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Workshop Series is a program hosted by European University in which leading energy professionals are invited to present on a specific aspect of their work. These professionals include energy think-tank experts, policy makers, representatives from major energy companies, and ranking members of international organizations. *Workshop Review* is a subsection of *ENERPO Journal* where students relay the content of these presentations and provide commentary.



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Three Facts and a Fairytale: An Honest Account of the TAPI Pipeline Project

- Michael G. Seyer

Serious discussions concerning the development of a South Asian hydrocarbon corridor began with the dissolution of the Soviet Union and the introduction of newly independent, resource-endowed states to the global energy market. Newly sovereign Turkmenistan, which, according to the U.S. Energy Information Agency, is the 6th richest state in terms of natural gas reserves, immediately became an attractive option for the supply of gas to the energy-deficient states of South Asia. Given its potential for supply, as well as its geographic proximity to demand centers, Turkmenistan was envisioned as the sourcing point for a proposed natural gas pipeline which would extend through Afghanistan, Pakistan, and terminate in India. TAPI, as this project remains called, was to be an avenue by which energy security, economic development, and inter-state cooperation might all be facilitated. Why then, two decades after the original conceptualization of this project, and in an area where hydrocarbon commodities are badly needed, has TAPI yet to be realized?

In addition to doubts that TAPI will receive sufficient investment or that the gas field that would feed it, the Daulatabad, may not be as ample as initially thought, there remain far more vital concerns as regarding the success of this project. Examining the region, it is acknowledged almost universally that the security situation in Afghanistan poses the most significant threat to all ventures concerned with the installation of vital, and vulnerable, mass-infrastructure. However, the challenges which this region faces are far more complex than the presence and operations of violent actors. These challenges may be framed as follows: economic fragility, threats to peace, and the non-consolidation of

healthy political systems. Yet, despite being an argument not found in public discussions concerning the TAPI project, the fact remains that the construction of a pipeline addresses precisely none of these challenges and, if not developed within a clear regulatory and legal framework, may even serve to further exacerbate the concerns already facing parties invested in the future of South Asia. Thus considered, allow this report to serve as a cautionary brief. The following is an enumeration of three critical realities that require recognition by any party acting or desiring to play a role within this region.



I. Economic development does not equal economic well-being.

...this supply [of gas] will not offer the economies of Pakistan or Afghanistan balanced or universal, population-wide development.

In the states under examination, Afghanistan, Pakistan, and India, there exists a severe shortage of hydrocarbon resources which, speaking especially of the first two, has significantly hindered economic growth and development. In this sense, access to natural gas is indeed critical. However, this supply, in and of itself, will not offer the economies of Pakistan or Afghanistan balanced or universal, population-wide de-



velopment. GDP, both raw and per capita, may increase, but this would, at most, be only marginally reflected in the standard of living of the majority of the populations of these states. According to the CIA World Factbook, Afghanistan and Pakistan are countries in which nearly 20% and 40% respectively of the populations are engaged in the agricultural sector and equally large percentages are involved in non-market occupations. Therefore, natural gas, which will be transported to cities and industrial centers, will not necessarily grant these percentages of respective populations many concrete opportunities to improve their condition. Furthermore, at least to date, there exist no frameworks by which state governments would share resources for the purpose of universal, micro-development, and other investments into human well-being. In countries such as Afghanistan and Pakistan, this uneven distribution of wealth, especially to the peripheries, has engendered nationalist movements, ethnic and regionally based opposition, and has left certain groups of the population with little choice but to depend upon non-state actors and sub-market means in order to provide for themselves. This has proven to be particularly dangerous. Looking at the above map, the proposed path of the TAPI pipeline will run through Afghanistan's Kandahar Province and Pakistan's Balochistan Province and will require the appropriation of land from populations which are the poorest within their respective states and, connected with their poverty, these are the populations (the Pashtuns and the Balochs) which have had significant grievances with the government. Further, these grievances, which are responses to civil and economic human rights abuses, have often expressed themselves violently.

2. Security is not a synonym for peace.

...when one group perceives that conditions on the other side are better – there will be conflict.

When illustrative definitions of the term “security” are offered, resulting conceptualizations typically involve either a fort or a fence. Afghanistan and Pakistan, whose security is threatened by the activities of armed actors, therefore employ either one or both of these two models of security - the guns, or the fences. Fences, literally and metaphorically speaking, are effective mechanisms for creating two *distinct* groups, placed at odds with each other and competing for resources that have been left with one faction or the other. One side of the fence, presumably on the side of the group that constructed the fence, will have more abundant, or more valuable resources. When the well-being of the group on either side of the barrier, whether this barrier is physical, socially constructed, or legal, is threatened, and when one group perceives that conditions on the other side are better – there will be conflict.

And so, how does one defend this fence? These boundaries between competing groups are defended with force. It is an oft repeated pattern throughout history and the practice of hard-power, allegedly “rational” foreign policy: the more hard-power, the more guns – the more secure one becomes. This perception of security has always been of acute concern. It is fundamentally flawed since, more often than not, both groups separated by this fence have access to instruments of hard power, i.e. each group has the capability to engage in violent action. This does not lend itself to an atmosphere of security.

In respect to the cases currently under examination, exploited, marginalized, oppositional groups vis-à-vis the center exist in all countries along the route of the TAPI pipeline. It would be dangerous to ignore the fact that the route of the pipeline passes precisely through two major zones of conflict: Kandahar and Balochistan Provinces; both are territories in which populations live at odds with their respective central governments and in which violence has broken out repeatedly for decades. As long as both groups of



actors, on either side of the fence, perceive that violence is the only effective way through which to achieve their aims, violence will, of course, continue.

This is precisely the case currently observed. The security forces of Afghanistan and Pakistan are both numerous, expanding and well-equipped. Judging by the reports of news media sources focusing on the region, violence does not seem to be abating. According to the 2013 UN report on the situation in Afghanistan, there was a significant rise in civilian casualties in the first three months of the year compared to 2012. With coalition forces withdrawing and reevaluating their tactical role in 2014, it is questioned whether or not the population of Afghanistan can be protected. Yet, regardless of how well security forces are able to secure the state and population from violent actors, which is highly hypothetical, this in no way can be considered peace because even a forum for dialogue between the parties is lacking in substance.

