

**Covering the Latest
Developments in the
Armenia-Azerbaijan
Nagorno-Karabakh Conflict**
Colloquy with Matthew Bryza

**Gazprom's Refocus on Europe:
The Replacement of the South
Stream Pipeline with the
Turkish Stream Pipeline**
Jeylan Mammadova



CAUCASUS **International**

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Vol. 6 • No: 2 • Winter 2016

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in Balkan Energy Geopolitics?**

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Energy Security in the
Caucasus and Central Eurasia

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Energy Security in the Caucasus and Central Eurasia



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Editorial Offices

Ankara Office:

Eurasian Association of Scientists
Necatibey Caddesi, 47/13 Kızılay Ankara / Turkey
E-mail: editor@cjournal.az

Baku Office:

Center for Strategic Studies (SAM),
8 M. Ibrahimov Street, Baku, AZ 1005, Azerbaijan
Tel: +994 12 596 82 41 • Fax: +994 12 437 34 58
E-mail: editor@cjournal.az

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Editors' Note

The current issue of the *Caucasus International* entitled “Energy Security in the Caucasus and Central Eurasia” is dedicated to energy security, a strategically important issue both for the countries of the South Caucasus and Central Eurasia as the energy exporter and transit countries, and for Europe and East Asia as energy importers. The topics featured in the issue vary from Russia’s South Stream pipeline project to Azerbaijan’s TANAP and TAP projects, and from the legal analysis of energy transportation contracts to terrorist threats to critical energy infrastructure, GHG emissions and electricity markets and nuclear power plants.

Authors from diverse regions of the world with diverse background have contributed to the current issue of the *Caucasus International*. The issue starts with the colloquy in which Caucasus International discussed the latest developments in the Armenia-Azerbaijan Nagorno-Karabakh peace process with Matthew Bryza, a former OSCE Minsk Group Co-Chair and the former United States Ambassador to Azerbaijan. Jeylan Mammadova, M.A. at Harvard University’s Russia, East European, Central Asian Studies contributed an article on the replacement of the South Stream pipeline with the Turkish Stream pipeline. Plamen Dimitrov, the Head of the Eurasia Sector at the Bulgarian Geopolitical Society evaluates the role of Azerbaijani gas as a game changer in Balkan energy geopolitics. Rafael Leal-Arcas, a Professor in EU International Economic Law and Professor of Law, Queen Mary University of London and the Editor-in-Chief of the *Renewable Energy Law and Policy Review*, provided a detailed legal analysis of the energy transit agreements in the South Caucasus. Ilgar Gurbanov, a Research Fellow at Centre for Strategic Studies under the President of the Republic of Azerbaijan, elaborated on the perspectives of Turkish Stream, putting forward possible scenarios and challenges for this grand project. Michael Fredholm, the Head of Research and Development at IRI, Stockholm wrote about the threats to energy infrastructure in the Central Eurasia from terrorist groups affiliated to ISIL. Sreemati Ganguli, an Honorary Fellow at the Institute of Foreign Policy Studies, University of Calcutta, India contributed an article on global energy interdependence, while Mukhit Assanbayev, an Assistant Professor at the Department of Social Sciences, Suleyman Demirel University (Kazakhstan), shed light on Kazakhstan’s energy policy on the eve of Kashagan oil field production. One

more author from Kazakhstan, Renata Mantel, who teaches at the Kazakh Humanitarian Juridical Innovative University evaluated the energy security strategy in Kazakhstan from the perspectives of environmental security and renewable energy sources. Azime Telli, a Lecturer at the Ondokuz Mayıs University wrote about the Akkuyu Nuclear Power Plant from the perspective of energy security asking a question whether the project is a solution or a deadlock for the Turkey's energy security dilemma. Irina Kustova, a Research Fellow at Energy Charter Secretariat, Brussels, Belgium examines the regional energy security and integration of electricity markets in the South Caucasus. Varadurga Bhat, a Researcher at Department of Studies in Economics, Karnatak University Dharwad, India, and Ashwath Naik, a Lecturer at Department of Post Graduate Studies in Economics, KLES Lingaraj College, Belagavi, India co-authored the article on energy consumption and GHG emissions in the South Caucasus.

The issue also features an off-topic article - Rizvan Huseynov Najafoglu, the Director of Caucasus History Center and a Senior Researcher at the Institute of Law and Human Rights of Azerbaijan National Academy of Sciences (ANAS) provided an article on "Historicity and Historical Ethnography of Azerbaijan: The 18th and 19th century Caucasus at a Glance" where he analysis the ancient and medieval sources on Azerbaijan. The current issue also includes a comprehensive review of Ray Kiely's new book "The Rise and Fall of Emerging Powers: Globalisation, US Power and the Global North-South." Last but not least, CI presents readers with reviews of recently published books on 25 years of independence of the South Caucasus countries, Armenia-Azerbaijan Nagorno-Karabakh conflict, the European Neighborhood Policy, the dynamics of Turkish-European Union relations, integration of Azerbaijan, Georgia, and Turkey in the energy and transport sectors, along with other key issues.

Finally, on behalf of the CI team, we hope this issue provides food for thought and for discussion!

Sincerely,
CI Staff

COLLOQUY

Covering the Latest Developments in the Armenia- Azerbaijan Nagorno-Karabakh Conflict

Matthew Bryza*



* Matthew Bryza is a former OSCE Minsk Group Co-Chair and the former United States Ambassador to Azerbaijan. Mr. Bryza is currently a Nonresident Senior Fellow at the Dinu Patriciu Eurasia Center and Global Energy Center of the Washington-based think tank Atlantic Council.

The long-lasting conflict between the Republic of Armenia and Azerbaijan over the Nagorno-Karabakh region has been on the agenda for more than two decades. The conflict started at the end of the 1980s, when Armenia sought to annex the Nagorno-Karabakh Autonomous Oblast (NKAO) of Azerbaijan, seizing the opportunity created by the collapse of the Soviet Union. The conflict gradually evolved into a full-scale interstate war between Armenia and Azerbaijan as they gained independence in 1991, causing approximately 30,000 fatalities and over a million IDPs and refugees, an overwhelming majority of them Azerbaijanis. The active phase of the bloodiest of the post-Soviet conflicts ended with a ceasefire agreement in 1994, leaving 20% of internationally recognized territories of Azerbaijan under Armenian occupation. Hostilities have continued ever since, with dozens of soldiers and civilians dying each year. The Line of Contact (LoC) between Armenian and Azerbaijani troops has become the most militarized area in the whole post-Soviet space.

Much effort has been made over the past two decades to achieve peaceful resolution of the dispute, but to no avail. Though the conflict has never been truly frozen, the situation along the LoC remained more or less stable until the recent re-eruption and an acute increase in instability. The escalation on the frontline in April 2016 brought about heavy clashes and casualties, with international community expressing disapproval of the armed hostilities along the frontline. At this point, hope for reasonable and practical steps taken towards comprehensive peaceful resolution of the conflict emerged.

Caucasus International discussed the latest developments in the peace process with Matthew Bryza, a former OSCE Minsk Group Co-Chair and the former United States Ambassador to Azerbaijan. Mr. Bryza is currently a Nonresident Senior Fellow at the Dinu Patriciu Eurasia Center and Global Energy Center of the Washington-based think tank Atlantic Council. In this interview, he talks about the peace process and the repercussions of the April escalation, the geopolitics of the conflict, and the role of the United States in the resolution process.

CI: *How would you evaluate the Nagorno-Karabakh peace process since the latest escalation on the frontline in April 2016? After the escalation, in one of your interviews, you said that the St. Petersburg meeting does appear to have moved the parties to a safer and more stable situation.¹ What has changed since then*

¹ APA (22 June 2016) *St. Petersburg meeting appears to have moved Karabakh conflict parties to*

and is it realistic to expect long-awaited tangible steps toward the resolution of the conflict?

Bryza: Unfortunately, the Nagorno-Karabakh peace process does not appear to have moved forward since the St. Petersburg meeting. In St. Petersburg, Presidents Aliyev and Sargsian agreed to deescalate tension along the LoC, while the Minsk Group returned to center stage after President Putin initially filled a diplomatic vacuum left by the US and France in the immediate aftermath of the April 2016 clashes. Perhaps most significantly at the St. Petersburg meeting, President Putin reportedly made a proposal to break a longstanding impasse in the talks, according to which Armenia would return two of the five Azerbaijani territories it currently occupies in exchange for Azerbaijan resuming normal transit and economic connections to Armenia; all other aspects of the Madrid Principles, including the return of the remaining five occupied territories, would be subject to further negotiations.

Since St. Petersburg, the parties have not advanced President Putin's proposal. This may largely be due to the hostage crisis at the police station in Yerevan, which appears to have been carried out by opponents of Mr. Putin's proposal.

Since St. Petersburg, the parties have not advanced President Putin's proposal. This may largely be due to the hostage crisis at the police station in Yerevan, which appears to have been carried out by opponents of Mr. Putin's proposal.

CI: *The Azerbaijani and Armenian sides are referring to two different arguments while defending their position on the resolution of the conflict – inviolability of territorial integrity, and the right to self-determination. This is also one of the conflicting issues for the Madrid Principles. In this respect, what is needed to reconcile the two positions in order to move the peace process forward, and is it possible for the Armenian community of Nagorno-Karabakh to exercise their right to self-determination within the framework of territorial integrity of Azerbaijan?*

Bryza: Actually, the concepts of the territorial integrity of states and the self-determination of peoples are two of the three cornerstones of the Madrid Principles, (with the third one being the non-use of force). The Madrid Principles reconcile the apparent contradiction between these two concepts by: (1) Returning to Azerbaijan all seven occupied territories surrounding Nagorno-Karabakh; and (2) Providing Nagorno-Karabakh an "interim legal status," with the region's final legal status to be determined

safer and more stable situation, available at: http://en.apa.az/nagorno_karabakh/matthew-bryza-st-petersburg-meeting-appears-to-have-moved-karabakh-conflict-parties-to-safer-and-more-stable-situation.html (accessed 16 September 2016)

by a popular vote by the residents of Nagorno-Karabakh at some time in the future. During the period of Nagorno-Karabakh's interim legal status, Azerbaijan can argue legitimately that the region remains within the framework of Azerbaijan's territorial integrity, while Armenia can legitimately argue that this is not the case.

CI: *Currently we are witnessing a confrontation between the West and Russia over many important areas, including the crisis in Ukraine and the Syrian civil war. How would you evaluate the impact of this confrontation over the Nagorno-Karabakh peace process, bearing in mind that these countries (considering France as the representative of the EU) are the co-chairs of the Minsk Group?*

In the weeks and months following Russia's invasion of Georgia in August 2008, for example, Russia sustained and even intensified its constructive efforts within the Minsk Group, perhaps in part to try to repair its reputation in the South Caucasus as well as in the Transatlantic Community.

Bryza: I don't believe the current confrontation between Russia and the West over Russia's invasion of Ukraine and mass killing of civilians in Syria will have much of an impact on the Nagorno-Karabakh peace process. The Minsk Group Co-Chairs seem to be working well together despite the tensions mentioned above. Moreover, it is not in Russia's interest for violence, such as it has been generating in Ukraine and Syria, were to engulf the South Caucasus as well. In my experience, Russia, especially Foreign Minister Lavrov, has tried to play a constructive role within the Minsk Group. In the weeks and months following Russia's invasion of Georgia in August 2008, for example, Russia sustained and even intensified its constructive efforts within the Minsk Group, perhaps in part to try to repair its reputation in the South Caucasus as well as in the Transatlantic Community.

CI: *Considering the unstable political situation in Armenia, specifically the July 2016 attack on a police station that resulted in a two weeks long hostage crises and the attempted coup, how would you assess the readiness of the Armenian government to resolve the conflict in accordance with international law?*

Bryza: I sensed that President Sargsian was perhaps ready at the St. Petersburg meeting and afterward to advance the Nagorno-Karabakh peace process on the basis of President Putin's proposal. And, this may be precisely why the July 17 events (attack on a police station – CI) happened.

CI: *There were suggestions that after the Sochi meeting, the Armenian government used public opposition (as well as among*

the Armenian Diaspora) to a peace agreement based on the Madrid Principles to delay the peace process. What would you say about this?

Bryza: As noted above, I do believe the Armenian government would like to resolve the conflict, largely on the basis of the Madrid Principles, but perhaps with the serious modification of the return of only five rather than all seven Azerbaijani territories that Armenia currently occupies. I also believe, based on my personal experience, that some members of the Armenian Diaspora oppose any resolution of the Nagorno-Karabakh conflict on anything other than maximalist demands. One of the most influential of these groups is the Armenian National Committee of American (ANCA), whose previous president served time in a US prison for his conviction on illegal possession of explosives.

I also believe, based on my personal experience, that some members of the Armenian Diaspora oppose any resolution of the Nagorno-Karabakh conflict on anything other than maximalist demands. One of the most influential of these groups is the Armenian National Committee of American (ANCA), whose previous president served time in a US prison for his conviction on illegal possession of explosives.

CI: *Was there a visible disparity between the reactions of Russia and the United States (both OSCE Minsk Group Co-chairs) after escalation of the conflict in April 2016? Why was this the case?*

Bryza: There was definitely a visible disparity in the reactions of Russia and the United States after the unprecedented violence along the LoC. During the days immediately following the clashes, the White House never even issued an official statement on the events, while the State Department issued only a muted statement by Secretary Kerry, which did not correspond with the seriousness of the violence. President Putin, in contrast, consulted repeatedly with Presidents Aliyev and Sargsian, then sent his foreign and defense ministers, as well as Prime Minister Medvedev, to consult with their counterparts in Baku and Yerevan.

The reasons for this disparity were a combination of two factors: First, the Obama Administration's characteristic lack of strategic vision and aversion to aggravating Moscow in what it claims as its "near abroad;" and second, President Putin's strategic understanding that by conducting intensive diplomacy on his own (e.g., initially without the other two Minsk Group co-chair countries), Russia could both repair its international reputation and leave Armenia and Azerbaijan with the chilling impression that Russia alone plays a decisive role in the region.

The reasons for this disparity were a combination of two factors: First, the Obama Administration's characteristic lack of strategic vision and aversion to aggravating Moscow in what it claims as its "near abroad;" and second, President Putin's strategic understanding that by conducting intensive diplomacy on his own (e.g., initially without the other two Minsk Group co-chair countries), Russia could both repair its international reputation and leave Armenia and Azerbaijan with the chilling impression that Russia alone plays a decisive role in the region.

CI: *The US and the EU member states have expressed their unequivocal support for the territorial integrity of Georgia and Ukraine. But in the Nagorno-Karabakh conflict they tend to avoid clearly supporting Azerbaijan's territorial integrity. Mr. Ambassador, as a final question, what, in your opinion, is the reason for such a divergent attitude?*

Bryza: I think there are two reasons for the differing ways the US and EU member states have supported the international legal principle of the territorial integrity of Georgia and Ukraine with greater intensity than in the case of Azerbaijan. Firstly, in the early 1990's the Armenian Diaspora in the US and EU conducted highly effective lobbying on both sides of the Atlantic Ocean to provide their view of the Nagorno-Karabakh conflict as having been started by Azerbaijan, rather than presenting the origins of the conflict with full complexity. Secondly, once the Minsk Group mediation process gathered momentum in its search for an agreement that could reconcile the seemingly contradictory principles of territorial integrity and self-determination, the US and France wanted to focus on finalizing that reconciliation, and the rest of the Transatlantic Community followed their lead.

Colloquy was conducted by Azad Garibov, Editor of CI

Gazprom's Refocus on Europe: The Replacement of the South Stream Pipeline with the Turkish Stream Pipeline

Jeylan Mammadova*

Why did Gazprom cancel South Stream and replace it with Turkish Stream? In addressing this question, the author examines the debate surrounding the need for the Turkish Stream pipeline, which divided interviewees. Some regarded this project as part of Gazprom's profit-oriented approach in the context of the threat to its market share amidst liberalization in Europe, its largest export market. However, others believed there is no demand for the project. Based on interviews conducted with experts in the energy sector as well as through corporate data, the paper concludes that the decision to replace the pipeline was part of Gazprom's strategy to tackle the challenges it has faced in the European market in order to secure its position in that market.



* Jeylan Mammadova is a M.A. at Harvard University's Russia, East European, Central Asian Studies,
Email: jeylan.mammadova@harvard.edu

Introduction

In October 2014 Russian natural gas supplied to Turkey via the Western Line pipeline declined almost by half. This sparked chaos in Turkey's Ministry of Energy, as the decline could have led to a winter crisis—a nightmare for the ruling government, which was preparing for elections in the summer of 2015. A winter crisis prior to Turkey's elections would have been disastrous for the ruling party. However, the gas volumes were suddenly restored after the signing of the Memorandum of Understanding between Russia and Turkey on Turkish Stream—the new pipeline project that would replace the cancelled South Stream. The incident gave rise to many questions about whether the cut in gas supply should be attributed to Gazprom's inability to use Ukraine as a safe transit route amidst the Ukraine crisis, or to Russia pressuring Turkey to accept a new project to replace its unsuccessful one?

According to Aura Sabadus, senior reporter at ICIS, the advent of Turkish Stream right after the cut in supplies may have well been a “brilliant PR coup” aimed at forcing Turkey to enter an unnecessary project.

According to Aura Sabadus, senior reporter at ICIS, the advent of Turkish Stream right after the cut in supplies may have well been a “brilliant PR coup” aimed at forcing Turkey to enter an unnecessary project.¹ Others, such as Mehmet Dogan, founder of GazDay, have perceived such claims as speculation, saying that Russia would not want to portray itself as an unreliable supplier.²

Such claims have marked the debate over the cancellation of South Stream and the need for Turkish Stream. Some of the interviewees for this paper regarded this project as part of Gazprom's profit-oriented approach given the threat to its market share amidst liberalization in Europe, its largest export market. However, others such as Aura Sabadus believe that the project is “a complete waste of money” because there is no demand for it.³

This paper aims to address this divide by examining the changing market and political conditions, as well as Gazprom's adaptation of its strategy to those conditions. In doing so, the paper answers a crucial question: Why did Gazprom cancel South Stream, and replace it with Turkish Stream? The paper concludes that these decisions are part of Gazprom's strategy to tackle the challenges it has faced in the European market to secure its position in that market.

1 Aura Sabadus. Interview, July 17, 2015.

2 Mehmet Dogan, Interview, 21 July 2015.

3 Aura Sabadus. Interview, 17 July 2015.

Cancellation of South Stream

The section argues that the Ukraine crisis only aggravated the existing challenges that Gazprom was facing in the European market. The real cause of the cancellation is rooted in the switch from oil-linked to hub-based pricing as well as in changes in market conditions. After analyzing these root causes, the section examines the direct impact of the crisis on South Stream, and explains the changing political and economic context that complicates the commercial aspects of the project.

The real cause of the cancellation is rooted in the switch from oil-linked to hub-based pricing as well as in changes in market conditions.

Switch from LTCs to Spot Pricing

Three contract structures aligned the incentives of producer and supplier in the Russia-EU energy relationship:

1. Long-term contracts provided producers like Gazprom with a greater incentive to build gas infrastructure for the client.
2. Indexation of the price of natural gas to the price of oil was a solution to the absence of a market structure in piped gas (as there are only two market participants).
3. Take-or-pay (TOP) committed the customer to buying a specified volume of gas, the Minimum Annual Quantity (MAQ)—set at 85% of the annual contract quantity or the maximum volume that the provider committed to sell.^{4,5}

This structure worked well in two scenarios: when oil functioned as a substitute for natural gas and when the USSR had no influence over the price of oil. By linking the price of gas to oil, the USSR established a structure in which neither the seller nor buyer could accuse the other of variations in price. Thus, the potential for exercising ad hoc political and/or economic leverage was reduced.

This relationship was shaken in the Ukraine gas crises of 2006 and 2009, when European firms had to decide whether these were crises of Russian gas supply (damaging Gazprom's reputation as a reliable supplier) or of Ukrainian transit. For the most part, Europeans experienced these as issues of Russian supply and not of transit. However, Gazprom decided these were crises of Ukrainian transit. EON, BASF, GDF Suez, EDF, and ENI agreed with

⁴ Rawi Abdelal On Gazprom, 8 April 2015.

⁵ Abdelal, R., Maugeri, L., and Tarontsi S., (2014) 'Europe, Russia, and the Age of Gas Revolution,' *Harvard Business School Case* 715-006.

Gazprom and built the Nord Stream pipeline to bypass Ukraine.

Furthermore, in 2009 as oil prices began to recover, the difference between oil-linked and hub prices increased. Given that midstream European utilities would buy oil-linked prices and sell at hub prices, and that the TOP still obligated the buyers to pay for MAQ, the lower gas prices pressured companies to renegotiate.

In 2012, the European crisis (demand shock) and unconventional gas (supply shock) ended the contractual relationship.

With the European macroeconomic crisis, Europe's demand for Russian gas declined. But with TOP, European customers still had to maintain their promises.

The unconventional revolution caused an oversupply of gas in the market.

In 2012, the European crisis (demand shock) and unconventional gas (supply shock) ended the contractual relationship. With the European macroeconomic crisis, Europe's demand for Russian gas declined. But with TOP, European customers still had to maintain their promises. The unconventional revolution caused an oversupply of gas in the market. The US had wanted to build gasification terminals. Instead, some firms tried to build liquefaction terminals to liquefy existing gas supply. All of the liquefied gas that the US was supposed to buy was not bought, adding to the market surplus.

This combination of demand and supply shocks led to the overturning of hub prices. In 2011-2012 gas prices collapsed but oil prices remained the same. Western companies suffered economic loss for buying piped gas from Gazprom. German firms even opened coal-fired power plants. Losing its customers, Gazprom was forced to switch to hub pricing and move away from TOP pricing with cheaper gas prices.

Gazprom's stance against hub pricing was based on the following lines of argument:

1. Indexation of the gas price to a hub price is illogical as it is a daily price.
2. Abandoning oil indexation forever may have an adverse impact on European customers in the future. After the economy recovers, Russia said it would use its market power (through hub pricing) – which it did not have with oil indexed pricing.
3. With new pricing, the buyer eliminated the incentive of the supplier to buy the pipeline, as the customer no longer bore some of the risk that it did with TOP.⁶

Notably, after 2012, buyers sought contract revisions though formal arbitration – which was unusual for midstream and upstream companies. However, Gazprom settled most of the deals outside

⁶ Rawi Abdelal presentation, 8 April 2015.

the arbitration tribunal. Gazprom agreed in certain cases to reduce TOP to 70% and sell in excess of TOP at spot prices for three years (from October 2009). It agreed to reduce the base price by 7-10% from 2012, and also to refund if the new price exceeded the hub price. Refunds and price cuts were made to companies like E. ON, and ENI.⁷

In this context, Gazprom does not want to invest in a customer (Europe) that no longer promises to pay.⁸ The switch to hub pricing is particularly a long-term challenge for Gazprom.⁹

Changing market conditions

Changing market conditions in Europe also affected the focus of the project. Weaker European demand and stronger Asian demand shifted Gazprom's attention to the East. In 2000, China's demand had been 28 bcm/y of gas and in 2013 it was 162 bcm/y of gas with insufficient domestic production of 117 bcm/y – thus China was in need of supply. Russia's Energy Strategy for 2030 demonstrates that the volume of gas supply to Europe will see little change, but supply to Asia will increase. An amendment to the strategy further indicates that traditional consumer demand including Europe will stagnate, whereas in areas where Russia has little presence, like the Far East, demand will increase.¹⁰ In addition, increased LNG competition with new exporters in Asia, coupled with the anticipated growth of LNG demand in Asia, has pushed Russia to develop the untapped gas sources in Eastern Siberia.¹¹ Bearing this in mind, the freeze put on South Stream made strategic and economic sense, at least in the short-term.

Russia's Energy Strategy for 2030 demonstrates that the volume of gas supply to Europe will see little change, but supply to Asia will increase. An amendment to the strategy further indicates that traditional consumer demand including Europe will stagnate, whereas in areas where Russia has little presence, like the Far East, demand will increase.

Ukraine crisis

Almost half of Russia's gas deliveries to Europe go through Ukraine, meaning that Russia has had to rely on Ukraine's nego-

7 Abdelal, R., Maugeri, L., and Tarontsi S., (2014) 'Europe, Russia, and the Age of Gas Revolution,' *HBS Case 715-006*.

8 Rawi Abdelal presentation, 8 April 2015.

9 Ruchan Kaya. Interview, 23 July 2015

10 Ko-ouskova, H., and Jirusek M. (2014) 'Cancellation of South Stream makes economic sense.' *EurActiv* Available at: <http://www.euractiv.com/sections/energy/cancellation-south-stream-project-makes-economic-sense-310788>. (Accessed: 13 December 2015).

11 Boersma, T., Mitrova, T., Greving, G. and Galkinahttp A. (2014) 'The Impact of the Crisis in Ukraine on the European Market,' *Brookings* Available at: www.brookings.edu/research/papers/2014/10/european-gas-market-import-dependence. (Accessed: 14 December 2015).

tiating position.¹² Thus, Gazprom's objective has been to bypass Ukraine as a transit country to ensure reliable supply, avoiding any recurrences of the gas crises of 2006 and 2009. Indeed, South Stream discussions immediately followed the January 2006 crisis—the shutdown of gas supplies to Europe due to Ukraine's failure to fulfill its payment obligations to Gazprom. A repeat of such an incident was probable given that the 2006 agreement concluding the crisis was not satisfactory to Ukraine. Therefore, Gazprom wanted to avoid another crisis and maintain its legacy as a reliable gas supplier to its largest market, Europe. In this context, South Stream met Gazprom's objective for bypassing Ukraine as a transit country.

However, the annexation of Crimea in March 2014 hurt the project in three ways. First, the EU sanctions imposed on Russia on March 17 were a blow to the project. The sanctions restricted travel and froze assets, as well as the financing of certain oil companies and banks, and supply and export of oil-related goods and technologies to Russia.^{13,14} Second, after a year the EU prolonged sanctions, further limiting Russia's access to certain technologies needed for production and exploration.¹⁵ The third byproduct of sanctions was the reluctance of Western financial institutions to lend to South Stream's offshore section.¹⁶

The Ukraine crisis broke the trust of some Central and East European countries, like Belarus and Romania, which began to actively vie for independence from Russian gas.

The Ukraine crisis broke the trust of some Central and East European countries, like Belarus and Romania, which began to actively vie for independence from Russian gas. Since the crisis, Belarus has been trying to strengthen its ties with the EU, and President Lukashenko has expressed concerns regarding extremist Russian groups and pro-Russian NGOs in Belarus. Romania has adopted a similar but even harsher position by pressuring the EU for a stronger stance against President Putin.¹⁷ The crisis

12 Recknagle, C. (2014) 'Explainer: South Stream The Latest Victim Of the Ukraine Crisis?', *Radio Free Europe*, 11 June, Available at: <http://www.rferl.org/content/ukraine-south-stream-halted-bulgaria/25418146.html>. (Accessed: 1 December 2015).

13 Jansen, J. (2015) 'EU sanctions against Russia: New targets and state of play', *Dla Piper*, 11 February, Available at: <https://www.dlapiper.com/en/us/insights/publications/2015/02/eu-sanctions-against-russia/>. (Accessed: 11 December 2015).

14 Lester QC, M., and O'Kane M. (n.d.) 'Initial Imposition of EU sanctions and Subsequent Amendments', *European Sanctions* Available at: <http://europeansanctions.com/eu-sanctions-in-force/russia/>. (Accessed: 10 January 2016).

15 European Council (n.d.) 'EU restrictive measures in response to the crisis in Ukraine', *European Council* Available at: <http://www.consilium.europa.eu/en/policies/sanctions/ukraine-crisis/>. (Accessed: 15 December 2015).

16 Ko-ouskova, H., and Jirusek M. (2014) 'Cancellation of South Stream', *EurActiv*, 12 December, (Accessed: 13 December 2015).

17 Reuters (2014) 'Romania's Basescu Slams EU for Soft Putin Stance', *Voice of America*, 21 July

made EU law even more stringent than ever before (discussed below).

EU legislation

All interviewees mentioned the TEP (Third Energy Package) as one of the main catalysts for the cancellation of the project. The EU describes the Package's aim as "to create a single EU gas and electricity market...to keep prices as low as possible and increase standards of service and security of supply."¹⁸

The package would ensure changes in the European energy market.¹⁹ The unbundling principle (Article 9)²⁰ affected South Stream the most. Gazprom was no longer allowed to own both the gas it supplied and the pipeline it operated. Third party access (TPA) was another part of the package with which Gazprom had struggled, in that under this principle Gazprom was required to grant non-discriminatory access to any electricity or gas supplier – which the EU Commission argued that Gazprom had not been doing.²¹

Claiming that Gazprom had violated these provisions in its bilateral deals with Bulgaria, Hungary, Serbia, Croatia, Austria, Slovenia, and Greece, the EU Commission asked for renegotiations in late 2013.²² Russia in turn challenged the package by filing a complaint in the WTO. The Director of the department on trade negotiations in Russia's Ministry of Economic Development, Maksim Medvedkov, explained the decision as one that challenges EU's obligations to the WTO of non-discriminatory market access, as the Package threatens the supply of Russian gas to Europe.²³

Available at: <http://www.voanews.com/content/romania-basescu-slams-european-union-for-soft-putin-stance/1962356.html>. (Accessed: 21 January 2016).

18 European Commission (2011) 'Questions and Answers on the third legislative package for an internal EU gas and electricity market', *European Commission*, 2 March Available at: http://europa.eu/rapid/press-release_MEMO-11-125_en.htm?locale=en. (Accessed: 2 December 2015).

19 Ibid.

20 'Directive 2009/73/EC of The European Parliament and of the Council', *Journal of the European Union*, 211 Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:009:4:0136:en:PDF>. (Accessed: 13 January 2016).

21 "[T]o have effective competition the operators of transmission networks must allow any electricity or gas supplier non-discriminatory access to the transmission network."

From: European Commission (2011) 'Questions and Answers on the third legislative package', *European Commission*, 2 March, Available at: http://europa.eu/rapid/press-release_MEMO-11-125_en.htm?locale=en. (Accessed: 2 December 2015).

22 EurActiv (2013) 'South Stream bilateral deals breach EU law, Commission says', *EurActiv*, 4 December Available at: <http://www.euractiv.com/section/competition/news/south-stream-bilateral-deals-breach-eu-law-commission-says/>. (Accessed: 8 December 2015).

23 RT (2014) 'Russia sues EU over "Third Energy Package" – report', *RT*, 30 April Available at:

Claiming that Gazprom had violated these provisions in its bilateral deals with Bulgaria, Hungary, Serbia, Croatia, Austria, Slovenia, and Greece, the EU Commission asked for renegotiations in late 2013.

Indeed, TEP does grant exemptions under the condition that the projects are new – to which South Stream would seemingly apply. The promised approval was repeatedly postponed, first over technical issues and then over the Ukraine crisis. To make matters worse, in December 2014, the exemption overview for OPAL was terminated due to Gazprom’s failure to receive an extension for the exemption it had received from the German regulator. Apparently due to this, Gazprom did not apply for South Stream’s exemption, but instead signed separate intergovernmental agreements (IGAs) with EU members.²⁴

The EC and Gazprom then disagreed over the legality of such IGAs given the termination of the exemption review. Gazprom argued that the EC had failed to prove that the Third Energy Package overrides IGAs. This pressured EU countries partnering in the South Stream project to choose between the penalties imposed by the EC for violating TEP regulations, and the penalties for non-compliance with the IGAs.

The EC and Gazprom then disagreed over the legality of such IGAs given the termination of the exemption review. Gazprom argued that the EC had failed to prove that the Third Energy Package overrides IGAs. This pressured EU countries partnering in the South Stream project to choose between the penalties imposed by the EC for violating TEP regulations, and the penalties for non-compliance with the IGAs. Bulgaria was the first EU member affected; Gazprom halted pipeline construction in Bulgaria, which the EC accused of violating the TEP.²⁵

The main question that arises for Russia is whether the TEP is discriminatory. The EC pressured South Stream to abide by TEP, when the regulation only applied to existing pipeline networks (i.e., the law addressing new pipeline networks would only be ready in 2017). The German regulator granted Gazprom an exemption from the regulation, allowing it to use 100% of OPAL (one of Gazprom’s Nord Stream pipelines). However, the EC Competition Authority only exempted 50% of the pipeline for use. Eventually the Authority and Gazprom negotiated on 100% access to be approved by March 2014.²⁶ Adding to this question was the exemption granted to the Trans Adriatic Pipeline (TAP) – another new gas infrastructure project. Article 45 of TEP can be viewed as discriminatory, given that the IGAs for South Stream were signed before the Package, and therefore should have been upheld.²⁷

<https://www.rt.com/business/156028-russia-sues-eu-energy/>. (Accessed: 2 January 2016).

24 Aura Sabadus. Interview, 17 July 2015.

25 Stern, J., Pirani, S. and Yafimava K. “Does the Cancellation of South Stream Signal a Fundamental Reorientation of Russian Gas Export Policy?” 3, no. 2 (2015): 30.

26 Ibid.

27 Maksim Malyshev (Counselor for Energy at Russia’s Permanent Mission to the European Union). Interview, 24 June 2015.

However, the aim of TEP is to create a European market that is more integrated, not one that is against Russian interests.²⁸ With this in mind, a more moderate view would be that Russia has had an impact on the formation of TEP: while TAP was granted exemption, Nord Stream was not.²⁹

Advent of Turkish Stream

This section first explains why Russia has chosen Turkey as a partner in its new project, and then describes the role of Turkish Stream within Gazprom's ongoing strategy to remain close to the European market, and to preserve its market share in Europe. It argues that Turkish Stream addresses Gazprom's concerns in Europe and thus is used as part of Gazprom's commercial strategy in Europe.

Why Turkey?

Russia has significant leverage in Turkey; 60% of Turkey's gas imports are from Russia, which supplies Turkey through two pipelines, Blue Stream and the Trans Balkan. It is the second largest market for Russia after Germany. There have been three important turning points in Gazprom's relationship with Turkey. The first started with Turgut Ozal – introducing natural gas for industrial and residential usage. The second was the Blue Stream project. The third change would have been Turkish Stream if it came to being.³⁰

Russia capitalizes on this relationship by taking advantage of Turkey's deteriorating relationship with the West. Turkey's relations with Europe and the US worsened due to Turkey's human rights abuses, the Syria crisis, and Turkey's stance towards the Kurdistan Regional Government. Russia was hoping to take advantage of this situation when it proposed the project to Turkey (whose appeal to join the Energy Charter has not been approved).

In this context, Turkish Stream provided Turkey with the necessary alternative to its Western allies, in light of the country's deteriorating relations with the West.³¹ Europe's participation in the Turkish economy, particularly the energy sector, has been insufficient. One example is the Akkuyu nuclear power plant auction,

²⁸ Marco Giuli (Policy Analyst at the European Policy Center). Interview, 23 June 2015.

²⁹ Maksim Malyshev. Interview, June 24, 2015. Baxtiyar Aslanbeyli (Vice President at BP for Azerbaijan, Georgia, Turkey). Interview, June 2015.

³⁰ Ruchan Kaya. Interview, 23 July 2015.

³¹ Emre Erturk (founder of Enerji IQ-Turkey's first local market intelligence provider). Interview, 5 August 2015.

where only the Russian company Rosatom bid high enough to implement the project.³²

Thus, it is hard not to notice Russia's increased economic involvement in Turkey. In addition to Turkish Stream and the Akkuyu nuclear power plant, Russian energy giants hold shares in seven Turkish private natural gas distributors.³³ The Russian Minister of Economy, Alexei Ulyukaev, even stated that there would be no constraints on conducting bilateral trade in the Turkish lira. The question was the large amount of Turkish lira that Russia would accumulate, and Ulyukaev's response demonstrated that Russia's long-term energy strategy involves Turkey. He responded that Russia will "bid on privatization tenders of Turkey's domestic pipe system or invest in planned underground storage in Turkey."³⁴

Turkey has also made several investments in Russia during 2014-2015. Turkey's largest construction company, Renaissance Holding, agreed to work with Russia's Direct Investment Fund to invest in Russia's healthcare and infrastructure sectors.³⁵ Turkish Borusan Machinery acquired Caterpillar's Russian Far East operations in infrastructure and construction.³⁶ With this acquisition, Borusan now controls Amur Machinery and Services, Sakhalin Machinery and Technika Dolny Vostok – all of which are concentrated in construction, oil, gas, mining, and forestry. Turkey's Limak Construction also won a tender in Russia to build an airport in Rostov with a capacity of 8 million passengers.³⁷

In addition to this strong economic relationship, Turkey's location and its political landscape benefit Gazprom's future projects in the region. In the context of the Ukraine crisis and Crimea's annexation, as well as international sanctions, Turkey was the

32 Cenk Pala (Strategist for BOTAS and the Nabucco Pipeline), Interview, 18 August 2015.

33 Emre Erturk. Interview, 5 August 2015.

34 'Hacioglu, N. (2015). 'Russia, Turkey may use own currencies in bilateral trade: Russian minister', *Hurriyet Daily News*, 21 April Available at: <http://www.hurriyetdailynews.com/russia-turkey-may-use-own-currencies-in-bilateral-trade-russian-minister-.aspx?pageID=238&nID=81354&NewsCatID=345>. (Accessed: 21 December 2015).

35 Hurriyet Daily News (2014) 'Turkey, Russia building new investment platform for joint projects across Russia's regions', 1 December Available at: <http://www.hurriyetdailynews.com/turkey-russia-building-new-investment-platform-for-joint-projects-across-russias-regions.aspx?pageID=238&nid=75046>. (Accessed: 2 January 2016).

36 Hurriyet Daily News (2015) 'Turkish company buys distributor companies operating in East Russia', 17 April Available at: <http://www.hurriyetdailynews.com/turkish-company-buys-distributor-companies-operating-in-east-russia.aspx?pageID=238&nid=81205>. (Accessed: 17 January 2016).

37 Hurriyet Daily News (2015) 'Turkish, Russian companies to build Rostov airport for 2018 World Cup', 22 June Available at: <http://www.hurriyetdailynews.com/turkish-russian-companies-to-build-rostov-airport-for-2018-world-cup-.aspx?pageID=238&nID=84331&NewsCatID=345>. (Accessed: 2 January 2016).

only country that could help Russia maintain its energy policy, as it is not part of the EU. More importantly, it is close to unexplored reserves in the Middle East (for example, Iraqi Kurdish and East Med gas).

Under the AKP government, Israeli gas supplies to Turkey are not possible. Strategically, for Gazprom it is important to become active in the region at a sufficiently early stage to ensure that when commercial planning begins, it could be a stakeholder in these projects. As soon as Gazprom joins a project in the region like Turkish Stream, it has a higher chance of becoming part of the blocking decision making mechanisms for the forthcoming projects. In fact, Gazprom sent a delegation to Cyprus and Israel to measure the potential for East Med gas. They discovered that the potential is only 8-10 bcm for export through Turkey. Significantly, for subsea passage from Israel to Turkey only 10 bcm of gas appeared feasible for export. BOTAS also calculated that the 4-5 bcm possible for export with Mediterranean gas was not cost-effective for export to Turkey. This came as a relief to Gazprom, as Mediterranean gas would not in the near time rival Gazprom's claims to Turkish transit. Furthermore, Gazprom also benefited from the fact that any aspirations for use of Iraqi gas supplies were halted with the threat of ISIS. In 2013 the necessary contracts were signed for Iraqi gas. However, without any green light from the US, the project with Iraq could not be developed.³⁸

Thus, Turkey was also an ideal destination due to its natural gas power plants, which would not in the near term be dominated by gas supplies from the Mediterranean. This lack of imminent competition provided space for Gazprom to expand into the Turkish market. With Turkish Stream, Gazprom intended to dominate any future discussion of Mediterranean gas transit through Turkey.

In addition to this strong economic relationship, Turkey's location and its political landscape benefit Gazprom's future projects in the region.

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Purpose of Turkish Stream: Holding on to the European market

Given that Europe is Gazprom's largest market, it is important for Gazprom to maintain market share despite these challenges. Many interviewees believed that Turkish Stream signaled Gazprom's Euro-centric approach. Turkish Stream allows Russia to resolve the obstacles it currently faces in Europe so that it can

³⁸ Cenk Pala, Interview, 18 August 2015.

exploit the European market.^{39,40} This sub-section argues that Turkish Stream is part of Gazprom's strategy for addressing challenges in the European market.

It is first important to note that Turkish Stream responds to changing market conditions and abides by EU law. An increase in LNG regasification capacity is possible in Europe's future via North American unconventional gas in the UK, Netherlands, and Belgium. Although this would not have a huge impact in terms of substituting Russian gas in the short-term, it is a cause for concern, as Gazprom cannot compete in LNG. In 2013, the Russian government cancelled Gazprom's monopoly over LNG exports in order to increase Russia's share of its global LNG market to 10% by 2020. Even so, Gazprom announced that it might expand its LNG export project, Sakhalin II. A roadmap was signed with Shell for building a third LNG liquefaction unit.⁴¹ However, sanctions have hurt the LNG plant at Vladivostok, as potential customers fear consuming LNG from Russia.⁴² The Russian government has also increased its support for alternative projects by Novatek and Rosneft (Russia's gas and oil producers). Gazprom's third LNG unit for Sakhalin 2 also came under the threat of sanctions.⁴³ Therefore, Gazprom has shifted away from LNG development to piped gas projects.

However, due to restrictions imposed on Russia by EU legislation, a focus on piped gas is possible only in a non-EU member state like Turkey, which does not need to comply with EU's unbundling principle. Gazprom could still sell its gas to Europe and sideline EU legislation by asking its end consumers to buy the gas at the Greek-Turkish border.

Turkey's location also allows Gazprom to secure all alternative gas routes to Europe, as Turkey neighbors major suppliers like the Caspian and Iran.⁴⁴ Constructing a gas hub in the Turkish-Greek border and a gas storage facility in Ipsala, Turkey (where TANAP will connect with TAP) would give Gazprom control of the flow of gas to Europe. Doing so, it could avoid IGA agree-

39 Gurkan Kumbaroglu, Interview, 24 July 2015

40 Efgan Nifti., Interview, 23 July 2015.

41 Boersma, T., Mitrova, T., Greving, G. and Galkinahttp A. (2014) 'The Impact of the Crisis in Ukraine,' *Brookings*, 14 October Available at: www.brookings.edu/research/papers/2014/10/european-gas-market-import-dependence. (Accessed: 14 December 2015).

42 Henderson, J. and Mitrova T. (2015) 'The Political and Commercial Dynamics of Russia's Gas Export Strategy', *Oxford Energy Group*, 9 Available at: <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2015/09/NG-102.pdf>. (Accessed: 15 December 2016).

43 Ibid., 22.

44 Gurkan Kumbaroglu, Interview, 24 July 2015.

ments, which the EU Commission deemed in breach of EU legislation. However, Gazprom would no longer control the flow of gas from the fields to their final destinations. In doing so, Gazprom transfers the typical risks it had previously faced in transit countries to European gas companies.⁴⁵

Gazprom indirectly controls Iranian gas export prices (as Iranians consult Russia on this question), and Algerian price offers to Europe (shaped by the MOU signed between Gazprom and Algeria). Thus control maintains the vacuum created by the absence of readily available Iraqi and Israeli gas for sale to Europe via Turkey. Furthermore, according to the Kyoto Protocol, the EU can only use a limited amount of coal and oil—making natural gas the optimal alternative. Europe has thus been in search of natural gas suppliers. After the Crimea annexation, Gazprom expected the EU to be more seriously committed to diversification. Thus, Gazprom began to view the Southern Corridor project, especially TANAP and TAP, as a serious challenge to its market domination in Europe.⁴⁶

In both TANAP and TAP, Turkey is the main transit state linking gas supplies from the Southern Corridor to Europe. This concerned Russia, as it did not want to see any other gas suppliers in southeastern Europe. As of 2030, southeastern Europe is expected to consume no more than 19 bcm. Thus, if alternative suppliers reach southeastern Europe, Russia will see itself squeezed out of the EU market.

Putin expressed this position in his visit to Azerbaijan in 2013, pressuring France's Total to leave natural gas fields under its development to Russia. In return, he promised Azerbaijan fields in the Russian section of the Caspian Sea in a form of a swap agreement. Azerbaijan was expecting additional gas sources under these fields after 2025. With these new sources, Azerbaijan planned to increase TANAP's capacity from 16 to 23 bcm. Accordingly, Putin made an offer to the State Oil Company of Azerbaijan (SOCAR) to share the southeast European market and control prices. Given that there was no offer from SOCAR to BOTAS to partner in the operation of TANAP's leg in the Balkans, it appeared certain to BOTAS officials that promises were made to Russia in return for optional fields. Notably, Azerbaijan

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45 Henderson, J., and Mirova T. (2015) 'The Political and Commercial Dynamics,' *Oxford Energy Group*, 12.

46 Cenk Pala, Interview, 18 August 2015.

needed the additional gas, as an additional 4 bcm was necessary for TANAP to be a functional project.⁴⁷

This shows that with Turkish Stream, Gazprom communicated to Europe that it is the only gas supplier with long-term investment in the Mediterranean region.

This shows that with Turkish Stream, Gazprom communicated to Europe that it is the only gas supplier with long-term investment in the Mediterranean region. Its plans to connect Turkish Stream with TAP would disrupt the strategic aim of the Southern Gas Corridor (SGC) to supply the EU with non-Russian gas.⁴⁸ If Turkish Stream comes online before TANAP, Gazprom could use TAP to replace Azerbaijani with Russian gas.⁴⁹

With Turkish Stream, Gazprom would be able to control gas deliveries to Europe's south and southeast – a blow to the SGC with costs of about \$50 billion. Azerbaijan would have to deal with the fact that it may lose its market share in Europe. However, SGC's transport services would improve and its network costs would decrease with Russian gas, as Gazprom is a better supplier than SOCAR.

In effect, with competition from Russia, Azerbaijan's price and contract policy would have to be more flexible. Russia (with Turkish Stream) would then rely on a system already exempted from TEP and compliant with EU standards.⁵⁰ Although some argue that Gazprom would have achieved this with South Stream had it abided by TEP rules, this would have been impossible for two reasons: South Stream did not receive an exemption and unlike Turkish Stream, would have directly delivered gas to the EU as both the supplier of gas and pipeline operator. By establishing a hub in Turkey or even Greece, Russia will have power over price formation points for the SGC.⁵¹ Likewise, Gazprom's acquisition of Turkey's distributors also signals the company's strategy to control gas flows to Europe by acting as a wholesaler in Turkey.⁵²

Increasing the potential for Gazprom's control of gas deliveries through Turkey to Europe is the support that Turkish Stream has received from some EU member states. Austria, Bulgaria, Croa-

47 Cenk Pala, Interview, 18 August 2015.

48 Ibid.

49 Baxtiyar Aslanbeyli. Interview, June 2015.

50 Dudau, R. (2014) 'South Stream's Cancellation: The End of a Saga', *Natural Gas Europe*, 10 December Available at: <http://www.naturalgaseurope.com/south-stream-cancellation-the-end-of-a-saga>. (Accessed: 15 December 2015).

