influence on major supplier countries in the Middle East and in Africa as a direct consequence of the great-power conflict. Thus the structure of the rules of the game also reflects power differentials. Nonetheless, an exclusive focus on access to energy resources does not provide any guidance for analyzing current dynamics in international energy markets, nor does it provide a suitable lens through which to assess the implications of the fundamental shifts that are currently transforming these markets.

Rules under Pressure: Dwindling Low-Cost Reserves, the Rise of New Consumers, and the Lack of Investment

Despite the overall importance of markets and rules in global energy, popular debates on energy security have recently begun to move in a very different direction. In particular, intensifying concerns about security of supply have fueled great anxiety among consumer nations and have opened the field for state-centered energy policy formulas that many believed a thing of the past.

In essence, current fears of a supply crunch are fueled by three factors that are changing the dynamics of oil and gas markets: dwindling low-cost reserves, the

14. See, for example, the contributions in Wälde (1996).