Despite the fact that violence continues and populations are still at risk, the model of militarization and weaponization of the state is still being used as the primary approach among these nations. Pakistan's experience should prove illustrative of the failure of even a highly militarized, "secure," state to constructively address and stem violence. Taliban forces operate on both sides of the Afghanistan/Pakistan border. Balochistan remains a region whose fundamental grievances have not been addressed, and, in the months leading up to the Pakistani Parliamentary elections on 11 May, 2013, over 110 were killed, providing clear evidence that the situation current to Pakistani affairs cannot at all be defined as peaceful. This report holds that "stable" is a misleading term and a dangerous goal to target in respect to foreign and domestic political and defense policy. A lid, pressed tightly onto a pot of water can remain stable and seemingly undisturbed for quite a long time. However, eventually, and unpredictably, the pressure will be too much to

contain. Thus, the notion that stability is the first building block necessary before building a government is a highly problematic policy short-coming.

3. Elections alone do not amount to a healthy political system.

Pakistan experienced the lowest level of political violence during the 1990s, a period in which there were multiple factions, including a party from Balochistan, represented in Parliament.

Following the Parliamentary elections in Pakistan, much of the commentary concerning the event can be categorized as belonging to three repeating lines of discourse; the resilience of the citizenry who voted despite the threat of violence, the triumphant return to political office of a man, Nawaz Sharif, who was formerly exiled, and the successful transition from one civilian government to another. While not discrediting the Pakistani people and the presumed legitimacy of election results (though fraud charges have already been leveled at Sharif), there remains a serious concern in respect to the lack of a true coalition, and thus the lack of a genuine dialogue between parties. There are regional actors whose concerns have yet to be addressed. As noted in a report by the Carnegie Foundation, Pakistan experienced the lowest level of political violence during the 1990s, a period in which there were multiple factions, including a party from Balochistan, represented in Parliament. Given the fact that enough of the vote was won by Sharif to give his party an outright majority in Parliament, it is feared that, since the conditions required of a political, multi-party dialogue are absent, violence may once again result. And, as an actor at the head of a party which is regionally affiliated



(Punjab) has recently come back into power, champion-scale national projects such as a gas pipeline will provide a clear opportunity for the central government to assume resource rents and install into this project those loyal to the center, further strengthening the cliental structures upon which Sharif already depends. Rent from resources, and those industries which rely on the availability of natural gas, would be easily captured. In a state regionally and politically divided, and with a government dependent upon network support structures, TAPI only provides the financial means and opportunities to expand this structure and to continue to fuel Pakistan's security forces, further exacerbating issues relating to the representation and well-being of marginalized populations on the periphery.

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Furthermore, in the case of Afghanistan, the dangers of providing the Karzai government with a readily available and easily controllable flow of rent from gas transit revenue are even more pronounced. Karzai, though ineligible for re-election in 2014, assumes the position that his is a government under siege. Therefore, the way by which Karzai, already a figure whose election history is colored with accusations of widespread corruption, can guarantee the electoral victory of his successor would be to orient any rent possible to his, or his party's, preferred candidate.

...as long as the international community, including the Afghan government itself, makes "stability" an end goal and priority, the situation will not improve.

However, this corruption is not exclusively internal. Foreign actors too, especially NATO members and those states bordering or otherwise affected by the security situation in Afghanistan, have every motivation, at least in a very short-sighted outlook, to encourage and facilitate the creation of a government by whatever means necessary, so long as the country is kept "stable." At the end of April, this year, numerous global media sources reported heavily on the comments of Karzai and some US officials that the biggest contributor to corruption in Afghanistan is the United States itself. Once again, as long as the international community, including the Afghan government itself, makes "stability" an end goal and priority, the situation will not improve. Violence will inevitably continue if the underlying issues catalyzing instability are not addressed. The more money that is spent to consolidate the central government's authority, craft temporary alliances, or to attempt to enhance the capabilities of Afghan security forces, the less capital will be available for investment into the universal, human development of the citizenry. Essentially, in all the above cases, the rent and economic assistance offered by the existence of a pipeline and increased gasification of the South Asian economies can only serve as an effective aid to genuine development if the priorities and policies regarding security, economy, political opposition, and regionalist movements, are fundamentally reevaluated.

...the idea that TAPI will provide economic improvement that will



assist the state in combating security threats and in turn lead to a maturation of democratic structures within the region is little more than a fairytale.

Acknowledging the existence of these challenges, and the necessity to address them before any pipeline is constructed, commits policy makers to an admission of the fact that hydrocarbon resources cannot, without responsible management, aid in improving the economic or political conditions of a state. Furthermore, without consolidated, healthy political and economic systems, enfranchising of the entire population, a sustained peaceful environment will prove nearly impossible. Therefore, the idea that TAPI will provide economic improvement that will assist the state in combating security threats and in turn lead to a maturation of democratic structures within the region is little more than a fairytale. Such is the misconstrued understanding of what might be achieved through the construction of a pipeline. This is an unrealistic dream and, although gas supply agreements were signed a year ago and all parties to date confirm their commitment and financial investments into the project, it is feared that TAPI is an under-analyzed, premature project based upon overestimated, possibly figment, causal relationships between energy supply and genuine economic development and the possibility to establish a healthy state. With traditional notions of security being prioritized in Afghanistan and Pakistan (and even, to a certain extent, in Turkmenistan and India as well), there exist the potential incentives for central governments to utilize resource rents to further consolidate the power of the center, militarize their regimes, engage in clientalism, deliberately imbalance development to favor loyal constituencies and suppress, rather than engage, political opposition. Thus, without a legally bound regulatory framework which will ensure appropriate management of the project as well as the effective and beneficial employment of resource

rent, it cannot be projected with confidence that TAPI will address the needs of the citizenry of South Asian states. And so, ultimately, there are potential long term solutions, founded upon a constructive political discourse involving all actors and the universal investment in human well-being, that are more in the interest of all parties than the current illusion of stability and economic growth, punctuated by a simmering violence and struggle which will eventually return to a boil. As this chapter of the narrative draws to a close, it is another's task to decide what will happen next.

“Turning on the gas while there is a fire in the kitchen...” ♦

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LNG: Why Can't America Make the Export Decision?