51 Emre Erturk. Interview, 5 August 2015.

52 Ibid.

tia, Greece, Hungary, Italy, Serbia, and Slovenia drafted a letter to the Commission in June 2014 in support of South Stream. Some European countries had even stated that they could help with building the infrastructure to carry Gazprom's gas to Europe through the Balkans. In addition, in March 2015 Hungary, Slovakia, Austria, Spain, Greece, Italy, and Cyprus expressed opposition to the sanctions.⁵³ Unsurprisingly, this support continued for Turkish Stream. Officials from southeastern member states (Italy, Hungary, Cyprus, and Greece) met with Russian officials about Turkish Stream.⁵⁴ Greece, Macedonia, Serbia, Hungary, and Turkey agreed to help facilitate the natural gas infrastructure in Turkey.⁵⁵ These countries along with Austria discussed the possibility of extending Turkish Stream to their home countries as a direct substitute for South Stream.⁵⁶

Increasing the potential for Gazprom's control of gas deliveries through Turkey to Europe is the support that Turkish Stream has received from some EU member states.

Notably, Gazprom's choice of Turkish Stream is also motivated by another aim: to override the potential consequences of the anti-trust battle. Since 2012 Gazprom has been under investigation by European antitrust authorities for violating European competition law. Following the investigation, a "State of Objection" was presented to Gazprom. Gazprom was charged with dividing Central and East European gas markets with territorial restrictions of export ban clauses, unfair pricing (price of gas was higher than Gazprom's production costs), and in relation to its requirement that buyers invest in transport infrastructure. The penalty would be as high as 10% of Gazprom's annual revenues, meaning EUR 9.2 billion (based on 2013 revenue figures). With Turkish Stream, Gazprom may have responded to the case, as the route is outside of EU jurisdiction.⁵⁷

Notably, Gazprom's choice of Turkish Stream is also motivated by another aim: to override the potential consequences of the anti-trust battle. Since 2012 Gazprom has been under investigation by European antitrust authorities for violating European competition law.

Finally, Turkish Stream allows Gazprom to address its concerns over long-term contracts (LTCs). After 2020 many of Gazprom's LTCs will begin to expire, marking a drop in volume to 113 bcm in annual contract quantity basis and 80 bcm in TOP basis by

53 Sputnik News (2015) 'Seven EU Countries to Oppose New Anti-Russian Sanctions at Summit', 18 March Available at: <http://sputniknews.com/europe/20150318/1019648159.html>. (Accessed: 19 December 2015).

54 De Micco, P. 'Changing pipelines, shifting strategies', *European Parliament*, July 2015, 14.

55 Leifheit, D. (2015) 'Budapest Meeting Supports Turkish Stream', *Natural Gas Europe*, April 8 Available at: <http://www.naturalgaseurope.com/budapest-meeting-supports-turkish-stream>. (Accessed: 10 January 2016).

56 Novinite (2015) 'Turkish Stream Route Might Be Extended Says Russian Energy Minister', April 15 Available at: <http://www.novinite.com/articles/167906/Turkish+Stream+Route+Might+Be+Extended+-+Russia+Energy+Min>. (Accessed: 10 December 2015).

57 De Micco, P. 'Changing pipelines, shifting strategies', *European Parliament*, July 2015, 11.

2020 (shown in Figure 2) in the case that contracts are not renewed. This would reflect on the European market in the form of increased LNG sales and a gradual switch away from Russian gas.⁵⁸

Figure 1: Russian exports assuming expiry of LTCs at ACQ and 70% ToP (bcm)

Russian exports assuming expiry of long-term contracts at ACQ and 70% ToP (bcm)				
	2013	2015	2020	2030
Europe Demand	529	522	540	594
Europe Import Requirement	260	285	313	423
Gap for Russian Gas and LNG	218	243	260	339
Outcome 3a: Russian contracts run down at ACQ				
Russia		190	174	113
Implied Other LNG		37	59	171
Implied Total LNG		53	86	226
Implied Russia % Imports		67%	56%	27%
Implied Russia % Demand		36%	32%	19%
Outcome 3b: Russia contracts run down at 70% ToP				
Russia		133	122	79
Implied Other LNG		94	111	205
Implied Total LNG		110	138	260
Implied Russia % Imports		47%	39%	19%
Implied Russia % Demand		25%	23%	13%

Source: Nexant Energy, Authors' calculations

Source: Henderson J. and Mirova T., “The Political and Commercial Dynamics,” *Oxford Energy Group*, September 2015, 42.⁵⁹

With a market in Europe, where energy trading companies are trying to balance oil-linked and hub-based contracts as well as the rise of renewables, operators will be pressured to change their business model—potentially precipitating the shift from oil-linked to hub-based pricing, and the eventual termination of LTCs for more flexibility in the marketplace. Thus, Gazprom understands that LTCs based on oil-linked prices may come to an end in its core customer base. With Turkish Stream there was potential for renegotiation of LTCs that pass through Ukraine, as the final destination of the gas would change.⁶⁰

Conclusion

Gazprom’s switch to Turkish Stream was strategic. As shown in this paper, the decision to partner with Turkey stemmed from Russia’s existing energy-based relationship with Turkey. Turkish

58 Henderson, J., and Mirova, T. ‘The Political and Commercial Dynamics,’ *Oxford Energy Group*, September 2015, 42.

59 Ibid.

60 Henderson J., and Mirova T. ‘The Political and Commercial Dynamics’, *Oxford Energy Group*, September 2015, 47.

Stream addressed Gazprom's challenges in the European market by: (1) adapting to EU's Third Energy Package; (2) securing control of gas flows to Europe by controlling Turkish gas transit; (3) garnering support of southeast European states; (4) overcoming consequences of anti-trust battles; (5) addressing the concerns with long-term contracts. Thus, Turkish Stream addressed all the loopholes of South Stream, and was a strategic replacement for South Stream.

Furthermore, Turkey and Russia could have pursued alternative paths to achieve their respective goals. In realizing its hub potential, Turkey could have engaged in swap deliveries with Turkmen gas. Turkey insisted that 23 bcm of the gas in Turkish Stream had to be Turkmen or Kazakh gas, and not exclusively Russian. But in order to ensure supply diversity, Turkey rather than Russia had to have the right to negotiate third party access. If Turkey had gained this control, then Gazprom would just deliver the gas and receive transport tariffs.⁶¹

In further capitalizing in the Turkish market, Gazprom could focus on the segmentation of gas. Natural gas has no price alternative in the context of residential usage, but in industrial usage it varies. Textile uses steam, which competes with coal. Steel and ceramic manufacturers rely on natural gas. Overall, because liquefied petroleum gas is too expensive, industry largely depends on natural gas.⁶² Gazprom could also focus on Blue Stream II—a necessary project in Turkey with less significant geopolitical implications. Gazprom should capitalize on Turkey and Russia's discussions of the expansion of Blue Stream by 3 bcm by upgrading the compressors. This will force suppliers to use the existing network and thus comply with Turkish rules.⁶³

However, more significantly, in order to avoid the confusion as to why Turkish Stream replaced South Stream, policymakers and experts in the energy industry should focus more on the feasibility of the pipeline and its economic implications, which are addressed in an extended version of the current paper.⁶⁴ Doing so would factor the transit risk diversification that the pipeline offers in comparison to existing transit routes. In turn, this would provide a comprehensive overview of the strategy behind replac-

61 Cenk Pala. Interview, 18 August 2015.

62 Mehmet Dogan, Interview, 21 July 2015.

63 Emre Erturk. Interview, 5 August 2015.

64 The longer version of this study that incorporates the transit risk assessment of South Stream and Turkish Stream could be found in the following link: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2828380

ing South Stream with Turkish Stream. Omitting such an objective evaluation in discussions of the Turkish Stream project has led to unnecessary political speculation and the apparent puzzle that has inspired this paper.

Is Azerbaijani Gas a Game Changer in Balkan Energy Geopolitics?

Plamen Dimitrov*

Until now, the Russian company Gazprom has been the dominant gas supplier of the Balkan countries. Most of the projects for new gas pipelines in the Balkans have failed or have become stagnant in recent years for two main reasons: lack of gas to feed them (Nabucco, ITGI, Bulgaria's "Balkan" gas hub), or an adverse geopolitical environment (South Stream, Turkish Stream). But it is already clear that Azerbaijani gas from the Shah Deniz field will reach Balkans through the Southern Gas Corridor. This article examines the Balkan routes of the Azerbaijani gas, and answers the question of how this new source of gas will influence the energy geopolitics of Turkey, Bulgaria, and Greece. The conclusion is that the gas from Shah Deniz will trace out a new energy corridor through the southern part of the Balkans. Pursuant to this, an additional gas supply infrastructure could be built around this corridor – LNG terminals, interconnectors and new pipelines to bring gas from Turkmenistan, Iraq, or from the Eastern Mediterranean to Europe. Azerbaijani gas will, to a significant degree, act as a game changer in the Balkan energy geopolitics, although Gazprom will retain its role as a main supplier for the region.



* Dr. Plamen Dimitrov is the Head of the Eurasia Sector at the Bulgarian Geopolitical Society

Introduction

In the spring of 2016, a combination of geopolitical and economic factors created the impetus for projects on alternative gas deliveries in the region of South-Eastern and Southern Europe. These projects are part of the Southern Gas Corridor of the EU. The gas will be transferred through three consecutive pipelines - the South Caucasus (SCP) from Baku to Erzurum in Turkey; the Trans-Anatolian (TANAP) which will cross Turkey from east to west; and the Trans-Adriatic pipeline (TAP), which will start from Greece to bring the gas to Italy through Albania and under the Adriatic Sea. This gas transmission system will be fed by the Azerbaijani Shah Deniz gas field, located in the Caspian Sea.

This article explores the Balkan routes of the Azerbaijani gas, and answers the question of how these new gas supplies will influence the energy geopolitics of Turkey, Bulgaria, and Greece. Until now, the Russian company Gazprom has been the dominant gas supplier for the Balkan countries. It is understandable that Russia will try to retain this position. But the Balkans are also important for Gazprom as a transit route that could bring Russian gas to the Central Europe and Italy, thereby diminishing the transit role of Ukraine. Such a development is not desirable for the European Commission. Brussels prefers to encourage alternative gas supplies, and to some extent plays the role of arbiter in the struggle among the different gas projects in the Balkans.

It is for this reason that the geopolitics of Balkan gas is very dynamic, featuring many unknown quantities. Most of the projects for gas pipelines in the Balkans have failed or have become stagnant in the recent years for two main reasons: lack of gas to feed them (Nabucco, ITGI, Bulgaria's "Balkan" gas hub) or an adverse geopolitical environment (South Stream, Turkish Stream).

It is worth mentioning that with the exception of Turkey (which is a big gas consumer), and Romania (which has its own production, fulfilling more than 90% of its domestic consumption), all other Balkan countries have small or even non-existing gas markets. This is why even comparatively modest new supplies can seriously affect the gas geopolitics in the region.

Table 1. Russian Gas Exports to the Balkan countries in 2015 (in billion cm)

Turkey	Bulgaria	Greece	Serbia	Romania	Bosnia	Macedonia
27	3,11	1,98	1,68	0,18	0,20	0,06

Source: Gazprom Export website; <http://www.gazpromexport.ru/en/statistics/>

The first part of the paper explores the prospects of the Southern Gas Corridor – its potential supply sources, financing, and project schedule. After that it examines the importance and competitiveness of Azerbaijani gas for the Turkish, Bulgarian, and Greek energy markets. The potential synergy between the pipelines from the Southern Gas Corridor and other gas transmission projects in the Balkans (LNG terminals, interconnectors) will also be analyzed. Finally, the paper discusses the influence of Azerbaijani gas on the dynamics of the Balkan energy trade.

The Southern Gas Corridor – problems and perspectives

The structure of the Southern Gas Corridor was shaped back in 2013, when the shareholder in the Shah Deniz project decided that Azerbaijani gas would be transferred through TAP in order to reach European markets.

The TANAP and TAP rely on gas from the Phase 2 of the Shah Deniz field (SD2) development. It is expected that after 2018, SD2 will add 17 bcm/a to the 9 bcm/a produced from the Phase 1 of this field. The gas from SD2 has been already contracted: 6 bcm/a to go to the Turkish market, 1 bcm/a each for Bulgaria and Greece, with the remaining 8 bcm supplied Italy and destined for buyers in Europe.

The main engine of the TANAP project is Azerbaijan. This is understandable as Azerbaijan is the party most interested in bringing its gas to European and Turkish markets. But some large international companies are also involved in the extraction of Azerbaijani gas as well as its transportation to the international markets. The leading company in SD2 is the British BP (former British Petroleum). Azerbaijanis have a majority stake (58%) in TANAP, while BP has 12%. There are three leading companies in TAP: Azerbaijani SOCAR, BP and the Italian Snam.

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Table 2. Distribution of shareholders in the gas production project Shah Deniz and in the South Caucasus (SCP), TANAP and TAP gas pipelines as of August 2016

	Shah Deniz	SCP	TANAP	TAP
SOCAR (Azerbaijan)	16,7%	16,7%	58%	20%
BP (UK)	28,8%	28,8%	12%	20%
LUKoil (Russia)	10%	10%	-	-
Petronas (Malaysia)	15,5%	15,5%	-	-
TPAO (Turkey)	19%	19%	-	-
BOTAS (Turkey)	-	-	30%	-
NIOC (Iran)	10%	10%	-	-
Snam (Italy)	-	-	-	20%
Fluxys (Belgium)	-	-	-	19%
Enagas (Spain)	-	-	-	16%
Axpo (Switzerland)	-	-	-	5%

The gas extraction from SD2 and the three pipelines that have to bring the gas to Europe are an elements of an undivided business chain. This means that all these projects should be synchronized with each other.

According to the latest estimates, the total cost of all projects of the Southern Gas Corridor is a little over \$39 billion – \$23.8 billion for SD2, including the SCP planned expansion (SCPx); \$9.3 billion for TANAP; and \$6 billion for TAP. Before the sharp fall of oil prices the cost of the Southern Gas Corridor was expected to be about \$45 billion, due to the impact of energy prices on the prices for material and services used for the development of SD2 and the pipelines.¹

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The SD2 and subsequent pipelines will be built on the basis of project finance, which means the majority financing will be accumulated on the financial markets. There are two main challenges regarding the financing of the SGC. First, it is very expensive, and second, the low oil prices have made financial institutions very cautious when financing major energy projects.

Azerbaijan has major stakes in all elements of the Southern Gas Corridor, and has to raise \$11.45 billion, which is equal to

¹ Natural Gas Europe (2016) ‘Energy prices allow cost cuts in Caspian’, Available at: <http://www.naturalgaseurope.com/energy-prices-help-cost-reduction-for-sgc-29962> (Accessed: 30 August 2016)

its shares in SD2, SCPx, TANAP, and TAP. For the time being Azerbaijani share in the SGC is financed mainly by the State Oil Fund of Azerbaijan (Sofaz). Until August 2016, Sofaz financed Southern Gas Corridor Co (a special company created in order to unify the Azerbaijani stakes in SD2, SCPx, TANAP and TAP) to the tune of \$2.5 billion, with another \$1.7 billion provided by the Azerbaijani Ministry of Finance and SOCAR.² March 2016 saw a major success in the project's development, when the Southern Gas Corridor Co raised \$1 billion in 10-year Eurobonds on international financial markets. At the end of summer of 2016 Azerbaijan had to raise a little bit more than half of the money needed to finance the country's share in the SGC. Negotiations with lending giants, such as the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD), the World Bank, and the Asian Development Bank are underway. Bearing in mind the strong commitment of the government, the Southern Gas Corridor Co will likely be able to raise the required \$6.2 billion to finish the projects that will bring Azerbaijani gas to Europe. It should be even easier for a company with a reputation like BP's to secure financing for its share in the SGC.

In June 2016 Azerbaijani energy minister Natig Aliyev declared that Shah Deniz 2 was 71% complete,³ TANAP - 55% complete; and TAP - 10% complete.⁴ In fact, the building of TANAP started officially on March 17 2015. The official groundbreaking ceremony for TAP took place on May 17 2016. According to SOCAR, the first gas from SD2 will be on the market in 2018; TANAP will be completed in the same year, and Azerbaijani gas will reach Europe (Greece and Italy) in 2020.⁵ However, experts and some diplomats in Azerbaijan are a little more skeptical. They do not think Azerbaijani gas will flow through TAP any earlier than 2021-2022.

The two projects that will transport gas from SD2 to Europe – TANAP and TAP - envisage the expansion of their initial capacity, relying on future increases in Azerbaijan's production.

2 Natural Gas Europe (2016) 'Caspian Overview: SD2 Cuts Capex, Baku Optimistic', 25 August, Available at: <http://www.naturalgaseurope.com/caspian-overview-sd2-cuts-capex-baku-optimistic-31235> (Accessed: 30 August 2016).

3 At the end of August 2016 BP said SD2 is "over 77% complete in terms of engineering, procurement and construction". Natural Gas Europe (2016) Caspian Overview: SD2 Cuts Capex, Baku Optimistic.

4 Natural Gas Europe (2016) 'Energy prices allow cost cuts in Caspian', Available at: <http://www.naturalgaseurope.com/energy-prices-help-cost-reduction-for-sgc-29962> (Accessed: 30 August 2016).

5 Author's interview with Vitaliy Baylarbayov, Deputy Vice-president of SOCAR, Baku, 3 June 2016.

Indeed, Azerbaijan's continental shelf has other prospective middle-sized fields. But in the Caspian Sea there is a serious dearth of deep-sea drilling rigs, which delays prospecting and development of the fields.⁶

In the next 10 years only one new Azerbaijani field will start to produce gas. This is Absheron, where SOCAR owns 40%, and the French company Total (operator of the field) also holds 40%. The expected production from Absheron is 5 bcm/a, and it has to start as early as 2022. It is not certain whether this gas will be directed for export, given Azerbaijan's growing domestic consumption. But after 2030, an additional 15 bcm/a of Azerbaijani gas might be brought on stream, through a combination of expansion programs at existing fields along with development of new fields.⁷

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It is doubtful that in the foreseeable future that gas from Iraq, Iran or Turkmenistan will be carried by the Southern Gas Corridor. In Iraqi Kurdistan there are significant gas fields and plans for export to Turkey, but in view of the security problem, export are unlikely to start soon. The 2015 nuclear agreement with Iran put country back on the list of potential gas suppliers for Europe. Iran has strong energy potential, but the oil and gas sector requires massive investments, and these are not forthcoming in the short term. For the time being, the country has no extra gas to export; in addition, Europe is likely not to be a priority direction for exports from the main Iranian field South Pars. It is more probable that in a few years, Iran will start exporting gas to the closer markets of Pakistan, India and Iraq, all of which offer good prospects. Following the successful example of its neighbor Qatar, Iran can invest in the building of LNG terminals.

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So far, the efforts of the European Union towards the construction of the Trans-Caspian pipeline to carry Turkmen gas to Europe have failed. In September 2011, for the first time in its history, the European Commission received a mandate to carry out negotiations for signing a contract with Turkmenistan and Azerbaijan on behalf of the EU.⁸

⁶ The construction of the first floating new generation drilling rig of SOCAR will be completed by the end of 2016. According to the experts Azerbaijan needs at least four such floating drilling rigs. See Azernwes (2014) First new generation drilling rig to be finished by late 2016, 1 May, AVAILABLE AT: [HTTP://WWW.AZERNEWS.AZ/OIL_AND_GAS/66642.HTML](http://www.azernews.az/oil_and_gas/66642.html) (ACCESSED: 30 AUGUST 2016).

⁷ Rzayeva, G. (2016) Materializing mega-gas projects in Azerbaijan in the low price environment. Talk at the Natural Resources Forum, London, 28 June, Available at: <http://naturalresourcesforum.com/companies/oxfordinstitute2/> (Accessed: 30 August 2016).

⁸ EU starts negotiations on Caspian pipeline to bring gas to Europe, European Commission web-site, Available at: http://europa.eu/rapid/press-release_IP-11-1023_en.htm?locale=en (Accessed: 30

However, it remains unlikely that a contract for the Trans-Caspian gas pipeline will be concluded in the foreseeable future. Here, the insurmountable obstacle is the Russian resistance to this pipeline and the reluctance of Turkmenistan to undertake more serious geopolitical and financial commitments in regard to the project. In October 2015 Russia attacked positions of the Islamists in Syria with cruise missiles launched from ships based in the Southern part of the Caspian Sea. This demonstration of power aimed to strengthen the position of Moscow as indispensable military factor not only in the Middle East, but also in the Caspian region. In this situation, companies are unlikely to be willing to invest billions of dollars in a project opposed by Russia.

The only realistic option for transporting the modest volumes of Turkmen gas to the SGC is to link the gas platforms in the western and eastern part of the Caspian Sea via subsea pipeline. In this regard, the Malaysian company Petronas can play a major role. Petronas holds a 15.5% share in Shah Deniz, as well as a Production Sharing Agreement with Turkmenistan for the oil and gas in Block-1 in the Caspian Sea. The distance between Shah Deniz and Block-1 is not large, and Russia can probably eventually accept a small-scale pipeline (which I propose to call “Trans-Caspian pipeline-light”, “TCP-light”). This smaller pipeline will enable Petronas to transfer its gas to Azerbaijan and subsequently to the SGC.⁹

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In light of the above, my prognosis is that the Southern Gas Corridor will receive little or no gas (i.e. less than 5 bcm/a) of Iraqi, Iranian or Turkmen gas until 2024-2025 at least. Thus in the short to medium term, Azerbaijani gas will form the backbone of the SGC.

Azerbaijani gas and Turkey's energy dilemma

Turkey has the biggest gas market in the Balkans, and in the period 2009-2014, its consumption grew every year. It is the most commercially suitable market for Azerbaijani gas, due to the shorter transportation distance, expected demand growth, and high prices.¹⁰ At the same time, the Turkish gas market is very

August 2016).

9 Neftegaz.ru (2016) Petronas shows in Azerbaijan an interest to Trans-Caspian gas pipeline, 29 July, Available at: <http://neftegaz.ru/en/news/view/151582-Petronas-shows-in-Azerbaijan-an-interest-to-Trans-Caspian-gas-pipeline> (Accessed: 30 August 2016).

10 Rzayeva, Gulmira (2015) The Outlook for Azerbaijani Gas Supplies to Europe: Challenges and Perspectives. Oxford Institute for Energy Studies, Paper NG 97, June, p.67.

complicated, politically sensitive, and its liberalization is still ongoing.

Azerbaijan began to export gas for Turkey in 2007, and additional 6 bcm/y will be exported after 2018. Turkey has three other options for gas imports – Russia, Iran and LNG. Gazprom has been Turkey’s main gas supplier, providing more than half of Turkey’s imports until the beginning of 2016.

Table 3. Import of natural gas in Turkey in 2015 and the first quarters of 2016 (in bcm)

Year/ Source	Russia	Iran	Azerbaijan	LNG	Total
2015	26,6 (56,4%)	7,8 (16,5%)	5,3 (11,2)	7,5 (15,9)	47,2
Q1 2016	6,35 (48,2%)	2,18 (16,6%)	1,71 (13%)	2,93 (22,2%)	13,17
Q1-Q3 2016	16,7 (49,4%)	5,56 (16,4%)	4,85 (14,3%)	6,72 (19,9%)	27,11

Sources: BP, Azernwes¹¹ and Natural Gas Europe¹²

At the end of 2014, Russian President Putin initiated the Turkish Stream pipeline – the project that could strengthen Russia’s position in the Turkish market. Even a single string of Turkish Stream (15,75 bcm/a) could enable Gazprom to flood the Turkish market with Russian gas; the total transmission capacity of the Blue Stream, the Trans-Balkan pipeline, and Turkish Stream will reach 46 bcm/a. Russia’s intention to use Turkish territory as a gas transit route to the EU is not realistic. Thus the realization of the Turkish Stream project will reflect on Gazprom’s expectations

and ambitions regarding its presence in the Turkish gas market.

The geopolitical conflict between Moscow and Ankara following the downing of a Russian military aircraft in November 2015 has shown that gas dependence on Russia is a threat to Turkish energy security. The availability of four gas import sources is insufficient if the share of the main supplier (Gazprom) is over 50%. Importing Iranian, Iraqi or Israeli gas could also give rise

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11 Azernwes (2006) ‘Turkey ups gas purchase from Azerbaijan, decrease from Russia’, Available at: http://www.azernews.az/oil_and_gas/97376.html (Accessed: 30 August 2016).

12 Natural Gas Europe (2016) ‘Turkey Takes Less Russian Gas’, Available at: <http://www.natural-gasworld.com/turkey-takes-less-russian-gas-34621> (Accessed: 30 November 2016).

to potential geopolitical complications. Therefore, Azerbaijan is not only the biggest, but also the most reliable gas supplier for Turkey, given the deeply rooted relations of the strategic partnership between Ankara and Baku. Turkey will keep trying to reduce Russia's share of its gas imports to below 50%, because major dependence on Russia is perceived as a threat to national energy security. If Ankara will agree to only one string of the Turkish Stream pipeline, it will mean the share of Russian gas on the Turkish market will not increase and the contract for importing gas from Shah Deniz-1 to Turkey will be prolonged beyond its expiration date (which is 2021).

The Greece-Bulgaria interconnector and the synergy between the Azerbaijani gas and the LNG terminal in Alexandroupolis

Table 4. Bulgaria's gas consumption and imports during 2016-2023, Prognosis (bcm)

	2016	2017	2018	2019	2020	2021	2022	2023
Consumption	3,1	3,3	3,5	3,7	3,8	4,0	4,1	4,2
Import	3,035	3,23	3,3	3,3	3,2	n/a	n/a	n/a

Source: Bulgartransgaz¹³

Bulgaria is one of the countries that stands to obtain gas from SD2. This will only be possible if the Greece-Bulgaria gas interconnector (IGB) is built on time. This project is being developed by the joint venture company ICGBAD. The initial capacity of the IGB will be 3 bcm/a, with a possibility of upgrading it to 5 bcm, which could be achieved through the installation of an additional compressor station. The main gas flow in the IGB will be from Greece to Bulgaria, but the pipeline will also be equipped to offer physical reverse flow.

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The IGB has two weak points – its economic feasibility, and the shareholder structure, in which Bulgarian Energy Holding (BEH) has 50%, and the remaining 50% is held by IGI Poseidon – a joint venture company between the Greek state controlled company DEPA and the Italian Edison. The majority owner of Edison (with 99,4% of shares) is the French Electricite de France (EdF), controlled by the French government.

¹³ Bulgartransgaz (2016) 'Ten-year Networking Development Plan of Bulgartransgaz', 31 March, Available at: http://www.bulgartransgaz.bg/files/useruploads/files/ITO/10YP/TYNDP_31-03-2016-en%201.pdf (Accessed: 30 August 2016).

The more active partner in the ICGB is the BEH. The Bulgarian government decided to issue 109 million Euro worth of guarantees for the IGB project in 2016.¹⁴ The gas interconnector Greece-Bulgaria is the only state-guaranteed investment project included in the Law for the State Budget of Bulgaria for 2016. Bulgaria's partners in ICGB – DEPA and Edison - have never expressed uncertainty about the project, but do not play active roles. Their participation is the result of diplomatic pressure from the European Commission and the US (through Amos Hochstein - Coordinator for International Energy Affairs at the US Department of State), who are interested in the implementation of the IGB project.

In February 2016, DEPA and Edison signed a Memorandum of Understanding (MoU) on natural gas deliveries “across the Black Sea from Russia via third countries to Greece and from Greece to Italy in order to establish a southern route to deliver Russian natural gas to Europe.”¹⁵ Bearing in mind the fate of the South Stream project, it is certain that the European Commission will not support any projects aimed at delivering Russian gas to the EU bypassing Ukraine. This is why the above-mentioned “southern route” for Russian gas is impossible. The aim of this MoU was mainly to discourage projects for alternative gas supplies to the Balkans and Italy, and to support Russian efforts to promote the Nord Stream-2 pipeline project. But the fact that two of the partners in the ICGB agreed to express support for Gazprom indicates close relations with the Russian gas giant. In fact, EdF (the owner of Edison) and Gazprom have a common business venture. In 2012 the two companies reached a deal to jointly invest in gas-fired power plants in Europe. The gas for these power plants should be supplied “exclusively by Gazprom”.¹⁶ It is worth mentioning that EdF was one of Gazprom's three Western partners in the South Stream project.

It is understandable that Gazprom has no interest in the success of the IGB project, because it could bring competitors to the Bulgarian market, and in the medium term, even to the other Balkan markets. The fact that some partners in the ICGB are

¹⁴ Novinite.com (2016) ‘Bulgaria-Greece Gas Link Gets BGN 215 M in State Guarantee’, Available at: <http://www.novinite.com/articles/171550/Bulgaria-Greece+Gas+Link+Gets+BGN+215+M+in+State+Guarantee> (Accessed: 30 August 2016).

¹⁵ Gazprom, DEPA and Edison sign Memorandum of Understanding, Gazprom web-site, 24 February 2016, Available at: <http://www.gazprom.com/press/news/2016/february/article267671/> (Accessed: 30 August 2016).

¹⁶ The New York Times (2012) ‘Gazprom Reaches Deal With EDF to Invest in European Power Plants’, 22 June, Available at: http://www.nytimes.com/2012/06/23/business/global/gazprom-reaches-deal-with-edf-to-invest-in-european-power-plants.html?_r=1 (Accessed: 30 August 2016).

strategic partners of Gazprom does not bode well for the project's success, and its shareholders structure is not very suitable for the expected gas flows in the region.

But the ICGB company was created in January 2011. At that time, the Greece-Bulgaria interconnector was designed as a northern branch of the ITGI (Interconnector Turkey-Greece-Italy) pipeline. That is why the two shareholders of the ITGI - DEPA and Edison – joined the ICGB company. Then in 2013, the Shah Deniz consortium chose the TAP for the transportation of Azerbaijani gas to Italy, and the ITGI was shelved.

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At present, DEPA and Edison have little motivation to implement the IGB project. Bulgaria is eager to build the interconnector with Greece because it will give it a chance to diversify the country's gas supplies, but DEPA and Edison are not obliged to worry about Bulgarian energy security. They are interested in generating profits, but as mentioned, the profitability of the IGB is problematic.

In this situation it is logical for the shareholder's structure of the ICGB company to be diversified and for some of the participants of the Shah Deniz consortium, the TANAP and TAP to join the Greece-Bulgaria interconnector project. Azerbaijan's SOCAR has been invited by Bulgaria to join the ICGB, but for the time being their answer is "no". Entering ICGB can strengthen the SOCAR's strategic positions in the Balkans, but the low oil price means that this is not a good moment. SOCAR's revenues have fallen sharply, and Azerbaijani gas strategists have been carefully calculating every investment expenditure. The same is true for the other big shareholders in the Shah Deniz project – BP and Petronas.

It is clear that until at least the mid-2020s Azerbaijani gas will be insufficient to utilize the full capacity of the IGB. This is why the ICGB has been looking for other sources of gas, first of the planned LNG regasification terminal in Alexandroupolis in Northern Greece. The main driver of this project is the private Greek company Gastrade, but two US companies are also interested in the Alexandroupolis LNG terminal – Chenier Energy, which began exporting LNG from the US in 2016, and Noble Energy, the first operator to discover offshore natural gas resources in Israel and Cyprus. Bulgaria is also interested in the future LNG terminal, as are the shareholders in IGB. DEPA and Edison. Recently Iran has also shown interest in the

Alexandroupolis LNG terminal.¹⁷

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The plans for the Alexandroupolis LNG terminal are very ambitious – the envisaged capacity is 6,1 bcm/a, which is more than the current gas consumption of Greece and Bulgaria combined. According to some sources, the Alexandroupolis terminal is expected to cost \$415 million, although this estimate sounds too optimistic for a facility on this scale.¹⁸ Gastrade’s website shares some technical details for the terminal – it will be a floating facility, situated at 17,6 km from the town of Alexandroupolis, and 10 km from the nearest opposite shore. The LNG will be gasified at the regasification units and will be moved to the 24 km subsea pipeline via a submerged turret and a set of flexible risers. The terminal will have a storage capacity of up to 170 000 cub. m of LNG.¹⁹

The fate of the IGB depends on the success of the Southern Gas Corridor and the LNG terminal in Alexandroupolis. In the spring of 2016, the first phase of the market test (Expression of interest) for the purpose of booking capacity in the interconnector was conducted. Nine non-binding Expressions of Interest were received.²⁰ A total aggregate capacity of 4.3 bcm/y was requested for gas transportation services in firm forward mode from Greece to Bulgaria and approximately 1 bcm/y in firm reverse mode from Bulgaria to Greece.²¹ These volumes do not include the 1 bcm/y gas from SD2 which has been contracted by Bulgaria. But almost half of this 4,3 bcm/y (2 bcm) was booked by Gastrade and the final decision of this company will depend on the progress of the LNG terminal in Alexandroupolis. Azerbaijani SOCAR participated in the first phase of the IGB market test, with a very small volume. SOCAR intended to confirm its offer during the second bidding phase of the market test.²² It was launched in

17 Shipping Herald (2016) ‘Greece Seeks Role As Gateway For Iran’s Energy Exports To Europe’, Available at: <http://www.shippingherald.com/greece-seeks-role-as-gateway-for-irans-energy-exports-to-europe/> (Accessed: 30 August 2016).

18 The Maritime Executive (2015) ‘Cheniere CEO Dismissed, Company Announces New LNG Investments’, Available at: <http://www.maritime-executive.com/article/cheniere-ceo-dismissed-company-announces-new-lng-investments> (Accessed 30 August 2016).

19 Gastrade web-site; <http://www.gastrade.gr/en/the-company/the-project.aspx> (Accessed: 30 August 2016).

20 The nine firms were Bulgarian Bulgargaz, DEPA, Edison, SOCAR, Noble Energy, Gastrade, OMV Petrom – the Romanian subsidiary of Austria’s OMV – as well as two Bulgarian private distribution companies, Citygaz and the Black Sea Technology Company.

21 Energy Press (2016) ‘IGB developments in October, Romania extension prospects favorable’ Available at: <http://energypress.eu/igb-developments-in-october-romania-bulgaria-pipeline-prospects-favorable/> (Accessed: 30 August 2016).

22 Author’s interview with Vitaliy Baylarbayov, Deputy Vice-president of SOCAR, Baku, 3 June

August 2016 and was completed in the end of November. Five binding offers were received with total aggregate capacity of 1,57 bcm/y. All five companies want to transfer gas in firm forward mode from Greece to Bulgaria. The company ICGB considers the possibility to initiate a procedure for allocation of the remaining capacity of the interconnector, hoping new shippers will express interest in the IGB²³. If a new procedure is going to be launched, it means the building of the pipeline will be postponed and will not start in 2017.

The capacity of the IGB and the planned LNG terminal in Alexandroupolis will not be used fully, and its commercial viability is doubtful. But the new facilities for gas deliveries should be examined in the context of the overall picture of Balkan gas trade. Gazprom has a monopoly in Bulgaria, and dominant positions in Greece and Turkey. The breakup of this monopoly will strengthen the negotiating positions of Balkan countries and could result in better prices for imported gas. This is also consistent with the EU energy strategy, according to which each European country should secure gas supplies from at least three sources. But for the small Balkan countries, this goal is impossible if the governments rely exclusively on the mechanisms of the free market. This is why the EU is ready to allocate limited financial aid for some energy projects of critical importance. Both IGB and Alexandroupolis LNG terminal are on the EU's list of projects of common interest.²⁴

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The IGB is eligible for financial support through the European Energy Program for Recovery, in the amount of 45 million Euro. The decision for this financial support was taken in 2010 and the deadline for the utilization of these funds has been extended to 2018.²⁵ But this is only 20% of the expected budget. The ICGB company is applying for an additional grant of 35 million Euro from the European Commission, but the chances of receiving this sum are slim. Most probably, construction of the IGB will not start until the middle of 2017 because the IGB shareholders are

2016

23 Five binding offers were submitted in the binding phase of the market test for the Gas Interconnector Greece-Bulgaria. ICGB AD Press release, 02 February 2016, Available at: <http://www.icgb.eu/press> (Accessed: 03 December 2016).

24 Official Journal of the European Union (2016) 27 January. Commission Delegated Regulation (EU) 2016/89. Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2016_019_R_0001&from=EN (Accessed: 30 August 2016).

25 Author's interview with Teodora Georgieva, Executive Officer ICGB AD, Sofia, April 2016.

waiting on the progress of the project for the Alexandroupolis LNG terminal. This terminal itself can expect even greater percentage of financing from the EU, but here the required amount is even greater compared to that of the IGB.

The IGB can be a gateway for the Azerbaijani gas to Romania, and even Ukraine and Moldova. It will be possible thanks to the Bulgaria-Romania interconnector (between the towns of Ruse and Giurgu), which was completed in November 2016. The initial deadline for the completion of the Ruse-Giurgu pipeline was June 2013, but the completion was delayed due to technical problems during the construction of the underwater section of the pipeline. The total length of this interconnector is 25 km including 2,1 km under the Danube River. The capacity of the Ruse-Giurgu pipeline is 1,5 bcm/a from Bulgaria to Romania and 0,5 bcm/a from Romania to Bulgaria. The estimated total value of the project is 24 million euro, 8,9 million of which have been provided as a grant by the European Commission.²⁶ Owing to the lower pressure in the Romanian gas transmission system, in the initial stages only the flow of gas from Bulgaria to Romania will be possible. In order to enable the reverse flow – from Giurgu to Ruse – a compressor station will be built later on.

Possible role for SOCAR in the Greek gas market

Greece already has one LNG terminal in Revithoussa, not far from Athens. It began to operate in 2000 but only small part of its capacity has been used recently, because the pipeline gas delivered to Greece by Gazprom has been cheaper than LNG.

The Revithoussa LNG terminal belongs to the Greek gas transmission system operator DESFA. In 2013, SOCAR won the international tender for the privatization of DESFA offering 400 million Euro for 66% of the company. But after that the deal was delayed when the European Commission insisted that SOCAR to surrender a 17% share and offer it to a certified European operator. This would limit SOCAR's stake to 49%. The view in Brussels was that SOCAR should not control the gas transmission system of Greece at the same time as being its gas supplier. In the spring of 2016 it seemed the deal for DESFA was close to completion and Italian Snam was ready to acquire the 17% from SOCAR. But in July 2016 the parliament in Athens adopted an amendment proposed by the Greek energy minister Skourletis, which revised

26 Energynomics.ro (2016) 'Bulgaria-Romania gas interconnector may be ready this September', 25 July, Available at: <http://www.energynomics.ro/en/bulgaria-romania-gas-interconnector-may-be-ready-this-september/> (Accessed: 30 August 2016).

DESFA's asset base and limits the operator's earning potential. In this situation the price that SOCAR agreed for 66% of DESFA in 2013 was no longer reasonable.²⁷ Tough negotiations between SOCAR and the Greek government started in the summer of 2016. The letter of guarantee that was set to expire at the end of September 2016 has been extended twice by the Azerbaijani company, but until the end of November the outcome of the negotiations remained unclear. Finally, the negotiations failed and DESFA has not been sold.

The failure of DESFA's privatization will have serious repercussions for the Greek gas market. Recently SOCAR has become a big international trader with many overseas offices that buy and sell energy resources, including resources not produced by Azerbaijan.²⁸ SOCAR entrance into the Greek market could add a new dynamic to the gas industry in the country and the region as a whole. Now the Greek government has little chance of finding a new reputable buyer for the gas transmission operator.

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Summer of 2016 saw another important change in the conditions for the gas trade in South-East Europe. In a period of two months, three interconnection agreements were signed – between Bulgaria and Greek gas network operators Bulgartransgaz and DESFA; between the Bulgartransgaz and the Romanian Transgaz; and between the Transgaz and the Ukrainian UkrTransGaz.²⁹ The agreements became effective on October 1 2016. Theoretically, this means that from this date it is possible to use the existing Trans-Balkan pipeline delivering Russian gas to the Balkans in the reverse direction, and that the gas will be able to flow from south to the north, from Greece to Ukraine. “These agreements are a crucial step towards opening the Trans-Balkan pipeline system between Greece and Ukraine to transport gas and trade in line with EU rules,” the European Commission said in a press release.³⁰

27 Energy Press (2016) ‘Socar now one step away from exiting delayed DESFA sale’, Available at: <http://energypress.eu/socar-now-one-step-away-from-exiting-desfa-sale/> (Accessed: 30 August 2016).

28 Trend News Agency (2016) ‘SOCAR intends to export LNG’, Available at: <http://en.trend.az/business/energy/2656224.html> (Accessed: 3 Sept. 2016).

29 Bulgaria-Romania and Romania-Ukraine sign gas agreements; European Commission web-site, 19 June 2016, Available at: <https://ec.europa.eu/energy/en/news/bulgaria-romania-and-romania-ukraine-sign-gas-agreements> (Accessed: 3 Sept. 2016).

30 Ibid.

In practice, it is too early to say that all the barriers to gas trade between Greece, Bulgaria, Romania, and Ukraine have been removed – capacity trading platforms and capacity release mechanisms are in their initial phases, and the different transmission system operators operate under different tariff regimes.³¹ But the trend is towards the liberalization of the gas market in the region and the main impetus for that is coming from Brussels. The coincidence in the timing of signing and the overlaps in the content of the interconnection agreements between the four aforementioned transmission operators indicates that these agreements were inspired and even dictated by the European Commission.

Conclusions - The new dynamic of Balkan gas trade

The diversification of gas supplies for the Balkan countries is a game with many variables. The prices of the LNG and pipeline gas change repeatedly, and global gas demand is also very dynamic. After 2018, a sharp rise in the global supply of LNG is expected, mainly because of the opening of new export terminals in Australia and the US. According to the International Gas Union, in 2021 the total capacity of LNG producing facilities will be 46% bigger than it is in 2016.³² A real price war between gas exporters is possible, and the suppliers of pipeline gas could be also involved. That is the rationale behind the projects for LNG regasification terminals in the Balkans. In the new situation, the winners will be the gas buyers - but only those of them that have a diversified system of deliveries, allowing them to switch between suppliers. Azerbaijani gas, together with the LNG, is the most important opportunity to achieving a diversified supply system in the Balkans.

From a geopolitical point of view there are three major factors for the gas trade in the Balkans: the strained relations between the European Commission and Russia; sudden turns in the Russia-Turkey relations; and Azerbaijan's ambition to turn its geo-energy vector toward South-East Europe and Italy.

From a geopolitical point of view there are three major factors for the gas trade in the Balkans: the strained relations between the European Commission and Russia; sudden turns in the Russia-Turkey relations; and Azerbaijan's ambition to turn its geo-energy vector toward South-East Europe and Italy. The Balkan energy

31 Vassilev, I. (2016) 'The intersystem agreements and the Trans-Balkan pipeline – a game change', *Bulgaria Analytika*, 30 July, Available at: <http://bulgariaanalytica.org/en/> (Accessed: 30 August 2016).

32 2016 World LNG Report. International Gas Union, 12 April 2016, Available at: <http://www.igu.org/publications/2016-world-lng-report> (Accessed: 30 August 2016).

geopolitics should be examined against the backdrop of the relatively low global price of the energy resource, and gradual transition from regional to global gas trade.

One important factor for gas exporters to consider is the increasing role of the European Commission in the Balkans. In June 2016, the European Council (in the format of the Energy Ministers) decided that all gas-related intergovernmental agreements between EU member states and third countries must be examined by the Commission before they are signed. This decision is expected to be confirmed by the European Parliament.³³

In 2017, the transitional period for applying the Third Energy package of the EU in the countries from the Western Balkans that are members of the Vienna-based Energy Community will expire. It is expected that Georgia will become a member of the Energy Community by the end of 2016, and thus the European Commission will gain greater influence over the route of Azerbaijani gas to Europe.³⁴

In conclusion, there are numerous factors that will influence the dynamic of the Balkan gas trade over the next several years. The only certain new supplier of gas in the region is Azerbaijan. The gas from Shah Deniz will trace out a new energy corridor through the southern part of the Balkans. Later on, additional gas supply infrastructure could be built around this corridor – LNG terminals, interconnectors and new pipelines to bring gas from Turkmenistan, Iraq, or from the Eastern Mediterranean to Europe.

As a supplier of gas for the EU, Azerbaijan has two main advantages. Firstly, the gas from Shah Deniz can reduce dependence on Gazprom for the weakest part of the European energy security system – the Balkan states. Secondly, there is not that much Azerbaijani gas available, and its proportional share in EU consumption will never reach double-digits. Due to this there is no risk of new over dependency, as we currently see with Gazprom.

As a supplier of gas for the EU, Azerbaijan has two main advantages. Firstly, the gas from Shah Deniz can reduce dependence on Gazprom for the weakest part of the European energy security system – the Balkan states. Secondly, there is not that much Azerbaijani gas available, and its proportional share in EU consumption will never reach double-digits. Due to this there is no risk of new over dependency, as we currently see with Gazprom.

33 Euractiv.com (2016) 'EU to vet member states' gas deals with Russia' Available at: <http://www.euractiv.com/section/energy/news/eu-to-vet-member-states-gas-deals-with-russia/> (Accessed: 30 August 2016).

34 Georgia Plans for Energy Overhaul. Natural Gas Europe, 13 June 2016, Available at: <http://www.naturalgaseurope.com/georgia-plans-for-energy-security-30077> (Accessed: 30 August 2016).

Returning to the initial question posed by this article, the answer would be that yes, Azerbaijani gas will be a game changer in the Balkan energy geopolitics to a significant degree, because of the expected deliveries from Shah Deniz. Most probably after the beginning of the 2020s, Azerbaijan will fulfill more than 20% of Turkey's gas needs, and for Bulgaria and Greece the share of the Azerbaijani gas will be even higher – a quarter of total consumption. But it is important to remember that Azerbaijan will never be a main gas supplier for the region – this is a role that Gazprom shall retain.

Energy Transit in the Caucasus: A Legal Analysis

Rafael Leal-Arcas*

This article provides an analysis of the commonalities and regional specificities of the intergovernmental agreements (IGAs) and Host Government agreements (HGAs) setting up the Baku-Tbilisi-Ceyhan (BTC) Pipeline and the South Caucasus Pipeline. The paper also assesses the IGA for the Nabucco Pipeline project. It provides a careful examination of the links between the agreements comprising these three pipeline projects and the Energy Charter Model Agreements on Cross-border Pipelines in conjunction with the provisions of the Energy Charter draft Transit Protocol. This article attempts to answer the following questions: To what extent can common principles and regional specificities be derived from the agreements in question? How do the agreements relate to the Energy Charter Model Agreements and the Energy Charter draft Transit Protocol? What recommendations can be made in view of the possible agreement on common principles or rules on Transit and Cross-border energy flows in the Energy Charter context?



* Rafael Leal-Arcas is a Jean Monnet Chair, Professor in EU International Economic Law and Professor of Law, Queen Mary University of London (Centre for Commercial Law Studies), United Kingdom. Editor-in-Chief, Renewable Energy Law and Policy Review. Email: r.leal-arcas@qmul.ac.uk

The Nabucco, BTC and South Caucasus pipelines: Commonalities and regional specificities

The BTC, South Caucasus and Nabucco Pipeline IGAs

This section analyses the extent to which the IGAs relating to the BTC, South Caucasus and Nabucco Pipeline projects contain regional specificities and common principles.

While the BTC and Nabucco Pipeline projects are each comprised of a single IGA, the South Caucasus Pipeline project is made up of two separate IGAs.¹ The agreements in question all have a number of features in common, as well as elements that set them apart. It is those differences that make it possible for each agreement to address regional issues and distinct, project-specific concerns that the parties may have. At the same time, it is through their common principles that the agreements remain loyal to core principles related to cross-border transit of natural resources.²

To begin with, there are a number of common principles that derive from the IGAs in question. All three agreements are committed to fundamental values set forth by the Protocol and the Model IGA, such as the facilitation of effective cooperation through the inclusion of clauses that ensure and safeguard the agreements' neutrality, as well as the potential for equal benefits for all parties involved. In addition, all the agreements contain clauses on taxes and fair treatment in relation to tariffs and any benefits to which the parties are entitled. The commitment to ensuring that proper environmental safeguards are in place – common to the Model and the Protocol – is shared by all agreements except the Nabucco IGA. All three agreements are committed to the fundamental values (with the exception of the Nabucco IGA when it comes to environmental protection) enunciated by the Protocol and the Model IGA. These principles include a commitment to the protection of the environment and the facilitation of effective cooperation through the inclusion of clauses, ensuring the agreements' neutrality and equal benefits for all parties involved.

In addition to these shared principles, the agreements also exhibit a number of regional specificities. The content of each agreement

¹ The South Caucasus Pipeline project is made up of two IGAs, that between Azerbaijan and Turkey, and that between Azerbaijan and Georgia.

² On the conservation of natural resources, see Leal-Arcas, R. and Abu Gosh, E. (2013) 'The Conservation of Exhaustible Natural Resources in the GATT and WTO: Implications for the Conservation of Oil Resources,' *The Journal of World Investment and Trade*, 14(3), pp. 480-531.

is affected by such political and geographical specificities, and a careful analysis of this provides a useful insight into the values, concerns and peculiarities of the states involved. While all the agreements seem to follow a similar structure and demonstrate a commitment to certain mutual principles, the Nabucco IGA, for example, demonstrates a specific desire to keep all parties free from any binding obligations to finance the project.³ Each agreement's preamble, in turn, expresses the reasons for the cooperation between the parties as well as certain regional concerns shared by the parties. While all the preambles state their commitment to the expansion and diversification of supply, the Nabucco IGA goes beyond that, expressing a specific concern related to the energy-security situation of the countries involved, a natural consequence in the aftermath of the 2008 Russian-Georgian war and the Russian-Ukrainian gas crisis.⁴ Given the precarious energy-security situation in Europe following these events, the state parties to the agreement exhibit a desire to diversify their supply, and this regional specificity becomes apparent through the preamble, which explicitly addresses these regional concerns.

In addition, the state parties to the Nabucco IGA demonstrate a desire to establish an international company in order to facilitate cooperation between the parties, as well as to encourage the promotion, development, financial construction, and operation of the Nabucco Pipeline project. This does not feature in any of the other agreements, and is representative of a situation where regional elements have clearly contributed to the drafting of the agreement. One of the main regional elements that distinguishes the Nabucco Pipeline project from other projects for the transport of oil and gas is the parties' evident desire to develop a project that avoids the direct involvement of any states or companies that export natural gas, and which usually control the corresponding pipelines.⁵ Since the Nabucco Pipeline project was meant to be a purely commercial project, open to any exporter and importer of natural gas,⁶ it is natural to assume that the decision to create an international company may have been influenced by the parties' wish to

While all the agreements seem to follow a similar structure and demonstrate a commitment to certain mutual principles, the Nabucco IGA, for example, demonstrates a specific desire to keep all parties free from any binding obligations to finance the project.

³ Article 3.2 of the Nabucco IGA, which states that 'Nothing in the Agreement obliges the States Parties to finance the Nabucco Project or to accept financial liabilities in regard to the Nabucco Project.'

⁴ This refers to the Russia-Ukraine gas crisis in 2005-2006, which came about as a result of disagreements between the two states on the price of gas.

⁵ See Grigoriadis, I. (2010) "The Nabucco Project: Implications for the EU Strategic Energy Review," Available at: <http://www.eliamep.gr/wp-content/uploads/2010/03/TGAE2010-I.Grigoriadis.pdf> (Accessed: 01 August 2016).

⁶ Ibid.

maintain the project's neutrality and detachment from any affiliations with specific states or companies.

Through a careful textual analysis of the agreements, it becomes apparent that many of the regional specificities in the agreements actually flow from their common principles.

Through a careful textual analysis of the agreements, it becomes apparent that many of the regional specificities in the agreements actually flow from their common principles. Thus it is through the common principles between the agreements - such as the dedication to fair taxation and non-discriminatory treatment, among others - that one can observe the subtle regional specificities that make each one unique. An analysis of the clause on taxation and tariffs -common to all but the IGA between Azerbaijan and Turkey – illustrates this argument.⁷ Even though all the agreements are dedicated to harmonious taxation and fair treatment, the taxation arrangements are different, clearly influenced by regional elements such as domestic tax laws and political relationships between the parties.

Another example of regional specificities flowing from common principles is the clause on dispute resolution, found in all the IGAs.⁸ While all three IGAs contain similar provisions committing to resolution through diplomatic channels, as well as the submission of any unresolved disputes to an ad hoc tribunal in accordance with Article 27(3) of the Energy Charter Treaty,⁹ the Nabucco IGA goes further, including a more detailed clause on dispute resolution that is heavily influenced by regional specificities. Article 13 of the Nabucco IGA includes additional information on the resolution of disputes, which takes into account the potential effect of European Union law on the multilateral agreement, given that the Nabucco IGA was concluded between four EU states and a non-EU state.

The BTC and South Caucasus Pipeline project HGAs

This section will analyze the HGAs relating to the BTC and South Caucasus pipeline projects with a view to examining the various common principles and regional specificities present in the agreements.

The BTC and South Caucasus Pipeline project HGAs consist of

⁷ Article V of the BTC IGA; Article 11 of the Nabucco IGA; and Article V of the Georgia-Azerbaijan IGA.

⁸ Article VIII of the BTC IGA; Article VIII of the South Caucasus IGA; Article 5 of the IGA between Azerbaijan and Turkey; and Article 13 of the Nabucco IGA.

⁹ The commitment to resolve disputes through diplomatic measures as well as the submission of unresolved disputes to an *ad hoc tribunal* are in line with the draft *transit Protocol and the Model IGA*.

various common and regionally distinct elements. As is the case with the IGAs, the HGAs are equally committed to certain mutual values and principles, such as the assumption of neutrality, the need for fair and non-discriminatory treatment and taxation in relation to all activities relating to the project, as well as the general need to ensure effective cooperation between the parties within a framework that permits the parties to benefit equally from the operations of the project.

All the agreements contain specific clauses aimed at facilitating project-specific negotiations and reducing the cost and time of project implementation within a transparent framework that envisages close cooperation between the states involved and various investors. After a thorough analysis of the HGAs in question, one can detect certain common principles deriving from a number of clauses that are found in all agreements. To begin with, all the HGAs contain clauses on government guarantees and warranties, which set out all the representations and undertakings made by the governments on their duties and obligations in relation to project activities. These are closely linked to similar clauses on liability and indemnities, found in all the agreements, and represent a desire to hold the states and investors accountable for their actions.

All the agreements contain specific clauses aimed at facilitating project-specific negotiations and reducing the cost and time of project implementation within a transparent framework that envisages close cooperation between the states involved and various investors.

Another common principle that can be derived from the HGAs in question is the dedication to security and safety. Given the nature of transit operations, a commitment to proper safety measures is common to all HGAs, examined in this section. The nature of transit operations also has wider implications in regard to environmental protection, a concern that is exhibited through the common-to-all-agreements clause on environmental standards. Among others, the agreements in question contain a variety of common clauses such as a clause on effective dispute resolution, and a *force majeure* clause.

Despite the various common principles that can be derived from the BTC and South Caucasus HGAs, their content is also deeply influenced by a number of regional elements such as geographical, legal and political features. An example of such influences can be observed in the HGA between the Baku-Tbilisi-Ceyhan Pipeline Company and the Government of Georgia.¹⁰ The content of the agreement has been heavily influenced by the desire to

¹⁰ The HGA on the Provision of Security Equipment, Facilities and Operations Funding for the Baku-Tbilisi-Ceyhan Pipeline Project.

ensure that the concerns regarding the sensitivity of the Borjomi zone in Georgia are adequately addressed. This desire seems to have shaped the content of the agreement in relation to environmental issues, which feature more prominently in this agreement than they do in any of the others. Special regard is thus given to the issue of security in the Borjomi zone and safety in relation to environmental standards.¹¹ This is only natural, given that the very purpose of the agreement is the provision of security equipment, facilities and operational funding for the project.

In addition, the various clauses dealing with the warranties and representations of the government, as well as those relating to consents and covenants, demonstrate to various degrees both common principles and regional specificities.

In addition, the various clauses dealing with the warranties and representations of the government, as well as those relating to consents and covenants, demonstrate to various degrees both common principles and regional specificities. An example of a clause influenced by regional principles would be the clause on consents and covenants of the government in the Georgia HGA,¹² which envisages a 'Change in Law' once Georgia becomes an official EU candidate.¹³ This clause illustrates how certain regional specificities are featured in the HGAs in question.

Another such example is found in the seemingly identical Article 7,¹⁴ which is common to all HGAs relating to the South Caucasus and BTC Pipeline projects. While Article 7 appears to be drafted in an identical manner in all the HGAs, a more careful textual analysis reveals subtle differences that have clearly been influenced by regional specificities, such as legal factors unique to each region. Article 7.2(vii)(5) of both Azerbaijan HGAs (i.e., HGAs relating to the South Caucasus and BTC Pipeline projects) appears to focus specifically on a particular piece of legislation, the Land Code of Azerbaijan Republic, which seems to set out specific rules on the acquisition of Non State Land for the purposes of the project. While the other HGAs also deal with the acquisition of Non State Land in the same Article, there is no reference to a specific national law, and the provision is couched in more general terms, perhaps allowing for more flexibility.

What is more, upon a thorough examination of the clauses relating to taxes and tariff rates in the agreements, it becomes evident that these have also been influenced by regional elements, such

¹¹ Article 1 of the HGA between the Baku-Tbilisi-Ceyhan pipeline company and the Government of Georgia.

¹² Article 7 of the Georgia HGA.

¹³ Article 7(1)(x) of the Georgia HGA.

¹⁴ Article 7 on Certain Covenants and Consents of the Government in the Azerbaijan, Georgia and Turkey HGAs.

as legal factors. Their content differs from agreement to agreement, and each agreement makes reference to specific domestic tax laws. All the HGAs in question contain specific clauses relating to profit and income tax. Even though these clauses have similar wording and content, there exist certain differences that have clearly been influenced by the different national laws on income and profit tax. Specifically, the percentage of tax imposed on the income in each case differs, depending on national legislation.¹⁵ This is further evidenced by the annexes to each agreement, which reveal clear differences in the way tariffs and taxes are applied within the context of each agreement.

To conclude section 2, the IGAs and HGAs making up the BTC, South Caucasus and Nabucco Pipeline agreements contain a number of common principles and regional specificities. All the agreements demonstrate commitment to the principles of equality in treatment, especially in relation to taxation and the imposition of tariffs, proper security measures, and a general desire to ensure effective cooperation between the parties. At the same time, the agreements reveal a number of regional specificities, such as the desire to improve or maintain certain political relationships, to diversify the supply of natural resources, the resolution of specific regional conflicts and energy issues, as well as the desire to impose fair tariffs through domestic legal systems. Although regional specificities can be derived to an extent from these agreements, it appears that what defines them more is their sound commitment to common principles.

Links to the model agreements and the draft transit protocol

The aim of the Model IGA and Model HGA is to facilitate the efficient realization of prospective cross-border pipeline systems. In addition, the Protocol aims to establish common principles and rules that will underpin prospective agreements on transit. The Model Agreements represent core principles and essential features that need to be present in an agreement on transit, such as the assumption of neutrality, the inclusion of relevant clauses that aim to maximize the optimal benefit for all parties involved, the notion of non-discrimination and fair taxation, fair labor standards and clauses relating to safety and environmental protec-

¹⁵ For example, the Georgia HGA relating to the BTC Pipeline project imposes a 30% profit tax on individual MEP Participants, as Article 8.2(i) demonstrates, while the Azerbaijan HGA relating to the same project imposes a fixed rate of 27%, as seen in its Article 8.2(iii). The same can be seen in the HGAs relating to the South Caucasus project, as the profit tax imposed on the participants to the Georgia HGA is set at 25%, while the Azerbaijan HGA sets it at 27%. These differences are owed to specific national regulations on taxation and tariffs, and they affect the content of the agreements.

tion, as well as the issue of conflicting interests and obligations. The Model HGA goes beyond that, by adding clauses in relation to various governmental obligations, investor duties, liability, termination, environmental standards, and a variety of regional issues relevant to the implementation of the project in each specific territory. In conjunction with the principles put forth within the Protocol, such as a commitment to fair taxation, non-discrimination and cooperation between the parties, the Model Agreements help to flesh out a body of principles that will form the basis for future agreements on transit. This section analyzes how the Nabucco, BTC, and South Caucasus agreements relate to the Model Agreements and the Protocol with a view to the common features present therein.

The South Caucasus Pipeline project agreements

The South Caucasus Pipeline project is made up of four agreements: the IGA between Georgia and Azerbaijan (Georgia-Azerbaijan IGA), the IGA between Azerbaijan and Turkey (Azerbaijan-Turkey IGA), the HGA between the Government of Azerbaijan and various investors, and the HGA between the Government of Georgia and various investors.

Georgia-Azerbaijan IGA: The Georgia-Azerbaijan IGA relates closely to both the Protocol and the Model IGA in a number of ways, as explained below.

Even though the Georgia-Azerbaijan IGA contains an article on mutual representations and warranties - a feature that is not present in the Model IGA (but is present in the Model HGA) - its content is nevertheless closely linked to the principles and values enunciated by both the Protocol and the Model IGA.¹⁶ In line with core principles found in the Protocol and the Model IGA,¹⁷ the Georgia-Azerbaijan IGA demonstrates an equal commitment to the non-interruption of the project, aimed at ensuring the smooth operation of the project in a manner that is not prejudicial to any of the parties. In addition, the Georgia-Azerbaijan IGA also reflects the desire of the parties to ensure that their cooperation will not be clouded by discriminatory treatment of any kind,¹⁸ a core commitment that should form part of any IGA, according to the Protocol and the Model IGA.¹⁹

¹⁶ Article II of the Georgia-Azerbaijan IGA.

¹⁷ Article 9 of the Model IGA and Articles 2 and 16 of the Protocol.

¹⁸ Article II(4)(xiv) of the Georgia-Azerbaijan IGA.

¹⁹ Article 14 of the Model IGA and Articles 2 and 10 of the Protocol.

Moreover, the equally important issue of conflict with international and/or domestic law obligations is also addressed in Article II(6) of Georgia-Azerbaijan IGA, as a warranty on behalf of each party that it has no other obligations under domestic or international laws that prevent it from carrying out its obligations under the Georgia-Azerbaijan IGA. According to the Protocol and the Model IGA, as mentioned above, a clause dealing with the link between the agreement and any other agreements or obligations under either domestic or international law is an essential feature of every IGA. The Georgia-Azerbaijan IGA demonstrates a clear commitment to this principle by adopting the exact same wording of the clause found in the Model IGA.

Moreover, the equally important issue of conflict with international and/or domestic law obligations is also addressed in Article II(6) of Georgia-Azerbaijan IGA, as a warranty on behalf of each party that it has no other obligations under domestic or international laws that prevent it from carrying out its obligations under the Georgia-Azerbaijan IGA.

When it comes to security and environmental protection, which feature so prominently in most IGAs, as well as in the Model IGA and the Protocol, the Georgia-Azerbaijan IGA demonstrates the parties' commitment to these issues through Articles III and IV. Although Articles V and VIII do not mention the Model IGA or the Protocol explicitly, they demonstrate a connection between the Georgia-Azerbaijan IGA, the Model Agreement and the Protocol in that they deal with common issues such as the issue of fair and transparent taxation which, according to the Protocol and the Model IGA, is an essential feature of successful IGAs, as well as the matter of dispute resolution in the event of a disagreement.

The Georgia-Azerbaijan IGA does not blindly mirror the Model IGA or the Protocol, as it contains certain specific elements that set it apart. Content-wise, the Agreement follows the spirit of the Model and the Protocol, and has, as evidenced above, adopted a number of clauses that are similar or identical to key clauses found in the Model IGA, and exhibits a commitment to the core values set forth by the Protocol. Specifically, Article II of the Georgia-Azerbaijan IGA, which deals with representations and warranties (an article not found in the Model IGA, but in the Model HGA), contains a few specific elements that distinguish it from the Model and the Protocol. For example, Article II(4)(ii) demonstrates a commitment to the creation of favorable conditions for the construction, ownership and operation of the project, by making specific reference to terrorism and armed conflict. The Model and the Protocol do not contain any clauses that specifically and explicitly state a commitment to the ongoing operation of the project in cases of armed conflict or terrorism, perhaps

because it would not usually be expected to encourage the continued operation of such projects in times of conflict. However, in areas where conflict is more prevalent, it may be useful to include an explicit warranty in order to reassure the various parties. In addition, Article II(8) states unequivocally that ‘the Project is not, and shall not be regulated as a public utility’. Article II(8) is a novelty, as nothing similar is found in the Model IGA or the Protocol, at least not in the same explicit wording.

Despite the distinct elements which set apart the Georgia-Azerbaijan IGA from the Model IGA and the guidance provided by the Protocol, the core principles found therein demonstrate the immediate link between the Georgia-Azerbaijan IGA, the Protocol and the Model IGA.

Despite the distinct elements which set apart the Georgia-Azerbaijan IGA from the Model IGA and the guidance provided by the Protocol, the core principles found therein demonstrate the immediate link between the Georgia-Azerbaijan IGA, the Protocol and the Model IGA.

Azerbaijan-Turkey IGA: The Azerbaijan-Turkey IGA is a very short agreement, which appears at first glance to not have much in common with the Protocol or the Model IGA. This is mainly because the core issues discussed above do not seem to feature as strongly in this agreement. However, following a closer analysis, one can safely conclude that the Azerbaijan-Turkey IGA demonstrates a commitment to some of the core principles in the following ways:

(a) The preamble of the Azerbaijan-Turkey IGA sets out the commitments of the parties to cooperation, and presents an assumption of neutrality in that it calls for collaboration in a timely manner and under satisfactory conditions for both parties. This closely relates to one of the core principles of the Protocol, which envisions that parties will draft their agreements in such a way that the provisions and their effects will be beneficial to all parties involved.

(b) In Article 5, the Azerbaijan-Turkey IGA demonstrates in particular a commitment to the issue of effective dispute resolution in line with both Article 21 of the Protocol and Article 19 of the Model IGA, which envisage the effective resolution of disputes through diplomatic means followed by the submission of the issue to an *ad hoc* tribunal, in accordance with the provisions of the ECT.

Georgia and Azerbaijan HGAs: The South Caucasus Pipeline project is made up of two HGAs: one between Georgia and the

investors and another between Azerbaijan and the investors. The two agreements demonstrate close links to the Protocol and the Model HGA in a number of ways.

To begin with, both agreements include a clause on authority in order to set out the legal basis upon which the parties have entered into the agreement.²⁰ The Model HGA proposes the inclusion of such an article, which is in line with the Georgia and Azerbaijan HGAs.²¹ Moreover, both HGAs also contain clauses on the grant of rights, concerning the necessary rights and privileges in order to implement and carry out the project.²² This is in line with the text of the Model HGA, which contains a similar clause.²³

Both HGAs contain clauses on government warranties and guarantees, as well as consents and covenants of the government.²⁴ The content of these clauses aims to provide a guarantee in relation to the undertakings made by the government and various investors in order to ensure that they will be held legally responsible for any representations made in relation to the operation of the project. The Model HGA does this through Articles 9 and 10, which deal specifically with the undertakings made by the government and individual investors. Articles 5 and 6 of the two HGAs are also in line with fundamental principles deriving from the text of the Protocol,²⁵ as well as the Model HGA, as they contain a number of common principles and clauses, such as a clause found in Article 5 of both HGAs. This article reflects the parties' commitment to the principle of non-interruption of transit,²⁶ a principle that features strongly in the Protocol.²⁷ Similarly, Article 6 of both HGAs, which deals with representations and warranties, is consistent with the Model HGA, as the same exact article is also found in the text of the Model HGA, setting forth the host government's representations and warranties.²⁸

Both HGAs contain clauses on government warranties and guarantees, as well as consents and covenants of the government.

The Model HGA advocates fair taxation and non-discriminatory treatment in dealings relating to the project, as does the Protocol

²⁰ Article 2 of both the Georgia and Azerbaijan HGA deals with authority.

²¹ Article 3 of the Model HGA.

²² Article 4 of both the Georgia and Azerbaijan HGAs.

²³ Article 6 of the Model HGA.

²⁴ Articles 5-7 of the Georgia and Azerbaijan HGAs.

²⁵ Specifically the objectives of the Protocol, found in Article 2.

²⁶ Article 5.2(i) of both the Azerbaijan and Georgia HGAs.

²⁷ Article 16 of the Protocol.

²⁸ Article 9 of the Model HGA.

through Articles 2 and 10.²⁹ The two HGAs contain a clause on taxes, aimed at creating a harmonized tax system in line with domestic and international obligations.³⁰ The purpose of the taxation clauses is to ensure that all parties to the agreement are treated fairly in relation to the imposition of taxes and tariffs, and this is a core principle found in the Protocol, and supported by the text of the Model HGA.³¹

Issues such as the limitation of liability and compensation, which are found in Articles 32-33 in the Model HGA, are also dealt with by the Georgia and Azerbaijan HGAs.³²

The Protocol advocates an effective dispute resolution mechanism, as found in Article 2(1)(f). This is also an essential feature of the Model HGA, which includes an entire clause on the resolution of potential disputes.³³ The Model HGA suggests arbitration as a dispute resolution mechanism, and this is also reflected in both HGAs.³⁴ As per the choice of law clause, which is an essential feature of the Model HGA,³⁵ both the Georgia and Azerbaijan HGAs contain one, which designates the law of England as the governing law of the agreement. The choice of law clause reflects a commitment to core principles, such as the dedication to effective dispute resolution, as its function is to ensure that the parties are clear on which law will govern any potential disputes. This is aimed at avoiding disagreements over which law governs the determination of disputed issues, which could serve to further complicate and even impede the effective resolution of such matters.

Furthermore, the HGAs in question also contain clauses on security and a *force majeure* clause, as envisaged by the both the Protocol and the Model HGA. The commitment to environmental protection also features prominently in both agreements, which is again in line with the Protocol and the Model HGA.

The various features of the two HGAs demonstrate close links to the Protocol and the Model HGA; however, it appears that some important features, such as a clause on labor standards, have not been included.

²⁹ Article 26 of the Model HGA.

³⁰ Article 8 of the Georgia and Azerbaijan HGAs.

³¹ Articles 2 and 10 of the Protocol.

³² Articles 9 and 10 of the Georgia and Azerbaijan HGAs.

³³ Article 43.

³⁴ Article 17 of the Georgia and Azerbaijan HGAs.

³⁵ Article 45 of the Model HGA.

Nabucco Pipeline IGA: Like the Georgia-Azerbaijan IGA for the South Caucasus Pipeline project, the Nabucco Pipeline Intergovernmental Agreement (Nabucco IGA) between the Austria, Bulgaria, Hungary, Romania and Turkey contains distinct and specific elements that set it apart from the Model IGA when it comes to structure, while, at the same time, demonstrating a solid commitment to the principles and values of the Model IGA and the Protocol.

Article 3 of the Nabucco IGA demonstrates a commitment to the parties' obligations under international and domestic laws and regulations, which is in line with both the Model IGA's and the Protocol's commitment to ensuring that future agreements on transit will not be hindered by any international or domestic obligations. Article 3 of the Nabucco IGA also reflects a desire to promote effective cooperation between the parties, by laying the groundwork for collaboration that is free from discrimination and focused on encouraging harmonious taxation.³⁶ The commitment to non-discrimination and fair taxation, which so prominently features in both the Protocol and the Model IGA, is further demonstrated through Articles 4, 7 and 11 of the Nabucco IGA. In addition, Article 7.2 and 7.3 also reflect the parties' desire to prevent any potential interruptions of the operations of the project, and to ensure that the transportation of natural resources will be unimpeded throughout the duration of the project. This commitment is of course in line with the core principles of the Protocol and the Model IGA.³⁷

Article 3 of the Nabucco IGA demonstrates a commitment to the parties' obligations under international and domestic laws and regulations, which is in line with both the Model IGA's and the Protocol's commitment to ensuring that future agreements on transit will not be hindered by any international or domestic obligations.

In line with both the Protocol and the Model IGA, the Nabucco IGA also contains an article on the effective resolution of potential disputes,³⁸ which is an essential feature of IGAs, according to the provisions of the Protocol and the Model IGA.

The Nabucco IGA does not contain core clauses, such as a clause on environmental protection and security or a *force majeure* clause, both which appear to be fundamental features of the Model IGA and supported by the principles of the Protocol. However, the Nabucco IGA nevertheless closely relates to both instruments, as it demonstrates a sound commitment to common principles.

³⁶ Article 3.4 of the Nabucco IGA.

³⁷ Article 9 of the Model IGA and Article 2 of the Protocol.

³⁸ Articles 12 and 13 of the Nabucco IGA.

BTC Pipeline agreements

The Baku-Tbilisi-Ceyhan (BTC) Pipeline project is made up of six agreements in total: an IGA between the state parties, three HGAs entered into by each state and the investor consortium, a Turnkey Agreement between Botas Petroleum Pipeline Corporation and the investor consortium, and an Agreement between the BTC Pipeline Company and Georgia. These will be analyzed in turn below. This section also explores the ways in which the Turnkey Agreement and the Agreement between the BTC Pipeline Company and Georgia relate to the Model and the Protocol. Even though these two agreements in question are not HGAs and, therefore, their comparison to the Model IGA and the Protocol is irrelevant for the purposes of answering the question above, they form part of the legal regime establishing the BTC Pipeline project. In that regard, an analysis of the links to the Model and the Protocol is still relevant.

BTC IGA: The BTC IGA, like the Nabucco IGA, deviates to some extent from the Protocol and the Model IGA. Nonetheless, one can safely say that its content relates significantly to both the Protocol and the Model IGA in the following ways.³⁹

To begin with, the commitment to non-discriminatory treatment in relation to the investors and the parties to the project agreement, apparent in the Protocol and the Model IGA, is also very prevalent in the BTC IGA.⁴⁰ The BTC IGA demonstrates this commitment in its preamble, in contrast to the Model IGA, which deals with the issue in a separate article. In any event, even though the commitment to non-discrimination is phrased and structured in a different way, the BTC IGA still relates closely to both the Model IGA and the Protocol, as the content of the BTC IGA demonstrates a commitment to this issue.

The BTC IGA exhibits a commitment to the effective, fair, and non-discriminatory regulation of taxation and tariffs, by dedicating an entire article to this matter.⁴¹ This is in line with both the Protocol and the Model IGA, in which this issue is quite prevalent, demonstrating its importance in relation to agreements for the transit of natural resources.⁴²

39 Agreement among the Azerbaijan Republic, Georgia and the Republic of Turkey Relating to the Transportation of Petroleum Via the Territories of The Azerbaijan Republic, Georgia and The Republic of Turkey Through the Maku/Tbilisi-Ceyhan Main Export Pipeline (BTC IGA).

40 Articles 2 and 5 of the Protocol and Articles 7 and 14 of the Model IGA.

41 Article V of the BTC IGA.

42 Article 13 of the Model IGA, and Articles 2 and 10 of the Protocol

The BTC IGA also contains a separate article on mutual representations and warranties and covenants,⁴³ which demonstrates a solid guarantee of commitment to the principles of non-interruption of transit,⁴⁴ the granting of specific land rights to encourage the proper operation of the project,⁴⁵ and a clear commitment to facilitating cooperation by doing everything in a state's power to avoid various delays and encumbrances.⁴⁶ These are elements found in both the Model IGA and the Protocol and, despite the apparent differences in structure and wording, the BTC IGA is in line with the spirit of the Protocol and the Model IGA.

When it comes to issues of security and environmental standards, the BTC IGA, unlike the Nabucco IGA, is in line with the spirit and content of the Model IGA and the Protocol, both of which appear dedicated to environmental protection, as well as the safety and security of project employee.⁴⁷ The BTC IGA's Articles III and IV demonstrate a commitment to these principles, by referring them to the HGAs, as they advocate the security of the project and the maintenance of safety and environmental standards, topics that are not addressed or mentioned in the Nabucco IGA.

When it comes to issues of security and environmental standards, the BTC IGA, unlike the Nabucco IGA, is in line with the spirit and content of the Model IGA and the Protocol, both of which appear dedicated to environmental protection, as well as the safety and security of project employee.

Both the Protocol and the Model IGA encourage state parties to draft their agreements in a way that enables the parties to address issues of potential conflict in relation to states' obligations under the agreement in question, and under domestic and international law.⁴⁸ The BTC IGA is loyal to that principle by adding sub-clauses to Article II in order to address the issue of potential conflict.⁴⁹ While the Model IGA and the Protocol seem to afford the parties a greater degree of flexibility by re-establishing that nothing in the current agreement will prevent them from carrying out their obligations under domestic and international law, the BTC IGA takes a different approach to this issue. Still in line with the principles deriving from the Model IGA and the

43 Article II of the BTC IGA.

44 Article II(iii) of the BTC IGA.

45 Article II(iv) of the BTC IGA.

46 Article II(vi) of the BTC IGA.

47 Articles 10 and 12 of the Model IGA demonstrate a commitment to safety, security and the maintenance of environmental standards, as well as Article 7 of the Protocol.

48 Article 3 of the Model IGA and Protocol, page 4, where it is stated that: 'It is understood that nothing in this Protocol shall derogate from a Contracting Party's rights and obligations under international law, including customary international law, existing bilateral or multilateral agreements, including rules concerning submarine cables and pipelines.'

49 Articles II(6) and (7) of the BTC IGA.

Protocol, the BTC IGA states that the state parties undertake that by entering into this agreement, they have no domestic or international obligations that could prevent them from carrying out their duties and obligations under the agreement. The BTC IGA seems to take a different approach to that advocated by the Protocol and the content of the Model IGA, which affords the parties greater flexibility in this respect.

BTC HGAs: The BTC HGAs relating to Azerbaijan, Georgia and Turkey (BTC HGAs) form part of the legal regime of the BTC Pipeline project, and have been entered into by and between each state party and various project investors. Upon a thorough examination of the agreements in question, it becomes apparent that their content closely relates to both the Protocol and the Model HGA in a number of ways.

An identical commitment, albeit phrased differently, is found in Article 2 of all three agreements in question, and is aimed at facilitating the beginning of a fruitful relationship between the parties, as it establishes the core legal basis upon which any further dealings will be conducted.

The structure and contents of the Azerbaijan, Georgia and Turkey HGAs are almost identical and appear to follow the spirit of the Protocol, as well as the general structure and principles of the Model HGA. First and foremost, the Model HGA leads with an article that guarantees the legal authority of all parties to the agreement to enter into such agreement.⁵⁰ An identical commitment, albeit phrased differently, is found in Article 2 of all three agreements in question, and is aimed at facilitating the beginning of a fruitful relationship between the parties, as it establishes the core legal basis upon which any further dealings will be conducted.

The Model HGA, like the Model IGA, contains an article that deals with the link between the agreement in question and any other agreements and obligations that the parties may have under domestic or international law.⁵¹ There is no specific article dealing with potential conflict of domestic and international obligations of the parties to the HGAs in question, but the issue is addressed by the article relating to representations and warranties found in all three agreements.⁵²

The agreements in question contain clauses relating to representations and warranties made by the host government and the in-

⁵⁰ Article 3 of the Model HGA.

⁵¹ Article 4(2) of the Model HGA.

⁵² Article 6.3(iii) of all three HGAs represents an undertaking that the agreement in question will not lead to conflict of obligations arising under any other laws or regulations.

vestors.⁵³ This is also a feature of the Model HGA,⁵⁴ designed to encourage parties to draft their legal obligations in separate and concise articles that deal with various representations and warranties made on behalf of the parties.⁵⁵ Additionally, the BTC HGAs also contain an article on government guarantees, which includes an undertaking by the State Authorities not to interrupt or impede the freedom of transit,⁵⁶ an essential feature of both the Model and the Protocol.⁵⁷

Another way in which the BTC HGAs relate closely to the Protocol and the Model HGA is through the apparent commitment to harmonious taxation, which is a core principle set forth by the Model HGA. The principle of harmonious taxation is closely linked to the principle of non-discriminatory treatment, another important element of the Protocol, also found in both the Model HGA and the Model IGA. The BTC HGAs demonstrate commitment to these principles through Article 8 of each agreement, which deals in considerable length with the issue of taxation and the process of imposing taxes on different parties to the agreement, as well as external parties and organizations.

Another way in which the BTC HGAs relate closely to the Protocol and the Model HGA is through the apparent commitment to harmonious taxation, which is a core principle set forth by the Model HGA.

Issues such as the protection of the environment and the commitment to security and safety in relation to the project as a whole are important principles found in the Protocol and the Model HGA.⁵⁸ The BTC HGAs demonstrate a commitment to environmental protection and security by paying special attention to the social impact of the project.⁵⁹ Despite the BTC HGAs' apparent commitment to these concerns, there is an apparent failure to deal with an important issue: while the Model HGA envisages a clause on the protection and maintenance of labor standards, the content of the BTC HGAs fails to address this highly important matter.⁶⁰

Finally, the content of the BTC HGAs demonstrates an overall commitment to the core principles enunciated by both the Pro-

⁵³ Article 6 of all three HGAs deals with representations and warranties on behalf of the host government.

⁵⁴ Article 9 of the Model HGA.

⁵⁵ Article 10 of the Model HGA.

⁵⁶ Article 5.2(ii) of all three HGAs.

⁵⁷ Article 2(a) of the Protocol; Article 5 of the Model HGA.

⁵⁸ Articles 2, 7 and 12 of the Protocol and Articles 16 and 24 of the Model HGA.

⁵⁹ Articles 11 and 12 of the BTC agreements.

⁶⁰ Article 18 of the Model HGA.

TOCOL and the Model HGA, such as the need for cooperation between the state parties and individual investors, the importance of establishing an efficient dispute resolution mechanism, the significance of harmonious taxation and non-discrimination, the protection of the environment, and other important matters that form the body of such agreements.

Turnkey Agreement between Botas and the Investor Consortium: The Turnkey Agreement follows a different structure from that of the Azerbaijan, Georgia and Turkey HGAs, but nevertheless relates closely to the principles deriving from the Protocol and the Model HGA. The core clauses found in the Model HGA that deal with governmental obligations, investor duties, liability, termination and environmental standards are found in a similar manner in the Turnkey Agreement. However, they do not relate to governmental obligations as such, but to the obligations of the parties, and form a large section of the body of the Turnkey Agreement. To begin with, Articles 3, 6 and 11 of the Agreement deal in great detail with the rights and obligations of the parties involved, resulting in something similar to what is envisaged by Articles 9 and 10 of the Model HGA.

When it comes to more specific project-related matters, issues of insurance and liability are dealt with by Articles 15 and 25.6 in a manner similar to the Model HGA, which deals with insurance and liability in Articles 12 and 32-34 in considerable detail. As envisaged by the Model HGA, the Turnkey Agreement also contains a *force majeure* clause,⁶¹ and a commitment to indemnity and the effective resolution of disputes in case of disagreement and where legal proceedings may be initiated.⁶² The clauses above represent crucial features of every host-government agreement HGA, as envisioned by the Model HGA.

Commitment to core principles such as the notion of non-discriminatory treatment in relation to project operations, as well as the facilitation of effective co-operation form the basis of this agreement, which is in line with the core principles of the draft Transit Protocol.

Finally, it is safe to say that important principles found in the draft Transit Protocol and the content of the Model Agreement are upheld by the Turnkey Agreement, as it contains a clause on conflicting provisions,⁶³ choice of law,⁶⁴ and taxation,⁶⁵ all similar to the ones found in the Model Agreement, as well as other HGAs on transit.

61 Article 12 of the Turnkey Agreement.

62 Article 14 of the Turnkey Agreement.

63 Article 25.13 of the Turnkey Agreement.

64 Article 25.9 of the Turnkey Agreement.

65 Article 23 of the Turnkey Agreement.

Commitment to core principles such as the notion of non-discriminatory treatment in relation to project operations, as well as the facilitation of effective co-operation form the basis of this agreement, which is in line with the core principles of the draft Transit Protocol.

BTC agreement between the BTC Pipeline Company and Georgia: The Agreement between the BTC Pipeline Company and the Government of Georgia on the Provision of Security Equipment, Facilities and Operations Funding for the BTC Pipeline Project (BTC Agreement between the BTC Pipeline Company and Georgia) is a more exclusive agreement; hence, it is also significantly shorter.⁶⁶ Despite the fact that the BTC Agreement between the BTC Pipeline Company and Georgia leads with a ‘Preliminary Statement’ as opposed to a ‘Preamble’ as envisaged by the Model HGA, the content of the Preliminary Statement and its purpose are in line with both the Model HGA and the Protocol in more ways than it would initially appear. The Preliminary Statement serves the same purpose as a preamble would, had the Agreement been drawn up in concurrence with the Model HGA. The Preliminary Statement thus demonstrates the commitment of the parties to co-operate and the main reasons for the agreement in question, which serves as an introduction, as envisaged by the Model HGA.

In line with the core principles of the draft Transit Protocol and the Model HGA, the BTC-Georgia Agreement expresses a commitment to security,⁶⁷ the protection of the environment,⁶⁸ and a commitment to preventing any conflicts between obligations and duties that may arise under the Agreement and any obligations that may arise under international law.⁶⁹

Articles 1-4 of the BTC Agreement between the BTC Pipeline Company and Georgia deal mostly with regional specificities relevant to the project in question. This is in line with the core principles enunciated by the Model HGA, as it envisages some flexibility in relation to the content of the agreements, allowing room for, and even encouraging the parties to include, regional

66 “Agreement between the Baku-Tbilisi-Ceyhan Pipeline Company and the government of Georgia on the provision of security equipment, facilities and operations funding for the Baku-Tbilisi-Ceyhan Pipeline Project.” Available at: <http://www.thecornerhouse.org.uk/sites/thecornerhouse.org.uk/files/Georgia%20BTC%20Security%20Provision%20Protocol%20EN.pdf> (Accessed: 02 August 2016).

67 See Preliminary Statement.

68 See Preliminary Statement.

69 See Preliminary Statement, which also lists some international agreements the parties are members to.

particularities.⁷⁰

As in the case of the Model HGA, the BTC Agreement between the BTC Pipeline Company and Georgia contains a clause on the regulation of taxes, a clause that is found in all agreements analyzed in this paper so far, as well as the Model HGA. To conclude, as is the case in the other agreements, the BTC Agreement between the BTC Pipeline Company and Georgia also demonstrates an equal commitment to facilitating effective cooperation by ensuring that the respective liabilities of the parties are outlined in the text.⁷¹ In addition, the commitment to effective dispute resolution, a core feature of the Model HGA and a significant principle set forth in the Protocol, is outlined by Article 11 of the Agreement.

These agreements retain close links to the Protocol and the Model Agreements in that they all exhibit a commitment to principles such as fair treatment in relation to tariffs and taxation, the protection of the environment, the assumption of neutrality, the commitment to non-interruption and technical cooperation between the parties, a dedication to safety and security and a general commitment to act in the best interest of all parties involved.

To conclude this second section of the paper, after a thorough analysis of the various IGAs and HGAs comprising the Nabucco, BTC and South Caucasus Pipeline projects, it is apparent that they share common features with the Model Agreements as well as the Protocol, in that their content closely relates to core principles and features found in the aforementioned instruments. These agreements retain close links to the Protocol and the Model Agreements in that they all exhibit a commitment to principles such as fair treatment in relation to tariffs and taxation, the protection of the environment, the assumption of neutrality, the commitment to non-interruption and technical cooperation between the parties, a dedication to safety and security and a general commitment to act in the best interest of all parties involved. These principles form the core of both the Protocol and the Model Agreements, and even though each agreement is characterized by a blend of regional elements and project-specific particularities, their content demonstrates a clear trend towards a more unified and harmonized approach to the drafting of such agreements in the future.

⁷⁰ The following is found in the introductory note of the Model IGA and HGA, 2nd ed., page 4: 'Each Model represents a template and thus serves only as a guideline. Whether or not these Models will be used either in full or in part depends entirely upon the agreement of the parties who are in the process of negotiating a prospective agreement.'

⁷¹ Article 9 of the BTC Agreement between the BTC Pipeline Company and Georgia.

Recommendations

In view of the possible agreement on common principles or rules on transit and cross-border energy flows, the following recommendations can be made in the context of the Energy Charter:

More detailed provisions on environmental safety: As already established, the majority of the agreements analyzed in this paper contain clauses relating to the protection of the environment. Some of them, however, fail to address this issue and this can be highly problematic, given the nature of transit operations and the implications of such work in relation to the environment. The Nabucco IGA, for example, fails to address the issue of environmental protection; the parties have completely omitted to add a clause dealing with this matter. The establishment of proper environmental standards is an essential feature of any IGA and HGA, according to the Protocol and the Model Agreements. Despite its significance, however, not all agreements have included a provision on this subject, and those that have fail to deal with it in sufficient detail and to the necessary degree.

Robust environmental standards and encouragement to respect and value the environment are essential elements of any agreement on transit. This paper suggests that more detailed and clearer provisions on environmental safety should be encouraged for future agreements on transit. The clearer and more detailed the provisions on environmental protection, the likelier that state parties will consider them and take them seriously. This will also reduce the excessive flexibility that is afforded to state parties in relation to their obligation to comply with these provisions, thus compelling them to be more environmentally aware and sensitive.

More detailed provisions on labor standards: Provisions on labor standards do not feature explicitly in the Protocol and the Model Agreements, but do fall within the ambit of the Protocol's core principles. Some of the agreements contain provisions on labor standards and health and safety precautions, which serve to make the issue more pressing, and demonstrate a commitment to the rights of individual employees.⁷² In addition, the Turnkey Agreement contains a clause on providing accident insurance for workers.⁷³ This is an important clause, as it recognizes the individual human being in agreements that deal predominantly with large

⁷² Article 3.5 of the Turnkey Agreement.

⁷³ Article 15.5 of the Turnkey Agreement.

corporations and investors, which often tend to disregard the human component. It is thus essential to ensure the inclusion of such clauses be in future agreements. We recommend that greater effort be made towards the incorporation of additional clauses into the Model Agreements, dealing specifically with labor standards. In addition, the Protocol could contain a specific article on the importance of proper labor standards and the implications of failing to uphold them.

Perspective for Turkish Stream Project: Possible Scenarios and Challenges

Ilgar Gurbanov*

Following the cancellation of South Stream, Russia announced its plans to reroute the pipeline to Turkey, instead of Bulgaria. The new pipeline was dubbed “Turkish Stream”, with same capacity of South Stream, but less vulnerable to EU competition law. “Turkish Stream” has also experienced delays due to the crisis in Russia-Turkey relations. However, following the recent normalization of bilateral relations, the project regained its momentum. Russia’s aim is to complete the construction of the pipeline as soon as possible, namely before the Southern Gas Corridor is finished, or acquires additional gas from Iraq, Iran, or Turkmenistan. This article examines the possible scenarios and challenges for the Turkish Stream gas pipeline project, and argues that Russian Gazprom’s commitments to other pipeline projects, such as Nord Stream II and the pipeline to China, may prevent Gazprom from completing the pipeline in its entirety.



* Ilgar Gurbanov is a Research Fellow at the Center for Strategic Studies under the President of the Republic of Azerbaijan

Introduction

Turkey is the second largest gas market for Russian Gazprom, as it imports 55-60 percent of its gas from Russia. Currently Turkey imports Russian gas via Trans-Balkan Pipeline through Ukraine and via the Blue Stream pipeline, which runs under the Black Sea. The crisis in relations between Russia and Ukraine has affected energy partnerships. Thus, in 2007, Russia launched the “South Stream” gas pipeline project, which was to start from Russia’s Black Sea coasts, running to Bulgaria, and then onwards to Serbia, Hungary, Bosnia and Herzegovina, Croatia, Austria and Italy, carrying 63 billion cubic meter (bcm) of natural gas. Under the initial vision, South Stream was to be routed through Ukrainian territory in the Black Sea, but due to political changes in Ukraine, Moscow and Ankara agreed to re-route South Stream through Turkish waters. However, because of the EU’s unwavering stance on competition law, Russia cancelled the “South Stream” pipeline project. Russia’s Gazprom and Turkey’s BOTAS signed a memorandum of understanding (MoU) on the construction of an alternative gas pipeline across the Black Sea, dubbed “Turkish Stream”. This article discusses the development, challenges and future prospects for this pipeline.

However, because of the EU’s unwavering stance on competition law, Russia cancelled the “South Stream” pipeline project. Russia’s Gazprom and Turkey’s BOTAS signed a memorandum of understanding (MoU) on the construction of an alternative gas pipeline across the Black Sea, dubbed “Turkish Stream”.