- Lauren Bardin

Most have heard there is an energy revolution going on in the United States known as the 'shale gas revolution,' but what does that really mean? What is shale gas? Should the US export it? What are the arguments for and against and who is making them? The answers to those questions are important less because of where the shale gas originated but more because of its final destination. American gas producers would like to export this new surplus in the form of liquefied natural gas (LNG) to other areas of the global market.

hydraulic fracturing technology have lowered costs, contributing to the successful US drilling boom. The Energy Information Administration projects that US natural gas production will see a 44% increase from 23 trillion cubic feet in 2011 to 33.1 trillion cubic feet in 2040 and almost all of this increase will be due to the increase in shale production, which will grow from 7.8 tcf in 2011 to 16.7 tcf in 2040 and make up 50% of production. The United States is leading the shale gas revolution because of these technological achievements and its liberalized gas market, augmenting the country's role in the future global gas market.

Companies have applied for a total of 16 LNG export facility projects...

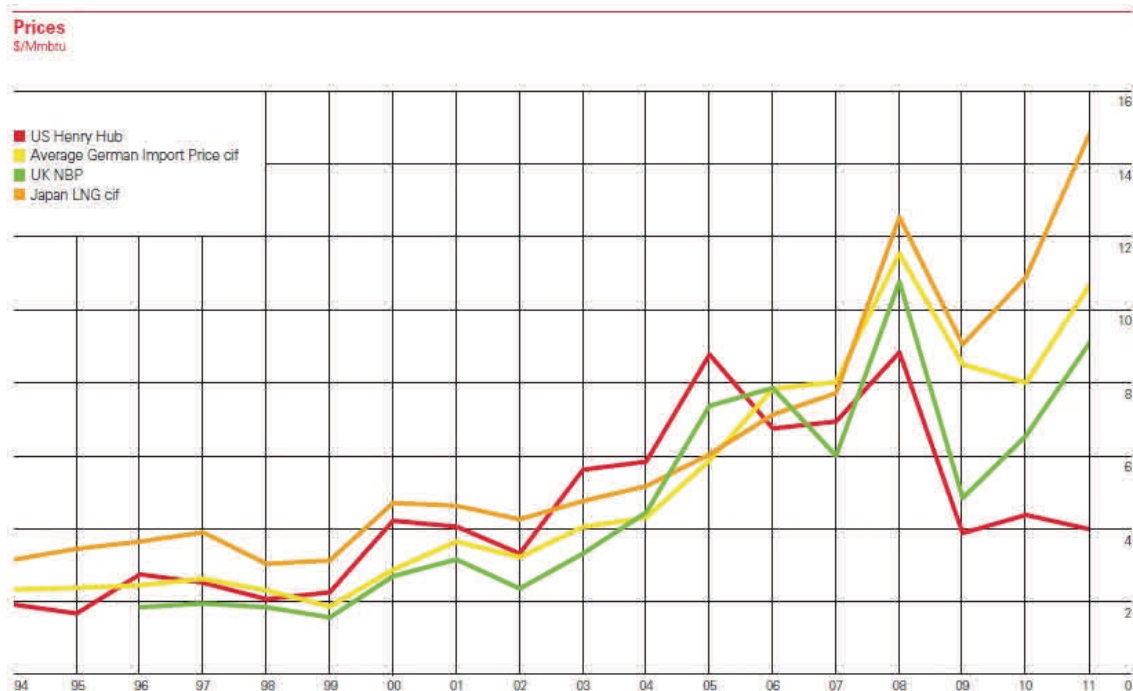


Figure 1—Source: BP Statistical Review 2012

The bedrock of the American shale gas revolution can be found in the roughly 20 shale formations discovered below the level of where conventional oil and gas are located. Until about seven years ago, it was uneconomical to drill and produce this gas. Recent innovations in horizontal drilling and

This is why the federal government is so involved. When gas production soars, prices drop and a surplus of supply is created. Gas producing companies would like to export it in the form of LNG (gas liquefied to minus 162°C and shipped overseas via tankers) and take advantage of their low production costs



and the high importing prices of other continents. The US Henry Hub price is approximately \$4 per million British thermal units compared to about \$11/Mbtu in Europe and \$15/Mbtu in Asia, as displayed in Figure 1. However, US trade policy does not currently allow gas companies to export natural gas to non-FTA countries. In response, companies have applied for a total of 16 LNG export facility projects, to be reviewed and decided on by the Department of Energy and the Federal Energy Regulatory Commission. Government involvement is either seen as too much or too little in the case of LNG export. American business sectors and individuals have reached opposing conclusions on the issue.

Aversion to export is led by energy intensive manufacturers such as the chemical industry, best represented by a conglomerate of businesses and organizations called America's Energy Advantage. With lower gas prices, manufacturers have been able to produce at much lower costs, giving them a competitive advantage in the global sphere and they argue that export will reverse this. Domestic prices will rise, increasing their costs and as a result, will throw away American manufacturing competitiveness. Dow Chemical Company CEO Andrew Liveris said shale is "a unique opportunity to export advanced products, not just 'BTUs'." Additionally, America's Energy Advantage is afraid of the potential decrease in manufacturing competitiveness; they say a significant number of US jobs, mostly in the steel and cement industries, could be at risk. Also opposed are environmentalists, who realize that increased export would mean increased drilling of shale gas. Environmentalists are extremely wary of horizontal drilling and fracking because of the possible dangers they can cause, such as contaminated drinking water, earthquakes, and an overall agitation to the natural environment.

Those who support LNG export are, of course, led by natural gas companies that are faced with oversupply in the domestic market and need more cus-

tomers to pay higher prices. They see overseas customers such as the Japanese as not only a solution to their bottleneck problems but also an aid to America's overall economic woes. Export of LNG would necessitate large investments in infrastructure, spurring private spending and leading to thousands of jobs, both short term for construction and long term for production and export. The Hamilton Project predicts that at six bcf of daily export, the US could see the creation of 25,000 jobs in natural gas and 40,000 jobs along the supply chain in areas like steel, ship building, and rig manufacturing. The same level of export could also lead to export revenues of about \$20 billion, depending on the price of gas. This \$20 billion is equal to about 5% of the 2010 and 2011 trade deficits.

Both contingents also claim that their path is the most patriotic and would lead to better American energy security. Indeed, both exporting and not exporting can be seen as benefiting American energy security. Exporting LNG would allow US gas producers to sell at a price about three times as much as they receive in the states and would lead to more American jobs and an additional \$4.4 billion to \$47 billion per year to GDP by 2020. Conserving the gas and not allowing export would keep domestic prices low for citizens and large consumers like chemical companies, thereby bolstering manufacturing within the US and giving American companies a competitive advantage. For the most part, these arguments are not being made by businesses for the sake of defining and defending American energy security; they are being made based on dollars and whose pocket those dollars fall into.