South Stream is down, Turkish Stream is up

On December 1, 2014, during his visit to Turkey, Russian President Vladimir Putin announced the suspension of the South Stream project, for which he blamed the European Commission’s unconstructive position. In light of the new situation, Russia would build another pipeline to Turkey along with an additional gas hub for the South European customers on the Turkish-Greek border in Turkey.¹ Turkey’s BOTAS and Russian Gazprom signed a new Memorandum of Understanding on the construction of a new offshore natural gas pipeline across the Black Sea to the Turkey-Greece border with an annual capacity of 63 bcm. Of this total, some 15.75 bcm would be supplied to Turkey in the first phase, with the remaining 47 bcm destined for the planned gas hub near the Turkish-Greek border in the second phase.² Turkish Stream will consist of four parallel lines, each with a capacity of 15.75 bcm/y and each running 900 km across the Black Sea from

1 President of Russia, (2014) *News conference following state visit to Turkey*, Available at: en.kremlin.ru/events/president/news/47126#sel= (Accessed: 10 July 2016).

2 Gazprom, (2014), *New gas pipeline towards Turkey*, Available at: www.gazprom.com/press/news/2014/december/article208505/ (Accessed: 10 July 2016).

the Russian port of Anapa to Kiyikoy, in Turkish Thrace, and then as an underground pipe to Ipsala, at the border with Greece. Turkish Stream will be developed by South Stream Transport BV, a subsidiary of Gazprom registered in the Netherlands.³

The first string of Turkish Stream will carry 15.75 bcm/a of natural gas to Turkey's domestic market, replacing the current volume of the Trans-Balkan Pipeline's (TBP) after the termination of the transit agreement between Russia and Ukraine.⁴ Russia exports 14 bcm/year of gas to Turkey through the TBP via Ukraine through Moldova, Romania and Bulgaria. However, the current gas flow via TBP is vulnerable to possible disruptions due to the ongoing crisis between Russia and Ukraine.⁵ Turkish Stream would enable Russia to redirect its export route via Turkey, without affecting the current volumes. By rerouting gas exports to Turkey, Russia can eliminate the extra tariff costs incurred along the Ukraine, Moldova, Romania and Bulgaria route, which make the gas expensive for Turkey. Gas export to Greece and Bulgaria through Turkey will be cheaper.⁶ TBP could be used in reverse mode to supply gas to Bulgaria, Greece and Romania from Turkey.⁷ However, under its existing contracts, Gazprom is obliged to provide natural gas to consumers to the exact point, but not any place in the EU border. The contracts state that gas delivery for the Central and Eastern European countries shall be via Ukraine.⁸ Gazprom has a "ship or pay" transit contract with Slovak Eustream SA until 2028, which obliges Gazprom to pay transit fees for a minimum of 50 bcm/y, whether or not the commodity is shipped. Thus, Russia's plans to bypass Ukrainian may cost Gazprom hundreds of millions of Euros in fees.⁹

However, the current gas flow via TBP is vulnerable to possible disruptions due to the ongoing crisis between Russia and Ukraine.

3 Cutler, R. (2016) 'The Turkish Stream Agreement and What It Means', *Intersection*, Available at: intersectionproject.eu/article/economy/turkish-stream-agreement-and-what-it-means (Accessed: 22 November 2016)

4 Chow, E. (2015) 'New Russian Gas Export Projects – From Pipe Dreams to Pipelines', *Centre for Strategic and International Studies*, Available at: <https://www.csis.org/analysis/new-russian-gas-export-projects—pipe-dreams-pipelines> (Accessed: 20 August 2016).

5 Apa.az, (2014) *SOCAR Stala Monopolistom Na Postavki Gaza V Yujnyyu Evropu: Putin Voshel v Yujniy Gazoviy Koridor*, Available at: <http://abc.az/rus/news/85236.html> (Accessed: 20 August 2016)

6 Tsafos, N. (2015) 'Don't Fear Turkey's Energy Power Play', *The National Interests*, Available at: nationalinterest.org/feature/dont-fear-turkeys-energy-power-play-11947?page=show (Accessed: 20 August 2016)

7 Szymon, K. (2014) 'The unwanted gas pipeline: Russia has halted the construction of South Stream', *OSW*, Available at: www.osw.waw.pl/en/publikacje/analyses/2014-12-03/unwanted-gas-pipeline-russia-has-halted-construction-south-stream (Accessed: 20 August 2016).

8 Milov, V. (2015) 'Obkhod Kiyeva: smojet li Rossiya otkazatsya ot gazovogo tranzita?', *Forbes Rossiya*, Available at: www.forbes.ru/mneniya-column/gosplan/286537-obkhod-kieva-smozhet-li-rossiya-otkazatsya-ot-gazovogo-tranzita (Accessed: 22 August 2016).

9 Bauerova, L. (2015) 'Gas-Transit Deal Shows Cost to Russia of Bypassing Ukraine', *Bloomberg*, Available at: www.bloomberg.com/news/articles/2015-06-05/slovak-gas-transit-deal-shows-bypass

The construction of Turkish Stream's first string is much easier from a legal point of view, because neither Russia nor Turkey belongs to the EU, and so neither is bound by the EU's "Third Energy Package" (TEP) rules. Otherwise, Russia would face same obstacle as it did in South Stream.¹⁰

The EU and the US position on South Stream and Turkish Stream

Between 2008 and 2010, Russia signed intergovernmental agreements (IGA) with Bulgaria, Serbia, Hungary, Greece, Slovenia, Croatia, and Austria on the implementation South Stream. Russia was relying on its close relations and bilateral energy agreements with EU member states to prevail over EU legislation against Gazprom's gas monopoly in Europe. However, the EU was unwilling to enable Member States' preferential relationship with Russia on South Stream, which was dividing them on the EU's common energy policy.

The EU demanded revision of those IGAs, which Russia could not agree with. Directive 2009/73/EC of the European Parliament and of the Council concerning common rules for the internal market in natural gas defines two major principles for the development of new gas infrastructures: 1) unbundling between the suppliers and the owners of infrastructure; and 2) granting of third party access to the transmission and distribution systems.¹¹ Therefore, Moscow shifted from South Stream to Turkish Stream because of the EU's opposition to the IGAs. The EU's position was based on the non-compliance of those IGAs with the EU's TEP rules (regarding "unbundling" and "third party access"), according to which, a single gas supplying company cannot own/control the pipeline and transport gas through it simultaneously.¹² Although Serbia is not an EU member, it is bound to implement EU energy regulations through its Energy Community membership.¹³

ing-ukraine-will-cost-russia (Accessed: 21 August 2016).

10 Gurbanov, I. (2015) 'In the Search of New Partners: Putin's Turkic Stream for Turkey', *Natural Gas Europe*, Available at: <http://www.naturalgaseurope.com/new-partners-putin-turkish-stream-turkey> (Accessed: 19 August 2016).

11 European Parliament and of the Council, (2009) *Directive 2009/73/EC of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC*, Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:0094:0136:en:PDF> (Accessed: 16 August 2016).

12 European Union, (2016) *Market legislation*, Available at: ec.europa.eu/energy/node/50 (Accessed: 11 August 2016).

13 Gurbanov, I. (2014) 'Who Buried the South Stream and Why? The EU or Russia?', *The GW Post*, Available at: <https://thegwpost.com/2014/12/18/who-buried-the-south-stream-and-why-the-eu-or-russia/> (Accessed: 12 August 2016).

Judy Dempsey, Senior Associate from Carnegie Europe, wrote that the demise of South Stream would speed up the diversification of Europe's energy sources, and encourage transparency in the energy sector over prices and contracts.¹⁴ Although Brussels considered it as a diplomatic victory, the European transit countries (Serbia, Bulgaria and Hungary) were considered the losers in terms of potential investment, job opportunities and price discounts, as well as an alternative supply route in case of supply disruptions through Ukraine.¹⁵ According to Keith Johnson, "Putin seemed to acknowledge that European sanctions torpedoed the financial prospects of the project".¹⁶ Fyodor Lukyanov, Editor-in-Chief of the "Russia in Global Affairs" magazine, writes that, Nord Stream was implemented because of political resources and strong position of Germany within the EU, through which former wanted to ensure itself from possible transit risks.¹⁷ The partners and stakeholders of South Stream were unable to circumvent EU law, though German Wintershall (Nord Stream stakeholder) was participating in South Stream as well.

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It is important to note that Turkish Stream will still come up against the TEP rules if Russia decides to export further beyond Turkey-Greece border, since Greece is an EU member state.¹⁸ Any failure of Turkish Stream would be a major threat to Russian economy. However, the EU regards Turkish Stream as "an attempt to thwart the Southern Gas Corridor."¹⁹ EU Vice-President, Maroš Šefčovič, has taken a clear stance against Turkish Stream, questioning the project's viability and citing unresolved divergences between the EU and Russia on TEP.²⁰ Šefčovič stated that

14 Dempsey, J. (2014) 'Europe's Energy Strategy and South Stream's Demise', *Carnegie Europe*, Available at: carnegieeurope.eu/strategieurope/?fa=57386 (Accessed: 11 July 2016).

15 Kahn, M. and Tsolova, T. (2014) 'Sinking of Kremlin gas project leaves south-east Europe high and dry', *Reuters*, Available at: uk.reuters.com/article/uk-russia-europe-pipeline-losers-idUKKCN0JG12W20141202 (Accessed: 10 July 2016).

16 Johnson, K. (2014) 'Putin's Pipe Dreams', *Foreign Policy*, Available at: foreignpolicy.com/2014/12/02/putins-pipe-dreams-south-stream-russia-turkey-natural-gas/ (Accessed: 11 July 2016).

17 Lukyanov, F. (2014), 'Vostochnaya Politika - Teper Rossiyskaya', *RossiyyaGlobalnoyPolitike*, Available at: www.globalaffairs.ru/redcol/Vostochnaya-politika---teper-rossiiskaya-171160 (Accessed: 10 July 2016).

18 Gurbanov, 'In the Search of New Partners'.

19 Pourzitakis, S. (2015) 'Turkish Stream: The energy security dilemma of the project', *Natural Gas Europe*, Available at: www.naturalgaseurope.com/turkish-stream-energy-security-dilemma-24844 (Accessed: 15 July 2016).

20 Levoyannis, C. (2015) 'Greece: A Backdoor to Fortress Europe: The Fallout of Tsipras' Visit to Moscow', *Natural Gas Europe*, Available at: www.naturalgaseurope.com/greece-tsipras-vist-to-moscow-23129 (Accessed: 10 July 2016).

the “decision on construction of Turkish stream should be made taking into account the views of the EU”.²¹ The EU Competition Commissioner Margaret Vestager did not exclude the examination of Gazprom’s talks with the European countries through which Turkish Stream could pass in regard to compliance with EU antitrust legislation.²² “All companies that operate in the EU market - no matter if European or not - have to play by EU rules,” she said.²³ If the EU ill demonstrate same stance on energy regulations, then only first string of Turkish Stream will be built, which will make it a “Blue Stream-like” pipeline between Turkey and Russia.²⁴

In May 2015, the US State Department’s special energy representative Amos Hochstein, during his visit to Athens, urged Greece to embrace a [Southern Gas Corridor] project that would link Europe to natural gas supplies from Azerbaijan, which would reduce the EU’s dependence on Russian gas supplies, rather than agree to a [Turkish Stream] gas pipeline pushed by Moscow. Hochstein said that “[this] is not an economic project, but is only about politics [and] So let’s put that to the side and focus on what’s important - the [Trans-Adriatic Pipeline] pipeline [to which] we already agreed.”²⁵ He added that “The SGC through Greece would enhance its longer-term goals of diversification”²⁶, and that “TAP will draw in Greece €1.5 billion of foreign investment.”²⁷ In the SGC Advisory Council’s meeting in Baku in February 2016, Amos Hochstein noted that “South Stream, Turk Stream, Nord Stream, all the other streams are simply restatements of political projects that have questionable economic value.”²⁸ The US

21 Rbc.ru, (2015), *Turetskiy Gambit: Kak Silno Riskuet Gazprom s Novim Gazoprovodom*, Available at: www.rbc.ru/economics/25/05/2015/555da0219a794742870f398b (Accessed: 11July 2016).

22 Serov, M., Tretyakov, P., Tretyeva, A., (2015) ‘Evrokomissiya ne iskluchayet antimonopolnogo rassledovaniya po ‘Turetskomu Potoku’’, *Vedomosti*, Available at: www.vedomosti.ru/business/articles/2015/04/30/evrokomissiya-ne-isklyuchaet-antimonopolnogo-rassledovaniya-po-turetskomu-potoku (Accessed: 11July 2016).

23 Cohen, A. (2015) ‘Will Greece–Russia Gas Deal Threaten EU Energy Security?’, *Natural Gas Europe*, Available at: www.naturalgaseurope.com/greece-russia-gas-deal-threaten-eu-energy-security-23487 (Accessed: 10July 2016).

24 Gafarli, O. (2016) ‘Turkey and Russia Work on Normalizing Relations, Sign Agreement on Scaled-Back Turkish Stream Pipeline’, *The Jamestown Foundation, Eurasia Daily Monitor Volume: 13 Issue: 169*, Available at: <https://jamestown.org/program/turkey-russia-work-normalizing-relations-sign-agreement-scaled-back-turkish-stream-pipeline/> (Accessed: 11October 2016).

25 Rt.com, (2015) *US urges Greece to reject Turkish Stream, focus on Western-backed project*, Available at: <https://www.rt.com/business/256981-greece-russia-us-gas/> (Accessed: 12July 2016).

26 Kanter, J. (2015) ‘U.S. Urges Greece to Reject Russian Energy Project’, *The New York Times*, Available at: www.nytimes.com/2015/05/09/business/international/greece-us-russia-energy-pipeline.html?_r=2 (Accessed: 15August 2016).

27 Caspian Barrel, (2015) *Voyna troboprovodov: v delo nachalo vmeshivatsya SSHA*, Available at: caspianbarrel.org/?p=30621 (Accessed: 15August 2016).

28 Huseynaliyev, F. (2016) ‘Gas Without Political Impurities’, *Region Plus*, Available at: www.region-

is also worried about continuous delays of the Interconnector-Greece-Bulgaria project, the result of slow decision-making processes in Greece and Bulgaria.²⁹

*Turkish Stream versus Southern Gas Corridor*³⁰

“Turkish Stream” is planned to terminate in the Ipsala district of Turkey, near the Greek border, the also the planned endpoint of the Trans-Anatolian Pipeline (TANAP). The key question is whether Turkish Stream could be a competitor for either the TANAP or Trans-Adriatic Pipeline (TAP), which envisage the delivery of 16 bcm of Azerbaijani gas to Turkey and Europe by 2018 and 2020 respectively. The important consideration is whether the termination of both pipelines at the same location will create competition in terms of market share, given the possible expansion capacity of both TAP (from 10 to 20 bcm/a) and TANAP (from 16 to 23/31 bcm/a). There were similar tensions between the South Stream and Nabucco projects; while previously Nabucco was considered an alternative to South Stream, now Turkish Stream may play the same role in relation to TANAP/TAP.

In fact, theoretically Russia can export its gas via TAP from the Turkish Stream toward Europe, without Gazprom’s presence in the TAP Consortium, and without breaching the TEP rules. Specifically: 1) Russia has no stake in TAP; 2) in the first stage, only 50% of TAP’s total final capacity will be used for 10 bcm/a, and can expand its capacity up to 20 bcm/a (100% of total capacity) in the second stage; 3) the EU Commission’s regulation left 50% of TAP’s total (final) capacity open for third party access (TPA) for the expansion capacity; 4) the EU regulation also states that upon request of a third party, TAP is obligated to construct additional entry/exit points in Greece to receive gas from non-Shah-Deniz sources.³¹ Thus, Russia can reserve a space in the TAP by requesting TPA to transport its gas

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plus.az/en/articles/view/5867 (Accessed: 15November 2016)

29 Natural Gas Europe, (2015) *Gas Diplomacy in the Balkans on the Move*, Available at: www.naturalgaseurope.com/gas-diplomacy-in-the-balkans-on-the-move-25129 (Accessed: 7 September 2016)

30 ‘Southern Gas Corridor’ has four key components: Azerbaijan’s Shah Deniz field’s stage II, South Caucasus Gas Pipeline’s extension (along Baku-Tbilisi-Erzurum pipeline); Trans-Anatolian Pipeline (from Turkey-Georgia border to Turkey-Greece border); Trans-Adriatic Pipeline (through Greece, Albania to Italy).

31 European Commission, (2013) *Decision of 16.5.2013 on the exemption of the Trans Adriatic Pipeline from the requirements on third party access, tariff regulation and ownership unbundling laid down in Articles 9, 32, 41(6), 41(8) and 41(10) of Directive 2009/73/EC*, pg.2, Available at: https://ec.europa.eu/energy/sites/ener/files/documents/2013_tap_decision_en.pdf (Accessed: 2August 2016)

(as a supplier, not an owner) at the second stage of gas delivery, or request the construction of additional entry/exit point for additional compressors at the expansion capacity of TAP. If Russia does not own the infrastructure, but simply sells its gas from the Turkey-Greece border, its actions will not contravene TEP rules. However, the Shah-Deniz Consortium has already secured 10 bcm of Azerbaijani gas with a 25-year-contract for the first stage of gas delivery via TAP. Under this contract, the Consortium has already secured 100% of TAP's initial capacity. The Consortium has been granted a TPA exemption by the EU Commission for 100% of initial capacity (for 10 bcm) of the pipeline for 25 years. This means that Russian gas cannot be transported via TAP for at least the next 25 years, unless there are either significant market or geopolitical changes, or sufficient gas demand to drive expansion. The long-term contracts of Shah-Deniz Consortium together with the relevant provisions of EU law make this option unlikely.³²

TAP's expansion would enable Gazprom to deliver a maximum of 10 bcm/y, while the Turkish Stream's second string was to pump 15.75 bcm/y. The injection of Russian gas into TAP could create rivalry between Russian and Azerbaijani gas in terms of volume, and Russia gas could block the prospects for additional volumes of Azerbaijani gas in the TAP's stage II. Azerbaijan is expected to increase its gas flow via Azeri-Chirag-Guneshli, Umid, Babek, Shafag-Asiman, Zafar-Marshal, Absheron, Bulla-Deniz fields and Shah-Deniz stage III. Azerbaijan's increased gas volume can be distributed for other Balkan countries via Interconnector-Greece-Bulgaria (IGB) to Bulgaria and the Ionian-Adriatic Pipeline (from Albania) to Montenegro, Bosnia-Herzegovina and Croatia in the second stage.³³ However, the MoU between Gazprom, Edison and DEPA could divert Bulgaria's focus away from the IGB (developed by ICGB AD), which is supposed to receive Azerbaijani gas from Shah-Deniz II.³⁴ This is because Italian Edison and Greek DEPA are both shareholders of "IGI Poseidon" joint venture, which is also a 50% shareholder in the

32 Gurbanov, I. (2015) 'Repercussions of Turkish Stream for the Southern Gas Corridor: Russia's New Gas Strategy', *Caspian Centre for Energy and Environment*, No.15, Available at: <http://ccee.ada.edu.az/files/articles/1956/CCEE%20Policy%20Brief-15--final.pdf> (Accessed: 3May 2016).

33 TAP AG, (2013) 'Albania, Bosnia and Herzegovina, Croatia and Montenegro sign MoU supporting TAP and IAP', *official website of TAP project*, Available at: www.tap-ag.com/news-and-events/2013/05/23/albania-bosnia-and-herzegovina-croatia-and-montenegro-sign-mou-supporting-tap-and-iap (Accessed: 12August 2016).

34 Roberts, J. (2016) 'Bulgaria's Hub Ambitions and Revived South Stream', *Natural Gas Europe*, Available at: www.naturalgaseurope.com/bulgarias-ambitions-28400 (Accessed: 12September 2016).

“ICGB AD” JV.³⁵

According to energy consultant Mikhail Krutikhin, the construction of TAP is a painful blow to Gazprom. As Azerbaijani gas will flow to Italy via this route, it will be able to replace half of the volume that Italy receives from Gazprom. Without the EU’s consent, Russia invested in bilateral agreements and spent billions of dollars on South Stream, which at the final stage proved to be inconsistent with EU regulations and therefore illegal. Along with the political ambiguity of the Turkish Stream, Russia is seeking to resurrect the long-discarded Poseidon project. Although the initial volume of TAP is not comparable to what Russia can supply, with flow of Turkmen and Iraqi gas in the future, TAP could play a significant role in the EU’s energy diversification strategy.³⁶

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According to Vitaly Baylarbayov, deputy Vice President of SOCAR, “to imagine that Turkish Stream could ruin the SGC is nonsense. Unlike the Gazprom’s project, the SGC is about billions of dollars already being invested”.³⁷ SOCAR Vice President Elshad Nasirov had earlier said that “Turkish Stream is not a rival to the SGC. If the Turkish Stream is constructed, we will be able to use its extension,” given future increases in Azerbaijani gas production via the next generation of gas fields.³⁸ Turkish Foreign Minister Mevlut Cavusoglu has offered to connect the Turkish Stream pipeline to TANAP, since Turkey will buy 15.75 bcm/y of Russian gas via Turkish Stream, meaning that the remaining volume can be exported via TANAP (by connecting it to the Turkish Stream).³⁹

35 ICGB AD, ‘The shareholders of the Interconnector-Greece-Bulgaria’, *official website of IGB project*, Available at: <http://www.icgb.eu/about/shareholders>; IGI Poseidon, ‘The Shareholders of the IGI Poseidon’, *official website of IGI Poseidon*, Available at: <http://www.igi-poseidon.com/en/igb> (Accessed: 12September 2016).

36 Krutikhin, M. (2016) ‘Gazoprovod TAP: Chto on oznachaet dlya Gazproma’, *Carnegie Moscow*, Available at: carnegie.ru/commentary/2016/05/19/ru-63625/iyfv (Accessed: 23November 2016).

37 Gotev, G. (2015) ‘Interview with Vitaly Baylarbayov, SOCAR’s deputy vice president - ‘SOCAR: It is impossible to stop the Southern Gas Corridor’, *Euractiv*, Available at: www.euractiv.com/section/europe-s-east/interview/socar-it-is-impossible-to-stop-the-southern-gas-corridor/ (Accessed: 12September 2016).

38 Trend.az, (2015) *Capacity of Turkish Stream can be useful to Azerbaijan - SOCAR*, Available at: en.trend.az/business/energy/2408950.html (Accessed: 4 August 2016).

39 Abbasova, N. (2016) ‘Ankara offers to connect Turkish Stream, TANAP’, *Azernews*, Available at: www.azernews.az/oil_and_gas/100692.html (Accessed: 4 August 2016).

Greece - a key country for Turkish Stream's extension

Technically, Greece is the optimal country to receive Russian gas from the Turkey-Greece border and to deliver it onwards to Europe. Both current and previous Greek energy ministers have been in favor of the construction of the “Greek-Russian gas pipeline” as an extension of Turkish Stream to Greece.^{40,41}

In the light of the EU-Russia standoff, Greek Prime Minister Alexis Tsipras paid a visit to Moscow on April 8 2015. He and Vladimir Putin discussed Greece's role in the “Turkish Stream” project,⁴² as well as the creation of a Joint Venture (JV) for the construction of the Turkish Stream's extension to Greece and Italy to transport Russian gas to the Balkans, Italy, and Central Europe.⁴³ Vladimir Putin said that the financing of the project still needed to be agreed upon between Russia and Greece.⁴⁴ To

Regardless of warnings from the US and the EU to against joining the Turkish Stream project, Alexis Tsipras signed an MoU with Gazprom during a visit to St Petersburg on June 18 2015.

that end, the Russian side pledged financial support for the Greek government and private companies that will be involved in the project.⁴⁵ Regardless of warnings from the US and the EU to against joining the Turkish Stream project, Alexis Tsipras signed an MoU with Gazprom during a visit to St Petersburg on June 18 2015. The agreement, worth \$2.3 billion, will set up a JV for the construction of the Turkish Stream's extension through Greece. The extension has been dubbed the “South European Gas Pipeline”, and will allow the transit of 47 bcm of Russian gas further into Europe.⁴⁶ Russia's development bank Vnesheconombank would own 50 percent of the €2 billion link and provide all financing, and Greece would own the rest.⁴⁷ Both countries pledged to as-

40 Rt.com, (2015) *Turkish Stream pipeline priority for Greece, despite EU pressure – ex-minister*, Available at: <https://www.rt.com/business/310283-greece-russia-pipeline-europe/> (Accessed: 4 August 2016).

41 Sputnik, (2015), *US Opposes Extension of Russia's Turkish Stream Pipeline – Greek Minister*, Available at: sputniknews.com/business/20150529/1022727025.html (Accessed: 8 August 2016).

42 Sputnik, (2015) *Greece Could Earn Hundreds of Millions of Euros From Turkish Stream - Putin*, Available at: sputniknews.com/business/20150408/1020618884.html (Accessed: 10 August 2016).

43 Rferl.org, (2016) *Greek Prime Minister To Meet With Medvedev*, Available at: www.rferl.org/content/russia-greece-putin-tsipras-talks/26944917.html (Accessed: 28 August 2016).

44 Michalopoulos, S. (2015) ‘Tsipras: ‘Turkish Stream’ will have another name on Greek territory’, *EurActiv*, Available at: www.euractiv.com/section/global-europe/news/tsipras-turkish-stream-will-have-another-name-on-greek-territory/ (Accessed: 28 August 2016).

45 Iprime.ru, (2015), *Putin: RF budet finasirovat prodoljenie v Grecii Turetskogo Potoka*, Available at: Iprime.ru/energy/20150507/809728096.html (Accessed: 20 August 2016).

46 Kardaś, S. and Loskot-Strachota, A. (2015) ‘Gazprom's call for proposals: how many new gas pipelines to Europe?’, *The Centre for Eastern Studies*, Available at: www.osw.waw.pl/en/publikacje/analyses/2015-06-24/gazproms-call-proposals-how-many-new-gas-pipelines-to-europe (Accessed: 21 July 2016).

47 Mazneva, E. and Chrepa, E. (2015) ‘Russia Strengthens Greece Ties With Gas Link Deal to Eu-

sist a proposed 50-50 joint venture of Russian and Greek investment banks for the feasibility study for the “South European Gas Pipeline”.⁴⁸ Greece is hoping to start discussions with the European Commission for the construction of the South-European gas pipeline, and hopes also to involve Italy in the negotiations.⁴⁹

Interconnector-Turkey-Greece-Italy

Greece had previously expressed its interest to transport Russian gas to Europe via the Interconnector-Turkey-Greece-Italy (ITGI), as an extension of the Turkish Stream.⁵⁰ The extension of the Turkish Stream would be divided into two routes, with first string passing through Greece to Italy (ITGI) and second string running northwards - via the Former Yugoslav Republic of Macedonia (FYROM), Serbia, Hungary - to Baumgarten, Austria. In February 2016, Russia’s Gazprom, Italian Edison SpA, and Greece’s DEPA signed an MoU in Rome on natural gas deliveries across the Black Sea from Russia via third countries to Greece and from Greece to Italy across the Ionian Sea via the ITGI/Poseidon pipeline.⁵¹ The ITGI/Poseidon project was shelved in 2012 after it was opted out to Trans-Adriatic Pipeline (TAP) following the selection of latter pipeline. However, Bulgaria and Turkey were missing from the MoU. France’s EDF and Italy’s Edison expressed their unofficial support for the ITGI.⁵²

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The Interconnector-Turkey-Greece-Italy (ITGI) pipeline comprises the following sections: Turkish grid (operational, needs to be upgraded for extra gas volume); Interconnector Turkey-Greece/ITG (operational since 2007; transport capacity - 11.5 bcm/y); Interconnector Greece-Italy/IGI project (capacity 12 bcm/y). The IGI pipeline includes: IGI Onshore (600 km onshore pipeline in the Greek territory, to be developed by Greek Transmission System Operator/DESFA) and IGI Poseidon (200

ope’, *Bloomberg*, Available at: www.bloomberg.com/news/articles/2015-06-19/russia-clinches-greece-accord-to-build-gas-pipeline-to-europe (Accessed: 21 August 2016).

48 Krutikhin, M. (2016) ‘Turkish Stream: Imaginary and Real’, *Bulgaria Analytica*, Available at: bulgariaanalytica.org/en/2016/09/14/турски-поток-илюзия-и-реалност/ (Accessed: 28 October 2016).

49 Komrakov, A. (2016) ‘Perspektivi ‘Turetskogo Potoka’ zavisyat ot Evrokomissii’, *Nezavisimaya*, Available at: www.ng.ru/economics/2016-09-12/4_stream.html (Accessed: 28 November 2016).

50 Natural Gas Europe, (2015) *Interconnector Greece-Bulgaria in the Spotlight*, Available at: www.naturalgaseurope.com/interconnector-greece-bulgaria-spotlight (Accessed: 28 August 2016).

51 Gazprom, (2016) *Gazprom, DEPA and Edison sign Memorandum of Understanding*, Available at: www.gazprom.com/press/news/2016/february/article267671/ (Accessed: 28 August 2016).

52 Michaletos, I. (2015) ‘The Turkish Stream Mystery’, *Natural Gas Europe*, Available at: www.naturalgaseurope.com/turkish-stream-future-prospects-development-26795 (Accessed: 28 August 2016).

km offshore pipeline across the Ionian Sea, under development by IGI Poseidon SA, a joint venture between Italian Edison and Greek DEPA).⁵³ The ITG from Karacabey (Turkey) to Komitini (Greece), launched in 2005, was intended to enable third suppliers to bring additional natural gas to Greece. The construction of the Greece-Italy undersea pipeline (Poseidon) is an extension of ITG.⁵⁴ The Poseidon pipeline has been included in the EU's Project of Common Interest (PCI) list and the project has received all the necessary authorizations for construction and operation and third party access exemption for 25 years.⁵⁵ ITGI shareholders Edison and DEPA planned to boost the throughput capacity of pipeline from planned initial 12 bcm/y up to 20 bcm/y (equal to TAP's maximum capacity in the second stage).⁵⁶

Gazprom's preference for ITGI was linked with the fact that both Italy and Greece are long-term importers of Russian gas and both Edison and DEPA have shares in ITGI/Poseidon. The final plan was to connect the ITGI and Turkish Stream in the Turkey-Greece borders.⁵⁷ The Greek government favors the ITGI for three reasons: 1) it bypasses Albania as a transit country, which requires more pipelining in Greek territory, and thus more investment; 2) Greece will be able to use Poseidon to receive Mediterranean gas;⁵⁸ 3) Greece does not own any shares in the TAP project, and its previous demands for a stake in TAP, revision of transit fees, and price discounts did not yield positive responses from the SDC.⁵⁹

Vladimir Socor, a senior research fellow at the Jamestown Foundation, writes that, "Geography and capacity make ITGI-Posei-

53 Edison, 'ITGI pipeline', *the official website of Edison company*, Available at: <http://www.edison.it/en/itgi-pipeline> (Accessed: 28 August 2016).

54 Gurbanov, I. (2015) 'Gas Policy of Greece under New Government: Russia, Turkic Stream and Diversification', *Newtimes.az*, Available at: newtimes.az/en/views/3406/ (Accessed: 20 August 2016).

55 European Commission, (2016) *Regulation (EU) 2016/89 of 18 November 2015 amending Regulation (EU) No 347/2013 of the European Parliament and of the Council as regards the Union list of Projects of Common Interest*, Available at: eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_OL_2016_019_R_0001&from=EN; Poseidon, *Development status of Poseidon*, www.igi-poseidon.com/en/poseidon (Accessed: 28 August 2016).

56 Mustafayeva, K. (2016) 'Gazprom, Edison, Depa Renew South Stream Vows', *Natural Gas Europe*, Available at: www.naturalgaseurope.com/gazprom-proposes-a-third-southern-gas-project-0-eu-28344 (Accessed: 28 September 2016).

57 Vukmanovic, O. & Jewkes, S. (2016) 'Pipe dreams: Gazprom courts southern Europe to exclude Ukraine', *Reuters*, Available at: www.reuters.com/article/gazprom-europe-gas-idUSL8N16C3N1 (Accessed: 28 August 2016).

58 Roberts, 'Bulgaria's Hub Ambitions'.

59 Liaggou, C. (2015) 'Athens to ask for TAP stake, transit fees', *Ekathimerini*, Available at: www.ekathimerini.com/167221/article/ekathimerini/business/athens-to-ask-for-tap-stake-transit-fees (Accessed: 23 August 2016).

don almost a mirror image of TAP.”⁶⁰ He also states, “Gazprom will use it to promote a Russian gas transit route and obstructing the [TAP] via Greece to Italy”, like the previous South Stream was meant to block the Turkmen gas flow to Europe and the Nabucco project. Moscow was seeking to confuse and divide EU countries through promises of “gas hub” and “intergovernmental contracts”⁶¹ According to John Roberts, “the one of the key reasons for raising the prospect of an ITGI/Poseidon is simply to cause damage to current EU plans to develop the SGC”, though the technical, financial, feasibility and cost efficiency of ITGI/Poseidon is still under question.⁶² However, the Turkey-Greece section of ITGI is operated by DESFA as part of the national gas transmission system in Greek territories.⁶³ Since SOCAR seeks to purchase 49% of DESFA, the company could potentially control Russian gas flow through ITGI, if it were realized.

TESLA - a new branch for Russian gas to Europe

It is also possible to transport Russian gas via a new pipeline through FYROM and Serbia to Hungary and Austria (Baumgarten hub) after gas entered Greece through Turkish Stream’s extension or via ITGI. This proposal was put forth by Hungarian Premier Minister Victor Orban,⁶⁴ and the infrastructure was dubbed “Tesla pipeline”.⁶⁵ The 1,400 km-long “Tesla”, which will have a capacity of 27 bcm/y, is expected to be completed in 2019.⁶⁶ From Baumgarten hub, the northern regions of Italy and Germany can be supplied via the Tesla pipeline.⁶⁷ The route

60 Socor, V. (2016) ‘Gazprom Promotes Greece–Italy Transit Route to Obstruct European Corridor’, *The Jamestown Foundation, EDM*, Vol.13, Issue 43, Available at: www.jamestown.org/single/?tx_ttnews%5Btt_news%5D=45166&tx_ttnews%5BbackPid%5D=7&cHash=b33acfbeaa26e3723cb89d1c845ead8f#V8A4YvmLSUn (Accessed: 25 August 2016).

61 Socor, V. (2016) ‘Turkey-Greece-Italy Interconnector: South Stream’s Latest Avatar?’, *The Jamestown Foundation, EDM*, Vol.13, Issue 44, Available at: www.jamestown.org/single/?tx_ttnews%5Btt_news%5D=45171&tx_ttnews%5BbackPid%5D=7&cHash=b90b8919f10455659452a72607c0ba88#V8A4ofmLSUn (Accessed: 25 August 2016).

62 Roberts, ‘Bulgaria’s Hub Ambitions’.

63 Thanos Dokos & Theodoros Tsakiris, (2012) ‘A Strategic Challenge: The role of Greece in Europe’s Southern Gas Corridor Strategy’, *Hellenic Foundation for European & Foreign Policy*, p.18, Available at: www.eliampe.gr/wp-content/uploads/2012/02/policy-paper.pdf (Accessed: 25 August 2016).

64 Natural Gas Europe, (2015) *The Resurrection of South Stream*, Available at: www.naturalgaseurope.com/the-resurrection-of-south-stream-22337(Accessed: 25 August 2016)

65 Geropoulos, K. (2015) ‘Greece could funnel gas through Italy’, *New Europe*, Available at: <https://www.neweurope.eu/article/tap-on-tap-russias-turkish-stream-picks-up-steam/>(Accessed: 25 August 2016).

66 Daily Sabah, (2015) *EU approves construction of link roads for Turkish Stream*, Available at: www.dailysabah.com/energy/2015/11/20/eu-approves-construction-of-link-roads-for-turkish-stream(Accessed: 25 August 2016)

67 Natural Gas Europe, (2015) *The Interconnector Greece-Italy is Back on Track*, <http://www.naturalgaseurope.com/itgi-back-on-track-26367> (Accessed: 25 August 2016).

of “Tesla” resembles that of “South Stream” pipeline, although it excludes Bulgaria, but gives an enhanced role to Greece and FYROM.⁶⁸

On 7 April 2015, Hungary, Serbia, Macedonia, Greece, and Turkey signed a declaration on the formation of a working group to facilitate natural gas deliveries to their markets, including the participation in the Turkish Stream project. The representatives of five countries expressed their intent “to create a commercially viable option of route and source diversification for delivering natural gas from Turkey through their territories to the countries of Central and South Eastern Europe”.⁶⁹ It called for the EU to co-fund related infrastructures and the interconnecting the natural gas infrastructures of their countries.⁷⁰ Thereafter, in August 2015, Hungary, Serbia, Macedonia and Greece discussed the possibility of signing a MoU for the construction of the so-called “Tesla” pipeline, in order to realize it by 2019. The project had been already included in the EU’s PCI list.⁷¹

However, the “Tesla” project only exists on paper as a non-binding Memorandum of Understanding, and it may experience the fate of “South Stream”, due to TEP rules.

However, the “Tesla” project only exists on paper as a non-binding Memorandum of Understanding, and it may experience the fate of “South Stream”, due to TEP rules. Moreover, it will be hard to find non-Russian financing for the pipeline, writes Robert Cutler, a senior researcher in the Institute of European, Russian and Eurasian Studies at Carleton University.⁷² But even if the “Turkish stream” is realized, the Tesla will have a rival – the Eastring pipeline (also included in EU’s PCI list). If Russia suspends gas transit through Ukraine, the Eastring project can help Ukraine.⁷³ The “Eastring” project was proposed by Slovak gas pipeline operator Eustream as a means of linking Bulgaria, Romania, Hungary, Slovakia, and Balkan states by modernizing their gas infrastructures to bring western European gas to them. With its 20 bcm/y capacity, the Eastring project is scalable up to

68 Natural Gas Europe, (2015) *Greece Seemingly Gets Closer To Turkish Stream*, Available at: www.naturalgaseurope.com/greece-moves-towards-turkish-stream-23013 (Accessed: 25 August 2016).

69 Official website of Greece’s MFA, (2015) *Joint Declaration on the Strengthening of Energy Co-operation*, Available at: www.mfa.gr/en/current-affairs/top-story/joint-declaration-on-the-strengthening-of-energy-cooperation-budapest-april-2015.html (Accessed: 22 June 2016).

70 Rettman, A. (2015) ‘Greece and Hungary sign up to Russia gas pipeline’, *EUobserver*, Available at: <https://euobserver.com/energy/128261> (Accessed: 22 June 2016).

71 Serov, M. and Peschinskiy, I. (2015) ‘Prodlenie’Turetskogo Potoka’v Evropeobsudyat osenyu’, *Vedomosti*, Available at: <https://www.vedomosti.ru/business/articles/2015/08/19/605369-balkanskie-strani-osenyu-hotyat-dogovoritsya-o-prodlenii-turetskogo-potoka-v-evrope> (Accessed: 3 July 2016).

72 Cutler, R. (2015) ‘Russia Turkey Energy Conflict Keeps Azerbaijan Gas on Target for Europe’, *Eurasian Security*, Available at: www.eurasiansecurity.com/energy-security-geopolitics/russia/russia-turkey-energy-conflict-azerbaijan-europe/ (Accessed: 3 July 2016)

73 Serov, M. and Peschinskiy, I.

40 bcm, and might challenge the extensions of Turkish Stream, carrying even Azerbaijani gas via interconnectors.⁷⁴

Evolving Russia-Turkey relations

In July 2015, Gazprom halved the capacity of Turkish Stream pipeline from the original 63 bcm/a to 32 bcm, because of the expansion of its Nord Stream gas pipeline from Russia to Germany.⁷⁵ “The rest of the amount will flow to the EU via the “Nord Stream-2”, [therefore], southern direction is now no longer necessary for the construction of gas transportation capacities more than 32 bcm/y,” said Alexei Miller.⁷⁶

In September 2015, Turkey’s Energy Ministry deputy undersecretary Sefa Sadik Aytekin said that “talks with Russia on Turkish Stream are frozen, because of Russia’s hard-line attitude on gas price discount, which is the prerequisite for Turkish Stream talks.”⁷⁷ Shortly thereafter, Gazprom announced it was in agreement with Turkish partners that they would only be working on the first line [between Russia and Turkey] of Turkish Stream.⁷⁸

In October 2015, Alexander Novak said “Moscow will wait for the formation of a new government for the granting of construction licenses for two of the four-stages of Turkish Stream”, because Turkey has thus far only awarded licenses for the first line.⁷⁹ However, after the “jet incident”, when Turkey shot down a Russian fighter jet near the Turkey-Syria border, Russian Energy Minister Aleksandr Novak announced on November 24, that “negotiations on Turkish Stream have been suspended.”⁸⁰ Turkish President Erdogan said that “It was not Russia, but Turkey [which] froze the Turkish Stream project, [even] before the crisis.”⁸¹

However, after the “jet incident”, when Turkey shot down a Russian fighter jet near the Turkey-Syria border, Russian Energy Minister Aleksandr Novak announced on November 24, that “negotiations on Turkish Stream have been suspended.”

74 Gurbanov, I. (2015) ‘Resurrection of Nabucco Pipeline: Real or Myth?’, *Newtimes.az*, Available at: newtimes.az/en/views/3485/ (Accessed: 3 July 2016).

75 Lossan, A. (2015) ‘Is Gazprom cutting the Turkish Stream in half?’, *Russia Beyond the Headlines*, Available at: rbth.com/business/2015/07/17/is_gazprom_cutting_the_turkish_stream_in_half_47821.html (Accessed: 4 July 2016).

76 VestiEkonomika, (2015) *Turtsiya zaprosila 32 mlrd kub.m po Turetskomu Potoku*, Available at: www.vestifinance.ru/articles/63119 (Accessed: 3 July 2016).

77 Tinas, M. (2015), ‘Turkish Stream Talks will Get Boost after Elections’, *Natural Gas Europe*, Available at: www.naturalgaseurope.com/turkish-stream-talks-will-get-boost-post-elections-ali-riza-alaboyun-25722 (Accessed: 5 July 2016).

78 Novinite, (2015) *Gazprom Says Will Build Only Russia-Turkey Leg of Turkish Stream*, Available at: www.novinite.com/articles/170713/Gazprom+Says+Will+Build+Only+Russia-Turkey+Leg+of+Turkish+Stream (Accessed: 6 July 2016)

79 Tinas, ‘Turkish Stream Talks will Get Boost after Elections’.

80 Rt.com, (2015) *Russia halts Turkish Stream project over downed jet*, Available at: <https://www.rt.com/business/324230-gazprom-turkish-stream-cancellation/> (Accessed: 10 July 2016).

81 Trend.az, (2015) *Not Russia, but Turkey froze Turkish Stream, Erdogan says*, Available at: en.trend.az.

After several months of tension, on June 27, Russian President Vladimir Putin received a letter from President of Turkey Recep Tayyip Erdoğan, expressing Turkey's willingness to restore ties with Russia.⁸² Immediately, Gazprom spokesperson Sergey Kupriyanov announced his company's openness to dialogue with Ankara on the construction of the "Turkish Stream" natural gas pipeline.⁸³ Turkish Prime Minister Binali Yıldırım also expressed Ankara's support for the project.⁸⁴ Russian Deputy Prime Minister Arkady Dvorkovich said that Turkey confirmed its willingness to resume dialogue with Russia on the construction of Turkish Stream.⁸⁵ Energy Minister Alexander Novak reported that Russia has submitted to Turkey its road map for building the Turkish Stream to sign an intergovernmental agreement (IGA) in October 2016 to launch works on the first string with 15.75 bcm/y capacity. The working group would be established to negotiate the draft of IGA.⁸⁶

On October 10, Turkey and Russia signed an IGA on the construction of Turkish Stream. The agreement foresees the construction of two lines (15.75 bcm each) from Russia across the Black Sea, with construction forecast to start by the end of 2017 and be completed by 2019.

On October 10, Turkey and Russia signed an IGA on the construction of Turkish Stream. The agreement foresees the construction of two lines (15.75 bcm each) from Russia across the Black Sea, with construction forecast to start by the end of 2017 and be completed by 2019.⁸⁷ One of the lines is intended to deliver gas to Turkey while the other would branch off toward the Turkish–European Union border to carry gas to Europe. The cost of the project is estimated at \$6 billion. Both lines are supposed to be completed by December 2019.⁸⁸ The agreement also envisaged special tax exemptions for the offshore section and a second land line of "Turkish stream". Moreover, Turkey

az/business/economy/2465693.html (Accessed: 10 July 2016).

82 Kremlin.ru, (2016) *Vladimir Putin received a letter from President of Turkey Recep Tayyip Erdoğan*, Available at: en.kremlin.ru/events/president/news/52282 (Accessed: 22 November 2016).

83 Rt.com, (2016) *Gazprom ready to restart Turkish Stream dialogue after Erdogan apology*, Available at: <https://www.rt.com/business/348613-gazprom-turkish-stream-gas/> (Accessed: 22 October 2016).

84 Sputnik, (2016) *Implementation of Akkuyu NPP, Turkish Stream Projects Important - Ankara*, Available at: sputniknews.com/business/20160715/1043046317/npp-turkish-stream-yildirim.html (Accessed: 19 November 2016).

85 News.az, (2016) *Turkey ready to resume Turkish Stream project, says Russia*, Available at: news.az/articles/turkey/110756 (Accessed: 19 November 2016).

86 Natural Gas Europe, (2016) *Turkish Stream IGA to be Signed in October*, Available at: www.naturalgaseurope.com/turkish-stream-iga-to-be-signed-in-october-31046 (Accessed: 19 November 2016).

87 Daily Sabah Energy, (2016) *Erdoğan, Putin sign agreement on Turkish Stream gas pipeline project*, Available at: www.dailysabah.com/energy/2016/10/10/erdogan-putin-sign-agreement-on-turkish-stream-gas-pipeline-project (Accessed: 19 November 2016).

88 Anar Valiyev, (2016) 'Azerbaijan Strengthens Its Energy Position in Turkey', *The Jamestown Foundation, Eurasia Daily Monitor* Volume: 13 Issue: 168, Available at: <https://jamestown.org/program/azerbaijan-strengthens-energy-position-turkey/> (Accessed: 19 November 2016).

will release Gazprom from the tax revenues for the marine section of pipeline. The import of vehicles and equipment and other necessary materials are exempt from the payment of customs duties in Russia and Turkey. The Turkish side also eliminated the value added tax on gas transportation. According to Energy Minister Alexander Novak Gazprom will build and own the offshore section of Turkish stream, the first line of land section (including receiving terminal and connection lines) for the delivery of gas to Turkey will be built and owned by Turkey's BOTAS. The second line towards Turkey-Greece border for gas transit to Europe will be owned by joint venture between Gazprom and BOTAS.⁸⁹ According to Russia's Energy Ministry, Turkey has agreed to a second line in exchange for a discount for a discounted gas price promised by Moscow.⁹⁰

Turkey has already granted Gazprom the first permits for the development of the Turkish Stream via Turkey, which likely relates to feasibility studies for the final section of pipeline on Turkish territories. Actually, main sections of the offshore pipeline in Turkey's exclusive economic zones in the Black Sea were previously approved within the framework of South Stream's implementation, and Gazprom has completed the environmental impact assessment for the offshore and landfall sections of Turkish Stream pipeline.⁹¹

Challenges and perspectives for Turkish Stream

The Turkish Stream project will face dozens of challenges. Falling oil prices, the economic sanctions against Russian companies and banks, the cost of the project, etc. make it difficult to find financing for the gas pipeline. Gazprom faced serious financial losses as a result of South Stream's suspension. The company had to pay fines worth \$1 billion to Italian ENI, German Winterhall, and Electricite de France for their stakes in the consortium.⁹² Russia had rented two pipe-laying vessels

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89 1Praym.ru, (2016) *Rossiya i Turtsiya predostavyat nalogovie Igoti projektu 'Turetskiy Potok'*, Available at: 1prime.ru/energy/20161011/826640070.html (Accessed: 19 November 2016).