The most prevailing conclusion supports a middle ground scenario that would see an increase in gas production, a positive over-



all GDP impact, an increase in employment, and a slight increase in price.

Unfortunately, these opposing sides cannot reach an agreement and the debate continues to be distorted by the media. Issues are portrayed in a political matter, appealing to either the left or to the right and drawing a clear line down the middle, making compromise look like failure or treachery. What many members of the audience are not told is that for US LNG export, there is a feasible compromise. Numerous analyses and reports, both by federal and private institutions, provide economic justification for a happy medium. The reports vary in realm and results because they are projections based off of hypothetical gas prices and export volumes. The most prevailing conclusion supports a middle ground scenario that would see an increase in gas production, a positive overall GDP impact, an increase in employment, and a slight increase in price. When markets are opened and demand grows, an increase in commodity price is obvious, but each study has found that the fluctuation in price could be restrained by volume and rapidity of export. In January 2012, the EIA conducted a study called the *Effect of Increased Natural Gas Exports on Domestic Energy Markets* requested by the Office of Fossil Energy. In this study, four scenarios were considered with export volumes ranging from 6 bcf/d phased at a rate of 1 bcf per year (low/slow scenario) to 12 bcf/d phased at a rate of 3 bcf per year (high/rapid scenario). Projected Henry Hub prices varied from \$5.81/MMBtu to \$7.03/MMBtu from 2015 to 2035, depending on which scenario was used, so if the government were to allow export of the highest volumes at the most rapid pace, the largest increase could be \$3.00 by 2035. The Brookings Energy Security Initiative concluded that LNG exports would impact prices at a range from 2% to 11% compared to a baseline scenario of zero exports. Energy analyst Michael Levi from the

Council on Foreign Relations wrote a discussion paper titled *A Strategy for Natural Gas Exports* where he determined that there could be a \$0.2 rise in electricity costs if an upper scenario is used. Yet another analysis, conducted by NERA Economic Consulting, claimed that all scenarios saw a subtle increase in price, but higher net economic benefits were found in unlimited export scenarios.

Numerous other studies have been done by federal agencies, environmental organizations, and private consulting groups and they recognize that a compromise is wise for US LNG export to provide maximum benefits for all. Levi suggests that government does not necessarily encourage exports but simply allows them to occur. The Brookings Institute has a similar view in which, "U.S. policy makers should refrain from introducing legislation or regulations that would either promote or limit additional exports of LNG from the United States".

The effects of the increase in American natural gas production are enormous whether the government decides to allow export of LNG or not. America can keep the gas domestic and manufacturers can enjoy low hub prices or it can export LNG and take advantage of a thirsty global market willing to pay higher prices. The final destination of this shale gas is the most imperative decision in American energy today but it should be made clear that the government does have the ability to mitigate some effects by reaching a compromise based more on economics and expert advice and less on political intuitions and platforms. ♦

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Challenges in the Russian Power Sector

- Jonathan Vasdekas

Electricity is a fundamental need for any working, modern economy. Without access to electricity, businesses and citizens cannot function efficiently and effectively. Blackouts in major cities can cripple a region. Nowhere is this more profound than in Russia; the 2005 Moscow blackouts brought the city to a crawl. One approach to prevent such events from happening is to make the appropriate investments in the electricity generation sector. The capital investment in this multifaceted sector is monolithic; estimates for the amount of investment required to modernize the Russian electricity sector is approximately \$500 billion dollars.

In order to produce and distribute electricity, there must be a great deal of complex infrastructure and regulations in place. Due to the complexity of the infrastructure and the size of the investments that must be made, there must be regulations that can protect companies' investments. Without this regulatory protection there is no incentive to invest in such a risky and costly sector.

Keeping reduced electricity and gas prices is vital for keeping political unrest low.

Today in Russia, electricity is cross subsidized with the domestic tariff lower than the industrial one. The opposite is the case in many Western economies. For the market to become more profitable and attractive to the kind of foreign investment required for modernization of the Russian electricity sector, the consumer must simply pay more, but raising the prices for the private consumer is a huge challenge for Russian authorities. State-run compa-

nies such as Gazprom, Rushydro, and Rosatom dominate electricity generation in Russia. The price of electricity and energy is a political issue in all countries, and Russia is certainly not an exception. Politicization of energy stymies the political will to effectively change the regulation of energy in the Russian Federation.

Keeping reduced electricity and gas prices is vital for keeping political unrest low. However, maintaining low utility prices is not sustainable for the long-run and Russia will need to employ specific and effective changes in the regulations in the energy sector in order to attract the necessary investment. Otherwise, it will face blackouts if capacity for the peak demand of electricity cannot be produced, distributed, or both.

The amount of energy and money lost from using inefficient technology and pricing systems is immense.

The Russian Federation is one of the most energy intensive countries, using much more energy than required due to inefficiencies in the production and transmission systems from using obsolete technologies. The amount of energy and money lost from using inefficient technology and pricing systems is immense. Investing in the power sector can have huge benefits for the gas sector in Russia, as the more gas saved from being consumed domestically, the more can be exported to Europe for profit.

It is not only domestic challenges that Russia faces, however, when it comes to power generation. Energy is a global commodity and Russia, a major actor in the global energy arena, is affected by different actors such as Germany, the United States, and Japan. For instance, the events in Fukushima prompted Germany to pursue legislation to shift away from the nuclear generation of electricity towards a more carbon



based and other green modes of production. De-commissioning nuclear power plants is a costly endeavor and commissioning new carbon-capture coal power plants and gas power plants is even more costly. This, coupled with the shale gas revolution in the United States, which has pushed cheap coal out of the US and into Europe, has made Germany once again a large coal consumer. European companies will be more inclined to invest at home because of the higher electricity prices that will allow for the investment to be recuperated by the power generation company. This is money that before Fukushima could have been targeted for the Russian power generation sector.

People in Russia can get away without paying their own electricity bill but are still provided with electricity due to the absence of a mechanism that can turn off electricity in one apartment unit instead of the entire building.

The regulations to protect domestic and foreign investment in Russia must mirror the complexity of the energy industry. The creation of the legislation and regulations must be synthesized through a dialectic approach. Energy legislation must take into account the production and transportation of energy. Changes in one aspect of energy, whether it is in the transportation or production of energy, can have drastic effects in the market. Therefore, the regulations must be thorough and specific. Failure to attract the necessary investment for the modernization of the electricity sector can create serious problems for the Russian economy and security in the future. Until there is the political will to implement the proper regulations, the electricity production will continue to be inefficient

and cost the Russian government and society billions of dollars.

European companies can provide Russia with the necessary capital and technology to modernize the electricity sector in Russia and provide solutions to some of the unique challenges that are faced. One major problem in Russia is paying for electricity. In the Caucasus region of Russia, electricity is produced and distributed at a loss. People in Russia can get away without paying their own electricity bills but are still provided with electricity due to the absence of a mechanism that can turn off electricity in one apartment unit instead of the entire building. This drives potential investors away from Russia because they simply do not want to invest billions to operate on a deficit and lose their investments.

A proposed solution to this problem is the installation of pay-as-you go meters in homes. This would operate similar to pay-as-you-go cellular phones. If you do not have credit on the SIM card, you cannot use the mobile device; if you do not pay your electricity bill, you are not provided with electricity. This is a simple solution that modernizes the electricity sector and can attract companies to invest in places that were previously deemed unprofitable.

Other problems are more complex, and their solutions will require a great deal of time and money to be successfully implemented. However, if they are not implemented, the consequences due to future blackouts such as the one Moscow experienced in 2005 could be even more expensive. ♦

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Workshop Review: Arild Moe—Russia's Policies Concerning Energy Re- sources in the Arctic

- Brandon Hightower and Joe Ralbovsky

Russia has tremendous energy resources—an important point of leverage in both economic and political terms. Despite the power this brings, Russia is rapidly depleting its old reserves and its new onshore deposits present challenges for the following reasons: they are small, difficult to access in geological terms, and located in remote areas. Because of these factors, offshore deposits have become more significant in terms of Russia's thinking regarding its long-term energy-exporting strategy, especially in the past decade.

In particular, based on geological assessments, it would appear that the Russian continental shelf has significant energy resources in the Arctic. In the context of petroleum production, it is important to note the use of 'resources' and not 'reserves' – the latter is used to denote a find that has been confirmed by drilling. This distinction is important because claims of unproven resources can misrepresent *actual* energy reserves. With this in mind, one should be cautious when hearing reports about unconfirmed energy resources.

Compared to other oil producing nations, Russia lags far behind in developing its Arctic resources, which is particularly worrisome given that it requires 10-15 years to make a reserve fully operational. From a political perspective, a goal sufficiently far in the future can be beneficial for a number of reasons. In particular, a politician might no longer be in office and political accountability is not a consideration, and this might help to politicize the publication of potential 'reserves' in optimistic terms.

...ambitious plans to develop massive unproven resources in the Arctic might be constrained by actual industrial capacity.

Russia has proclaimed ambitious goals for the development of the Arctic, including the use of Russian shipyards and Russian industrial capacity. This is an understandable goal, but the limited number of potential producers lacks the experience necessary to produce Arctic-related oil platforms on a widespread scale. Therefore, ambitious plans to develop massive unproven resources in the Arctic might be constrained by actual industrial capacity. Russian yards have not been able to complete platforms on a timely schedule and sometimes do not even manufacture the entire drilling platform. This complicates Russian efforts to explore the Arctic.

Exploration of petroleum resources in the Arctic began in the early 1980s, and has been fairly limited overall. Exploration of the Barents Sea has been more widespread, and substantial expectations of Soviet/Russian reserves followed. Early discoveries in the Barents Sea were not only large for the Soviet Union/Russia, but Norway also made some significant discoveries in this area, albeit to a lesser extent. Initial findings fuelled expectations that Russia would accelerate development of energy reserves, but other issues took precedent in the late 80s and early 90s. In particular, funding for such projects was difficult to secure.

In order to overcome this deficiency, there was talk of issuing competitive licenses for exploration and production since then, but such programs have never materialized to a meaningful extent. However, a big development took place in 2008 when a legislative change was made, giving two companies – Gaz-



prom and Rosneft –monopolies on offshore activities. Since then, it has been impossible for other Russian companies to launch new offshore exploration campaigns on their own initiative. From a Western perspective, such behavior can be viewed as “dysfunctional” for the energy sector since it discouraged competition and resulted in inefficiency. In reality, this behavior must be understood in the broader context of national interests and political considerations.

The companies included offshore exploration in their long-term strategies, whereas the government seems to have preferred offshore activities being prioritized in the short-term.

Gazprom and Rosneft are very large companies whose production is primarily onshore. Therefore, the prospect of offshore production was not prioritized given the potential risks and associated expenses. The companies included offshore exploration in their long-term strategies, whereas the government seems to have preferred offshore activities being prioritized in the short-term. Given the lack of development and exploration by 2009, certain authorities, including the Ministry of Natural Resources, started to express concern about the lack of progress.

This caused the government to establish a list of Russian policy priorities which are the following: increase exploration and output, and to secure state control of energy-related industries. These priorities are not necessarily compatible and might even work against one another. The current lack of offshore production in Russia’s Arctic can be taken as evidence of this. Regardless, of the approximately 15 discoveries of potential reserves in the

Arctic, it is not likely that all of them are commercially recoverable and this presents challenges.

In addition to natural impediments to the development of resources, there are other factors which limit Russia’s development in the region. For example, the Prirazlomnaya field in the Pechora Sea was discovered in 1989 and construction of an ice-resistant platform began in the northern ship-building yard at Severodvinsk in 1995. Given lack of experience with building oil platforms, construction took approximately 16 years and production was delayed. The platform was finally put into place in August of 2011, but production has not yet begun. Recent developments indicate that Gazprom Neft is interested in buying the platform and production rights from Gazprom with the hope of beginning production in the second quarter of 2013 – thereby commencing Russia’s production of its offshore resources.

One gas field in the Arctic, the Shtokman field, has attracted the most attention. Having been discovered in 1988, it remains one of the largest gas fields in the world. Unlike Prirazlomnaya, Shtokman is located quite far from shore and that delayed serious discussion about developing the field until 2003. At that time, two circumstances created a desire to develop the field: 1) offshore drilling technology had improved to the point where it was thought to be technically feasible to develop a field so far from shore, and 2) gas prices began to rise. These events, coupled with projections about increases in U.S. imports, generated a lot of interest in developing the Shtokman field.