90 Krutikhin, M. (2016) "Turkish Stream: The Cost of Russia's Stubbornness", *Carnegie Moscow Center*, Available at: carnegie.ru/commentary/?fa=64904 (Accessed: 19 November 2016).

91 David O'Byrne, (2016) "Gazprom's Turkish Stream Gains First Turkish Permits", *Natural Gas World*, Available at: www.naturalgasworld.com/gazproms-turkish-stream-gains-first-turkish-permits-31521 (Accessed: 1 November 2016).

92 Gurbanov, I. (2016) 'Turkey-Russia Rapprochement and Prospects for Turkish Stream', *The Jamestown Foundation, EDM*, Vol.13, Issue 140, Available at: www.jamestown.org/programs/edm/single/?tx_ttnews%5Btt_news%5D=45706&cHash=d303eecdce1ce9110a60716b2d880169#V7xTH_mLSUI (Accessed: 19 November 2016).

from Italian Saipem to lay pipelines for South Stream; however, following the suspension of “South Stream” pipeline project in 2014, Gazprom had to pay Saipem €25 million per month, despite not using them.⁹³ The pipes initially purchased for the South Stream can be used to lay the Turkish Stream’s first line.⁹⁴ In July 2015, Gazprom cancelled its contract with Italian Saipem, involved in construction of the Turkish Stream’s offshore portion,⁹⁵ and agreed to pay penalties (around \$300 million) to Saipem.⁹⁶ In November 2015, Saipem Stream Transport B.V., a subsidiary of Italy’s Eni, sued Gazprom for €759 million in damages for severing the contract on the construction of the underwater segment of the South Stream.⁹⁷

According to a report by the Russia’s Ministry of Economic Development and the Sberbank, Russia’s natural gas production, notably that of Gazprom, demonstrated an unpredicted fall in 2015 compared to 2014. The export revenues also experienced a rapid decline due to decreases in the price of natural gas exports, according to Russia’s Federal Customs Service. Sberbank’s report indicates that lower exports would also reduce Gazprom’s revenues. Gazprom’s lavish expenditures on infrastructure, costly diversification plans, etc., have cost it billions of dollars.⁹⁸

Reportedly, the cost of the Turkish Stream’s four-line pipeline will amount to €11.4 billion (half the cost of South Stream, €23.5 billion), with the cost of the first line estimated around €5 to 6 billion. However, given the fluctuating oil prices, the costs may overrun. Since most of the revenue is generated by energy export and the company’s costs are in rubles, falling oil prices have heavily affected the Russian economy and market value of the Russian ruble.⁹⁹

Russia would not be able to influence Turkey in the same way it has Ukraine, and consequently there is little room for Moscow

93 Shaban, I. (2015) ‘Why Russia is Planning Turkish Stream and Not Waiting for Turkey’, *Natural Gas Europe*, Available at: www.naturalgaseurope.com/russia-turkish-stream-without-waiting-for-turkey-23812 (Accessed: 12 August 2016).

94 Novinite, (2016) *Russia ‘Mulls Directing Part of New Gas Project to Bulgaria’*, Available at: www.novinite.com/articles/173280/Russia+Mulls+Directing+Part+of+New+Gas+Project+to+Bulgaria (Accessed: 11 October 2016)

95 Trend.az, (2015) *Turkish stream not to reach European market – expert*, Available at: en.trend.az/business/energy/2427864.html (Accessed: 19 July 2016).

96 Lossan.

97 Krutikhin, “Turkish Stream: Imaginary and Real”.

98 Gurbanov, “Turkey-Russia Rapprochement”.

99 Gurbanov, “Turkey-Russia Rapprochement”.

to politicize Turkish Stream.¹⁰⁰ Apart from that, the EU's increasing options for diversification, economic sanctions etc., are serious challenges to Russian gas exports. Amidst the withdrawal of sanctions on Iranian oil and gas exports, Turkish Stream could lose its significance for Russia's European clients.

Russia would not be able to influence Turkey in the same way it has Ukraine, and consequently there is little room for Moscow to politicize Turkish Stream.

If Gazprom goes forward with the construction of the third and fourth strings of the Turkish Stream, beyond the Turkey-Greece border, the company will encounter the same regulatory obstacles, namely the TEP rules.

Conclusion

The Ukraine crisis left Russia little room to maneuver for South Stream, which was hindered by the EU's Third Energy Package rules along with the economic sanctions that blocked financing capabilities of Russian banks. Russia abandoned the South Stream to avoid falling under EU energy legislation. Russia used the TEP as an excuse for the suspension of South Stream, but in reality it was obvious that Gazprom would not be able to proceed with project because of political and financial obstacles. The EU is not eager to import additional Russian gas; rather it wants to diversify routes and sources. South Stream was intended as a means of entirely bypassing Ukraine, like the Nord Stream.

The Ukraine crisis re-emphasized the role of Turkey not only for the EU, but also for Russia, in preventing supply disruption to Europe. Turkey also wants to avoid dependence on a single supplier, and to meet its energy demands with lower prices from reliable sources. The best way which is considered the SGC, which will carry Azerbaijani gas. Turkey seeks to take advantage of its geography— i.e. turning itself into a regional hub by hosting the Turkish Stream and transporting Turkmen, Iraqi, Iranian and Mediterranean gas. Fully eliminating reliance on Russian gas exports is unlikely, given its significant export role at present and noting that Turkey does not have an alternative supplier to substitute this volume. Whereas, the crisis between Russia and Turkey could divert latter to diversify its gas imports away from former.

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¹⁰⁰ Gurbanov, 'In the Search of New Partners'.

If Turkish Stream is realized, Turkey will play a larger role in the region's energy map. "Turkish Stream" can bring Turkey and Russia together, regardless of their disagreements on many issues. Both Russia and Turkey were vindictive towards the EU, due to EU-led sanctions toward Russia and delays on Turkey's EU membership, respectively. With Turkish Stream, Russia wanted to demonstrate to the world that it is not totally isolated. The rejection of Turkish Stream by Turkey would weaken Russia's position vis-à-vis Ukraine. Russia knows that after suspension of the gas flow through Ukraine, Gazprom's European partners will have no other option than to import gas via the Turkish Stream.

As the implementation of the Southern Gas Corridor gathers pace, Russia is pushing forward its own options. The Turkish Stream might be a potential challenger to Azerbaijani gas exports to Southeast Europe. On the other hand, by transporting Russian gas via ITGI, and Azerbaijani gas via TAP, Greece wants to pursue a balanced energy policy, playing to both Russia and Azerbaijan. However, the realization of ITGI remains doubtful given its previous failure on financial grounds. The question that remains is how Greece will come up with the financing for ITGI, given its precarious economic situation. The transportation of Russian gas via ITGI is matter of time and financing, while the planned "Tesla" pipeline might encounter TEP rules.

Russia is seeking either to target potential markets for Azerbaijani gas, or to use the additional capacity of Azerbaijan's gas export routes. At first glance, it might seem that the timeline and capacity of Turkish Stream will hinder Azerbaijan's gas strategy in Southeast Europe, given that Azerbaijani gas will reach Turkey in 2018 and Europe by 2020. However, the 16 bcm of gas from Shah-Deniz's Phase II that TANAP/TAP will carry to Europe has already been sold, based on a 25-year contract with European companies, and the initial capacity of TAP has been secured via a TPA exemption. The long-term agreements protect SOCAR from the risk of competition from other gas suppliers.

Russia could focus on the expansion of the existing Blue Stream by laying additional lines across the already functioning pipeline, which would be more cost-effective than laying new pipelines underwater. However, with the extension of the Blue Stream, Russia will not be able to reach the Turkey-Greece border directly, and the pipeline would supposedly have a smaller capacity.

Since Gazprom prioritized “Nord Stream II” to compensate for its political and economic losses, the company will only implement the first line of Turkish Stream to feed Turkey’s domestic market without relying on Ukraine’s transit status after the suspension of the Trans-Balkan Pipeline. In the most optimistic scenario, the second string of the Turkish Stream will be realized in order to replace the TBP’s current delivery to Bulgaria and Greece, and onwards. The move from South Stream to Turkish Stream will not change Russia’s energy market, as the latter might be extended into Greece or Bulgaria via different pipelines. However, it is not yet clear which will be the second string in Europe: ITGI (Poseidon), or TAP, or a new onshore pipeline. The second string will definitely need to tackle the EU’s regulatory obstacles.

Gazprom understands that financing constitutes the biggest challenge in finalizing the entire Turkish Stream project. Gazprom’s financial situation remains worrisome; the declining gas exports and decreasing gas prices have been a serious blow to the company. Greece is not in a position to fund the pipeline alone, and the Greek government can hardly convince the EU that Turkish Stream is important for Europe’s long-term diversification plans. This means the entire four-line “Turkish Stream” is unlikely to come on-stream anytime soon. Until Russia finalizes the construction of Turkish Stream’s first or second strings, Ukraine will remain a major transit country for Russian gas exports to Europe, supplying Romania, Bulgaria, and Greece - even after the termination of the transit agreement.

The Threat to Energy Infrastructure in the Central Eurasia from Terrorist Groups Affiliated to ISIL

Michael Fredholm*

In 2015, the Islamic State of Iraq and the Levant (ISIL) announced the establishment of its Khorasan Province, said to encompass “Afghanistan, Pakistan, and other nearby lands.” Soon after, ISIL proclaimed its Caucasus Province. However, the war in Syria and Iraq is going badly for ISIL. Losing ground in its heartland, ISIL fighters will have to turn elsewhere, which for many would mean returning to the Caucasus or Central Eurasia. They will aim to continue the fight there, using the tactics they learnt in Syria and Iraq. While the Caucasus and Central Eurasia have faced jihadist terrorism, these regions have largely been spared one of the tactics successfully employed by ISIL and its predecessor, Al-Qaida in Iraq: attacks on the energy infrastructure. Potential targets include production, processing, transmission, storage, and distribution facilities. The energy sector contains an abundance of soft targets, and the fact that successful attacks also may harm Western, Russian, and Chinese interests in addition to those of Turkey, Georgia, Azerbaijan, and the Central Asian republics will appeal to jihadists. This article will examine how jihadist groups have targeted energy infrastructure elsewhere and assess the likelihood of similar attacks in the Caucasus and Central Eurasia.



* Michael Fredholm is the Head of Research and Development at IRI, Stockholm, Email: michael.fredholm@hotmail.com

Introduction

On 26 January 2015, the Islamic State of Iraq and the Levant (ISIL) announced the establishment of the Khorasan Province of the Islamic State (IS), which was said to encompass “Afghanistan, Pakistan, and other nearby lands.”¹ On 23 June 2015, IS proclaimed the formation of its Caucasus Province, which would encompass the Caucasus.²

Both proclamations came in recognition of the fact that jihadists loyal to IS were already operating in these regions and had been doing so since late 2014. IS had an abundant source of potential recruits in both regions. While a large number of Afghans, and yet larger numbers of Pakistanis, were active jihadists in what IS termed Khorasan, and jihadists remained in the Caucasus as well, there was also a significant presence of IS members in Syria and Iraq with links to the two regions. In September 2015, the Russian Security Service, FSB, reported that an estimated 2,500 Russian citizens had gone to Syria to join IS or other jihadist groups, in addition to some 3,000 Central Asian fighters, many of whom were Russian-speakers.³ In August 2016, Russia’s Prosecutor General Yuriy Chaika announced that 3,500 Russian nationals had joined IS or other jihadist groups in the Middle East. But, he noted, hundreds of them were currently returning home.⁴ The reason for their return was that the war in Syria and Iraq was going badly for IS. US-led air strikes in Iraq had allowed ground forces to recover substantial territory, while Russian air strikes in Syria had resulted in similar gains for security forces there.⁵

Losing ground in its heartland, IS fighters will have to turn elsewhere. For many, this means going home to the Caucasus or Cen-

1 Abu Muhammad al-Adnani (2015), ‘Say, ‘Die in Your Rage!,’ audio statement by IS spokesman published by IS official media outlet al-Furqan, 26 January 2015.

2 Joscelyn, T. (2015) ‘Islamic State Spokesman Calls on Other Factions to ‘Repent,’ Urges Sectarian War,’ *Long War Journal*, 23 June 2015; citing an audio statement by IS spokesman Abu Muhammad al-Adnani on the same day. Available at: www.longwarjournal.org/archives/2015/06/islamic-state-spokesman-calls-on-other-factions-to-repent.php. (Accessed: 01 August 2016).

3 Pervyy kanal, 18 September 2015. Available at: www.1tv.ru/news/polit/292465 (Accessed: 02 July 2016).

4 *Moscow Times*, 4 August 2016. Available at: <https://themoscowtimes.com/articles/prosecutor-general-3500-russians-have-joined-middle-east-terror-groups-53217> (Accessed: 6 August 2016). See also *Caucasian Knot* web site, 17 March 2016, citing Vladimir Makarov, deputy head of the Chief Department for Combating Extremism of the Russian Ministry of Internal Affairs (MVD), which includes the police. Makarov then noted operational information on 3,417 Russian nationals who had left Russia to join IS and similar jihadist groups. Available at: www.kavkaz-uzel.eu/articles/279282 (Accessed: 02 August 2016).

5 *Washington Post*, 10 June 2016. Available at: www.washingtonpost.com/news/worldviews/wp/2016/06/10/islamic-state-has-lost-this-much-territory-in-iraq-and-syria-this-year/ (Accessed: 02 August 2016). TASS, 14 March 2016.

tral Eurasia. They will aim to continue the fight there, using the tactics they have learnt in Syria and Iraq. While the Caucasus and Central Eurasia have faced jihadist terrorism in the past, these regions have largely been spared one of the tactics successfully employed by IS and its predecessor, Al-Qaida in Iraq (AQI), that is, attacks on the energy infrastructure.

Jihadist attacks on energy infrastructure

Terrorist groups targeted the energy industry long before the rise of Al-Qaida and IS. Such attacks were a powerful means through which to put pressure on foreign governments and multinational corporations with an interest in the oil and gas producing regions. This also entailed targeting national governments dependent on such international connections for their economic and political survival. Other armed groups have also carried out attacks on the energy industry, for a variety of reasons including unaddressed local grievances, environmental extremism, theft of oil or gas for black market sales, blackmail, kidnapping, piracy, and separatism. Indeed, one of the first documented attacks was carried out in the United States back in 1899 by what became known as the Montecito Mob. Montecito was a suburb of Santa Barbara, California. When an oil company began to construct an offshore oil derrick outside Montecito against the wishes of the locals, a mob of upstanding citizens attacked the rig and demolished it.⁶ Attacks on energy infrastructure have since taken place for a variety of reasons in numerous oil and gas producing regions of the world, including the United States, Mexico, Colombia, Venezuela, Guatemala, Ecuador, Britain, Nigeria, Angola, Algeria, Georgia, Lebanon, Saudi Arabia, Pakistan, India, Indonesia, and Burma.⁷

By comparison, jihadist groups only gradually recognized the potential in targeting energy infrastructure facilities in the countries in which they were operating. In fact, Usama bin Ladin's declaration of jihad in August 1996 against the United States took the opposite stance. In bin Ladin's declaration of war, he claimed that with regard to Saudi Arabia's abundant oil reserves, the "American crusader forces" controlled the country's "oil policy determining the quantities of oil to be produced and set-

6 Kashubsky, M. (2011) 'A Chronology of Attacks on and Unlawful Interferences with, Offshore Oil and Gas Installations, 1975-2010,' *Perspectives on Terrorism* 5(5-6), pp. 139-67, on p. 141. The incident took place on 2 August 1899.

7 See, e.g., Makarenko, T. (2003) 'Terrorist Threat to Energy Infrastructure Increases,' *Jane's Intelligence Review* 15(6), pp. 8-13; Kashubsky, 'Chronology of Attacks on and Unlawful Interferences,' pp. 139-67.

However, after the US-led invasions of Afghanistan and Iraq, his views changed dramatically. In a statement released in December 2004, Usama bin Ladin argued that “the biggest reason for our enemies’ control over our lands is to steal our oil, so give everything you can to stop the greatest theft of oil in history from the current and future generations in collusion with the agents and foreigners.”

ting the prices which suit their own economic interests ignoring the country’s economic interests.” Yet bin Ladin ruled against the destruction of the oil industry since this would be “detrimental to the economic interests” of Saudi Arabia and the Gulf states.⁸ However, after the US-led invasions of Afghanistan and Iraq, his views changed dramatically. In a statement released in December 2004, Usama bin Ladin argued that “the biggest reason for our enemies’ control over our lands is to steal our oil, so give everything you can to stop the greatest theft of oil in history from the current and future generations in collusion with the agents and foreigners.” Indeed, bin Ladin asked his followers to “focus your operations” on oil and the oil industry, especially in Iraq and the Gulf.⁹

By then, a jihadist scholar called Shaykh Abdullah bin Nasser al-Rashid (also known as Abdelaziz bin Rashid al-Anzi) was already at work on a legal justification for attacks on the energy sector. He had prepared a *fatwa* (a formal religious verdict on a matter of Islamic law) called *The Laws of Targeting Petroleum-Related Interests and a Review of the Laws Pertaining to the Economic Jihad*. The verdict was then reviewed and edited by other jihadist scholars and finally concluded in January 2005.¹⁰ Shaykh Abdullah bin Nasser al-Rashid argued that the targeting of oil facilities was a legitimate objective in economic jihad, a type of warfare that targeted the heart of the enemy’s economy. What he proposed was economic war against the West, with the additional effect of undermining the credibility of the local governments. Economic jihad, as Shaykh Abdullah bin Nasser al-Rashid envisaged it, consisted of a campaign of strategic sabotage, the purpose of which was to bring about rising oil prices, supply shortages, rising insurance costs, damage to the economic reputation of the United States and the West, and at home, the outflow of local and foreign capital.

8 Usama bin Ladin (1996) *Declaration of Jihad against the Americans Occupying the Land of the Two Holy Mosques; Expel the Heretics from the Arabian Peninsula*, 23 August 1996. Translation as per FBIS Report: Compilation of Usama Bin Ladin Statements 1994-January 2004.

9 Usama bin Ladin (2004), *Depose the Tyrants* (Global Islamic Media Front, 16 December 2004). Translation reprinted in Lawrence, B. (ed.), *Messages to the World: The Statements of Osama bin Laden*. London: Verso, 2005), p. 272.

10 Evan Kohlmann, E. (2006) *Al-Qaida in Saudi Arabia: Excerpts from “The Laws of Targeting Petroleum-Related Interests”* (Global Terror Alert web site, www.globalterroralert.com, now defunct). The treatise was dated 15 June 2004 but before release, it had been reviewed by other jihadist scholars and finalized only on 9 January 2005. The *fatwa* was released on 26 February 2006, in conjunction with the failed attempted dual suicide car bombing of the ARAMCO Abqaiq oil refinery in Saudi Arabia. Williams, J. F. (2008) *Al-Qaida Threats and Strategies: The Religious Justification for Targeting the International Energy Economy*. Ottawa: The Canadian Centre of Intelligence and Security Studies at Carleton University, p. 41.

Shaykh Abdullah bin Nasser al-Rashid wrote:

There are four types of oil related interests:

- Oil Wells: The targeting of oil wells is not permitted as long as an equally powerful alternative exists. This is because the negative consequences of such an operation outweigh the benefits.
- Oil Pipelines: These are among the easiest targets to attack. The benefits of attacking pipelines outweigh the costs.
- Oil Facilities: These are not to be targeted if they are privately owned by a Muslim.
- Individual Leaders from the Petroleum Industry: These are among the easiest targets to attack, and the benefits of such operations far outweigh the disadvantages¹¹.

Why the qualified prohibition on targeting oil wells? Referring to Usama bin Ladin's 1996 declaration of jihad, Shaykh Abdullah bin Nasser al-Rashid explained that "at this time, the costs of targeting oil wells in Muslim countries outweighs the benefits."¹²

Yet, there were plenty of other potential targets. Conveniently divided into production (oil and gas fields), processing (refineries), transmission (pipelines), storage (terminals), and distribution (pipelines, ships, trucks, railroads) facilities, almost all were vulnerable to attack. By the time of the *fatwa*, attacks against the energy sector were already taking place throughout the territories in which Al-Qaida was then carrying out active operations. In fact, an attack had already occurred in 2002 on the oil tanker MV Limburg off the coast of Yemen. The attack resulted in a reduced level of shipping in the Gulf of Aden, a tripling in insurance premiums in Yemeni waterways, higher docking fees, a fifty per cent reduction in Yemeni port activity, and a significant overall loss to the Yemeni economy.¹³

Attacks on energy sector targets really took off in 2003. AQI was founded in 2003/2004 as a reaction to the US-led invasion and occupation of Iraq. Oil and gas pipelines were hit frequently and repeatedly. Electric power transmission lines were also tar-

¹¹ Kohlmann, *Al-Qaida in Saudi Arabia: Excerpts from "The Laws of Targeting Petroleum-Related Interests."*

¹² Ibid.

¹³ Pippard, T. (2010) "Oil-Qaeda: Jihadist Threats to the Energy Sector," *Perspectives on Terrorism* 4(3), pp. 3-14, on p. 6. The attack on the Limburg took place on 6 October 2002.

Oil and gas pipelines were hit frequently and repeatedly. Electric power transmission lines were also targeted, resulting in frequent and often sustained electricity blackouts.

geted, resulting in frequent and often sustained electricity blackouts. Some power outages were the result of attacks on other targets, as oil was set ablaze and the heat melted nearby transmission lines, the immediate cause of the power outages. Rocket-propelled grenades of the type commonly used by jihadists proved efficient weapons against pipelines, storage tanks, and other facilities which would burn if breached and set alight. When pipe-

lines that supplied refineries were damaged, refinery operations had to stop too, and shortages emerged in gasoline, kerosene and other oil products. Attacks also took place against pumping stations and refineries. Oil products transportation facilities such as tanker trucks and trains were targeted too, as were export terminals and ports, gas stations, petrochemical factories, and administrative facilities such as those of the Iraqi Oil Ministry which incorporated the Iraq National Oil Company (INOC). Regional oil companies such as North Oil Company, based in Kirkuk, and South Oil Company, based in Basra, were frequently attacked as well. Oil wells were also targeted, despite bin Ladin's advice, which caused fires that were difficult to extinguish. Oil and gas industry workers were attacked and killed, both at work and when travelling to or from work by minibus. Following the ruling of Shaykh Abdullah bin Nasser al-Rashid, terrorists targeted senior energy company officials, often at or near their homes.¹⁴

In April 2004, AQI carried out two attacks on offshore terminals. In the first attack, two zodiac-type speedboats piloted by suicide bombers attacked the Al-Basra Oil Terminal (ABOT) and an oil tanker, the MV Takasuzu. The attack caused no significant damage, yet resulted in the terminal being shut down for two days. In the second attack, the suicide bombers attempted to sail a dhow with explosives against the offshore Khor Al-Amaya Oil Terminal (KAAOT). Although the terminal largely escaped damage, it was shut down for a day. The shutdowns reportedly resulted in a loss of nearly US\$28 million in lost revenues.¹⁵ Nonetheless, additional shutdowns were forced in June 2004 by attacks on the pipelines that fed ABOT.¹⁶

Repeated attacks also took place against the Kirkuk–Ceyhan Oil

14 Alani, M. and Stracke, N. (2007) 'Insurgent Attacks on Iraq's Oil Sector,' *Security and Terrorism Research Bulletin* 6 (August 2007), pp. 38-41; Luft, G. (2008) *Iraq Pipeline Watch: Attacks on Iraqi Pipelines, Oil Installations, and Oil Personnel*. Potomac, Maryland: Institute for the Analysis of Global Security (IAGS), 27 March 2008.

15 Kashubsky, 'Chronology of Attacks on and Unlawful Interferences,' pp. 147-8. The attacks took place on 24 April 2004.

16 Luft, *Iraq Pipeline Watch*. The shutdowns took place on 16 June 2004.

Pipeline (also known as the Iraq–Turkey Crude Oil Pipeline). This pipeline carried exports to the Ceyhan Terminal, which was an important export port in Turkey. The attacks were successful, and within a few months, oil exports through the pipeline was halted. This reportedly cost the Iraqi government over US\$8 billion in lost revenue.¹⁷

At times, energy industry equipment was deployed in other types of attacks. In 2006 and 2007, AQI carried out multiple attacks using improvised chlorine tanker trucks in a crude attempt of chemical warfare. Stolen fuel tankers were rigged with conventional explosives. When detonated by suicide bombers, the chlorine gas was released, causing casualties among those exposed.¹⁸

By then, jihadists had begun to attempt attacks against the energy industry in other theaters of jihad as well. In February 2006, there was an attack against the Abqaiq oil processing facility in Saudi Arabia. A team of suicide attackers in three vehicles attempted to penetrate the perimeter of the facility. Tactically, the operation failed. Yet, the strategic effect was significant. Abqaiq accounted for a throughput of two-thirds of Saudi Arabia's crude oil production. News of the attack accordingly resulted in an increase in crude oil prices of around US\$2. This global effect was achieved for a cost of only five suicide terrorists and three vehicles.¹⁹

By then, jihadists had begun to attempt attacks against the energy industry in other theaters of jihad as well. In February 2006, there was an attack against the Abqaiq oil processing facility in Saudi Arabia.

In September 2006, four suicide attackers targeted two oil terminals in Yemen. The first targeted the Ash Shihr oil terminal in Al Mukalla, Yemen's primary export terminal in the Gulf of Aden. The second targeted Block 18 in Ma'rib province, east of the capital Sanaa. Neither was successful, and the impact was insignificant compared to the other attacks.²⁰ Yet there was little doubt that the operations had been inspired by the more successful operations elsewhere.

In January 2013, Al-Qaida-linked terrorists led by Mokhtar Belmokhtar took hundreds of expats and Algerian workers hostages at the Tigantourine gas facility at In Amenas, Algeria. Operated by Algerian state oil company Sonatrach, In Amenas was the

¹⁷ Alani and Stracke, 'Insurgent Attacks on Iraq's Oil Sector,' p. 40.

¹⁸ US Department of Defense, press release, 6 June 2007 (www.defense.gov); Robert Jones, R.; B. Wills; and C. Kang (2010) 'Chlorine Gas: An Evolving Hazardous Material Threat and Unconventional Weapon,' *Western Journal of Emergency Medicine*, 11(2), pp. 151-6.

¹⁹ Pippard, "Oil-Qaeda," pp. 6-7. The attack took place on 24 February 2006.

²⁰ Ibid., p. 8. The attacks took place on 15 September 2006.

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largest wet gas development project in Algeria. After four days, Algerian security forces raided the site, in an effort to free the hostages. Almost forty foreign hostages were killed along with an Algerian security guard. The plant shut down for a period after the attack, and it had to be fortified before reopening. In addition, a number of law suits occurred on the question of whether the companies involved had failed to protect their employees properly.²¹

The In Amenas operation was carried out before IS rose to prominence and announced its caliphate. IS emerged out of AQI, which was initially led by the late Jordanian jihadist Abu Musab al-Zarqawi, who declared allegiance to Usama bin Ladin in October 2004. The group changed name several times, known from 2006 as the Islamic State of Iraq (ISI; *Dawlat al-'Iraq al-Islamiyyah*). Since 2010, it has been led by Ibrahim Awwad Ibrahim Ali al-Badri, commonly known as Abu Bakr al-Baghdadi. In April 2013, AQI again changed its name to reflect its involvement in the Syrian civil war. It became the Islamic State of Iraq and the Levant (ISIL, *Dawlat al-Islamiyyah fi al-'Iraq wa'l-Sham*). However, due to internal rivalries, Abu Bakr al-Baghdadi soon broke with Al-Qaida. On the first night of the holy month of Ramadan (29 June 2014), ISIL proclaimed the re-establishment of the Caliphate, under Abu Bakr al-Baghdadi as Caliph Ibrahim, who, described as a descendant of the Prophet Muhammad, claimed rule over all Muslims worldwide.²²

IS did not ignore the potential of operations against energy infrastructure. Algeria was one of the new provinces that IS proclaimed in November 2014.²³

21 Wojtanik, A. (2015) *Mokhtar Belmokhtar: One-Eyed Firebrand of North Africa and the Sahel*. West Point: Combating Terrorism Center, pp. 20-21. The attack commenced on 16 January 2013.

22 See, e.g., Alexander, Y., and M. S. Swetnam (2012), *Al-Qa'ida: Ten Years After 9/11 and Beyond*. Arlington, Virginia: Potomac Institute Press, pp. 60-63; Atwan, A. B. (2015) 'A Portrait of Caliph Ibrahim,' *The Cairo Review of Global Affairs* 19, pp. 66-75.

23 'Islamic State Leader Urges Attacks in Saudi Arabia: Speech,' Reuters, 13 November 2014. Available at: www.reuters.com/article/us-mideast-crisis-baghdadi-idUSKCN0IX1Y120141113. IS leader Abu Bakr al-Baghdadi on 13 November announced the expansion of the Islamic State to "new countries, to the countries of the Haramayn, Yemen, Egypt, Libya, Algeria."

Strategic sabotage

Strategic sabotage of the kind envisaged by Shaykh Abdullah bin Nasser al-Rashid was by no means a new invention. During the Second World War, clandestine allied forces such as the British Special Operations Executive (SOE) carried out sabotage operations in occupied Europe. In May 1945, General Dwight D. Eisenhower, Supreme Allied Commander of the Allied Expeditionary Force in Europe, wrote to Sir Colin Gubbins, head of the SOE, on the achievements of the organization in coordinating resistance movements and supporting sabotage operations in occupied Europe: “I consider that the disruption of enemy rail communications, the harassing of German road moves and the continual and increasing strain placed on the German war economy and internal security services throughout occupied Europe by the organized forces of resistance, played a very considerable part in our complete and final victory.”²⁴ Without strategic sabotage, the Allied victory would have been far more difficult and by no means certain.

Shutdowns and other disruptions in the energy industry will often have a severe effect on local and national economies. Attacks of this kind do not only result in the loss of human and non-human capital. Upstream attacks and breaches in energy supply will have a cascading, negative downstream impact. The downstream impact will affect other types of critical infrastructure, including those for defense, industrial, and financial purposes. There will be uncertainty and apprehension in financial markets. Market volatility will in turn lead to higher investment costs, including in the energy industry. Shutdowns and disruptions in the energy flow will accordingly cause a spiraling effect that impacts on all aspects of modern industry and finance. In effect, the diversion of labor and capital resources into protecting human and non-human assets will reduce resources available for production. In addition, protective measures will result in higher insurance premiums and travel, transport, and shipping delays which in turn will cut into resources that would be better used for production of essentials.

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Finally, the risks posed by terrorism should not be regarded as limited to a single, national population and economy. The cas-

²⁴ Foot, M. R. D. (2004) *SOE in France: An Account of the Work of the British Special Operations Executive in France 1940-1944*. New York: Frank Cass, p. 387. Eisenhower wrote on 31 May 1945.

cading effect of attacks on upstream infrastructure is likely to have an impact on downstream populations, regardless of national borders.²⁵ This was learnt by jihadists affiliated to IS already some years ago. In 2011, an Egyptian jihadist group which subsequently announced its name as Ansar Jerusalem carried out repeated attacks on the Arish-Ashkelon Pipeline, a submarine gas pipeline connecting the Arab Gas Pipeline from Egypt to Jordan with Israel. The fact that the pipeline supplied Israel with Egyptian natural gas caused particular anger in Egypt, which was the immediate cause of the repeated attacks. As an effect of the disruptions, natural gas deliveries to both Israel and Jordan were suspended.²⁶ This resulted in higher prices for electricity in Israel. However, there was also an immediate cascading impact on Jordan, since in Arish, there was an important junction of the Arab Gas Pipeline which supplied Jordan, further downstream. The impact did not go unrecognized. Ansar Jerusalem, by then better known as Ansar Beit al-Maqdis, in November 2014 pledged allegiance to IS as the organization's Egyptian branch, its Sinai Province.²⁷ In January 2016, the Sinai Province of IS announced that it again had attacked the pipeline that carried gas to Jordan, as well as to a major industrial zone in north Sinai. In a message posted on Twitter, the Sinai Province explained its rationale. "By the name of God, not a drop of gas will reach Jordan until the Caliphate gives its permission," the statement said.²⁸

Such sentiments were older than IS, and echoed those already voiced in Russia's southern Urals in 2011. There, an appeal calling Bashkir and Tatar youth to jihad was posted by one Yagafar Tangauri on the Kavkaz Center website, the main website of the Caucasus Emirate terrorist group.²⁹ By then, the Kavkaz Center website had already published several statements on the southern Ural mountains region, with particular emphasis on Bashkortostan and Tatarstan where a province of the Caucasus Emirate

25 Rosner, K. (2003) Security Challenges for the 21st Century: Protecting Critical Energy System Infrastructure (CESI), working paper, Stockholm Conference, 19 May 2003, p. 10.

26 Ansar Jerusalem, *If You Return (to Sins), We Shall Return (to Our Punishment)*, video, Shumukh al-Islam web site, 24 July 2012 (defunct).

27 'Militant Group in Egypt Vows Loyalty to ISIS,' *New York Times*, 10 November 2014. Available at: www.nytimes.com/2014/11/11/world/middleeast/egyptian-militant-group-pledges-loyalty-to-isis.html?_r=3; 'Islamic State Leader Urges Attacks in Saudi Arabia: Speech,' Reuters, 13 November 2014. Available at: www.reuters.com/article/us-mideast-crisis-baghdadi-idUSKCN0IX1Y120141113 (Accessed: 03 August 2016). The group swore allegiance to IS on 10 November, and IS leader Abu Bakr al-Baghdadi accepted the group on 13 November, after which it changed its name to Sinai Province on its Twitter feed.

28 'IS-linked Militants Claim Attack on Sinai Pipeline to Jordan,' *Middle East Eye* web site, 8 January 2016. Available at: www.middleeasteye.net/news/linked-militants-claim-attack-sinai-pipeline-jordan-2114845158 (Accessed: 03 August 2016).

29 Kavkazcenter web site, 12 February 2011, (www.kavkazcenter.com).

had been proclaimed.³⁰ After a few statements about God and the Prophet Muhammad, Tangauri told his audience that the region's "factories produce nothing but stink and radiation and belong to Moscow Jewish oligarchs" and that "you are forced to travel to Russia to work as slaves." Tangauri continued with a call for action: "Therefore it is up to you. Will you humiliatingly accept facts or will you yourself humiliate the non-believers and put truth in its place. Return the stolen. Undermine their economy in our territory. Do not let them remove oil and gas, do not let them refine it here and poison our villages, do not let them conduct underground nuclear explosions, and do not let tax collectors move undisturbed on our roads. ... Today a group of Muslims will take the initiative to go out to fight against these non-people. It is your choice." Tangauri ended his call thus: "Peace and Blessing upon the Prophet and upon all those who follow him until the Day of Resurrection!"³¹ Tangauri thus combined Islamic zeal and separatist sentiments with a call for action against the financial system and polluting industries, simultaneously invoking religion, nationalism, environmentalism, and anti-capitalism.

Nonetheless, the main rationale for attacking the energy industry is to cause significant economic losses.³² In 2014, the repeated attacks on Nigeria's pipelines resulted in losses estimated at a value of US\$6 billion. Neither should human losses be discounted.³³ The attacks on Nigerian infrastructure were not the work of jihadists, but a jihadist group, Boko Haram, was active in the country. In March 2015, IS announced that it had accepted Boko Haram as its West Africa Province, following the Boko Haram leader Abubakar Shekau's pledge of allegiance only five days earlier.³⁴

The likelihood of jihadists targeting energy infrastructure in the Caucasus and Central Eurasia

There is an unbroken line between the emphasis on the energy sector as proclaimed by Al-Qaida founder Usama bin Ladin, the *fatwa* that urged attacks on the oil industry by Shaykh Abdullah

30 Kavkazcenter web site, 26 January 2011, 1 February 2011 (www.kavkazcenter.com).

31 Kavkazcenter web site, 12 February 2011 (www.kavkazcenter.com).

32 For a discussion on Islamist views on energy, see Karagiannis, E. (2014) 'Comparative Islamist Perspectives on the Politics of Energy in the Middle East and Beyond,' *Studies in Conflict & Terrorism* 37(8), pp. 619-37.

33 Smith, C. E. (2016) 'Terrorism's Next Wave,' *Oil & Gas Journal*, 1 February 2016.

34 'IS Welcomes Boko Haram Allegiance: Tape,' AFP, 12 March 2015. Available at: www.yahoo.com/news/accepts-allegiance-nigeria-jihadists-boko-haram-201513146.html?ref=gs. (Accessed: 03 August 2016). IS announced its acceptance on 12 March, following Abubakar Shekau's pledge of allegiance on 7 March 2015.

bin Nasser al-Rashid, the numerous attacks on Iraq's oil industry by Abu Musab al-Zarqawi and his successor Abu Bakr al-Baghdadi, and the proclamation of IS and a Caliphate by the latter. Unsurprisingly, attacks on energy infrastructure have taken place within all provinces of IS. It is likely that more such attacks will take place, including in regions where IS was not previously operational. This is the chief danger to the energy industry from IS' expansion into the Caucasus and Central Eurasia.

The IS Khorasan Province was established by Hafiz Saeed Khan (d. 2016), a former Pakistani Taliban commander, who together with several other Pakistani Taliban including leading ones from Pakistan's Khyber Agency and Peshawar swore allegiance to IS on 15 October 2014.³⁵ It was accordingly not surprising that the primary base of Khorasan Province became this part of Pakistan, as well as adjoining provinces of Afghanistan. Besides, in September 2014 IS had already acquired the support of the Uzbek-led Islamic Movement of Uzbekistan (IMU), whose leader Usmon Ghazi (real name Abdunosir Valiyev; d. 2015), on 6 August 2015 formally swore allegiance to IS and accordingly joined Khorasan Province.³⁶ IMU was originally formed to bring jihad to the Central Asian republics, and Hafiz Saeed Khan in 2016 argued that Khorasan Province was "a gate to re-conquering all these regions [once Sunni regions of Iran, Afghanistan, the Central Asian republics, Chinese Xinjiang, Pakistan, and India] until they are ruled once more by Allah's law".³⁷ There is little doubt that the Khorasan Province leadership has designs on the territories of Central Eurasia.

Does this mean that they also plan to attack energy infrastructure facilities? This remains unknown. Neither Hafiz Saeed Khan nor his Uzbek ally Usmon Ghazi proclaimed such an intention, and indeed Khorasan Province remains a marginal jihadist movement in Afghanistan. Neither did Rustam Asildarov (also known as Amir Abu Muhammad Kadarskiy³⁸), who was appointed head of the IS Caucasus Province, express such intentions. However, the modus operandi for attacking energy infrastructure is already established in the region. Several attacks on energy infrastructure

³⁵ *International Business Times*, 19 January 2015. Available at: www.ibtimes.co.uk/hafiz-saeed-khan-former-taliban-warlord-taking-isis-india-pakistan-1484135 (Accessed: 04 August 2016).

³⁶ *Dawn* (Pakistan), 6 October 2014. Available at: www.dawn.com/news/1136578/uzbek-militants-declare-support-for-islamic-state/print (Accessed: 06 August 2016); RFEL (2015) IMU Declares It Is Now Part of the Islamic State. Available at: www.rferl.org/a/imu-islamic-state/27174567.html (Accessed: 06 August 2016). Valiyev first declared his support for IS on 26 September 2014.

³⁷ 'Interview With: The Wāli of Khurāsān,' *Dabiq* 13 (2016), pp. 49-54, on p. 49.

³⁸ See, e.g., Vatchagaev, M. (2015) 'Two North Caucasus Rebel Leaders Face Off in Islamic State-Caucasus Emirate Dispute,' *Eurasia Daily Monitor*, 12(120).

took place during the first and second Chechen wars, and North Caucasian jihadists continued to carry out attacks, in particular on oil and gas pipelines.³⁹ The Afghan Taliban frequently carried out attacks on electricity transmission towers, thus cutting electricity supplies from the Central Asian republics to northern Afghanistan and Kabul. The Taliban also repeatedly cut cables or damaged transmission towers linking the Kajaki Dam, one of Afghanistan's most important hydroelectric power generators, to consumers in the southern provinces of Helmand and Kandahar.⁴⁰ Hafiz Saeed Khan and Rustam Asildarov were aware of those successful operations, even if they did not participate in them. For these reasons, it is hard to avoid the conclusion that the expansion of IS into the Caucasus and Central Eurasia may represent a threat to critical energy infrastructure in the region. While attacks against energy facilities are not necessarily as spectacular – and bloody – as attacks against defenseless civilians, the long-term effects on the local economies of the afflicted countries may, in fact, bring hardship to a greater share of the population, thus increasing resentment against and reducing the credibility of local government. In effect, the situation might then become comparable to the one that Usama bin Ladin described, already in his 1996 declaration of jihad, as the cause of resentment that would pave the way for bringing young men to jihad: “People have been greatly preoccupied with matters of their livelihood. Talk of economic decline, high prices, massive debts, and overcrowded prisons is widespread and endless in society. Low-income employees will talk to you about their debts... Major traders and contractors will talk to you about the debts owed to them by the state... People are wondering: Is ours really the largest oil exporting country?”⁴¹

However, the modus operandi for attacking energy infrastructure is already established in the region. Several attacks on energy infrastructure took place during the first and second Chechen wars, and North Caucasian jihadists continued to carry out attacks, in particular on oil and gas pipelines.

Several states in the region face problems resulting from poor governance. In addition, many are in effect rentier or semi-rentier states, that is, states characterized by the relative absence of revenue from domestic taxation, since they export resources or license their development to foreign parties and their abundant natural resources preclude the need to extract income from their citizenry. Their economies are for this reason often dedicated to the extraction of one or a few natural sources of wealth. This de-

39 See, e.g., Smirnov, A. (2004) ‘Chechen Rebels Are Trying to Damage Russia’s Oil-and-Gas Pipeline System,’ *Jamestown Foundation North Caucasus Analysis* 5(46).

40 *New York Times*, 28 January 2016. Available at: www.nytimes.com/2016/01/28/world/asia/taliban-electricity-afghanistan-uzbekistan-kabul.html (Accessed: 06 August 2016).

41 bin Ladin, *Declaration of Jihad against the Americans*.

pendence means that rentier states and semi-rentier states are far more vulnerable to economic jihad than states with diversified economies.⁴² As Usama bin Ladin noted, even being the largest oil exporting country in the world does not necessarily mean that the population feels safe from economic decline.

Increasing economic hardship would aggravate the situation further. Resentment and feelings of injustice might indeed pave the way for jihadist takeover, as bin Ladin foresaw early in his career. Even so, Al-Qaida focused its struggle on what it referred to as the far enemy, that is, the United States and the West, and regarded the establishment of a caliphate as a long-term objective. IS too advocates terrorist attacks against the West, but its

Utilizing the resentment which bin Ladin recognized as a key factor for jihadist success, IS attracts those who feel underprivileged yet hope to achieve tangible power.

priority is the near enemy, that is, local government in Muslim-majority lands. IS' proclamation of a caliphate showed that its focus was the here and now, not the distant and future. Utilizing the resentment which bin Ladin recognized as a key factor for jihadist success, IS attracts those who feel underprivileged yet hope to achieve tangible power. In effect, IS attracts those who wish for local power at the expense of existing elites, and regard the jihadist ideology as the legitimization of their demands. These feelings are part of the explanation why so many Muslims leave the West to join IS. They believe that IS will empower them, and give them a better life than can be hoped for at home, and that IS at the same time will enable them to reinvent themselves as heroes for the faith. Local power and privilege is surely the just reward for a hero, so resentment against elites, a wish for action, a heroic narrative, and the desire for material rewards are in no way mutually exclusive drivers.⁴³ However, the same drivers exist in the Caucasus and Central Eurasia as well, and possibly more so, because of the poor governance and economic hardships that characterize some of the regional states. Like the aforementioned Tangauri, the IS recruits may combine Islamic zeal with a call for action against the economic system and elite power structures. If so, attacks on the energy sector might be the choice that fits the bill.

42 Stracke, N. (2007) 'Economic Jihad: A Security Challenge for Global Energy Supply,' *Security and Terrorism Research Bulletin* 6, pp. 26-32, on pp. 26-7.

43 On the heroic narrative of jihadists, see Fredholm, M. (2012) 'A Narrative of Heroes: In the Head of the Contemporary Jihadist,' *Terrorism: An Electronic Journal and Knowledge Base* 1.

Concluding remarks

While the best proactive defense of critical energy infrastructure would be an intelligence-led protection system,⁴⁴ most states dedicate far more resources to physical defenses. For instance, it has become common to counter terrorist attacks against energy facilities by establishing pipeline exclusion zones (PEZs), consisting of perimeter defenses in the form of layers of berm, fences, razor wire, walls, and trenches. New pipelines in conflict-prone regions are often buried for protection, as was the case with the Baku-Tbilisi-Ceyhan (BTC) oil pipeline. Surveillance can be arranged via drones and by armed patrols, with a special emphasis on exposed points and locations from which terrorists might launch rocket-propelled grenades.

Vulnerable facilities do not only include pipelines, pumping stations, storage facilities, and terminals. River crossings may be particularly exposed, even if the pipeline otherwise is protected. It takes longer time to repair critical junctions, in particular if custom-made parts need to be replaced. Furthermore, the emphasis on the oil and gas industry does not preclude terrorist interest in other types of energy industry facilities. That nuclear facilities may be targeted is well known, and such facilities are often well protected. However, the shutdown of any major power generation station will cause power shortages and non-nuclear plants are often less protected, which means more vulnerable. The same can be said for power transmission lines.

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This is not the place to provide a list of vulnerable energy industrial facilities in the Caucasus and Central Eurasia. Let it suffice to conclude that the economic prospects of the two regions to a large extent depend on the safeguarding of existing energy infrastructure. While the Baku-Tbilisi-Ceyhan (BTC) oil pipeline and, for natural gas, the South Caucasus Pipeline (SCP), both of which run from Azerbaijan to Turkey, may be sufficiently fortified and protected, the Kazakhstan-China oil pipeline and, for natural gas, the Central Asia-China Pipeline Project, running from Turkmenistan via Uzbekistan and Kazakhstan to China may well offer vulnerabilities that tempt terrorists.⁴⁵ The energy sector contains an abundance of soft targets, and the fact that successful

44 See, e.g., Rudner, M. (2008) 'Protecting Critical Energy Infrastructure Through Intelligence,' *International Journal of Intelligence and CounterIntelligence* 21(4), pp. 635-60.

45 See, e.g., Fredholm, M. (2008) *The World of Central Asian Oil and Gas: Power Politics, Market Forces, and Stealth Pipelines*. Stockholm: Stockholm University, Asian Cultures and Modernity 16.

attacks on pipelines also may harm Western, Russian, and Chinese interests – as consumers – in addition to those of Turkey, Georgia, Armenia, Azerbaijan, and the Central Asian republics – as consumers, transit countries, and producers – would appeal to jihadists.

Finally, there is the issue of cyber attacks. Electronic infrastructure may well be vulnerable as well. While the cyber threat should not be neglected, it will not be further examined here. As of the time of writing, there is no evidence that IS has carried out any cyber attacks against energy infrastructure. Even so, there may be sympathizers in the region with the required skills. In particular if they enjoy insider access, an individual with the required skills and commitment to IS ideology may be prompted to attempt cyberterrorism. A skilled insider might be able to shut down a facility or cause a release of hydrocarbons which could cause environmental damage or, if ignited, result in explosions and severe collateral damage.

The energy sector contains an abundance of soft targets, and the fact that successful attacks may cause substantial damage and disruptions will appeal to jihadists. Although IS has not yet carried out acts of terrorism against energy infrastructure targets in the Caucasus and Central Eurasia, the likelihood of such attacks taking place at a future time is not negligible.

Global Energy Interdependence: Strategizing for a Secure Future

Sreemati Ganguli*

Energy has acquired a strategic dimension in the contemporary global context by virtue of its vital significance for the future of human civilization. For this reason, energy as a commodity is often associated with multi-faceted geopolitical rivalries and geo-economic calculations. With the definitions of security undergoing a fundamental change, concepts of non-traditional as well as human security have become the new paradigms of the global security framework. Energy security forms a fundamental component of these changing approaches to global security, as we grapple with complex environmental challenges such as balancing economic development with environmental sustainability and the changing nature of the global energy mix with a larger share for renewable energy resources. These are crucial problems that require collaborative approaches in order to find fundamental solutions, as reiterated by the recent Paris Climate Change Convention. This article focuses on this parallel approach to global security concerns through mechanisms of clean energy interdependence on a global scale. It discusses a number of on-going projects promoting energy cooperation among allies and competitors alike, and suggests that the concept of global energy interdependence should evolve as a strategic platform for identifying viable solutions for global security in a much more comprehensive manner.



* Sreemati Ganguli is a Honorary Fellow, Institute of Foreign Policy Studies, University of Calcutta, India,
Email: sreematig@gmail.com

Introduction

Energy is the driving force of human civilization. Bikash Sinha has commented, “energy is at the root of all creation and annihilation, too much of it can destroy and too little of it, means death. Thus a dynamical balance, a kind of universal equilibrium between too much and too little has to be our ultimate goal.”¹ It is crucial to achieve this balance, as energy influences human interactions on so many levels – economic, social, political, bureaucratic, legal, technological, and most important for this discussion, environmental.

Energy security has become a much more multi-dimensional concept, extending beyond the traditional binary notion of security of demand and supply. The conceptual spectrum ranges from diversification of the nature of available energy sources (i.e. bio-energy, nuclear, solar, hydro, wind, geothermal, and ocean energy), to ensuring efficient as well as ethical usage of energy resources, to prioritizing environmentally sustainable economic development. It is well-known that energy use in various forms (including electricity generation, transportation, industrial use, commercial and residential use, agriculture, forestry, etc.) is the leading cause of carbon dioxide emissions. Namely, “energy accounts for two-thirds of the total global greenhouse gas emissions and 80 per cent of CO₂,” and “any effort to reduce emissions and mitigate climate change must include the energy sector.”²

In response to these various challenges, we need long-term, well-designed strategies to ensure comprehensive energy security for the future generation.

In response to these various challenges, we need long-term, well-designed strategies to ensure comprehensive energy security for the future generation. Significantly, during the UN Climate Change Conference in Paris (COP21) in December 2015, the first ever universal legally-binding global climate deal set a target of keeping the rise of global temperature below 2 degrees Celsius (under 1.5 degrees if possible) above the pre-industrial level to reduce the risks and impact of climate change, and to reach peak emission target as soon as possible so that rapid reductions can be made thereafter. More importantly, the agreement encouraged the involvement of non-governmental stakeholders such as civil society, private sector bodies, cities and local authorities, in pro-

1 Sinha, B. (2014) ‘Saving the Earth with Clean Energy’, in Ganguli, S. (ed.) *Strategising Energy: An Asia Perspective*. New Delhi: Knowledge World Publishers, p.10.

2 IEA (2015) *IEA Statistics - CO₂ Emissions from Fuel Combustion*. Available at: http://www.iea.org/publication/CO2_Highlights2015.pdf, (Accessed:4 September 2016); IEA (2015) *IEA Statistics – CO₂ Emission from Combustion Highlights*. Available at: <http://www.iea.org/publication/CO2EmissionFromCombustionHighlights2015.pdf> (Accessed: 4 September 2016).

moting regional and international cooperation to mitigate the adverse effects of climate change.

This article focuses on some of the significant trends in the contemporary global energy scenario. These trends show that energy is increasingly considered as a strategic asset; a vector around which mutual interests of friendly and even not-so-friendly nations meet. The author also analyzes the parallel trend of global concern for a greener, safer energy regime that motivates allies and rivals to undertake joint research for environmentally friendly technology, and to transform renewable energy into a platform for global collaboration.

This article first of all evaluates energy security as a nuanced, multi-faceted concept, examining the ways in which it is inherently linked to environmental security. This introductory section aims to present a more comprehensive understanding of energy security as it affects each global citizen. In the next part of the paper, the need for practical cooperation and interdependence in green and renewable energy sectors on a global scale will be discussed. Finally, the article will present some of the existing trends in bilateral and multilateral green energy cooperation which attempt to change how we look at energy security, and to provide a better vision for the future.

Energy security - the environmental angle

Economic competition and geopolitical tensions over energy sources, routes and markets are by no means new phenomena. The nascent oil industry built up by Tsarist Russia around Baku first gained global attention in the 1870s, due to the rising global demand for oil and Russian's decision to open up the oil industry to international private investors, including the Rothschilds, Nobel brothers, Samuels and company, etc.³ This is also a contemporary trend: Iraq's occupation of Kuwait in 1990; the continuing struggle by ISIS to wrest control of oilfields in Syria and Iraq; and the recent rivalry among China, Philippines and Vietnam in regard to the energy-rich South China Sea are all illustrative cases.

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The use of energy purely as a means of acquiring economic as well as political leverage promotes the basic presumption of the Zero-Sum Game concept- i.e. a win for one party entails the

³ For a detailed discussion on energy and geopolitics, see Ganguli, S. (2016) 'Energy Interdependence as a Strategic Factor in the Post-Cold War Context'. *Strategic Analysis*, 40(3), pp.185-198

other's loss. As Goldthau has noted, "Oil and gas have always been politically charged commodities as they have been [...] the primary sources of global energy supply," pointing out that "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."⁴ In a way, this is the survival of the fittest, which in this context means the country with better investment potential, better technological know-how, and, most importantly, more political clout in the international arena. But the question remains, will the human civilization survive in such a scenario?

In a sharp departure from the traditional concept of security, Barry Buzan elaborated on a new interpretation, based on five sectors of security – political, military, economic, societal and most pertinent for this discussion, environmental. He notes that these "five sectors do not operate in isolation from each other. Each defines a focal point within the security problematique, and a way of ordering priorities, but all are woven together in a strong web of linkage."⁵ The concept of Human Security also re-conceptualizes security, moving away from the traditional state-centric approach and promotes an integrated, comprehensive and people-centered approach towards security. It identifies a multi-sectoral and contextual understanding of security in seven spheres – economic, food, health, personal, community, political and environmental.⁵ According to this concept, environmental security denotes freedom from environmental degradation, resource depletion, pollution and natural disasters, each of which bears a direct linkage with energy security.

Notably, the first Quadrennial Defense Review Report (QDR) of the Obama administration in February 2010 referred to "climate change and energy [as] two key issues [...] in shaping the future security environment"; it added that "climate change could have significant geopolitical impacts around the world, contributing to poverty, environmental degradation, and the further weakening of fragile governments."⁶

4 Goldthau, A., Witte, J.M. (eds.) (2010) *Global Energy Governance: The New Rules of the Game*, USA: Brookings Institution Press, p.2.

5 See UN Human Security Unit (2009) *Human Security in Theory and Practice*. Available at: www.un.org/humansecurity...human_security_in_theory_and_practice (Accessed: 28 August 2016).

6 US Department of Defense (2010) *Quadrennial Defense Review Report*. Available at: www.defense.gov/Portals./defenseReviews/QDR/QDR_as_of_29Jan10_1600.pdf (Accessed: 5 September 2016).

Sovakool analyzed the linkage between climate change and energy security and observed that “The unchecked growth in fossil energy consumption and the ensuing acceleration of global climate change as well as related air and water pollution act as ‘threat multipliers’ impinging on national security globally. These environmental dimensions are just a subset of a larger array of environmental concerns that threaten energy security including land pollution, forestry and biodiversity loss”.⁷

Energy security is fundamentally linked with environmental security. The unrestrained and inefficient use of fossil fuels increases carbon emissions, which depletes the ozone layer, leading to rise in sea levels due to the melting of the polar ice cap. This poses dangers for not only the marine ecosystem, but also the populations of low-lying areas and small islands, which are particularly vulnerable to rises in the global temperature levels, which influence extreme weather events such as droughts, floods, storms, volcanic eruptions, and tsunamis. It is worth to mention that the whole world has experienced 2015 and 2016 as the hottest years in human history.

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In this light, Article 4 of the Paris Climate Convention marks a crucial step in agreeing that “All Parties should strive to formulate and communicate long-term low greenhouse gas emission development strategies, mindful of Article 2 taking into account their common but differentiated responsibilities and respective capabilities, in the light of different national circumstances”⁸.

This discussion above makes it clear that there is interdependence among countries for green energy, therefore country-level and regional cooperation in energy sector is an urgent need.

Green concerns as the vector of global energy interdependence

The growing trend of energy cooperation, in different forms and at various levels, demonstrate the range of current and future challenges at play, including energy poverty, balancing economic development with environmental sustainability, changing the nature of global energy mix with a larger share for renewable energy resources, developing innovative technologies, e.g., commercially viable carbon capture and storage (CCS) and clean

⁷ Sovakool, B.K. (June 2014), *Environmental Issues, Climate Changes, and Energy Security in Developing Asia*, ADB Economics Working Paper Series, No.399, Available at: www.adb.org/ewp.399.pdf, p. 6 (Accessed: 24 August 2016).

⁸ United Nations (2015) *Paris Agreement*. Available at: http://unfccc...paris_agreement_english_pdf, p. 8 (Accessed: 4 September 2016).

coal technology (CCT), and promoting energy efficiency. Indra Overland noted that “Renewable energy has emerged as a primary tool in the global strategic race towards a low-carbon economy [...] The ability to forge fruitful partnerships across borders will be a decisive factor”.⁹ Notably, the need for international collaboration for low-carbon technology innovations has gained momentum “with the newly created Mission Innovation and the Breakthrough Energy Coalition aimed at catalysing investments in transformational technologies to accelerate decarbonisation”.¹⁰

In their analysis, Verrastro and Ladislaw posits that “The challenge going forward is to manage the increasing complexity of an energy-interdependent world while striving to meet economic, security, and environmental goals. This requires a much more sophisticated approach to energy policymaking, one that more fully appreciates the interdependencies of global markets, the complex nature of energy security, and the need to manage the trade-offs inherent in energy policy decisionmaking.”¹¹

It is important to note that in this vein, the majority support for India’s candidature for the Nuclear Suppliers’ Group in 2016 was not only a vindication of India’s impeccable non-proliferation record – in contrast to some of its neighbors – but also a demonstration of international support for India’s plan to change its energy mix. The country plans to improve access to clean energy (with an ambitious target of achieving renewable energy generation of 175 GW by 2022, with current capacity to generate 6,000 MW of nuclear energy); to acquire the newest technology to limit carbon emissions and reduce air pollution from coal-based power plants; and finally to propose plutonium trade for its indigenous thorium-based nuclear program to gain green energy security.

The Report of the 2015 Pacific Energy Summit (on the theme ‘Strengthening Markets for Energy and Environmental Security’) noted that in view of the transformational rise in energy demand and the rising carbon emission, “The economic and environmental costs of the status quo are rising, and addressing these challenges will require political courage and unprecedented collaboration on both a regional and global level.”¹³

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9 Overland, I., Kjaermet, H. (2009) *Russian Renewable Energy: The Potential for International Cooperation*. USA: Ashgate, p. 1.

10 IEA (2016) *Energy Technology Perspectives 2016, Towards Sustainable Urban Energy Systems, Executive Summar*. Available at: www.iea.org, p. 4 (Accessed: 1September 2016)

11 Verrastro, F., Ladislaw, S. (2007), ‘Providing Energy Security in an Interdependent World’, *The Washington Quarterly*, 30(4), p. 19.

require political courage and unprecedented collaboration on both a regional and global level.”¹²

In view of the Summit discussions and the ongoing global debate over how energy sources and usage are affecting climate change, the call for de-hydrocarbonization of energy systems and the search for innovative solutions, there has been discussed three broad trends in mutual energy dependence in the global energy scenario. Within each category, there are several energy cooperative ventures. The list is not exhaustive, but the focus is on those trends that express the need to achieve a balance between environmental concerns and energy security needs. It is important to note that a strategy of cooperation and mutual dependence, as evident in these trends, might seem to be overly optimistic and also futuristic in the current context. However, any successful strategy requires a long-term planning vision that addresses the possible consequences; moreover it is also likely that the present geopolitical scenario will change.

Cooperation in future technology

The first such venture is cooperation among the competing nations for the advancement of scientific and technological knowledge in order to determine the future global energy strategy through ITER¹³ (International Thermonuclear Experimental Reactor), the project working to produce electricity through nuclear fusion. This endeavor was originally conceptualized in 1985 at the Geneva Summit (as proposed by President Gorbachev, then president of the USSR) and was born through a treaty among the USSR, the US, the EU (through EURATOM), and Japan. It was a move towards energy cooperation, taking this as an opportunity to break away from the Cold War mentality, and to reset US-Soviet relations. China and South Korea joined the project in 2003 and India in 2005. Located in the south of France, the Project is funded and run by the seven members - the EU provides nearly 45 per cent of the cost, while others share the rest equally. The main aim was to search for a new source of energy that would not harm the environment by generating more greenhouse gases. ITER will produce at least ten times more energy than the energy required for its operation. It is designed to produce 500 MW of power, but only 50 MW is required to generate it. The project is scheduled to start the final fusion experiment in 2027. It is an am-

¹² NBR (2016) *Pacific Energy Summit 2015 Report*. Available at: www.nbr.org/pacificenergysummit, p. 15 (Accessed: 14 March 2016).

¹³ Data collected from *ITER: The Way to New Energy*, <http://www.iter.org> (Accessed: 16 March 2016)

bitious, yet visionary project. While there are many roadblocks ahead, its possible success would be monumental. There are two crucial points.

First, it is safe, as fusion energy is called ‘evergreen atomic energy’ – unlike the fission technology; chances of nuclear explosion in this process of power generation are comparatively minimal. More importantly, the project involves an unprecedented level of international scientific and technological collaboration to re-create the fusion process of the Sun in order to produce energy for commercial use. This is a rare show of global cooperation in the search for a safer, greener, more energy-secure future for humankind.

The other important cooperative endeavor is the grouping of Sunshine Countries in regard to solar energy. The International Solar Alliance, an initiative of the Indian Prime Minister Narendra Modi, is comprised of the 121 ‘sunshine countries’, i.e., countries with high solar power potential, situated between the Tropic of Cancer and Tropic of Capricorn.

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member countries in a safe, convenient, affordable, equitable and sustainable manner”.¹⁴ It is remarkable that energy security concerns have become an undeniably unifying force for multilateral collaboration, based on a common desire for a safer, cleaner and more secure energy future for their citizens.

GOBITEC is an ambitious project of sharing renewable energy resources of Russia, Mongolia, China, Japan and South Korea.¹⁵ It plans to exploit the immense potential of solar and wind energy in Mongolia’s Gobi desert and hydropower in the Irkutsk region of Russia, and to transport this energy to Shanghai, Seoul and To-

¹⁴ See ISA Working Paper (2016), <http://pib.nic.in/newsite/backgrounders.aspx?reliid=135761>, p. 3 (Accessed: 11 February 2016).

¹⁵ Data from *Gobitec and Asian Super Grid for Renewable Energies in North East Asia* (2014), Available at: www.energycharter.org/DocumentsMedia/Gobitec_and_the_Asian_Sper_grid_2014_en.pdf, (Accessed: 30 August, 2016).

kyo through cross-border transmission lines, forming the Asian Super Grid connectivity system. The project requires an enormous amount of financial investment, technological input, and a common legal framework. If successful, it will become a model of regional cooperation for renewable energy resources. This initiative was significantly influenced by another similar initiative, DESERTEC, which was launched by an international consortium of companies in 2009 to export solar energy from Sahara Desert to European markets. The project was abandoned in 2013 due to financial constraints, outdated technology and lack of physical infrastructure. Nonetheless, it may offer useful lessons for future similar initiatives.

In terms of successful initiatives to date, there is the inter-regional hydropower project CASAREM¹⁶ (Central Asia – South Asia Regional Energy Market, or CASA1000). It is funded by the Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), Islamic Development Bank (IsDB), World Bank (WB), and involves Kyrgyzstan, Tajikistan (as exporters) Afghanistan and Pakistan (as the market). The goal is to develop a common electricity market.

Energy cooperation over political fault lines

The one of the most significant trend of the post-Cold War era is the emergence of collaboration on energy projects among states whose relations may otherwise be problematic. What makes this cooperation unique is that as in developing energy initiatives, the parties try to balance competition with cooperation, short-term tactical calculations with long-term policy-planning mechanisms. In this section, two such partnerships are discussed: US-Russia and US-China. It is true that Russia's relations with the US remain strained, even after the end of the Cold War, due to different policy stances on a host of issues from NATO's eastward expansion, the color revolutions in the Eurasian space, Russia's involvement in Georgia and Ukraine, to Western involvement in Afghanistan, Iraq, and Syria. The relations between the US and China are also affected by a number of factors, ranging from human rights issues, trade imbalances, maritime strategy in the Indo-Pacific region, the South China Sea dispute, to the rebalancing of Asian Pivot concept. It is therefore important to note that there do remain small areas in the energy sectors where

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¹⁶ Kravtsov, N. (2009) 'Project CASAREM(CASA1000) and Its Impact on Central Asian Countries', *Perspectives from the Region*, Available at: www.forum-adb.org/docs/BW2009Q3-4.pdf (Accessed: 15 May 2014).

these competitors have found it both valuable and necessary to cooperate.

One important sphere of energy cooperation is covered by the US–Russia Civil Nuclear Energy Cooperation Action Plan Working Sub-Group, which facilitates the growth of safe, secure and affordable nuclear energy through development of innovative nuclear energy technologies and the key elements of this collaboration are reactor demonstration projects; R&D for innovative nuclear energy technology options; modeling, simulation and safety; and development of a Global Civil Nuclear Framework.¹⁷ Notably, Global Nuclear Energy Partnership (GNEP) was started by the US government in 2006 as an international partnership to promote the use of nuclear energy, without compromising on nuclear proliferation, through reprocessing of the nuclear fuel waste. In 2010 it was re-christened as the International Framework for Nuclear Energy Cooperation (IFNEC). Russia, the US, France, China, and Japan are the founding members of this program, which now consists of 33 participants and 31 observer countries. The program has two principal working groups, the reliable nuclear fuel services working group and nuclear infrastructure development working group. While it is true that there has been US-Russian bilateral competition in the nuclear proliferation arena since the advent of the Cold War, it is also true that they do now cooperate on the research and development agenda of a multilateral program. The program’s Vision Statement declares that “The Framework provides a forum for cooperation among participating states to explore mutually beneficial approaches to ensure the use of nuclear energy for peaceful purposes, proceeds in a manner that is efficient, safe, secure and supports non-proliferation and safeguards.”¹⁸

US-China clean energy cooperation is another example bilateral cooperation between two not-so-friendly nations, one of whom is viewed as the reigning global power and the other, the challenger, in a transitional international power scenario. In June 2008, the US-China Ten-year Framework for Cooperation on Energy and the Environment was signed, and its scope was expanded during the November 2009 Beijing Summit.

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17 See Bureau of European and Eurasian Affairs (2012) *Fact Sheet: US-Russia Energy and Energy Efficiency Cooperation*. Available at: www.state.gov/p/eur/rls/fs (Accessed: 10 September 2015).

18 INFEC (2016) *International Framework for Nuclear Energy Cooperation*. Available at: <http://www.world-nuclear.org/information-library/current-and-future-generation/international-framework-for-nuclear-energy-coopera.aspx> (Accessed: 20 November 2016).

gram now includes US-China Clean Energy research Centre, Electric Vehicles Initiative, Energy Efficiency Action Plan, Renewable Energy Partnership, 21st Century Coal and Shale Gas Resource Initiative. As US Department of Energy Secretary Steven Chu commented, “Science is not a zero-sum game [...] As the world’s largest producers and consumers of energy, the United States and China share many common challenges and interests [...] At the US Department of Energy, we are committed to working with Chinese partners to promote a sustainable energy future. Working together, we can accomplish more than acting alone”.¹⁹

Regional green cooperation

The ASEAN and the EU offer globally recognized models of regional economic cooperation. Still, it is particularly significant that better energy management and implementation of clean energy initiatives provide them with new opportunities for future cooperation to ensure better and more effective energy security.

ASEAN Energy Cooperation (AEC) was initiated in 2003 in order to intensify cooperation on the development and exploitation of regional energy resources. The ASEAN Vision 2020 (adopted in 2007) envisaged the establishment of interconnecting arrangements in the fields of electricity and natural gas through the ASEAN Power Grid, (which operates 16 projects) and the Trans-ASEAN Gas Pipeline Projects. In September 2014, a new theme for the ASEAN Plan of Action for Energy Cooperation (APAEC) was endorsed during the 32nd ASEAN Ministers on Energy Meeting, proposing “Enhancing Energy Connectivity and Market Integration in ASEAN to achieve Energy Security, Accessibility, Affordability and Sustainability for All”.²⁰ In addition to the implementation of ASEAN Power Grid and the Trans-ASEAN Pipeline, the APAEC 2016-2025 identified new areas of energy cooperation. These are related to research and development of clean coal technology and civilian nuclear energy technology and regulation, reduction of energy intensity by 20 per cent in 2020, and reaching the ‘aspirational’ target to increase the component of renewable energy to 23 per cent in the ASEAN energy mix by 2025.

The European Energy Union was proposed by the European

¹⁹ US Department of Energy (2011) *US-China Clean Energy Cooperation Progress Report*. Available at: www.us-china-cerc.org/pdfs/US_China_Clean_Energy_Progress_Report.pdf, p. 2 (Accessed: 31 August 2016).

²⁰ Zamora, C.G. (2015) *ASEAN Plan of Action for Energy Cooperation (2016-2025)*. Indonesia: ASEAN Centre for Energy, Available at: www.aseanenergy.org...HighRes-APAEC-online-version-final.pdf (Accessed: 30 August 2016).

The idea of this Union is heavily influenced by the Commission's 2030 Climate and Energy Package, which seeks to reduce greenhouse gas emission by at least 40 per cent by 2030, and to increase the share of renewable energy to 27 percent during the same period.

Commission in February 2015 via the adoption of the 'Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy', aimed at providing secure, sustainable, competitive and affordable energy for its citizens. The idea of this Union is heavily influenced by the Commission's 2030 Climate and Energy Package, which seeks to reduce greenhouse gas emission by at least 40 per cent by 2030, and to increase the share of renewable energy to 27 percent during the same period. Three of the five dimensions of the Energy Policy are related to the green dimension of energy security: energy efficiency, de-carbonization of the economy, as well as research, innovation and competitiveness in areas of renewable energy, smart grids, carbon capture and storage and nuclear technology. The exceptions are ensuring diversification of energy supply and implementation of a fully integrated energy market. Raines-Thomlinson commented that "The Energy Union will need to accommodate potentially competing factors, embodied in the tension between energy security, economic competitiveness and climate change policy".²¹

Conclusion

Mauil²² has argued that "Energy interdependence intertwines national economies in two major ways. First, most economies [...] depend on cross-border flows of energy resources for important parts of their total energy requirements. Second, this global energy system is supported by and critically dependent upon information, knowledge and investment capital." He further notes a significant point that "High levels of interdependence between nations and societies mean that energy objectives cannot be pursued in isolation: energy independence is a chimera."

Buzan makes an important point about security: "security is a relational phenomenon. Because security is relational, one cannot understand the national security of any given state without understanding the international pattern of security interdependence in which it is embedded."²³ Global security, in its broadest

21 Raines, T., Tomlinson, S. (2016) *Europe's Energy Union: Foreign Policy Implications for Energy Security, Climate and Competitiveness*. Available at: www.chathamhouse.org...europe-energy-union-raines-tomlinson.pdf, p. 4 (Accessed: 31 July 2016).

22 Mauil, H.W. (2011) 'Global Shift The Challenges of Energy Interdependence and Climate Change'. *Washington D.C.: Transatlantic Academy*, Available at: www.transatlanticacademy.org/mauil_climateenergy_aug11_final_web1.pdf, p. 2-3 (Accessed: 30 August, 2016).

23 Buzan, B. (1991) *People, States and Fear: An Agenda for International Security Studies in the*

sense, cannot afford to remain a victim of energy insecurity and needs the assurance of mutual cooperative interdependence on a global scale. In the post-Cold War context, the use energy as a strategic asset, not a weapon, is not a choice, but rather a necessity in terms of providing human civilization with a new hope for survival. Energy, as a commodity, has acquired its strategic dimension only because human existence has become fully dependent on energy.

Significantly, the UN Document ‘Our Common Future’ asserts that “A safe, environmentally sound, and economically viable energy pathway that will sustain human progress into the distant future is clearly imperative. It is also possible. But it will require new dimensions of political will and institutional cooperation to achieve it.”²⁴

Energy security is fundamentally significant for the progression of human civilization, but more importantly, it impacts on influences the very survival of the human race on earth, the only planet in the solar system, where environmental conditions are conducive for life. If the earth becomes uninhabitable due to human failures to address environmental degradation, then the only possible option might be to relocate the global population to Proxima B, which may offer conditions for life. However, Proxima B is 4.3 light years away.

Thus, there is an urgent need for a long-term, comprehensive strategizing the global energy interdependence in order to find viable, alternative and innovative solutions to make life on the earth secure for us, and most importantly, for the future generation, to whom we owe this responsibility, as we inherited the earth from our forefathers.

Post-Cold War Era, London: Harvester Wheatsheaf, p. 187.

24 UN Documents, A/42/42. *Our Common Future: Report of the World Commission on Environment and Development- Chapter 7: Energy: Choices for Environment and Development*, Available at: www.un-documents.net/our-common-future.pdf (Accessed: 21 November 2015).

Kazakhstan's Energy Policy on the Eve of Kashagan Oil Field Production

Mukhit B. Assanbayev*

The article examines the geopolitics of transport communications in Central Asia and the Caspian, and Kazakhstan's energy policy. Kazakhstan suffers from geopolitical isolation and preoccupied with identifying new inroads to foreign markets. This has become the main focus of its energy policy. Despite involvement by the Western countries, China, and Russia in regional energy geopolitics, Kazakhstan faces tough geopolitical choices. Astana is still in search of an effective energy policy that would enable further diversification of its transport communications. The existing transit routes for the Kashagan oil, as proposed by Russia and other external actors, do not fully support the energy security of Kazakhstan. As for Kashagan oil field production, the article concludes that the main obstacles include several complicated issues such as technical problems, as well as risks to the environment of the Caspian Sea. The new context, namely the dramatic decline of oil prices and its consequences for the global economy, makes it difficult to project a clear vision for the project's success.



* By Mukhit B. Assanbayev is an Assistant Professor at the Department of Social Sciences, Suleyman Demirel University (Kazakhstan)

Introduction

Kazakhstan is a country with abundant natural resources. It has the largest hydrocarbon, uranium, chromium, lead, zinc, manganese and copper reserves in the Caspian basin and Central Asia, and ranks in the top ten for coal, iron, and gold reserves in the World. Of these resources, oil and gas constitute the backbone of the national economy. According to the International Energy Agency (IEA), Kazakhstan exported about 1.69 million barrels of oil per day in 2014.¹ Oil revenues make up the biggest share of country's budget. Until 2015, oil revenues accounted for 60% of Kazakhstan's budget, and 33% of GDP. However, income is set to fall. In October 2015 and again in 2016, Astana revised its budget projections, which were originally based on average forecast oil prices of US\$90 per barrel, to a more conservative US\$80 and finally to more realistic US\$52 per barrel.²

On October 14 2016, the oil production in Kashagan – the project set to double the country's oil output once fully exploited – was finally launched. This was promising news in terms of increasing energy revenues amid the decline in oil prices. This has been the subject of intensive discussion among big business and political circles in Kazakhstan and beyond. It signals significant change for the economy of Kazakhstan, as well as the economies of other the littoral states in the Caspian region. However, current and emerging barriers to the effective development of the Kashagan project have given rise to speculation. Although the national government and Western companies are full of hope regarding Kashagan, this paper projects a cautious forecast, arguing that the large-scale crude oil production at Kashagan remains under question. This paper examines the development of Kazakhstan's energy policy within the framework of the geopolitics of transportation in Central Asia and the Caspian basin, and analyzes the obstacles to successful commercial crude oil production in the Kashagan field. The paper, moreover discusses the environmental and technical challenges of this project taking into accounts the specific geographic and weather conditions of the North Caspian environment.

1 Badykov, N. (2015) 'A new era for Caspian oil and gas', 13 February, Available at: <https://www.csis.org/analysis/new-era-caspian-oil-and-gas> (Accessed: 29 September 2016).

2 Vidyanova, A. (2016) 'Zalojennaya tsena na neft v budjet na 2016 god realistischna', Kapital, 2 January, Available at: <https://kapital.kz/economic/47247/zalozhennaya-cena-na-neft-v-byudzhet-na-2016-god-realistischna.html> (Accessed: 21 November 2016).

Kazakhstan's energy policy and geopolitics of transportation

Europe to the West and China to the East – especially with its rapidly growing demand - are among the main consumers of Kazakhstan's crude oil. However, transport diversification issues are particularly sensitive for Kazakhstan, as the economy is largely dependent on the implementation of the petroleum feedstock in global markets. Since Russia is the main transit route for Kazakhstan's energy exports, Kazakhstan's energy policy aims to promote the construction and distribution of new oil and gas pipelines directly to European and Chinese markets, either through Russia or bypassing it.

Kazakhstan's energy policy aims to organize transportation communications and the diversification of crude oil supplies towards oil-importing countries. If Kazakhstan is able to sustain the cycle of energy supplies to the final consumers, via Russia or another route, its energy policy will be more efficient and independent. Under these circumstances, Kazakhstan is interested in guaranteeing direct supplies in all directions – whether to Europe, China, or Russia.

In terms of transportation geopolitics, Kazakhstan is focused on ensuring affordable and reliable energy supplies to Europe, Turkey and China in collaboration with other both energy-rich littoral states and transit states. However, its geographical isolation from world energy markets and the emerging divide between the United States and Russia in regard to transportation communications and geopolitics began at the end of 1990s. This has been the main obstacle to the promotion of Kazakhstan's energy policy.

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Russia and the United States, two major world powers, seem to continue pursuing competing regional policies. Russia has been always interested in maintaining its monopoly over Kazakhstan in regard to transit routes. Russian policy in Kazakhstan has been led by four major Russian energy companies: Gazprom, Lukoil, Transneft, and Rosneft. These companies allow Moscow to exert influence over the energy sector of Kazakhstan, and prevent Beijing and other powers from dominating Kazakhstan's economy. The role of those four countries in local energy projects gives Russia access to vast oil and gas reserves, while consolidating bilateral

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links in the energy, transport, space, and agriculture sectors.³ The situation is aggravated by the fact that Russian transport monopolist Transneft, together with another Russian company, Caspian Consortium Company, remains the main operator and one of the biggest shareholders of Caspian Pipeline Consortium (31%).⁴

Russia's ultimate aspiration is the creation of a Eurasian energy consortium between Russia, Iran, China and Central Asian oil extracting states. This could be a disaster for Western energy policy in the region.

The United States has been conducting a competing policy in the region; Washington supported energy exports to Europe and Turkey, as well as to China from oil fields in Kazakhstan developed by the US companies, via loyal or at least friendly countries. Ariel Cohen, a political scientist currently serving as the Director of the Center for Energy, Natural Resources and Geopolitics at the Institute for Analysis of Global Security, claims that "What is needed in Central Asia is a policy that allows the United States to continue to diversify its energy supplies."⁵ He suggests that we continue to encourage the governments of India, China, and Pakistan to create alternatives to the Russian energy transit monopoly by establishing new energy transit routes (pipelines, shipping lines, and railroads) that head west and, in some cases, east and south.⁶ Richard Morningstar, a former special advisor to President Clinton on Caspian energy issues and the Obama administration's special envoy for Eurasian energy, gives a broad description of the US energy policy in Central Asia. According to him, "the US position was and still is that Russia should not have a monopoly on pipelines."⁷

In light of this assessment, it is also important to recognize that it has appeared as if the United States has long tried to prevent

3 Guschin, A. (2015) 'China, Russia and the Tussle for Influence in Kazakhstan: The two powers are pursuing competing interests in Central Asia', 23 March, Available at: <http://thediomat.com/2015/03/china-russia-and-the-tussle-for-influence-in-kazakhstan/> (Accessed: 12 November 2016).

4 Kazakh Officials: Date Set For Kashagan Relaunch. FSUOGM - Former Soviet Union Oil & Gas, 14 September 2016, Week 36, Issue 898, Available at: <http://newsbase.com/topstories/kazakh-officials-date-set-kashagan-relaunch> (Accessed: 25 September, 2016).

5 Cohen, A. (2006) 'U.S. Interests and Central Asia Energy Security', Backgrounder. № 1984, 15 November, Available at: <http://www.heritage.org/research/reports/2006/11/us-interests-and-central-asia-energy-security>. (Accessed: 21 November 2016).

6 Ibid.

7 Morningstar, R. (2006) 'The Baku-Tbilisi-Ceyhan Pipeline: A Retrospective and a Look at the Future,' Central Asia-Caucasus Institute Analyst, 23 August, Available at: <http://www.cacianalyst.org/publications/analytical-articles/item/11010-analytical-articles-caci-analyst-2006-8-23-art-11010.html?tmpl=component&print=1> (Accessed: 21 November 2016).

bilateral rapprochement in the Russian-Iranian, Russian-Chinese ties. Concerns about possible convergence of Russian-Chinese relations first appeared among Western analysts at the end of 1990s,⁸ while fears of Russian and Iranian collective opposition to the US-led trans-Caspian pipeline projects emerged in the second half of the 2000s.⁹

However, concerns over rapprochement between Russia and China on the one hand, and Russia and Iran on the other, are exaggerated. Despite efforts to emphasize shared security, political, energy and economic interests in Central Asia, Russian-Chinese and Russian-Iranian ties remain uncertain and doubtful. Sooner or later, the increasing Chinese influence in Kazakhstan and Central Asia “will erode the foundation of the partnership (between China and Russia)”¹⁰, “whilst Russian-Iranian ties are still complicated, and are likely to remain complicated long into the future.”¹¹

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In the meantime, Kazakhstan has won promises of cooperation, but no real deal for bypassing Russia. In fact, instead of forcing Russia to support the diversification of transportation communications and maintain direct crude supplies from Kazakhstan towards oil importing countries, the United States has frequently compromised with Russia. This has been especially true since the early 2000s, with the aim of ensuring crude supplies from Tengiz and Korolev oil fields in the Atyrau region of Kazakhstan (Tengizchevroil) through the Caspian Pipeline Consortium” (CPC).¹² Even Richard Morningstar, who promoted the diversification of energy supplies from the Caspian and hence advocated for active engagement by Western powers in the region, was compelled to declare, “the United States extended strong support to this project (Caspian Pipeline Consortium).”¹³

8 National Intelligence Estimate. ‘Russian-Chinese Relations: prospects and implications.’ Approved for release. Available at: https://www.cia.gov/library/readingroom/docs/DOC_0005526244.pdf. (Accessed: 21 November 2016).

9 Bhadrakumar, M. (2007) ‘Russia, Iran and Eurasian Energy Politics,’ 5(12). Available at: <http://apjif.org/-M-K-Bhadrakumar/2613/article.html>. (Accessed: 21 November 2016).

10 Marantidou, V. and Cossa, R. (2014) ‘China and Russia’s Great Game in Central Asia’ *The National Interest*, 1 October, Available at: <http://nationalinterest.org/blog/the-buzz/china-russias-great-game-central-asia-11385> (Accessed: 22 November 2016).

11 Katz, M.N. (2012) ‘Russia and Iran’, *Middle East Policy Council*, 19(3), Available at: <http://mepec.org/journal/middle-east-policy-archives/russia-and-iran?print>. (Accessed: 22 November 2016).

12 CPC is the largest international oil transportation project with participation of Russia, Kazakhstan and western producer companies, which was established for transportation of crude oil from large oil fields of West Kazakhstan and from Russian producers. For more see the website of the Caspian Pipeline Consortium at the following link <http://www.cpc.ru/en/about/Pages/default.aspx>.

13 Morningstar, R. (2006) ‘The Baku-Tbilisi-Ceyhan Pipeline: A Retrospective and a Look at the

As a consequence, Kazakhstan has found itself held hostage to compromise policies between Russia and the United States.

Meanwhile, Sino-Kazakh ties can be regarded as a success story in terms of Kazakhstan's energy policy. China's intensive focus on expanding transport routes to its western border should be considered within the framework of China's energy geopolitical tactics in Central Asia. "As a neighbor region, Central Asia seems the most likely to play an important role in the Chinese strategy to reduce its dependence on energy supplies from the Middle East".¹⁴ A combination of mutual interests of China, Central Asian countries (including Kazakhstan), and Western countries in regard to projects seeking to diversify energy supplies from the Caspian and Central Asian is obvious. The 2009 China-Central Asia oil and gas pipeline system is the best example of a recently completed project; at this point Russia's domination over transit routes began to gradually shrink. China's energy geopolitics also assumes significant increases in its role in implementing new energy and infrastructure projects in Central Asia. Given that Beijing hopes to ensure energy supplies to the Chinese market, its strategy is beneficial to China and Kazakhstan.

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China's new "One Belt, One Road" strategy signifies the importance of Kazakhstan and Central Asian countries in the development of the Chinese economy. Geographical proximity and the availability of rich energy deposits in Central Asia provide China with cheap sources of energy. China has already invested some USD 30 billion in the energy sector of Kazakhstan.¹⁵ At the same time, China's energy geopolitics should be considered within the context of security issues and economic development of the

Western parts of China. In this regard, there is significant role for cooperation between China, Kazakhstan, and other Central Asian countries in the fight against Islamic extremism and ethnic separatism in the Xinjiang Uygur Autonomous Region.

Iran and Turkmenistan to the south, and Azerbaijan to the west, can either compete or act as the partners of Kazakhstan in the transportation of natural resources from the Caspian to west-

Future' *Central Asia-Caucasus Institute Analyst*, 23 August, Available at: <http://www.cacianalyst.org/publications/analytical-articles/item/11010-analytical-articles-caci-analyst-2006-8-23-art-11010.html?tmpl=component&print=1> (Accessed: 21 November 2016).

14 Pop, I. (2010) 'China's Energy Strategy in Central Asia: Interactions with Russia, India and Japan' *UNISCI Discussion Papers*, № 24, *University of Oradea*, p. 197.

15 Marantidou, V. and Cossa R.A. (2014) 'The great game in Central Asia,' *PacNet* № 73, 29 September, *Pacific Forum CSIS*. Available at: https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/Pac1473.pdf (Accessed: 20 September 2016).

ern consumer markets via Iran, Turkmenistan, or Azerbaijan. In this regard, Baku-Tbilisi-Ceyhan pipeline should particularly be mentioned as the first ever project to break Russian monopoly over the export of large quantities of Caspian oil to the World market. Astana is seeking to attract potential partners from all directions for cooperation in energy projects as a necessary addition to the common strategy of oil-exporting countries.

A key element in Kazakhstan's energy policy in terms of oil exports is the development of its onshore Tengiz and Karachaganak oil fields and the operation of the massive Kashagan offshore field in the Caspian Sea. But while Tengiz and Karachaganak are already up and running, Kashagan has become the most expensive and complicated oil field development project in the world.

The Kashagan oil field

The Kashagan offshore oilfield was discovered in 2000, in the Kazakh sector of the Caspian Sea. Geological reserves are estimated at 4.8 billion tons. Common oil reserves are 38 billion barrels, of which about 10 billion barrels are extractable. There are also large recoverable reserves of natural gas in Kashagan - more than 1 trillion cubic meters.¹⁶

The Kashagan offshore oilfield is located 4,200 meters below the shallow waters of the northern part of the Caspian Sea, and is highly pressured (770 bar of initial pressure). The crude oil that it contains has high 'sour gas' content. Low salinity, due to the in-flow of fresh water from the Volga River, combined with shallow waters and winter temperatures below minus 30 degrees mean that the northern part of the Caspian Sea freezes for nearly five months of the year. Ice drifts and ice scouring place heavy constraints on construction activities.¹⁷

The Field Development Project Kashagan was started by a consortium known as the Offshore Kazakhstan International Operating Company (OKIOC). This consortium was later renamed the Agip KCO (Kazakhstan Operating Company), and then the North Caspian Operating Company (NCOC). This project can still be characterized as a project implemented by a consortium of Western oil giants: Italian Eni, US ExxonMobil Corp., Anglo-

16 Mukhit B. A. (2014) 'Geopolitics of Turkmenistan and Kazakhstan in the Caspian Region', in C. Frappi and A. Garibov (eds.) *The Caspian Sea Chessboard: geo-political, geo-strategic and geo-economic analysis*, Egea, p. 153.

17 Technical Challenges of the Kashagan Project. Website of North Caspian Operating Company. 18 November 2016. Available at: http://www.ncoc.kz/en/kashagan/technical_challenges.aspx (Accessed: 15 November 2016).

Dutch Royal Dutch Shell PLC, French Total, and Japan's Inpex.¹⁸ Since 2013, it has involved Chinese CNPC, which entered into a consortium replacing ConocoPhillips.

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According to the preliminary plans of the consortium, the initial oil production from was projected at 180,000 barrels per day, rising to 370,000 barrels per day in later stages. In 2000, the initial plans of Nurlan Balgimbaev, the then-director of the government-owned company "Kazakh Oil" (predecessor of KazMunaiGaz), stated that commercial oil production was supposed to start in 2005. The same year, the Italian company Eni became an international operator of the North Caspian Operating Company. It was assumed that during the first stage (2013-2017), production would reach 50 million tons per year. During the second phase in 2018-2019, production was projected at 75 million tons. The realization of these projections would put Kazakhstan among the top five oil exporters in the world.¹⁹ However, the start of Kashagan oil production has been repeatedly postponed; first in 2005, then in 2007, in 2008, in 2011, and again in 2012.

The most recent attempt to launch production was in 2013, but just a few weeks later, operations were quickly shut down. The problem was toxic hydrogen sulfide gas, which is corroding the pipelines.²⁰ Production was suspended because of gas leaking from the underwater pipelines running from mining sites to on-shore sites, towards the Bolashak processing complex in Eskene village.

Kashagan's difficult fate

On October 14 2016, Kazakhstan's Ministry of Energy announced that the Kashagan project had finally succeeded in shipping its first export batch of crude oil. According to the North Caspian Operating Company, Kashagan oil delivery will be transported in a primarily northern direction, first to the Russian city of Samara, and then onto Novorossiysk on the Black Sea, from where it will be exported. Kazakh oil will be transported via the Russian transport monopolist Transneft.²¹ The possible southwest export route

18 Kretov, P. (2013) 'Caspian Transport Consortium: Diary expansion', *Truboprovodnyi transport nefii*, № 7, pp. 18-23. Available at: http://www.transpress.org/_docs/07-2013/18-23.pdf. (Accessed: 20 March 2014).

19 Mendebayev, T. (2014) 'Kashaganskaya nef. Voprosi, voprosi,' *Oil & Gas Russia*, September, p.19.
20 Stafford, J. (2015) 'The Most Challenging Oil and Gas Projects in the World,' 26 March. Available at: <http://time.com/3760013/most-challenging-oil-gas-projects/>. (Accessed: 11 November 2016).

21 Export strategy of the Kashagan Project. Website of North Caspian Operating Company. 18 November 2016, Available at: http://www.ncoc.kz/en/kashagan/export_strategy.aspx (Accessed: 21 No-

is subject to the development of the Kazakhstan Caspian Transportation System (KCTS), and would transport oil from the Eskene area - where the Bolashak plant is located - to a new terminal at Kuryk. Oil would then be transported by tanker to the Sangachal terminal near to Baku, where it could further pumped into the Baku-Tbilisi-Ceyhan (BTC) pipeline or be exported to international markets via other routes.²² However, it is unlikely that Kazakhstan will also resume barge shipments across the Caspian Sea from Atyrau to Baku, which it effectively halted last year due to excessive costs.²³

It is also expected that oil from Kashagan will be exported to China. In 2013, CNPC bought an 8.3 percent stake in the Kashagan project, seeking for an increase in oil supplies from Kazakhstan to China. However, this is currently limited by the existing pipeline capacity to deliver the Kashagan oil to China.

Despite its promising perspectives, the complicated nature of the Kashagan project is recognized. Its implementation will constitute potentially large technological and environmental risks and challenges. This is due to the sensitive and fragile nature of the operating environment. The natural and climatic conditions present serious challenges to oil production. The climate in this region sees temperature fluctuations from -30° C in winter to 30° C in summer.