In the few years following 2003, steps were taken to proceed with developing the Shtokman field and international oil companies were invited to discussions with Gazprom. In the process of establishing a consortium, it seemed that Gazprom changed its mind in 2006, initially giving the appearance that previous efforts were going to fail. However, in 2007, Gazprom established a special-purpose company, Shtok-

man Development AG, in which it owned a 51% stake. The remaining 49% of shares were sold to Total (25%) and Statoil (24%). As it was structured, Shtokman Development AG would primarily act in a technical sense and be responsible for developing the field, while Gazprom would actually be selling the gas.

increased U.S. production generated a lot of resistance to proceeding with the project. Ultimately, the decision was made in 2012 to put the project on hold, and it is reasonable to assume that its status will not change for a few years.



This arrangement seemed to be a win-win situation, and the foreign partners hoped that Gazprom would be able to secure state support for reduced taxes as an incentive to proceed with production. This support did not fully materialize, but there was another development which proved to be a more significant barrier for the project: the gas market changed. Between 2008 and 2010, the so-called “shale gas revolution” in the U.S. caused dramatic changes and, given its domestic production of gas, effectively caused the largest LNG market to disappear.

These changes caused Gazprom and its partners to consider all of their options before proceeding with a capital-intensive project like Shtokman. One of the initial alternatives for delivering gas to customers was building pipelines through the Baltic Sea to supply the European market, and exporting the remaining 50% of the gas as LNG to the European market. These options were feasible in practical terms, but the price drop which accompanied

As Russia was discussing its plans for developing its Shtokman field in the Arctic, an ongoing disagreement with Norway about how to divide the Barents Sea along the coasts of both countries remained unresolved. Although the Shtokman field was not within the contended area, it was expected to be the first major production project in the Arctic and that others would eventually follow, including some within the disputed area.

The area emerged because, in the 1970s, the law of the sea developed in a way that gave coastal states a right to adopt a nautical part of the continental shelf.

During this time, 200 nautical miles was established as the standard method for determining an exclusive economic zone (EEZ) and how to divide bodies of water along the coasts of two countries. At this point, fishing territories were the primary concern of policymakers and the thought of discovering hydrocarbons in the Arctic was not yet a salient issue. Unfortunately, the establishment of EEZs did not



create a clear way to divide bodies of water between two countries, so Norway and Russia supported two separate ideas about how to divide the Barents Sea. Norway supported a boundary that was further East (closer to Russia), while Russia supported a boundary that was further West (closer to Norway). This caused both sides to feel that the other was claiming too much territory for itself and a dispute ensued. In the 1980s, both sides agreed to terminate their energy exploration activities in the disputed area and the issue remained unresolved for decades.

After years of failing to reach a compromise, it came as a surprise to many outside observers that an agreement was reached in 2010. The decision, known as the “Delimitation Agreement,” was made to divide the disputed area into equal parts – with Russia and Norway both conceding part of what they had claimed previously. In Norway, this generated interest in determining what was behind Russia’s decision to compromise on its previous claims. It was recognized that Norway and Russia have enjoyed a positive relationship for several years and they have longstanding cooperation on the management of fish stocks in the Arctic, and this was thought to have played a significant role in facilitating the settlement.

Despite potential reasons for this optimistic view, many Norwegians believed that Russia’s willingness to reach an agreement must have had something to do with energy, and Russia wanted to pursue development of its energy resources in the disputed area. From this point of view, the dispute had to be settled and Russia felt that circumstances were appropriate to do so in order to move forward. There are still other Norwegians who believe that the aforementioned motivations for Russia to settle the dispute are inadequate. Because of the monopoly situation on offshore exploration, there was little evidence that either of the state-owned companies (Gazprom or Rosneft) was pushing for a settlement in order to begin exploration in the

disputed area. Additionally, it would appear that the decision came from the presidential administration and did not result from the consideration of outside viewpoints.

Given the conflicting Norwegian perspectives about Russia’s motivations to settle the dispute, what was really behind the decision to compromise? According to Dr. Arild Moe, Deputy Director of the Fridtjof Nansen Institute, “...the main driver had to do with foreign policy considerations.” His assertion is based on the fact that the territory regime in the Arctic is based upon the United Nations (UN) Convention on the Law of the Sea. This Convention allows claims for extended EEZs to be made for up to 350 nautical miles from shore if a coastal state can prove some sort of geological connection between the seafloor and the mainland.

The Continental Shelf Commission (CSC) is the body within the UN which is responsible for handling such claims. As a technical body, the CSC receives documentation from coastal states and evaluates claims for extended EEZs, eventually determining if they have merit or not. This is relevant because Russia wants to claim a large portion of the Arctic based upon a geological connection. In the delimitation agreement with Norway, Russia cited the fact that the dispute with Norway needed to be resolved so as not to hinder its case before the CSC. Thus, Dr. Moe believes that Russia’s reorientation is because it realizes that the Convention on the Law of the Sea “...is of extreme value for Russia.” Therefore, Russia has an interest in utilizing the Convention in order to maximize its gains in the Arctic.

It should be pointed out that, in the case of the Arctic, an alternative to the Convention on the Law of the Sea had been promoted for a number of years. Support for such a “special regime” was voiced by the European Parliament and by China. Both expressed interest in changing the existing regime as well. Not surprisingly, the states with an existing



claim in the Arctic supported the notion that no changes be made to the existing regime. The aforementioned Delimitation Agreement between Norway and Russia shows that existing international law allows the most complicated disputes to be solved. The existing regime works well for Russia and its broader foreign policy considerations, so the agreement undermined arguments supporting the need for a revised regime in the Arctic.

This was a clear demonstration of Norway's desire to begin development in the region, and it inspired Russia to issue exploration and development licenses to Rosneft for most of its share of the disputed area.

At this point, it is important to distinguish between the *drivers behind* the agreement and the *implications of* the agreement. With a clear-cut boundary, Russia and Norway could decide how to approach their respective parts of the Barents Sea. In the event that a reserve was discovered which crossed the boundary, it was decided that a case-by-case agreement would be reached about how to develop that particular reserve. This means that both sides would have to agree about how to develop shared reserves – effectively giving both a veto concerning future developments.

Having reached an agreement concerning the settlement of disputes in the Arctic, economic feasibility and technical considerations remained formidable obstacles to the development of reserves in the Arctic. Despite this, Norway commenced exploration of the Arctic minutes after signing the agreement. This was a clear demonstration of Norway's desire to begin development in the region, and it inspired Russia to issue exploration and develop-

ment licenses to Rosneft for most of its share of the disputed area.

Despite its inexperience developing offshore reserves, such a decision was made in accordance with Rosneft's monopoly status. Realizing its lack of experience, Rosneft signed several agreements with foreign companies in April of 2012: one with Exxon-Mobil in the Kara Sea, one with ENI for the southern part of the formerly disputed area, and one with Statoil for the northern part of the formerly disputed area. Given these developments, the period of uncertainty and inactivity in the Arctic became a thing of the past.

However, the joint ventures require that the foreign companies bear the high initial costs of exploration. This is considerable given that the cost of drilling one exploratory well in the Arctic can exceed \$100 million.

Foreign companies were pleased with these changes as they were able to secure more favorable agreements than were possible in the case of Shtokman. However, the joint ventures require that the foreign companies bear the high initial costs of exploration. This is considerable given that the cost of drilling one exploratory well in the Arctic can exceed \$100 million.

Despite the considerable cost of investing in developing the Arctic, the potential for returns is thought to offset the associated financial risks, and Russia is hopeful that potential discoveries of recoverable resources will support the needed investment. It remains to be seen what will happen with Russia's policies in the Arctic, but Norway has been active in pursuing its development strategies there. Regard-



less, the development of petroleum resources in the Arctic will be evolving for years to come. Russia is also increasingly affected by what other international actors are doing in regard to the Arctic. China, in particular, is working to build relationships with members of the Arctic Council, potentially in hope of using influence to influence decisions in a manner that would secure Chinese interests, even though China is not one of the recognized Arctic States. That said, China has applied for observer status, and will formally be able to have access to information as it becomes available. That said, the extent to which this is helpful for China is fairly limited, and Russia is still a strong advocate for governing the Arctic being left exclusively to Arctic states.

Rosneft's focusing on exploration of unconventional oil, especially, hints at an individual agenda, but because of the capital intensive nature of its efforts, it is impossible for the firm to act alone in pursuing these leads.

Perhaps a more pressing threat to Russia's energy sector and arctic development in particular is the rule of state dominance in their approach to partnerships as well as internal projects. This has been affecting Rosneft in particular. Recent years have seen a growing influence of the company, which is likely linked to state control, but not entirely. Rosneft's focusing on exploration of unconventional oil, especially, hints at an individual agenda, but because of the capital intensive nature of its efforts, it is impossible for the firm to act alone in pursuing these leads. Besides Rosneft, however, Russia has generally been far behind in exploring new fron-

tiers, and this might be partly due to the fact that decisions have to be taken on a very high level. As a result, frontiers like the Arctic have developed very slowly for Russia.

International market trends have also been influencing Arctic development, but not to the extent one might think. While it is true that China and India have been rapidly increasing their energy budget, the way Russia has attempted to prepare itself to meet those new demands is to shift resources in a way that improves efficiency. Because the Arctic is a relatively new area of interest, there has not been a huge shift of resources or direction towards it. However, with the advent of foreign investment and foreign firms teaming up with projects in the arctic, things might start to change.

As it stands, Rosneft has serious capacity issues, particularly if it is expected to handle all of the offshore projects. In this sense, projects and partnerships with foreign companies are acting more as a source of potential cooperation than competition, particularly because many of the licenses are rather far away from each other. While there might be some competition between foreign companies, it is likely that Rosneft will mostly benefit from learning new techniques and the introduction of foreign capital into the region as a whole.

Currently, only a handful of companies are really excellent at extracting resources deep offshore, and even fewer would be well-equipped to handle the Arctic. Some companies, such as those from China, are considering becoming more invested in the Arctic, but right now, what they really have to offer is capital and political attention rather than experience or technical expertise. Other, more experienced companies like Schlumberger, Halliburton, Exxon, ENI, Statoil, Shell, and BP are better positioned to really compete for work on the continental shelf, especially because of the large amount of competition in offshore technologies that the industry has



seen develop of late.

In the field of gas developments, Russia is also likely to see large impacts as a result of the development of LNG – either abroad or at home. Although there is a lot of potential for projects like Shtokman, a lot will be based on both overall energy strategy and the initial costs of developing technology, creating a system of infrastructure to transport the gas, (whether by boat or by pipeline). These costs are staggering, so there is typically a high level of risk of running into problems that make it cost-prohibitive before even beginning production.

Russia has so far entertained the idea that their energy companies are still capable of doing it themselves.

One important development in the energy market has been the transfer of control over the needed technology from the energy companies to technology-specific companies. While most of these technologies are available for purchase either as a whole package, or as a service that a tech company would provide, Russia has so far entertained the idea that their energy companies are still capable of doing it themselves. One of the major values in having international partners comes from the direct sharing of technologies and building competencies through shared projects. Still, Russia has proven to be pretty hesitant in actually committing to buying these technologies, and it is still very apparent that Gazprom has a long way to come before it is capable of overcoming the technology barrier on its own.

Russia also has some ground to cover in business and monopolization strategies. For example, in Norway, after the beginning of serious offshore development, there was a policy that required direct transfer of experience and technology to Sta-

toil. All of the initial projects were transferred, and helped to give Statoil a competitive edge. In addition to smart policies like this, Russia should really work on explaining what it is they do with their energy industry. After the resolution of the Norway dispute, The Duma failed to effectively communicate to the public why they chose to act as they did. As a result, many people saw the bi-lateral agreement as a concession, and blamed Medvedev's government for giving away what was considered to be Russian territory. Internal politics and the playing of the nationalist card have really turned what was a mutually beneficial development into something seen as a major loss. Fixing this could not only help to get public support on important decisions, but might also improve the overall approach of developing energy issues.

In both internal decisions about investment strategies and how they treat international partnerships, Russia has quite a long way to go before it becomes a really exciting place for investment. Up to now, the development of the Russian Arctic has been moving at a glacial pace. Perhaps with technological development occurring as independent projects or through partnership programs with experienced companies, Russia will finally have both the tools and investment systems it needs to exploit what could be a critical resource in the coming years. ♦

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Workshop Review: Tatiana Romanova— The Future of Russia-EU Energy Relations

- Joe Ralbovsky and Jon Vasdekas

In a recent interview with Dr. Romanova, we discussed the future of EU-Russian energy relations, particularly those revolving around the establishment of a single market between the two entities, and the challenges that would arise as a result of this shift.