The average depth of water in Kashagan reservoir is only 3-4 meters. The sea is covered with ice for 4-5 months, from November to March. Average ice thickness is between 0.6 and 0.7 meters.²⁴ The combination of ice, shallow waters, and sea level fluctuations creates considerable operational and technical problems. The shallow water and cold winters mean that application of traditional drilling technology and oil production is too difficult, as traditional concrete structures and a self-elevating platform will not be suitable.²⁵

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vember 2016).

22 Export strategy of the Kashagan Project. Website of North Caspian Operating Company. 18 November 2016. Available at: http://www.ncoc.kz/en/kashagan/export_strategy.aspx. (Accessed: November 21, 2016).

23 Sorbello, P. (2016) 'Kashagan Restart Gives Kazakhstan Hope' *The Diplomat*, 17 October 17. Available at: <http://thediplomat.com/2016/10/kashagan-restart-gives-kazakhstan-hope/>. (Accessed: 22 November 2016).

24 Mendebayev, T. "Kashaganskya nef. Voprosi, voprosi" p. 19.

25 Ibid.

Other technical challenges include the disposal of by-products. This includes the disposal of sulfur and associated gas to be re-injected offshore into the oil reservoir. Also, in order to pump the gas, one must discharge pressure of up to 800 bar; in terms of gas re-injection this is the highest pressure ever demanded in oil the industry.²⁶

Toktamys Mendebayev, a senior research fellow at Kazakhstan-based “Nauchno-vnedrencheskyi tsentr Almas” and expert in drilling technology, claims that oil production from pre-salt wells under high pressure and gas reinjection process even increases the risk of earthquakes.²⁷ After the detection of pipe defects in 2013, North Caspian project operator NCOC announced the urgent need to replace 200 kilometers of pipeline. Stefan de Mayë, NCOC’s managing director, pledged “the completion of the repair of pipelines by the second half of 2016.”²⁸

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In October 2016, it was announced that Kashagan project would be launched again, and some top officials insist they did everything to make this happen. At least, “this autumn Kashagan is set to resume production after a hiatus of three years”, officials have stated in Astana. “They also indicated, however, that commercial development operations were not likely to begin in October 2016, as previously anticipated.”²⁹

Finally, on October 14, the main mass media outlets in Kazakhstan published good news on the Kashagan project, announcing that the first batch of oil, - about 7,700 tons – had been shipped to the Caspian Pipeline Consortium system. In addition, a 18,800 ton batch of export oil was shipped to the JSC KazTransOil pipeline system, and 22.8 million cubic meters of commodity gas was sent to the JSC Intergas Central Asia pipeline system.³⁰

In its turn, the operator of the North Caspian project, NCOC, announced that they were working to safely and gradually increase production capacity to a target level of 370,000 barrels per day

26 Butyrina, N. (2014) ‘Severokaspiyskiy proekt: kolybel kazakstanskogo shelfa,’ 30 January. Available at <http://eurazis.kz/?p=2700>. (Accessed: 15 November 2016).

27 Mendebayev, T. “Kashaganskaya nef. Voprosi, voprosi” //Oil & Gas Russia. September 2014. P. 19.

28 Chervinskyi, O. (2015) ‘Kashagan kak bolshoy chemodan,’ 15 July. Available at: http://www.ratel.kz/raw/kashagan_kak_chemodan. (Accessed: 10 November 2016).

29 Kazakh Officials: Date Set For Kashagan Relaunch. FSUOGM - Former Soviet Union Oil & Gas, 14 September 2016, Week 36, Issue 898. Available at: <http://newsbase.com/topstories/kazakh-officials-date-set-kashagan-relaunch>. (Accessed: 25 September, 2016).

30 Ria Novosti (2016) ‘Pervaya partya nefi s Kashagana postupila v sistemu KTK’, October 14. Available at: <https://ria.ru/world/20161014/1479225179.html>. (Accessed 11 November 2016).

by the end of 2017.³¹

At the same time, one must consider a number of important challenges in regard to oil production in Kashagan. For the last several years, significant changes have taken place in world oil market, limiting the prospects of a full-scale launch of the Kashagan project. At the end of 2013 oil prices on the world market fluctuated between an average of \$100-\$110 per barrel; 2015 saw this figure drop dramatically, to 57.17 dollars per barrel for Brent crude.³²

A further point to note is that there are different estimates for the cost of developing Kashagan oil field. According to David Sheppard, “originally scheduled to cost about \$10bn, projects costs have spiraled over two decades to more than \$50bn,”³³ whilst Oleg Chervinskyi claims the cost of the Kashagan project itself during this period increased by four times, from \$30 to \$130 billion dollars.³⁴

Since “at the end of 2013 the prime cost of the production at Kashagan oil field was estimated at up to \$110 per barrel of oil”³⁵, this project has already become one of the most expensive oil field development projects in the world. Furthermore, this project is likely be risky one if we take into consideration that price band for crude oil is likely to remain at around \$50-\$60 per barrel in the near future.

Conclusion

Oil revenues make up more than half of Kazakhstan’s budget, and the economy is thus heavily reliant on exporting crude oil. However, transportation is a key challenge to this energy policy, as Russia is the main transit route for Kazakhstan’s energy exports. As a result, the geopolitics of transportation in Central Asia

31 North Caspian Operating Company (2016) ‘Kashagan’s First Batch of Crude Oil Destined for Export’, October 14. Available at: <http://www.ncoc.kz/en/mediacentre/2016/news-14-10-2016.aspx>. (Accessed: 13 November 2016).

32 Chervinskyi, O. (2015) ‘Kashagan kak bolshoy chemodan,’ July 15. Available at: http://www.ratel.kz/raw/kashagan_kak_chemodan. (Accessed: 10 November 2016).

33 Sheppard, D. (2016) ‘Kazakhstan’s Kashagan oil field (finally) makes first shipment,’ *Financial Times*, October 14. Available at: www.ft.com/content/59112d8a-898e-3a9c-83c1-77009854b1a5. (Accessed: 16 November 2016).

34 Chervinskyi, O. (2015) ‘Kashagan kak bolshoy chemodan,’ July 15. Available at: http://www.ratel.kz/raw/kashagan_kak_chemodan. (Accessed: 10 November 2016).

35 Chervinskyi, O. (2015) ‘Kashagan kak bolshoy chemodan,’ July 15. Available at: http://www.ratel.kz/raw/kashagan_kak_chemodan. (Accessed: 10 November 2016).

and the Caspian is among the primary concerns for Kazakhstan's energy policy. This paper has analyzed the geopolitics of Kazakhstan's dependence on the Russian monopoly over the main transit routes, and explored Kazakhstan's efforts to diversify its transport communications. In addition, the paper has given particular focus to oil production at the Kashagan oil field, one of the largest oil fields and most expensive projects in history. As the energy sector is still the backbone of the economy, Kazakhstan intends to increase its oil production at any cost, and therefore the Kashagan oil field is a key priority. Yet, as this paper suggests, the rapid and dramatic drop of oil prices combined with a number of potential technical and environmental complications and challenges, limit the practical incentives for developing the Kashagan project. Given the existing obstacles to successful commercial crude oil production in the Kashagan field, large-scale production at Kashagan remains under question.

Energy Security Strategy in Kazakhstan: Environmental Security and Renewable Energy Sources

Renata Mantel*

The article addresses the key aspects of energy security policy in the Republic of Kazakhstan, suggesting that increasing the use of the renewable energy sources (RES) is crucial for reducing the country's dependence on oil and gas supplies. Greater reliance on renewables would improve economic and environmental sustainability, ensure increased energy security, and help create the conditions necessary for enhancing collaboration in Central Eurasia, as well as cooperation with Central Asian and EU states, in the energy sector. The paper also reviews several dimensions of the Kazakh oil and gas industry and its impact on the country's energy security policy. It assesses measures that might prove effective for introducing new "green" technologies aimed at limiting consumption of non-renewable natural resources and introducing a larger-scale RES-based energy production.



* Renata Mantel, PhD, is from Kazakh Humanitarian Juridical Innovative University (Kazakhstan)

Introduction

During the last decade, the availability of energy resources has been the main determinant of influence in Eurasia. Having the upper hand in terms of the available oil and gas resources and, consequently, pipeline map outlines, plays a significant role in determining the political and economic stances of Russia, Turkey and the Central Asian states, reshaping Iran's performance in the energy sphere by curbing the region's appetite for the Persian Gulf oil, and influencing the ongoing evolution of relations between global players such as Russia, China and the USA. Kazakhstan, probably the richest in terms of energy and minerals resources, is one of the largest Caspian oil exporters. In 2015 Kazakhstan exported 60.9 million tons of oil, which comprised 76.7 percent of the total amount produced in the country. Of that, 38 million tons were exported via the Caspian Pipeline Consortium.¹

It is no wonder that Kazakhstan's energy sector is one of the leading dimensions of its socio-economic politics. Energy production is crucial for the country's economic development, which relies heavily on the growing energy exports. In this regard, it is important to identify the main strategy for energy security and sustainable energy development in the long term, in order to reduce the country's dependence on non-renewable energy resources and, consequently, improve economic sustainability and environmental conditions.

This article examines the key aspects of energy security policy in the Republic of Kazakhstan, giving an overview of the energy security and renewable energy sources concept, its development, and its current status. It focuses on the RES as a means of ensuring energy security and contributes to the understanding of Kazakhstani energy security policy, the challenges it faces, and necessary measures for introducing a larger-scale RES-based energy production.

Energy security and renewable energy resources: An overview

Currently, there are numerous definitions of sustainable development, each of which representing only some of its aspects. One of the most frequently quoted is from the Brundtland Report, defining sustainable development as “development that meets

¹ Kazinform International News Agency (2016) *Kazakhstan plans to enter top 10 oil exporters*. Available at: http://www.inform.kz/en/kazakhstan-plans-to-enter-top-10-oil-exporters_a2897292 (Accessed: 14 November 2016).

the needs of the present without compromising the ability of future generations to meet their own needs”;² which would not be possible without taking into account energy security. Energy security, defined by the IEA as “the uninterrupted availability of energy sources at an affordable price”,³ points out the necessity of optimizing use of limited resources and introducing of sustainable environmental, energy and material saving technologies. This includes the extraction and processing of raw materials, the creation of environmentally friendly products, minimization, recycling and destruction of waste and, most important, wider application of RES.

Global demand for RES is growing year-on-year. By 2050, the increase of their share in the global energy balance is projected increase by 35%. Theoretically, most of the Eurasian states have now introduced various alternative energy development programs. The reason for the constantly rising interest in renewable energy is its inexhaustible nature, immunity from price volatility on the world energy markets, and, most importantly, environmental safety. The main advantages of renewable energy sources – its limitless and environmentally friendly nature – has given rise to numerous research initiatives, which have in turn contributed to the rapid development of renewable energy in Europe and the USA, with strong expectations for its wider use in the coming decades.

The reason for the constantly rising interest in renewable energy is its inexhaustible nature, immunity from price volatility on the world energy markets, and, most importantly, environmental safety.

For the Central Asian republics, however, the current situation on the renewable energy arena looks quite different.

Kazakhstan: Energy sector development

Surrounded by Russia, China, and South Asian states, the Central Asian countries are the geopolitical highlight of Eurasia, making them both “a buffer and a passageway between East and West”.⁴

Central Asia is a significant energy and natural resources producer, with the capacity to reduce the world’s heavy reliance on Middle Eastern oil, thereby positioning the region as a center

² International Institute for Sustainable Development (2016) *Sustainable development*. Available at: <http://www.iisd.org/topic/sustainable-development> (Accessed: 6 September 2016).

³ International Energy Agency (2016) *What is energy security?* Available at: <https://www.iea.org/topics/energysecurity/subtopics/whatisenergysecurity/> (Accessed 2 September 2016).

⁴ Rywkin, M. (2005) *Stability in Central Asia: Engaging Kazakhstan, A Report On (With Policy Recommendations) U.S. Interests in Central Asia and U.S.–Kazakhstan Relations*. New York: National Committee on American Foreign Policy, p. 1. Available at: <http://www.ncafp.org/articles/05%20Kazakhstan%2005-05.pdf>. (Accessed: 28 August 2016).

Central Asia is a significant energy and natural resources producer, with the capacity to reduce the world's heavy reliance on Middle Eastern oil, thereby positioning the region as a center of political, economic, and military interest.

of political, economic, and military interest. The region's political and economic development has been an object of keen scientific interest as a model of an effective post-socialist transformation. "Kazakhstan in particular and the Caspian basin in general comprised the de facto strategic petroleum reserve of the Soviet Union. Although discovered in the 1970s and 1980s, the large hydrocarbon deposits of the Caspian region remained practically unexplored until the mid-1990s. The giant Tengiz oil field was the only exception,"⁵ as the exploration there began in the late 1980s. Presently it still remains one of the five leading Kazakhstani offshore fields – along with Karachaganak, Mangistau, Uzen and Aktau – with estimated reserves of 750 million to 1.1 billion tons (6-9 billion barrels) of recoverable oil.⁶

With regard to the crucial role of the energy sector in Kazakhstan's economic development, the country is determined to develop this potential by promoting mutually beneficial cooperation with Western countries. This process began following the disintegration of the Soviet Union, and is ongoing.

The 1990s proved to be a difficult period for the oil sector due to extraordinarily low prices and, consequently, low profits for the oil and gas industries. With crude prices at about \$10 per barrel, "in the wake of the Asian economic crisis, the landlocked republic's energy industry remained on the edge of self-sufficiency."⁷ However, the situation changed when Kazakhstan signed the Lisbon protocol and joined the Strategic Arms Reduction Treaty (SART) in May 1992, affiliated to the Shanghai Five and later the Shanghai Cooperation Organization (SCO), and started more active cooperation with international partners. This entailed significant inflows of foreign investment.

Together with other Central Asian countries, Kazakhstan has managed to overcome a difficult transition, from part of the Soviet system to an independent state with a rapidly developing market economy open to cooperation and global partnerships. Abundant oil, gas and mineral resources mean that energy is a key element of the EU's June 2007 "Strategy for a New Partner-

5 Cohen, A. (2008) *Kazakhstan: The Road to Independence. Energy Policy and the Birth of a Nation*. Washington, D.C.: Central Asia-Caucasus Institute, p. 13.

6 Ak Zhaik (2015) *Kazakhstan to continue oil exploration in Caspian shelf in 2015*. Available at <http://azh.kz/en/news/view/5326> (Accessed 10 November 2016).

7 Morse, E., Richard, J. (2002) 'The Battle for Energy Dominance', *Foreign Affairs*, 81 (2). Available at: <http://www.foreignaffairs.org/20020301faessay7969/edward-l-morsejamesrichard/the-battle-for-energy-dominance.html/> (Accessed: 1 September 2016).

ship” with Central Asia, determining the priorities of successful partnership between the European Union and Central Asian states. According to observers, the EU’s Central Asia strategy “explicitly acknowledges the significance of energy security and regional water cooperation for regional stability and global security,”⁸ paying special attention to development of oil, gas and hydro-power resources, and sustainable development of the energy market.

Thus, the EU and Kazakhstan have been steadily developing their partnership. During the past 20 years, the EU has become Kazakhstan’s top trading partner, as almost half of all exports from Kazakhstan are bound for the EU.

Gradually, the European Union has become Kazakhstan’s most prominent foreign investor, as evidenced by the data presented in table 1.

Table 1. Largest foreign direct investment (FDI) countries in Kazakhstan⁹

<i>Country</i>	<i>Highest amount of foreign direct investment, in mln Euro</i>
Switzerland	648986.19 (688084.40 CHF million)
Netherlands	189388.00
Germany	140457.80
United Kingdom	113037.37 (82671.00 GBP million)
USA	40807.01 (46165.00 USD million)
Russian Federation	35487.47 (40147.00 USD million)
France	20881.00
Italy	14202.97

At present, Kazakhstan’s geo-economic profile mainly focuses on the development of its energy resources. Table 2 gives an overview of the oil production in Kazakhstan from 2010 to 2015.¹⁰

8 Kramer, A. (2007) *EU Central Asia Strategy: Energy for New Human Rights*. Available at: http://www.ecc-platform.org/index.php?option=com_content&view=article&id=1086:eu-central-asia-strategy-energy-for-human-rights&catid=118&Itemid=158 (Accessed: 11 August 2016).

9 Invest (2015) *Kazakhstan Foreign Direct Investment 2001-2015*. Available at: <http://invest.gov.kz/?option=content§ion=4&Itemid=75> (Accessed: 12 August 2016).

10 Trading Economics (2015) *Kazakhstan Crude Oil Production*. Available at: <http://www.tradingeconomics.com/kazakhstan/crude-oil-production/> (Accessed: 12 August 2016).

Table 2. Oil production in Kazakhstan (B/D)

Year	2010	2011	2012	2013	2014	2015
Annual oil production in Kazakhstan, in barrel per day	1,540	1,608	1,514	1,572	1,716	1,778

The European oil giants, such as Agip/Eni, Shell Development B.V., British Petroleum, and TotalFinaElf, are collaborating on prospective projects such as the development of the Karachaganak and Kashagan fields.¹¹ Table 3 gives an overview of foreign investors' involvement in the development of Kazakhstan's major oil and gas fields.

Table 3. European companies' involvement in Kazakhstan's oil and gas industries¹²

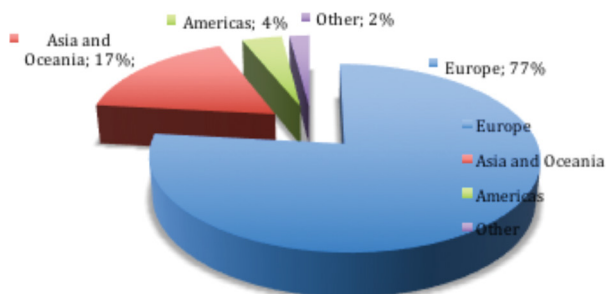
<i>Company (country of origin)</i>	<i>Field of Exploitation</i>
Eni (Agip) (Italy)	Karachaganak, Kashagan
Total E&P Kazakhstan (France)	Kashagan
Royal Dutch Shell (Great Britain - Netherlands)	Kashagan
British Gas (Great Britain)	Karachaganak
Repsol YPF (Spain)	South Zhambai
Petrom (Austria)	Tasbulat, Aktas
Maersk Oil (Denmark)	Dunga

11 Cohen, A. (2008) *Kazakhstan: The Road to Independence. Energy Policy and the Birth of a Nation*. Washington, D.C.: Central Asia–Caucasus Institute, p. 13.

12 ZP International LLP (2015) *Oil and gas companies of Kazakhstan*. Available at: <http://zp.kz/en/25/29.html/> (Accessed 8 September 2016).

At present, Kazakhstan ranks third in the list of the EU's largest non-OPEC energy suppliers, after the Russian Federation and Norway. For Kazakhstan, Europe is the most important destination for its crude exports, as Figure 1 shows.

Figure 1. Kazakhstan's crude exports by destination¹³



Kazakhstan's limited access to sea ports increases its dependence on pipelines, which are necessary to transport its hydrocarbons to the global energy markets. The country also serves as a transit state for pipeline exports from Turkmenistan and Uzbekistan.¹⁴ The present day pipeline structure partially explains the fact that Kazakhstan's "neighbors China and Russia are key economic partners, providing sources of export demand and government project financing."¹⁵ Thus, this new geopolitical game in Central Asia is largely driven by energy production and the network of pipelines which serve as a gateway to the world's markets. The EU's interest can be explained by its desire to curtail Russia's influence on the European oil and gas market and to diversify its natural gas suppliers.

However, notwithstanding the apparent success of the development of Kazakh energy sector, there are a number of significant problems that require urgent action.

Kazakhstan's energy security policy: Problems and perspectives

Although Kazakhstan's growth as an important player in the global energy business helps drive its economic and

Although Kazakhstan's growth as an important player in the global energy business helps drive its economic and political development, this process also entails problematic consequences and challenges.

13 U.S. Energy Information Administration (2013) *Kazakhstan Analysis*. Available at: <http://www.eia.gov/beta/international/analysis.cfm?iso=KAZ> (Accessed 5 August 2016).

14 U.S. Energy Information Administration (2010) *Country Analysis Briefs, Kazakhstan*. Available at: <http://www.eia.gov/emeu/cabs/Kazakhstan/pdf.pdf/> (Accessed 15 August 2016).

15 *Ibid.*

political development, this process also entails problematic consequences and challenges. One of those is pollution and the challenge of transforming its energy sector into an environmentally friendly and sustainable one. The country’s energy-related carbon emissions have been considerable in the last years, as shown in table 4.

Table 4 Emissions, by sector in 2014-2015¹⁶

Sector Total	Number of Companies	2014 emissions (million tCO2)	2015 allocated carbon permits (millions)
Energy	60	93.4	92
Coal mining, oil & gas extraction	66	23.4	23
Industry	40	38.6	38
Total	166	155.4	166

Another problem that Kazakhstan will face in the coming decades is the gradual drain of resources and degradation of equipment. This can lead to tensions in the fuel and energy balance and, in time, an energy crisis, which in turn will limit oil and gas exports.

Another problem that Kazakhstan will face in the coming decades is the gradual drain of resources and degradation of equipment. This can lead to tensions in the fuel and energy balance and, in time, an energy crisis, which in turn will limit oil and gas exports. This issue is associated with the deficiency of capacity, lack of energy independence, and declining financial resources. This problem can be addressed by guaranteeing the energy security of the state, a key focus among researchers in Central Asia and abroad.

Kazakhstan’s energy policy is set forth in a number of documents. One of the most important of these is the Kazakhstan 2050 Development Strategy (also called the “2050 Strategy”), announced on December 15, 2012 by President N. A. Nazarbayev. The strategy calls for far-reaching economic, social and political reforms, necessary to advance the country into the 30 most developed global economies by 2050. In this regard, energy security is one of the most important sectors.

If we regard energy security as “the uninterrupted availability of

¹⁶ International Emissions Trading Association (2015) *Kazakhstan: An Emissions Trading Case Study*. Available at: http://www.ieta.org/resources/Resources/Case_Studies_Worlds_Carbon_Markets/kazakhstan_case_study_may2015.pdf (Accessed 7 September 2016).

energy sources at an affordable price,¹⁷ availability of the required form of energy in the required amount at the expense of domestic resources, the main indices of energy independence can be formulated as:

- the adequacy and availability of primary energies for the needs of the economy;
- equipment with required capacity for the transformation of primary energy into other forms of energy;
- adequate transport infrastructure for each type of energy;
- environmental sustainability of production, development and consumption of energy.

Energy independence is the most efficient mechanism for ensuring the energy security of the country and guaranteeing energy sustainability in relation to external factors, and the most efficient way to attain this goal is addressing the RES.

Even though the RES are described as rentable and highly efficient in the Kazakhstan 2050 Development Strategy, energy security requires urgent action, as the region's consumption of resources is disproportionate to production.

The country has all the necessary conditions for renewable energy. It has the wind potential of more than 1 trillion kWh per year - one of the best in the world on UNDP rankings; strong hydro-power potential; favorable sunny climate; favorable wind conditions (particularly in a wind corridor where the wind blows in one direction, such as Yereimentau and Zhuzymdyk, or periodically changing to the opposite, e.g. Dzhungarian Gate, Shelek, Kordai) for a wide use of the RES (see Table 5 for more data on prospective regions in Kazakhstan for wind power development) such as hydraulic energy, solar and wind energy. For example, hydraulic energy potential is estimated at more than 160 billion kWh.¹⁸ However, oil and gas still remain the most sought-after energy sources. It is obvious that the area is in need of development, and RES policy must be improved in order to introduce a

17 International Energy Agency (2016) *What is energy security?* Available at: <https://www.iea.org/topics/energysecurity/subtopics/whatisenergysecurity/> (Accessed 2 September 2016).

18 Computation and Finance Center of Support of Renewable Energy Sources (2016) *Renewable energy sources possibilities in Kazakhstan*. Available at: <http://www.rfc.kegoc.kz/vozmozhnosti-vo-zobnovlyaemyx-istochnikov-energii-v-kazaxstane/> (Accessed: 7 September 2016).

new and more effective energy model, ensure diversification of power generation technology base, eliminate the energy deficit, and address the acute environmental problems.

Table 5. Prospective regions for wind power development in Kazakhstan¹⁹

Location of potential wind farms	Region	No. wind generators	Projected installed capacity [MW]	Annual production [billion kWh]
Mangystau mountains	West	8,000	210	0.4
Peak Karatau	South	7,800	190	0.23
Chu-Ili mountains	South	6,800	180	0.27
Mount Ulatau	Central	3,400	90	0.13
Yerementau mountains	Central	2,100	50	0.01
Mugojary mountains	West	400	10	0.01
Dzhungarian gates	South	1,100	200	0.66
Total		29,600	930	1,71

RES are particularly rich in the southeast of Kazakhstan, which is located far from traditional energy sources, such as deposits of coal, oil and gas. The region’s remoteness means that it is reliant on time-consuming transportation, and so there is significant scope to develop the renewable energy market in the region. Potentially, environmentally friendly energy sources of southern Kazakhstan could not only sustain the domestic market, but also be exported to neighboring countries, such as China, which is experiencing growing demand for electrical energy.²⁰

However, the region’s enormous renewable energy potential is seriously underdeveloped | However, the region’s enormous renewable energy potential is seriously underdeveloped. One of the main reasons for this is the insufficiency of electrical and mechanical engineering production in Kazakhstan, which hinders the

¹⁹ Karatayev, M. Clarke, M.L. (2014) ‘Current energy resources in Kazakhstan and the future potential of renewables: A review: European Geosciences Union General Assembly’, *Energy Procedia*, 59, pp. 97 – 104.

²⁰ Kazakhstan 2050 (2016) *Renewable Energy development in Kazakhstan is profitable and favorable*. Available at: <https://strategy2050.kz/ru/news/1567/> (Accessed 3 September 2016).

construction of wind and solar energy production centers, small and medium-sized hydroelectric power stations on the mountain rivers of the Trans-Ili and Dzhungar Alatau, and makes it impossible to attract investments in this sector, Serial production of electrical equipment and turbines would make construction and energy production significantly cheaper and more affordable.²¹

Another reason for the slow pace of RES development in Kazakhstan is the fact that despite the clear potential for renewable energy development, there are considerable barriers in the sector, such as “low electricity tariffs; transmission losses and inefficient technologies; weak regulatory and legal frameworks to stimulate the use of renewable energy in the electricity sector; persistent governmental body reforms; inadequate levels and quality of scientific support; awareness and information barriers; and a high-risk business environment.”²²

Thus, the successful production of renewable energy in Kazakhstan would be possible only with the development of the country’s own industries and related technologies.

Conclusion

The Republic of Kazakhstan has rich and abundant natural resources, including considerable supplies of quantities oil and natural gas, coal and uranium, as well as a high potential for RES use. The last two decades have seen significant economic growth, which has resulted in “an increase in primary energy consumption and a growing electricity demand”, while domestic energy needs are still covered by the coal consumption. A surge in the electricity expenditure together with the growing need to overcome urgent environmental problems and to enhance energy security have contributed to public concerns and interest in expanding alternative energy use. Kazakhstan undoubtedly has the “necessary natural, climatic, and economic conditions to develop sustainable bioenergy solutions”²³, as well as wind power, hydro and solar resources.

Since almost a half of the population of Kazakhstan lives in ru-

²¹ *Ibid.*

²² Karatayev, M. Clarke, M.L. (2016) ‘A review of current energy systems and green energy potential in Kazakhstan’, *Renewable and Sustainable Energy Reviews*, 55, pp. 491–504.

²³ Karatayev, M. Clarke, M.L. (2016) ‘A review of current energy systems and green energy potential in Kazakhstan’, *Renewable and Sustainable Energy Reviews*, 55, pp. 491–504.

ral areas (46.71% of total population as measured in 2014),²⁴ “small-scale renewable decentralized energy systems”²⁵ suggests that there is potential for reducing the heavy dependence on oil, coal and gas, which would considerably boost economic growth. Nonetheless, these measures can be adopted only with the aid of the government, and flexible regulatory support on all levels. “Longterm feed-in tariff must be approved with grid access guaranteed”²⁶ together with the active involvement of local and foreign investors; RES development requires significant financial inflow, and mass media must be mobilized into order to increase public awareness. These policies and technologies, adopted with stable governmental support, will help reduce dependence on fossil resources, increase the RES use and further development, and, consequently, raise the country’s energy security to a completely new and more efficient level.

Thus we come to the conclusion that Kazakhstan’s energy security policy can benefit in certain ways by introducing the RES on a larger scale, as this would contribute greatly to reducing the country’s high reliance on fossil fuels. The increased use of RES is crucial for ensuring better economic and environmental sustainability and energy security. Nonetheless, it is necessary to consider the fact that a successful long-term energy policy can be achieved only through successive measures taken by the government and the introduction of new “green” technologies aimed at limiting consumption of non-renewable natural resources and introducing a larger-scale RES-based energy production. This would provide Kazakhstan with increased energy security in the “complex interdependencies and geopolitics of the Central Asian Energy Game.”²⁷

24 Trading Economics (2014) *Rural Population (% of Total Population) in Kazakhstan*. Available at: <http://www.tradingeconomics.com/kazakhstan/rural-population-percent-of-total-population-wb-data.html> (Accessed 20 August 2016).

25 Karatayev, M. Clarke, M.L. (2016) ‘A review of current energy systems and green energy potential in Kazakhstan’, *Renewable and Sustainable Energy Reviews*, 55, pp. 491–504.

26 *Ibid.*

27 Garrison, J.A., Abdurahmanov, A. (2011) ‘Explaining the Central Asia Energy Game: complex interdependence and how small states influence their big neighbours’, *Asian Perspective*, 35, pp. 381–405.

Akkuyu Nuclear Power Plant from the Perspective of Energy Security: A Solution or a Deadlock?

Azime Telli*

Besides its lack of resources, Turkey's main problem in terms of energy security is its import dependency. Turkey is heavily dependent on imported fossil fuels, and natural gas is the most critical one among them. Natural gas has the largest share in Turkey's energy mix; 55% of Turkey's natural gas needs is met by Russia, which leads to interdependency between these parties in the energy domain. Turkey therefore is seeking ways to diversify its energy supplies. As part of such a search, Turkey initiated its nuclear expansion and started building a nuclear plant in Akkuyu, Mersin. Yet, Turkey's reliance on Russia in the construction and operation of the power plant has the potential of leading Turkey into a further stalemate in terms of energy dependency. This is because, Akkuyu Nuclear Power Plant will allow Russia to become more powerful within the scope of this interdependent relation with Turkey, which gives rise to serious geopolitical and geo-economical risks. This paper studies the implication of this dependency relationship on Turkey's energy security and argues that a nuclear power plant built by Russia in Akkuyu will be disadvantageous for Turkey. The paper also examines Akkuyu's possible effects on Turkey's natural gas dependency.



* Dr. Azime Telli is a Lecturer at the Ondokuz Mayıs University, Turkey, Email: azimetelli@gmail.com

Introduction

Although nearly all of Turkey's neighbors are self-sufficient when it comes to energy resources, Turkey's domestic resources are insufficient for its energy requirements. Thus Turkey, as a net energy-importing country, faces various dependency problems in terms of energy security. Moreover, Turkey's primarily reliance on imported fossil fuels in energy production and its "single source, single supplier, and single transfer method"

Turkey, as a net energy-importing country, faces various dependency problems in terms of energy security. Moreover, Turkey's primarily reliance on imported fossil fuels in energy production and its "single source, single supplier, and single transfer method" policy further undermines its energy security.

policy further undermines its energy security. Turkey's use of fossil fuels in energy production gives rise to two specific problems. The first is the need for resource diversification, in order to overcome dependency on the single source/country/method. Secondly, given Turkey's ambition of becoming an "energy hub" in the region, this level of dependency means that Turkey cannot benefit from its geopolitical position. In this regard, projects such as the Akkuyu Nuclear Power Plant are considered to offer a means of overcoming all the above mentioned difficulties and dependencies.¹ As this paper argues, however, Turkey's cooperation with Russia in its nuclear endeavors will increase dependency on Russia in terms of energy. This paper, accordingly, analyzes the potential consequences of focusing on nuclear energy and of cooperating with Russia to do so.

Interdependency in energy relations

From the perspective of stability and reputation, possessing energy sources, which are considered to be among the national power elements², is of great significance for sovereign states. Energy exporters and importers have interdependent relations; in order to ensure their energy security, these countries benefit from the tools of energy diplomacy. The main framework of energy security is based on the policy of diversification, and importing and exporting countries follow these policies in order to balance their dependency levels. Ensuring an uninterrupted domestic energy supply is the common objective of both parties. For various reasons, the countries having difficulties in finding alternative source or market would be highly affected from any interruption of energy flow.

1 For an analysis of Turkey's nuclear energy initiatives such as Akkuyu and Sinop Nuclear Plants, see Telli, A. (2016) 'Content Analysis of Turkey's Nuclear Energy Initiative: Diversification or Submission?', *Bilge Strateji*, Spring, 8(14), pp. 19-36.

2 Hans, M. (1985) *Politics Among Nations. The Struggle for Power and Peace*. New York: McGraw Hill, pp. 85-86.

Rather than the unrealistic concept of *dependency*, which entails absolute dominance by one country over another, the concept of *interdependency* is of greater use in explaining the real relationship between countries. As a general definition, the concept of “interdependency” can be defined as mutual dependence.³ However, in an interdependent relationship, symmetrical dependency – wherein the parties have equal power or sufficient power to balance one another – is usually the exception. Usually there is an asymmetrical dependency, where one of the parties is more dependent than the other one.⁴ In the course of historical relations between Russia and Turkey, conflict seems to be the general rule, while the cooperation seems to be an exception. At this point, energy is an important bilateral issue, and it has led to cooperation between two parties that have generally been embroiled in serious geopolitical conflicts. Energy cooperation between Turkey and Russia represents asymmetric interdependency, and the continuity of energy flow is very important for the interests of both of parties. The interdependency relation between these countries is not *zero-sum*; interrupting the energy flow through natural or artificial interventions will come at a cost for both parties. Turkey, however, is more fragile because it is more sensitive and vulnerable from this perspective. Turkey’s level of dependency on Russian gas (55%) and its existing infrastructure, which does not allow for significant LNG imports or for another alternative in the short-term, are serious limitations on Turkish energy security. Turkey is the second biggest importer of Russian gas, after Germany. This interdependency relationship between Turkey and Russia would influence both parties in the event of a possible crisis. From the perspective of Russia, whose economy is based on energy revenues, stopping the gas flow to Turkey would both damage Russia’s international image as a reliable supplier country as well as reducing income, depending on the depth of crisis. However, the consequences would be more severe for Turkey, as the importer. In addition to its overdependence on Russian gas, Turkey is more vulnerable to any interruption in gas flow because of its low storage capacity and LNG infrastructure. For Turkey, as the vulnerable party in the asymmetric dependency relationship, a crucial step in strengthening supply security is reducing dependency on Russian energy sources via diversification.

This interdependency relationship between Turkey and Russia would influence both parties in the event of a possible crisis. From the perspective of Russia, whose economy is based on energy revenues, stopping the gas flow to Turkey would both damage Russia’s international image as a reliable supplier country as well as reducing income, depending on the depth of crisis. However, the consequences would be more severe for Turkey, as the importer.

3 Nye, J. S. and Welch, D. A. (2011) *Understanding Global Conflict and Cooperation: An Introduction to Theory and History*. USA: Pearson, pp. 270-271.

4 Ibid, p. 288.

Turkey's energy mix and the problem of over-dependency on import

Even though Turkey's domestic oil and natural gas reserves seem to be limited, 72.7% of the proven oil reserves on earth and 71.8% of natural gas reserves are located in its vicinity.⁵ Turkey is capable of acting as a bridge between energy exporting and energy importing countries based on its geopolitical advantage, due to its proximity to Russia (which has 25% of the world's oil and natural gas reserves), the Caspian Basin, and the Middle East.⁶ Turkey is the eighteenth largest economy in the world with a GDP of 1.596 trillion USD and population of 79.414 million.⁷ In total, 38.6% Turkey's energy requirements are met from solid fuels, 32.5% from natural gas, 26.2% from oil, and 5% from the renewable energy sources. Turkey imports 73% of its energy: 98% of natural gas; 90% of oil; 43% of coal needs.⁸

Of the OECD countries, Turkey's energy demand is among the fastest growing. After China, Turkey is the second biggest economy in terms of its rapidly growing demand for electricity and natural gas.

Of the OECD countries, Turkey's energy demand is among the fastest growing. After China, Turkey is the second biggest economy in terms of its rapidly growing demand for electricity and natural gas. Projections show that this trend will continue in the medium term.⁹ Turkey's main challenges in terms of energy security are its high import dependency, low energy efficiency, lack of investments, and poor reliability of suppliers.¹⁰

Double dependency: Threat to natural gas and diversification

Compared with natural gas, Turkey is in a stronger position when it comes to crude oil and coal. One of the Turkey's energy policy priorities is to achieve resource diversification in its natural gas agreements. Double dependency is also challenge to natural gas energy supply security. Turkey started to use natural gas in 1987,

5 Republic of Turkey Ministry of Foreign Affairs (2016) *Turkey's Energy Profile and Strategy*. Available at <http://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa> (Accessed: 20 July 2016).

6 Saygın, H. and Celik, C. (2011) *Jeoenerjik Bakış AB Bağlamında Jeoenerji Politikalarında Jeo-Enerji Alanları*. Istanbul: Istanbul Aydın University Publishings, p. 141.

7 CIA (2016) *The World Factbook-Turkey*. Available at: <https://www.cia.gov/library/publications/the-world-factbook/geos/tu.html>, (Accessed 06 January 2016).

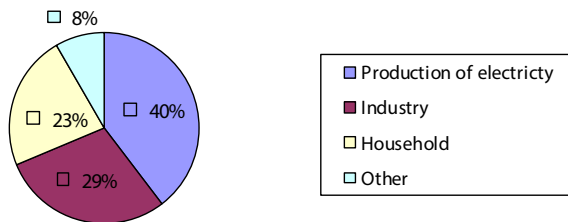
8 Union of Chambers of Turkish Engineers and Architect (February 2015) *The Outlook of Turkey's Energy in January 2015*, Bulletin, No: 200 (Special Issue), p. 2.

9 Republic of Turkey Ministry of Energy and Natural Resources (2009) *Activity Report of 2009*. Available at: http://www.enerji.gov.tr/yayinlar_raporlar/2009_faaliyet_raporu.pdf (Accessed: 10 June 2013).

10 Balat, M. (2010) 'Security of energy supply in Turkey: Challenges and solutions', *Energy Conversion and Management*, 51, p. 2002; Pehlivanoglu, F. and Tekce, E. (Fall 2013) 'The Analysis of Concentration on Electricity Energy Market in Turkey with Herfindahl-Hirschman and CRm Index', *AIBU Sosyal Bilimler Enstitüsü Dergisi*, 13 (2), p. 367.

and while its consumption increased by 87.75% over the next 15 years, production levels remained the same.¹¹ Since Turkey is in a position of over-dependency in relation to trade-based long-term pipeline agreements and a single supplier country, the country aims to ensure the diversification in terms of long-term agreements, transfer methods, and multiple suppliers.

The distribution of Turkey's natural gas demand by sector (2014)



Source: Republic of Turkey Energy Market Regulatory (EMRA-2015) *Natural Gas Market 2015 Industry Report*. <http://epdk.gov.tr/TR/Dokumanlar/Dogalgaz/YayinlarRaporlar/Yillik>.

In addition to energy consumption, natural gas also ranks top in Turkey's electricity production. Compared with other European countries, Turkey has a high level of dependency on natural gas imports, in addition to its leading position in terms of dependency on natural gas in electricity production.¹² Turkey imports 55% of its natural gas from Russia, which poses a significant risk in terms of energy security. Considering that European Commission determined the critical value for non-EU countries to be 30 percent, Turkey's dependency on Russia is clearly very high.¹³ Any interruption or reduction in the energy flow between Turkey and Russia, which could arise from a political crisis, technical problem, or natural disaster, would significantly affect the daily life in Turkey depending on the seasonal conditions. For this reason, resource diversification must be accomplished, and nuclear energy, renewable energy and enhancing usage of native coal are

11 IEA (2013) *Turkey Oil and Gas Security Emergency Response of IEA Countries*. Available at: https://www.iea.org/publications/freepublications/publication/2013_Turkey_Country_Chapterfinal_with_last_page.pdf (Accessed: 11 January 2016).

12 Acar, O. (2013) *Doğal gaz tüketimi artıyor, depolama kapasitesi yerinde sayıyor*. Available at: http://www.tepav.org.tr/upload/files/1387547496-0.Dogalgaz_tuketimi_artiyor_depolama_kapasitesi_yerinde_sayiyor.pdf (Accessed: 14 May 2016).

13 Iseri, E. and Ozen, C. (2012) 'Sustainability and Turkey's Nuclear Energy Policy', *Istanbul University Faculty of Political Science Journal*, 47, p. 169.

some of the alternatives. The Adalet ve Kalkınma Partisi (AKP, Justice and Development Party) government has prioritized the nuclear energy among these alternatives, and aims to build three nuclear power plants.

Nuclear energy has several advantages in comparison to renewable energy. This type of energy can be considered as alternative or subsidiary to renewable energy, because renewable energy sources cannot work 24/7 due to seasonal conditions. By contrast, nuclear plants, which have base load plant qualification, can work constantly. Moreover, it is necessary to achieve the resource diversification among renewable energy sources, because the number of windy and rainy days depends on the climate, while solar energy is available only during the day. Nuclear energy plants have a significant advantage over renewable energy sources in terms of working hours as they have capacity to work 8000 hours in a year, excluding maintenance periods.¹⁴ However, in addition to environmental damage and dependence on energy import, there also are key risks such as vulnerability to terrorist attacks, earthquakes, political and economic instabilities, nuclear accidents, and the selection of new generation reactors, which have not been tried yet. Furthermore, there also some serious problems with nuclear waste storage and removal safely.

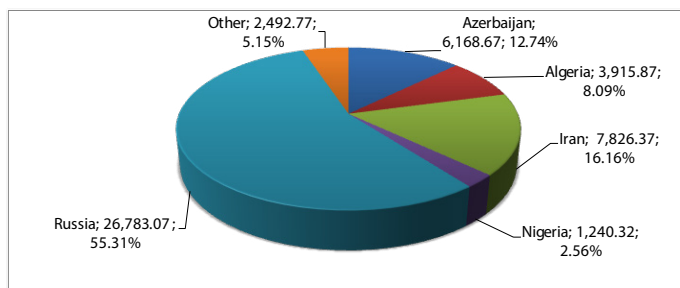
Russian hegemony in Turkey's energy mix

Russia supplies 55% of Turkey's natural gas consumption, making Turkey the second biggest importer of Russian gas after Germany. Russia supplies 55% of Turkey's natural gas consumption, making Turkey the second biggest importer of Russian gas after Germany. The gas is transported from Russia to Turkey via two different pipelines: the Trans Balkan Pipeline (Western Line) and Blue Stream. Western Line supplies natural gas to the industrialized and populous Marmara region, while Blue Stream supplies the Anatolian region. These two pipelines should also be evaluated separately in terms of the energy security. Since Blue Stream provides natural gas exclusively and directly to Turkey, it is a more secure pipeline with regard to the possible problems in transit countries. In addition, since this pipeline supplies natural gas to less populous and industrialized areas, the potential consequences of supply interruption/reduction are less serious. On the other hand, because Western Line supplies natural gas to the populous and industrialized Marmara Region, Turkey is more vulnerable to

¹⁴ Ministry of Energy and Natural Resources (MNRE) Nuclear Energy Project Implementation Department (March 2013) *Nuclear Power Program and NPP Projects in Turkey* Report No. 2. Available at http://www.enerji.gov.tr/File/?path=ROOT%2F1%2FDocuments%2FSayfalar%2FNuکلer_Guc_Santralleri_ve_Turkiye.pdf (Accessed: 15 January 2015).

possible disruptions along this line.

The distribution of Turkish natural gas import (2015/ bcm)



Source: Republic of Turkey Energy Market Regulatory (EMRA-2015) *Natural Gas Market 2015 Industry Report*. <http://epdk.gov.tr/TR/Dokumanlar/Dogalgaz/YayinlarRaporlar/Yillik>.

When compared to EU countries, Turkey is the most vulnerable country to any gas supply reduction due to its limited gas storage capacity.¹⁵ The only alternative for the Marmara and Istanbul regions is LNG, as for such regions supplying gas from the eastern lines is not possible. However, Turkey's LNG capacity is insufficient to replace this line, which supplied 10 bcm³ of gas in 2014.

Western Line passes through Ukraine, Romania and Bulgaria to reach Turkey, and any problems in transit countries and other parties would seriously affect the gas transfer. On the other hand, Russian efforts to bypass Ukraine after the Ukraine crisis, which deepened following Russia's occupation of Crimea, have increased risks to Turkey in the short-term, while also creating certain opportunities for Ankara. The future of South Stream, Turkish Stream, and North Stream-2 projects, proposed by Russia in order to end transfer via Ukraine in autumn 2019, are vital for Turkish energy policies.¹⁶ In the context of the normalization of bilateral relations, the restoration of Turkish Stream is a key opportunity for Turkey. The realization of these four line projects is closely related to the future of North Stream-2.

In the context of the normalization of bilateral relations, the restoration of Turkish Stream is a key opportunity for Turkey.

Russia uses these three projects, which are closely related to EU energy security, as bargaining chips. Moscow has declared that it

¹⁵ Cetingulec, M. (2016) *What will Turkey do if Russia turns of gas?*

Available at: <http://www.al-monitor.com/pulse/originals/2014/09/turkey-russia-ukraine-european-union-natural-gas-tanap.html#> (Accessed: 11 January 2016).

¹⁶ Chow, E. C. (2016) *'Turkish Stream Redux'*. Available at: <https://www.csis.org/analysis/turkish-stream-redux> (Accessed: 11 August 2016).

is ready to reach an agreement with Turkey on Turkish Stream-1. If this line is realized, it is Turkey’s import route will change while the amount of imported gas will remain almost the same. Natural gas agreements are generally long-term ones, and this applies to almost all of Turkey’s natural gas agreements. Turkey, which has low level of spot LNG purchase, should consider its long-term commitments while pursuing resource diversification.

Table 1: Turkey’s Natural Gas Agreements

Current Agreement	Volume (During The Plateau Period) (Billion m ³ /year) (Using 9000 Kcal/m ³)	Date Of Agreement	Status	End Date
Algeria (LNG)	4.4	1988	In operation	October 2024
Nigeria (LNG)	1.3	1995	In operation	October 2021
Iran	9.6	1996	In operation	July 2026
Rus. Fed. (Black Sea)	16	1997	In operation	End of 2025
Rus. Fed. (West)	4	1998	In operation	End of 2021
Turkmenistan	15.6	1999	-	
Azerbaijan(Phase-I)	6.6	2001	In operation	April 2021
Azerbaijan(Phase-II)	6	2011	2018	2033
Azerbaijan(BIL)	0.15	2011	In operation	2046

Source: BOTAŞ (2016) *Natural Gas Sales and Purchases Agreement*. <http://www.botas.gov.tr/>

Turkey imports 98% of its domestic natural gas consumption, and uses 38% of that for electricity production.