One aspect of this development can be found in the Energy Roadmap to 2050, a document identifying both common interests and obstacles towards the creation of a more effective and sustainable energy partnership – in whatever form that might turn out to be. While the roadmap serves as a helpful tool that allows each party to identify its priorities and suggest strategies to achieve the changes needed in market structure, it begins to run into problems when administrations actually determine how to implement it.

One issue that Dr. Romanova identified was the implementation of the Third Liberalization Package, which would force Gazprom to sell some of its downstream infrastructure and ownership to comply with the anti-monopolistic aims of the policy. The Third Liberalization package also carries certain political risks, as individual member states play a large role in determining how certain aspects of the package are implemented, creating room for what could be considered as political attacks against Russia - particularly in the Baltic States. The package further complicates the viability of Russian investments in the EU, and might require fundamental changes in Gazprom's strategy. What's perhaps most troubling is that currently, Gazprom has almost no experience in using international bodies for dispute resolution, as no such body is currently

in place for Russia – EU disputes. This is worsened by a feeling of legal nihilism, and the contrast between what courts are used for in the EU and how they're viewed (potentially as a political tool) in Russia.

This issue is compounded by the fact that Russia has decided to so far delay or ignore implementing the Energy Charter Treaty, meaning that Russia would be lacking credibility as a player in any dispute, as they would be seen as trying to implement the rules only when it favored them. Fortunately, Russia's recent integration into the WTO will lay some groundwork for figuring out these systems, and might lead to more frequent and effective use of supranational judicial bodies.

The European Commission has been anything but helpful in allowing Gazprom to find its own way in developing useful judicial habits, often dismissing whatever it wants to say as coming straight from the Kremlin.

One well known example of Gazprom's inability to manage such disputes is the 2009 gas war with Ukraine. Despite Gazprom's proactive attempts to reach out to its partners in the EU, it suffered a major blow to its public image, and is likely still losing market share as a result of that event. This event also helped to spur diversification of energy resources in both Ukraine and EU countries, particularly as the environment to do so was very favorable at the time of the dispute.

This issue of judicial approach is more than just a minor cultural difference. The European Commission has been anything but helpful in allowing Gazprom to find its own way in developing useful judicial habits,



often dismissing whatever it wants to say as coming straight from the Kremlin. This has led to Gazprom dealing with dispute issues at a very high governmental level – as the Russian government, rather than establishing a meaningful lobbying operation for any major Russian companies in Brussels. There's a large gap in understanding what can be done to lobby, which is preventing Gazprom from learning to work within the EU frameworks.

The timing of the recent investigation into Gazprom's activities known as the Gazprom probe might have been politically motivated in relation to the final negotiations on the 2050 roadmap, but reflects the differences between how the two leaderships, in the EU and in Russia, view cooperation in moving forward into market integration. Russia sees this very much as the EU trying to impose its vision on Russia and would much prefer that this were something made in a way that was mutually acceptable. That said, this probe isn't inherently political, and similar probes have been launched against European companies like ENI and Total in the past. In this sense, the probe was legal and logical, as Brussels is trying to legitimize itself in front of EU customers by lowering the price they pay for energy and appearing in control with Russian energy relations. Going forward, the EU's access to affordable natural gas will be increasingly important, as it wants to increase industrial production to 20% of GDP.

In the *Energy Roadmap to 2050*, the EU Commission is discussing creating a single energy market for Europe and Russia. European and Russian relations oftentimes are hinged on specific wordings in legislation, and concepts many times get lost in translation or are misinterpreted when translated from one language to another. The question posed to Dr. Romanova was whether Russia and the EU interpret the meaning of "single market" differently within their camps. Her answer was clear and is paraphrased as the following:

Russia and the European Union are on the same page when it comes to infrastructural issues in the energy sector. Whether in specific sectors like oil, gas, or electricity, the EU and Russia want to become more interconnected. The Russians are especially interested in developing interconnection with Europe in the electricity sector, because electricity is a processed energy good, and would be extremely profitable for Russia to export; it could also serve as a locomotive to make the Russian economy more innovative. Regulation and legislation regarding the energy sectors and infrastructure, however, is where the two parties are at an impasse. The EU would like for Russia to adopt the legislation it has developed, whereas Russia would like to develop legislation with the EU, as it's typically against Russia's principle of equality to simply adopt the EU's laws. It is also important to note that Russia simply cannot afford to implement the EU's legislation, most notably the liberalization laws, as the Russian economy and gas sector is not as developed as it is in the European Union.

...with the advent of the recent shale gas revolution in the United States, consumers are pushing for a higher percentage of natural gas prices to be linked to the spot market...

Romanova thinks Gazprom is not as rigid of a company as the media leads many to believe. It participates in spot markets in Europe, and had tried to diversify its investments by attempting to become more active in the downstream gas market. Unfortunately, this was not fruitful as a result of the introduction of the EU's Third Energy Package in 2009. Gazprom's major challenge today is concerned with the pricing mechanisms of gas. As mentioned earlier,



Gazprom does have some experience with spot markets; however, the majority of gas sold is through long-term contracts. In these contracts, the price of natural gas is indexed to the price of petroleum products. This type of pricing can provide stability for the consumer and supplier, but with the advent of the recent shale gas revolution in the United States, consumers are pushing for a higher percentage of natural gas prices to be linked to the spot market to enjoy lower prices. It remains to be seen how Gazprom will react to the linkage of prices in the future.

Several years ago Gazprom seemed to be Russia's untouchable energy giant with an energy hungry Europe at its mercy.

It is no surprise that the landscape of the European gas market is changing, especially since the Third Energy Package has dictated how investments in the natural gas market will be made. Several years ago Gazprom seemed to be Russia's untouchable energy giant with an energy hungry Europe at its mercy. Now, it seems as if the tides have turned. When asked about the perception of Gazprom in Brussels, Dr. Romanova said that it is ambiguous. One day Brussels will put out legislation saying it wants to decrease its dependence on hydrocarbons from Russia, but the next will aim to increase interconnection. Ambiguity can create many challenges for European and Russian relations, and it can often lead to hard political talk, but at the end of the day Europe and Russia are both dependent on one another. ♦

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