Turkey imports 98% of its domestic natural gas consumption, and uses 38% of that for electricity production.¹⁷ Given the critical role of Russia in natural gas imports, it is evident that Turkey’s energy/electricity systems as well as its economy in general would be severely affected if Russia were to reduce gas supplies.¹⁸ The ratio of natural gas used in electricity production fell to under 40% following tensions between Turkey and Russia, which began to emerge in 2015 and aggravated after the with the “jet crisis” of October 2015. This deterioration in relations indicted the importance of the use of national sources and the energy efficiency, and was also an important signal for Turkey’s energy security. However, it is still too early to make a prediction regarding stability.

Turkey’s nuclear energy expansion

Turkey’s interest in nuclear energy began in 1970s,¹⁹ and the

17 Republic of Turkey Ministry of Foreign Affairs (2016) *Turkey’s Energy Profile and Strategy*. Available at <http://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa> (Accessed: 20 July 2016).

18 Pamir, N. (10 October 2015) *Katar, Türkiye’nin enerji sorununa çözüm mü?* Available at <http://www.dw.com/tr/katar-turkiye-nin-enerji-sorununa-%C3%A7%C3%B6z%C3%BCm-%C3%BC/a-18909704?maca=tr-Facebook-sharing> (Accessed: 04 January 2016).

19 Turkey’s interest in nuclear energy as a means of ensuring energy supply security can be traced back to the 1950s. The first steps towards using nuclear power for peaceful reasons were taken in 1955, and the steps to build first nuclear power plant were taken towards the end of 1970s. However, these steps have not been finalized due to political and economic reasons.

major acceleration of its nuclear energy expansion occurred in the 2010s. As a net energy importer, Turkey aims to build three nuclear plants, which have 15.000 megawatt (MW) capacity in total, by 2023. The necessary collaborations have been made for two of the planned projects, while the process of site selection and identification of contractor country/firm is ongoing for the third project. Although there are various criticisms of Turkey's nuclear energy expansion, the AKP government has remained steadfast in its commitment, repeatedly stating that nuclear energy is key to ensuring resource diversification and will help reduce import dependency.²⁰

Turkey aims to meet its increasing energy needs with maximum profit at minimum cost. Turkey's main objectives for nuclear energy expansions are listed below:²¹

- Ensuring diversification of source country and route;
- Increasing energy efficiency;
- Decreasing the energy intensity;
- Maximizing the use of national resources;
- Increasing the rate of renewable energy sources to 30 % (decreasing the rate of natural gas to 30 %) for electricity production by 2023.

Although there was a period of uncertainty regarding nuclear plants after the Fukushima disaster, there are 438 operational nuclear reactors in the world.²² Turkey is pursuing this avenue not only because nuclear technology is an important national power generator, but also because other countries in its region have nuclear energy plants.

The model that Turkey has chosen for its nuclear energy production is the first of its kind. While in the rest of the world, nuclear power plants are built based on turnkey contracts, Turkey has opted for the Build-Own-Operate (BOO) model. Under this model, the site will be provided for free in return for building the plants in Turkey; then the builder country operates the plants until their removal at the end of their lifecycle. This model entails

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20 Anadolu Agency Energy (01 January 2016) *Turkey needs nuclear energy: Turkish Minister*. Available at <http://aaenergyterminal.com/news.php?newsid=7195541> (Accessed: 04 January 2016).

21 MNRE (2011) *Information on Nuclear Plants and Nuclear Power Plants to Be Established in Our Country*, Report No. 1. Available at http://www.enerji.gov.tr/File/?path=ROOT%2F1%2FDocuments%2FBelge%2FNukleer_Santraller_ve_Ulkemizde_Kurulacak_Nukleer_Santrale_Iliskin_Bilgiler.pdf (Accessed: 15 February 2015).

22 IEA (2015) *Key Electricity Trends*, p. 4. Available at <https://www.iea.org/media/statistics/Keyelectricitytrends2015.pdf> (Accessed: 04 January 2016).

a smaller financial obligation for Turkey. However, on the other hand, it also has the risk of increasing costs depending on the foreign exchange rate, because commitments were given to guarantee the investment costs in US Dollars.

Turkey's nuclear objective and the Russia factor

Turkey's electricity demand is consistently rising, and the average annual increase during last 20 years has been 10.6%.²³ Despite criticism by environmentalists and other opponents of nuclear, nuclear energy is included in the energy mix in order to meet this increasing demand. The nuclear energy option was put back on the agenda in order to ensure resource diversification, because the dependency on natural gas and coal as imported resources for electricity production needs to be reduced. If nuclear energy makes up a greater proportion of Turkey's energy mix, then the country's carbon emissions will decrease. Nuclear energy seems to be a vital option in terms of balancing the risk of seasonal imbalances in natural gas supply, and then Turkey's dependency on natural gas for electricity production will drop to 50%.

Turkey has opted for the BOO model in order to accomplish its nuclear power objectives. It was projected that the commitment process might become easier, and Ankara preferred to reach an agreement without causing a competition. The political and economic uncertainties may cause delays in construction, already a lengthy process. A serious crisis in Turkey-Russia relations occurred in the last quarter of 2015. After Turkey's appeal to arbitration because of Russian intransigence in regard to a promised discount on natural gas price, as well as the jet crisis in November 2015, the Turkish Stream project, to which both countries attach great importance, was firstly diminished, and then cancelled. In addition to the termination of the Turkish Steam project, the risks of possible interruption in natural gas supplies forced Turkey to intensify its search for alternatives. However, finding an alternative to Russian gas is not possible in short-term due to technical reasons. Faced with the risks stemming from dependency on Russia in this critical context, the nuclear option acquired even greater importance. The crisis also affected the construction of the plants. Hence, after the declaration by Turkey that, "We do not have to work with Russia for Akkuyu"²⁴, it was claimed that

23 Benli, H. (2013) 'Potential of renewable energy in electrical energy production and sustainable energy development of Turkey: Performance and policies', *Renewable Energy*, 50, p. 45.

24 BloombergHT (08 October 2015) *Erdoğan: Akkuyu'yu Ruslar yapmazsa başkası yapar*. Available at <http://www.bloomberght.com/haberler/haber/1829066-erdogan-akkuyuyu-ruslar-yapmazsa-baskasi-yapar> (Accessed: 15 February 2016).

Russia would halt or cancel the project.²⁵

Table 2: Schedule for Akkuyu NPP (Nuclear Power Plant)

<i>Steps</i>	<i>Scheduled dates</i>
Construction License Application to TAEK	By 31 March 2015
Signing PPA	By the end of 2015
Obtaining Electricity Generation License from EMRA	By the end of 2015
Obtaining Construction License from TAEK	By the end of 2016
Starting the construction of first unit	The first months of 2016
Commissioning date of units	2020, 2021, 2022 and 2023

Source: Erturk, E. (November 2014) ‘Significant progress in nuclear power plant projects of Turkey’, *Energy IQ*, No. 2014-21/39, p. 2.

The construction of Akkuyu NPP project was scheduled to begin in 2015, but the field preparation work is still ongoing, and the bidding process for construction has not yet been started.²⁶ It seems unlikely that construction will begin in 2016, because the necessary license from the Turkish Atomic Energy Authority has not yet been obtained.²⁷

Turkey’s willingness to normalize relations with Russia accelerated after the attempted coup on July 15 2016. Because Turkey deemed the West’s response biased, it wanted to send them a message them by deepening ties with Russia.²⁸ Conformity on Akkuyu was reiterated by both presidents during bilateral meetings in that period. However, it is not expected that the project will be executed in accordance with the original schedule due to the political, economic, judicial, and especially financial problems.

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²⁵ Reuters (09 December 2015) UPDATE 1-Russia halts Turkey nuclear work, Ankara looks elsewhere. Available at <http://www.reuters.com/article/mideast-crisis-turkey-russia-nuclear-idUSL8N13Y31G20151209> (Accessed: 15 February 2016).

²⁶ Milliyet (01 June 2016) *Rusya: Akkuyu NGS inşaatı 2018’de başlayabilir*. Available at: <http://www.milliyet.com.tr/rusya-akkuyu-ngs-insaatı-2018-de/ekonomi/detay/2255375/default.htm> (Accessed: 16 August 2016).

²⁷ Available at <http://web.tbmm.gov.tr/gelenkagitlar/metinler/371425.pdf> (Accessed: 05 January 2016)

²⁸ Tattersall, N. and Winning, A. (06 August 2016) *As Turkey’s coup strains ties with West, detente with Russia gathers pace*. Available at <http://www.reuters.com/article/us-turkey-security-russia-idUSKCN10H05A> (Accessed: 15 August 2016).

Nuclear investments have become more vital for Russia, despite its financial problems; the economy has contracted due to sanctions after the Ukraine crisis, and declining oil prices.²⁹ While canceling the project does not seem to be rational for Russia, Turkey may well re-evaluate the situation before the construction begins, as Turkey will not be responsible for additional liability if the agreement is cancelled by consensus before construction begins.³⁰ Yet, if the project is cancelled during the construction phase or later, Turkey would be stuck in a difficult situation.³¹ Moreover, there is serious question at play here, namely that a new reactor type, the first of its kind, will be used in Akkuyu. This highlights the issue of the security of nuclear power plants.³² Like the rest of the world, Turkey faces uncertainties about transportation and storage of nuclear waste; there is no precise solution for the problem of storage of nuclear waste.³³

Akkuyu NPP from the perspective of the asymmetric interdependency relationship

Resource diversification features prominently among Russia's energy policy objectives. Russia tends towards the Asian market as an alternative to European market, preferring direct pipelines to by-pass transfer countries, and aims to balance its dependency on fossil fuels revenues via the export of nuclear technology and fuel. The Russian State Atomic Energy Corporation (Rosatom) has 29 NP project abroad, and is continuing its nuclear energy diplomacy to reach new agreements in this context.³⁴ It aims to build 80 NP abroad, and operates 36 NP in Russia according to 2015 statistics. If Russia, the energy superpower, accomplishes this objective, its disadvantage of dependency on fossil fuel revenues would be significantly mitigated, and its hegemonic position would be greatly strengthened. Russia will gain a long-term geopolitical advantage thanks to Rosatom's investments in 40

29 The Guardian (2016) *Russia's GDP falls 37 as sanctions and low oil price-take-effect*. Available at: <https://www.theguardian.com/world/2016/jan/25/russias-gdp-falls-37-as-sanctions-and-low-oil-price-take-effect> (Accessed: 15 August 2016).

30 Kubaroglu, G. and Ulgen, S. (October 2011) *Nükleer Enerjiye Geçişte Türkiye Modeli*. İstanbul: EDAM Yayınları.

31 Full text of the agreement available at <http://www.resmigazete.gov.tr/eskiler/2010/10/20101006-6.htm> (Accessed: 10 December 2015).

32 Pamir, N. (2015) *Enerjinin İktidarı: Enerji Kaynaklarını Elinde Tutan, Dünyayı Elinde Tutar!* İstanbul: Hayy Kitap, pp. 422-425.

33 Telli, A. *ibid*, p. 28.

34 Armstong, I. (2015) *Russia is creating a global nuclear power empire*. Available at <http://globalriskinsights.com/2015/10/russia-is-creating-a-global-nuclear-power-empire/> (Accessed: 14 August 2016).

Table 3: Details of Akkuyu NPP

Details	Akkuyu NPP
Location	Akkuyu-Mersin
Land ownership	No remunerative allocation
Reactor	VVER 1200[1] (AES 2006 Design)
Installed capacity	4 x 1,200 MWe (4,800 MWe)
Project duration	Until the decommissioning process of NPP
Commissioning	Unit-1: 2020
	Unit-2: 2021
	Unit-3: 2022
	Unit-4: 2023
Company and shareholders	Main Contractor JSC “Atomstro-yexport” (ASE)
Financing	100% funded by Russia
Feed-in tariffs	The average sales price to be equal to USD cents 12.35/kWh for the half of electricity generated during the first 15 years. The price cap is set at USD cents 15.33/kWh.
Feed-in tariff period (Year)	15
Fuel price	Included in the tariff
Waste management tariff (USD cents/kWh)	0.15
Decommissioning fund tariff (USD cents/kWh)	0.15
Post PPA period after feed-in tariff	20% of the net profit to be transferred to Turkish party by the Project Company.
Radioactive wastes	Radioactive wastes will be transferred
Dispute mechanism	Arbitration if the disputes not solved by negotiations

Source: Erturk, E. (November 2014) ‘Significant progress in nuclear power plant projects of Turkey’, *Energy IQ*, No. 2014-21/39, p. 2.

different countries.³⁵ Rosatom is the only entity in the world that is capable of offering services at all phases of the nuclear energy value chain. As the operator of Akkuyu NPP, Russia gains an important geopolitical advantage over Turkey.

³⁵ Rosatom (2016) *Global presence*. Available at: <http://www.rosatom.ru/en/global-presence/> (Accessed: 15 August 2016).

In addition to the strategic leverage gained by controlling a nuclear plant in a NATO country, the Akkuyu NPP project is also economically important for Russia. The sanctions following the Ukraine crisis, the EU's decreasing natural gas demands, declining

In addition to the strategic leverage gained by controlling a nuclear plant in a NATO country, the Akkuyu NPP project is also economically important for Russia.

oil prices, and the downward trend in natural gas prices have all severely affected the Russian economy.³⁶ However, after Russia encountered difficulties in financing of the project due to the economic crisis, Turkey needed to provide more attractive options in relation to the project. Russian acquisitions will be increased, if Turkey's promised strategic investment decision is adopted.

Cooperation with Russia in the energy field is the power balancing the global and regional powers from the geopolitical perspective. Nonetheless, the political and economic consequences of this over-dependency on Russia should also be taken into consideration. Cooperating with Russia on nuclear energy as an alternative to natural gas in this fragile situation has the potential to render the dependency relationship more complex and multifaceted, increasing the existing asymmetry of the relationship to Russia's benefit.

Nuclear plants require long-term and stable relations, as does the natural gas industry. The fact that Russia will have sole ownership of a nuclear plant on Turkish territory for 60 years will seriously influence bilateral relations. Akkuyu will deepen the dependency relation, because Turkey will be dependent on Russian for technology, qualified labor force, nuclear fuel, and operation.

Energy partnerships cannot be evaluated exclusively from the aspect of their economic impact. These projects are frequently used to advance foreign policy objectives, as important tools of energy diplomacy. Having a NP is an element of national power for Turkey, but the possible negative consequences of the build-own-operate (BOO) model, which will be used for the first time, are being ignored. The strategic gains for Russian national power have gone largely unnoticed. Considering the deficiency of fossil fuels in terms of national resources and its energy mix, this strategy is high risk in terms of energy security, although nuclear energy is an option that Turkey must pursue.

³⁶ Alaksashenko, S. (01 July 2016) *Russias Economy Doomed Collapse*. Available at: <http://nationalinterest.org/feature/russias-economy-doomed-collapse-16821> (Accessed: 14 August 2016).

Conclusion

As demonstrated above, natural gas takes second place in Turkey's energy mix, following the natural gas expansion in 1990s and its subsequent proliferation. Assuring the security of natural gas supply is a very sensitive due to Turkey's 40% dependency on natural gas for electricity production. In this respect, Turkey's most vital and sensitive cooperation is with Russia. Since the natural gas market is more rigidly structured than the oil market, there arises an interdependency relationship. Being dependent on Russia both in terms of pipelines and pipe gas is a serious handicap for Turkey in short- and mid-term. Developing native energy resources in addition to source and country diversification are key steps for Ankara.

The AKP government concluded the first nuclear agreement with Russia to address Turkey's natural gas dependency. A Russian nuclear plant became the preferred option in order to decrease natural gas dependency to Russia; this is simple resource diversification. Turkey's preference for resource diversification rather than country diversification will positively impact natural gas dependency. However, because there are uncertainties both in regard to bilateral relations and in the regional conditions of investment area, Turkey's room for maneuver against Russia will be weakened in every aspect of national security, especially energy.

Turkey further consolidated Russia's already advantageous position via selected the BOO model for Akkuyu NPP. The more urgent strategic necessity for Turkey is to increase its natural gas storage capacity as quickly as possible. Moreover, increasing the daily LNG conversion capacity plays strategic role in decreasing Turkey's dependency on natural gas pipelines. Nuclear investments are important for Turkey's goal of decreasing natural gas use in the electricity production. However, considering the economic and technological uncertainties in the course of nuclear investment, it can be said that delays are likely.

Any sort of energy investment is of strategic importance, especially in regard to the NP. Having a NP offers economic and political leverage, but may lead to serious security risks for host countries. Likewise, numerous factors such as the preferred model, technology, location and partner country may influence potential security risks. Akkuyu, which is the first nuclear power plant using BOO model, is evaluated in terms of dependency on Russia, and regarded as the Turkey's greatest point of vulnerability when it comes to natural gas dependency. Nuclear power is

an option for Turkey's resource diversification, but cooperation with Russia increases Turkey's vulnerability in terms of its interdependent relationship with Russia.

As a final word, it is claimed that the NP may lead a decrease in Turkey's level of dependency on imported energy, yet Turkey would still need to import fuel for the nuclear plants and because the electricity generated by these nuclear power plants will be purchased in US Dollars, it is hard to make revenue predictions.

Regional Energy Security and Integration of Electricity Markets in the South Caucasus

Irina Kustova*

This study argues that the development of electricity systems is a crucial aspect of the region's sustainable development. Regulatory and technical cooperation among national power markets can help improve energy security in the South Caucasus. However, the concerted operation of electrical power systems might also be affected by competitive regionalism. Thus, the study looks at how two regional integration projects, the EU Energy Community and the Eurasian Economic Union, might affect developments in the power markets. Despite lucrative opportunities for the countries to serve as a crossroads between the emerging Eurasian and European electricity markets, political barriers remain substantial.



* Dr. Irina Kustova is a Research Fellow at Energy Charter Secretariat, Brussels, Belgium

Introduction

The South Caucasus is an important transit route for transporting hydrocarbon resources from the Caspian region to European and world markets. A number of regional initiatives and regional platforms have facilitated the completion of pipeline projects in these countries. In this regard, energy security debates have touched upon the role of Central Asian and South Caucasian states in the geopolitical games of so-called ‘Great Powers’, and the potential effects of new projects, such as the Eurasian Economic Union and China’s Economic Belt, on the region.

Power markets have been largely overlooked in these debates, but they play a crucial role in economic development. They enable countries to overcome energy poverty and ensure environmental sustainability by increasing power generation from renewable energy sources. Power markets can also form a bridge between political difficulties and regional cooperation in regard to energy. While electricity is crucial for development, it has not

While electricity is crucial for development, it has not undergone that essential politicization that we have seen with hydrocarbons.

undergone that essential politicization that we have seen with hydrocarbons. This is especially important in a region where there are different strategies for development, shaped by complex political and historical legacies of the post-conflict societies.¹

The three South Caucasus countries, Armenia, Azerbaijan and Georgia, are a crossroads for regional grid connections among Iran, Russia, and Turkey. As such, they might benefit from various seasonal, price and geographical combinations in electricity trade.² In a more ambitious perspective, connecting the region with the EU internal electricity market and the prospective regional electricity markets of the EU Energy Community Treaty and the Eurasian Economic Union will allow the countries to meet their energy needs more effectively. Since the Turkish grid operator TEIAS joined the European Network of Transmission System Operators for Electricity (ENTSO-E) as an observer in January 2016, the Turkish electricity network has been integrated with the European grid. This integration offers the South Caucasus a much-needed connection to Europe.

This paper will discuss whether electricity cooperation can improve regional energy security and provide grounds for further

1 Aydın, M. (ed.) (2011) *Non-traditional Security Threats and Regional Cooperation in the Southern Caucasus*. Amsterdam: IOS Press BV.

2 Ghvinadze, N. and Linderman, L. (2013) ‘Cross-border Electricity Exchanges: Bolstering Economic Growth in the South Caucasus and Turkey’. *The Atlantic Council Issue Brief*, October.

political cooperation. In analysing the extent to which cooperation is feasible in the context of fragmented institutional and political preferences, the paper addresses the role of international organizations in providing a foundation for regional cooperation.

The paper also examines whether cooperation in the field of electricity is affected by the regional processes of deepening integration and supra-nationalization within regional projects. Armenia and Russia are creating a common electricity market within the Eurasian Economic Union, and Georgia has negotiated to join the EU Energy Community in 2016. These different institutional frameworks can create overlapping authorities in the region and may externalize politicized practices to the electricity sector, thus downgrading regional cooperative efforts in electricity.

Regional security through integration of power markets

Energy security is not immune from political considerations, and infrastructure projects and generation capacities can be affected by political configurations in the region. However, regional electricity cooperation provides a path towards a more sustainable and efficient energy sector.³ A number of regional initiatives have demonstrated the virtues of regionalization of electricity markets and the potential benefits of electricity trade. These projects, aimed at reallocating and redirecting power surpluses among neighbouring countries, include, inter alia, the EU internal electricity market,⁴ the CASA-1000 project in Central and South Asia⁵ and the planned Gobitec project in Northeast Asia.⁶

First of all, regional security is ensured by cross-border trade. Cross-border electricity cooperation brings numerous economic benefits for neighboring countries; it enhances the economic efficiency of the use of cross-border transmission capacity on seasonal and daily bases, and provides financial gains from power trade.⁷ Combining

Cross-border electricity cooperation brings numerous economic benefits for neighboring countries; it enhances the economic efficiency of the use of cross-border transmission capacity on seasonal and daily bases, and provides financial gains from power trade.

3 Baritaud, M. and Volk, D. (2014) 'Seamless Power Markets. Regional Integration of Electricity Markets in IEA Member Countries'. Paris: International Energy Agency.

4 Agency for the Cooperation of Energy Regulators and Council of European Energy Regulators (2015) 'Market Monitoring Report 2015', Ljubljana, Brussels: ACER and CEER.

5 Casa 1000. Available at: <http://www.casa-1000.org/>

6 Energy Charter Secretariat (2014) *Gobitec and the Asian Supergrid for Renewable Energy Sources in Northeast Asia*. Brussels: Energy Charter Secretariat. Available at: <http://www.encharter.org/index.php?id=643&L=0> (Accessed: 3 September 2016).

7 Srinivasan, S. (2013) 'Electricity as a Traded Good', *Energy Policy*, 62, pp. 1048–1052; Shakouri, H., Eghlimi, M. and Manzoor, D. (2009) 'Economically Optimized Electricity Trade Modeling: Iran–Turkey case', *Energy Policy*, 37, pp. 472–483.

different load curves also decreases blackouts and ensures optimization of investment plans in power generation.

In the South Caucasus, electricity trade occurs primarily via bilateral exchanges.⁸ Since 1997, Armenia has been exchanging electricity with Iran, supplying power in the summer and receiving power during the winter peak demand load. Armenia and Iran also envisage electricity-to-gas exchange (3MWh of Armenian electricity – 1000cm of Iranian natural gas). The construction of a new 400 kV power line (estimated to be operational by 2018) will enable exports of Armenian electricity output to Iran, especially if the Armenian NPP is renovated.

Armenia and Georgia have asynchronous system connection. Some electricity sales have been made to Georgia, however, the terms and conditions of these sales are not publicly available. In 2012, the countries signed an Agreement on “emergency supplies”. The expansion of exchange capacity to 350 MW, with a further planned increase to 700 MW by 2021, will likely lead to increased cross-border trade. Additional imports from Georgia might be feasible if prices are attractive to private investors in Georgia for HPPs. Trade exchange between Georgia and Russia is declining due to Georgia’s internal load; exports to Russia during summer is less cost-effective for Georgia in comparison to other countries (primarily Turkey).

Seasonal variations in hydropower generation in Georgia allow electricity exports to neighboring countries during spring and summer floods. The recently completed interconnectors with Azerbaijan and Turkey (the Azerbaijan–Georgia–Turkey Power Bridge in 2015), and the construction of the interconnector with

Given large-scale energy efficiency programs in Azerbaijan (including new combined-cycle TPPs), increased exports to Turkey can be expected in the future. Turkey can offer to pay the highest electricity prices in the region, and experiences high demand in summer.

Armenia, will create opportunities for more effective use of Georgia’s hydropower potential. Supplies from Azerbaijan to Turkey via Georgia started in February 2016. Currently, they are made under a debt repayment scheme: Azerbaijan repays its debt to Turkey for the electricity that it supplies to the Nakhichevan Autonomous Republic. Given large-scale energy efficiency programs in Azerbaijan (including new combined-cycle TPPs), increased exports to Turkey can be expected in the future. Turkey can offer to pay the highest electricity prices in the region, and experiences high demand in summer. However, capacities of the East–West transmission corridor limit

⁸ For a detailed overview, see Kustova, I. (2016) *Regional Electricity Cooperation in the South Caucasus: Cross-border Trade Opportunities and Regional Regulatory Uncertainties*. Brussels: Energy Charter Secretariat.

Turkey's ability to import electricity import to the Eastern part.⁹ Additionally, exports from Georgia to Azerbaijan might balance Georgia's seasonal surpluses, but flexibility of domestic gas pricing for electricity production in Azerbaijan must be taken into account while assessing the feasibility of these export flows.

Until now, price differentials have not been a major driver of trade, and political issues have complicated bilateral dynamics, a key example being the closed Armenia–Turkey and Armenia–Azerbaijan borders. In order for price differentials to play a significant role in cross-border trade, a greater degree of market liberalization is needed, whereby generation costs affect incentives for market participants.¹⁰

Second, regional cooperation can help mitigate environmental damage. Growing environmental concerns have paved the way for a larger role for renewable energy sources and new technologies for thermal plants across the region.¹¹ Inter alia, regional countries have emphasized the need to increase the share of renewable energy in electricity generation. For example, Turkey's 2009 Electricity Market and Security of Supply Strategy aims for an increase up to 30% by 2023 by utilizing hydropower potential in the country. Georgia's National Renewable Energy Action Plan (NREAP) and National Energy Efficiency Action Plan (NEEAP) aims to develop renewable energy - especially hydropower - in accordance with the EU legal framework and best practices. Azerbaijan has also made efforts towards developing cleaner energy during the last decade – in 2003, 40% of electricity production was generated from heavy oil PPs, which recently were completely replaced by production from natural gas and other sources based on modern technologies. The country is also investing in the construction of mini-HPPs, wind PPs (104 MW), and a TPP (34 MW) that runs on waste.

Inter alia, regional countries have emphasized the need to increase the share of renewable energy in electricity generation.

⁹ From April to June, Turkey limits import from Georgia (up to 350 MW) also due to an increase in generation at local HPPs. Planned construction of HPPs in the eastern part of Turkey aimed to satisfy growing demand and mitigate environmental concerns might be advised to be planned within a broader regional framework. The analysis of the East–West transmission corridor and the blackout on 31 March 2015: ENTSO-E (2015) *Report on Blackout in Turkey on 31st March 2015*. Brussels: ENTSO-E. Available at: https://www.entsoe.eu/Documents/SOC%20documents/Regional_Groups_Continental_Europe/20150921_Black_Out_Report_v10_w.pdf (Accessed: 2 September 2016)

¹⁰ Energy Charter Secretariat (2003) *Regional Electricity Markets in the ECT Area*. Brussels: Energy Charter Secretariat. Here, p. 46.

¹¹ For a detailed discussion, see Kühn, M., Ahlhaus, P. and Hamacher, T. (2015) 'Perspectives for electricity generation from renewable energy Sources in the South Caucasus region', *Caucasus Analytical Digest*, 69, pp. 11-15. Available at: <http://www.css.ethz.ch/publications/pdfs/CAD-69-11-15.pdf> (Accessed: 4 September 2016)

Third, regional cooperation can reduce regulatory uncertainties and build up investor confidence, both of which are crucial components for capital intensive cross-border electricity projects. Removing trade and investment barriers remain key issues in the region. Attracting investors depends on a country's investment climate, including guaranteed investment protection, and on regional infrastructure, especially given that the national electricity markets of Armenia, Azerbaijan and Georgia are fairly small.

Regional frameworks have led to the recent completion of several interconnector projects to connect Turkey and Georgia, as well as to enhance connections between Azerbaijan and Georgia, and between Armenia and Iran.

Due to the small size of the domestic markets in the South Caucasus, regional cooperation is essential for administering the construction of interconnectors. Regional frameworks have led to the recent completion of several interconnector projects to connect Turkey and Georgia, as well as to enhance connections between Azerbaijan and Georgia, and between Armenia and Iran. The Power Bridge (Azerbaijan–Georgia–Turkey) is a sub-regional project within the Black Sea Regional Transmission System planning project (BSTP), which has financial support from *inter alia* EBRD and USAID. The interconnector between Georgia and Turkey was completed in 2013, and the AGT Power Bridge in June 2015, increasing the electricity transit capacity to Turkey to 700 MW.

Technical constraints prevent the synchronization of the Armenian, Georgian, Iranian, and Russian grids due to extensive operational coordination required. In this case, asynchronous “back-to-back” connections serve as a stepping-stone to a later (potential) full synchronous interconnection. In this regard, technical assistance for the interconnection of all national power systems is essential, and, in this regard, the EU Energy Community is currently delivering assistance to Armenia. The latter is an observer to the Energy Community.

Additionally, separate power development plans and diverging national regulatory frameworks could impede regional complementarity of generation capacity. The latter offers opportunities for better investment allocation in generating capacity, improving load factors across power systems. The regional complementarity of generating capacities can adjust the relevant costs due to power exchange through regional interconnectors and contribute to developments in renewable energy. The potential export of hydro energy by Georgia to Armenia, Russia and Turkey, plans for updates of the nuclear plant in Armenia and potential export of electricity to Georgia, and export of electricity from Azerbai-

jan to Turkey need to be discussed on a comprehensive regional platform.

Intergovernmental organizations and energy security in the South Caucasus

International organizations play an important role in ensuring regional electricity cooperation – they offer technical assistance to countries and provide a platform for information transparency and transfer of best practices. They also work to improve the reliability of interactions for governments and stakeholders. The existence of a level playing field and legal guarantees for various participants helps to attract foreign investment to the region, and contributes to regional energy security.

International organizations play an important role in ensuring regional electricity cooperation – they offer technical assistance to countries and provide a platform for information transparency and transfer of best practices.

Several regional initiatives, most of which are under the auspices of the EU, offer technical and regulatory approximation of the domestic electricity sectors of the countries. Fostering electricity cooperation is one of the objectives of the EU Eastern Partnership. Within the framework of the Eastern Partnership, the Council of European Energy Regulators (CEER) and the European Commission organize regular multilateral meetings and specialized workshops with the energy regulatory bodies of the six partner countries (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine).¹² To date, four workshops have been organized – the one that took place in 2014 discussed regulatory aspects of market integration in building regional electricity markets.

The EU ENTSO-E methodology of cost-benefit analysis has been carefully adapted to the technical, legal and regulatory environment of the region. In particular, the INOGATE administered various projects aimed at the harmonization of electricity standards in the South Caucasian and Central Asian countries, Moldova, and Ukraine in 2009–2011.¹³ INOGATE also recently assisted the Ministry of Energy of Armenia in the adoption of third-party access legislation in electricity transmission networks, particularly regarding the regulatory status of the Armenia–Georgia Interconnector.¹⁴ The EU-backed Black Sea Synergy initiative,

12 CEER (2016) CEER–Eastern Partnership. Available at: http://www.ceer.eu/portal/page/portal/EER_HOME/EER_INTERNATIONAL/CEER_Eastern_Partnership (Accessed: 2 September 2016)

13 INOGATE (2016) *Harmonization of electricity standards*. Available at: <http://www.inogate.org/projects/harmonization-of-electricity-standards?lang=en> (Accessed: 15 September 2016)

14 INOGATE (2015) *Workshop on the Assistance to the Ministry of Energy for the adoption of TPA legislation in the electricity transmission networks of Armenia*, 15 December. Available at: <http://www.inogate.org/activities/608?lang=en> (Accessed: 15 September 2016)

among others, aims at greater stability and approximation of energy policies in the region.¹⁵ The Organization of the Black Sea Economic Cooperation, a regional platform created in 1992, also addresses energy issues, electricity networks in particular, as part of its work. These initiatives offer platforms for discussions, best practice exchange, and technical and expert assistance. However, they are largely dependent upon the political will of the recipient countries.

Regional integration projects: Between regulatory frameworks and geopolitical struggles

Political considerations and historical legacies play a pivotal role in the region, given the potential political barriers to regional cooperation.¹⁶ The complexity of the political landscape is exacerbated by emerging regional integration dynamics towards the greater supranationalization of the energy sector. Armenia is a member of the Eurasian Economic Union, which is planning to create a common electricity market by 2019 and a single hydrocarbon market by 2025.¹⁷ Georgia has negotiated to join the EU Energy Community, and, as a result, will harmonize national legislation with EU laws.¹⁸ The countries will need to mitigate emerging differences between two regional integrationist projects, the Eurasian Economic Union and the EU Energy Community.¹⁹

From one side, these regional political projects – the Eurasian Economic Union and the EU Energy Community – create market-oriented legal frameworks that aim for the further regionalization and liberalization of domestic electricity markets. The proposed reforms are expected to advance cross-border power exchange within the integration organizations, and help optimize available capacities. Connecting the South Caucasus with the EU internal electricity market and the prospective regional electric-

¹⁵ European Commission (2015) *Joint Staff Working Document, Black Sea Synergy: review of a regional cooperation initiative*, SWD(2015) 6 final. Brussels: European Commission. Available at: http://eeas.europa.eu/blacksea/doc/swd_2015_6_fl_joint_staff_working_paper_en.pdf (Accessed 15 September 2016)

¹⁶ de Waal, T. (2013) *Black Garden: Armenia and Azerbaijan Through Peace and War*, 10th Year Anniversary Edition. New York: NYU Press.

¹⁷ The priority attributed to a common electricity market refers to the historical legacies and institutional path dependence on the Soviet electricity system, which provides numerous organizational and technical advantages – these countries operate with similar technical and regulatory standards.

¹⁸ The Energy Community was created in 2005 to make compatible the energy sectors of its members with the EU internal energy market. Since 2007, Georgia has been an observer in the Energy Community, applied for the membership in 2013, and joined the Energy Community in 2016.

¹⁹ Kustova, I. (2016) 'Electricity Cooperation in the South Caucasus: The Role of the Regional Integration Projects', *European Energy Review*, 13 July.

ity markets of the EU Energy Community and the Eurasian Economic Union will enable the South Caucasian countries to meet their energy needs more effectively.

From the other side, these projects also create overlapping regulatory authorities and may give rise to differentiated market designs, which inevitably affect regional energy cooperation.²⁰ Armenian and Georgian memberships in different integration projects also raise technical, political and regulatory questions for the whole region. While these political projects potentially have broad scope for approximation and harmonization, their competing logics can affect the electricity sector – and national strategies more broadly. By fragmenting regional electricity frameworks, these political projects may externalize politicized practices to the electricity sector, thus hindering pan-regional approaches.

This is especially sensitive in case of prevailing political tensions in the South Caucasus, where gradual, apolitical, regulatory approximation might be a silver bullet for the stabilization of regional energy security. While physical cross-border infrastructure and technical compatibility are prerequisites for any regional trade, they should be complemented by compatible power trade mechanisms in order to boost cross-border exchange. It is widely acknowledged that effective cross-border power exchange requires more advanced competitive trading mechanisms and greater market openness.²¹ Therefore, it is advisable to ensure that both integration projects are developing in compatibility, in order to avoid regulatory inconsistencies.

Armenian and Georgian memberships in different integration projects also raise technical, political and regulatory questions for the whole region. While these political projects potentially have broad scope for approximation and harmonization, their competing logics can affect the electricity sector – and national strategies more broadly. By fragmenting regional electricity frameworks, these political projects may externalize politicized practices to the electricity sector, thus hindering pan-regional approaches.

Conclusion

Regional cooperation is crucial for enhancing the development of small national power markets. Power exchange among regional countries enables optimization of load and generation capacities, and improves the environmental output of the region. In recent years, cross-border interconnectors have been significantly up-

20 Lane, D. and Samokhvalov, V. (eds.) (2015) *The Eurasian Project and Europe. Regional Discontinuities and Geopolitics*. Basingstoke & New York, NY: Palgrave Macmillan; Dutkiewicz, P. and Sakwa, R. (eds.) (2014) *Eurasian Integration – The View from Within*. Abingdon & New York: Routledge.

21 Energy Charter Secretariat (2003) *Regional Electricity Markets in the ECT Area*. Brussels: Energy Charter Secretariat.

In recent years, cross-border interconnectors have been significantly upgraded, and the initiation of electricity trade among Azerbaijan, Georgia and Turkey in 2016 also demonstrates that it is feasible to strengthen regional energy security via the (re-)connection of power systems and gradual approximation of national regulatory frameworks.

graded, and the initiation of electricity trade among Azerbaijan, Georgia and Turkey in 2016 also demonstrates that it is feasible to strengthen regional energy security via the (re-)connection of power systems and gradual approximation of national regulatory frameworks. In this regard, regional energy security is also about balancing seasonal inconsistencies in the countries' power profiles. Furthermore, regional cooperation generates increased confidence among foreign investors. Foreign investments into small national power markets are more feasible if there is a degree of regulatory compatibility, and investment protections are guaranteed beyond political commitments. Thus, developments of interconnectors need to be accompanied by adjustments to relevant domestic regulatory frameworks.

However, notwithstanding the developments in electricity cooperation in the South Caucasus, post-conflict legacies continue to be a serious impediment to functional cooperation. Moreover, new political barriers might emerge from competitive regionalism. Although the two regional projects, the Energy Community and the Eurasian Economic Union, share basic market-oriented provisions regarding the electricity sector, they represent two competing regional integration projects. Their emerging roadmaps towards regional electricity cooperation are increasingly divergent, and thus tricky to balance. Inevitably, membership (or, non-membership) in these projects represents a national choice. It is unclear how competitive regionalism will affect commercial projects in the region, but the hesitancy of the South Caucasian states to strengthen regional ties is sending mixed signals to foreign investors, and may impede investment inflows.

Taking into account the political sensitivities inherent in any attempt to strengthen cooperation, it is advised to use a market-based, bottom-up approach to identify practical needs in the sector. An inclusive dialogue on domestic development programs will deepen understanding of the required capacities and interconnectors by national governments and various stakeholders. Coupled with the significant interest of market participants in strengthening regional economic cooperation in order to link the two large power markets of the European Union and its Energy Community with the emerging Eurasian Union project, these measures might further advance electricity cooperation in South Caucasus. In this regard, intergovernmental organizations will continue to support the current regional dialogue and to provide a systematic channel for best practice and information exchange.

Energy Consumption and GHG Emissions in the South Caucasus

Varadurga Bhat
and Ashwath Naik*

In recent years, the World has been experiencing the consequences of climate change, and the South Caucasus has been affected by this phenomenon too. Energy security and environmental security have been affected by the dependence on fossil fuels and damages associated with energy exploitation, such as the rise in greenhouse gas (GHG) emissions. The development of renewable energy (RE) helps to meet growing energy demand and to mitigate climate change. Dependence on energy imports can be reduced, local resources can be utilized, and energy supplies can be diversified by deploying RE technologies in the region. Thus, it is one of the most attractive and reliable options for achieving sustained low-carbon growth. Against this background, this paper analyzes the trends in energy consumption and GHG emissions during 1995-2012 in the South Caucasus countries: Armenia, Azerbaijan and Georgia. Special focus is accorded to the prospects of RE in these countries based on their potential and policy framework. The paper concludes that the South Caucasus has substantial RE potential. However, with the exception of hydropower, other sources of RE are minimally utilized. Proper policy framework with clearly defined goals for RE generation and effective implementation are needed in this regard to ensure affordable and sustainable energy in these countries.



* Varadurga Bhat is a researcher at Department of Studies in Economics, Karnatak University Dharwad, India-580003
Ashwath D Naik is a lecturer at Department of Post Graduate Studies in Economics, KLES Lingaraj College, Belagavi,
India-590001

Introduction

The South Caucasus region connects the East and the West, and the North and the South. It also plays a strategic role in global energy security due to its location along the energy transit corridor between Central Asia and Europe. In recent years, the regional countries, Armenia, Azerbaijan, and Georgia are experiencing the impacts and consequences of climate change such as: increases in temperature, heat waves, and droughts, increase in natural disasters such as landslides, avalanches, floods and mudflows, changes in precipitation patterns, melting of glaciers, and etc. This has led to economic losses and caused damage to infrastructure, offsetting the growth efforts. Dependence on fossil fuels in order to meet increasing energy demand to support growth is posing a threat to energy security. Environmental security is also affected due to the rise in greenhouse gas (GHG) emissions and other damages associated with extraction, use and transportation of fossil fuels. Being vulnerable to the impacts of climate change, these transitional economies need to develop sustainable pathways to economic growth by ensuring energy and environmental securities. Development of renewable energy (RE) helps to meet growing energy demand and to mitigate climate change. It can reduce the dependency on energy imports, help diversify energy supplies, and improve utilization of local natural resources. Thus it is one of the most attractive and reliable options in the drive to achieve sustainable low-carbon growth.

Against this background, this paper analyzes the trends in energy consumption and GHG emissions during 1995-2012 in Armenia, Azerbaijan and Georgia. Special focus is accorded to the prospects of RE in these countries based on their potential and policy framework. Data on energy consumption are extracted from World Bank and International Energy Agency (IEA) database. Information on GHG emissions has been extracted from CAIT Climate data explorer. Growth rates are estimated in order to identify the major trends in energy use and GHG emissions. Data on RE potential and policies are gathered from the database of International Renewable Energy Agency (IRENA). Trends in regional energy consumption and GHG emissions are compared against global averages.

The South Caucasus region is inhabited by 0.23% of the global population, and contributes 0.20% to the global Gross Domestic Product (GDP) in Purchasing Power Parity (PPP) terms (Table 1). Its share in global population has declined during 1995-2012

due to the slow growth rate of the population (0.18%), particularly in Armenia and Georgia where the negative growths have been observed. However, the share in GDP has increased remarkably during the same period due to significant growth in GDP (10.45%). Among the three countries, Azerbaijan had the highest regional share in GDP (74.04%) and population (57.74%) in 2012, followed by Georgia and Armenia. Between 1995 and 2012, Azerbaijan witnessed a remarkable increase in its regional share in GDP and population due to spectacular GDP growth and high growth rate of its population. However, during the same period, the shares of Armenia and Georgia have declined, and both countries have experienced negative population growth. All these economies are transitioning to emerging markets. In PPP terms, the highest growth rate of GDP was seen in Azerbaijan (12.38%), followed by Armenia (7.64%) and then Georgia (5.94). Per capita income (PCI) has significantly grown in all three countries during 1995-2012. The highest growth in PCI in PPP terms was seen in Azerbaijan (11.29%), followed by Armenia and Georgia.

However, the share in GDP has increased remarkably during the same period due to significant growth in GDP (10.45%). Among the three countries, Azerbaijan had the highest regional share in GDP (74.04%) and population (57.74%) in 2012, followed by Georgia and Armenia.

Trends in energy consumption

Despite their geographical proximity, Armenia, Azerbaijan and Georgia have different energy profiles. As Soviet republics, they had integrated energy systems. The collapse of the Soviet Union in 1991 led to disintegration of the economies and energy systems of these countries. Armenia and Georgia are net importers of energy, while Azerbaijan is a major exporter in the region.

Table 1: Economic and energy profiles of South Caucasus countries

Indicators		Armenia	Azerbaijan	Georgia	South Caucasus	World
GDP, PPP (billion 2011 Intl \$)	1995	6.99 (16.12)	25.51 (58.81)	10.88 (25.07)	43.38 (0.08)	52353.37
	2012	21.65 (10.85)	147.69 (74.04)	30.15 (15.11)	199.49 (0.20)	97601.99
	Growth rate (%)	7.64	12.38	5.94	10.45	3.74

Population (millions)	1995	3.22 (20.61)	7.69 (49.13)	4.73 (30.26)	15.64 (0.27)	5705.84
	2012	2.98 (18.50)	9.30 (57.74)	3.83 (23.76)	16.10 (0.23)	7089.45
	Growth rate (%)	-0.45	1.09	-1.17	0.18	1.27
PCI, PPP (2011 Intl\$)	1995	2169.43	3319.77	2297.69	2773.41	9175.40
	2012	7267.98	15888.22	7881.33	12391.11	13767.21
	Growth rate (%)	8.09	11.29	7.11	10.27	2.48
Energy use (mtoe)	1995	1.64 (8.53)	13.90 (72.14)	3.73 (19.33)	19.27 (0.21)	9207.55
	2012	2.97 (14.58)	13.69 (67.22)	3.71 (18.19)	20.37 (0.15)	13253.1
	Growth rate (%)	3.37	-0.08	-0.03	0.78	0.99
Energy use (tons of oil equivalents per capita)	1995	0.51	1.81	0.79	1.23	1.61
	2012	1.00	1.47	0.97	1.27	1.87
	Growth rate (%)	3.81	-0.61	1.33	0.60	2.25
Energy Intensity (kgoe/\$1 GDP constant 2011 PPP)*	1995	0.24	0.54	0.34	0.44	0.18
	2012	0.14	0.09	0.12	0.10	0.14
RE (% of total energy consumption)	1995	9.27	1.37	46.39		17.28
	2012	6.57	2.85	28.69		18.12

Note: Growth rates are exponential. Figures in parentheses are the percentage share of countries in the South Caucasus region for the respective values

Source: Calculated from data extracted from the World Bank database

In 1995, the region's total energy use was 19.27 million tons of oil equivalents (mtoe). (Table 1). By 2012, this had increased to 20.37 mtoe, with a growth rate of 0.78%. But this increase was not uniform throughout the period. The growth rate of regional energy use was less than the global growth rate. Hence the share of the region in global energy use gradually declined during 1995-2012, from 0.21% to 0.15%.

Energy use is the highest in Azerbaijan (13.69 mtoe) followed

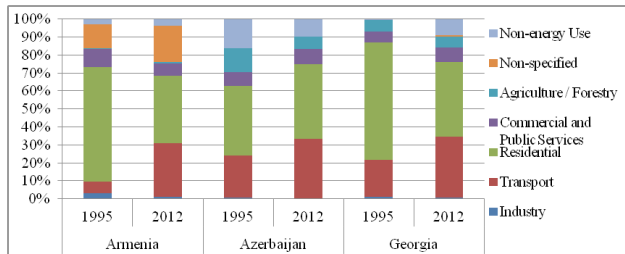
by Georgia (3.71 mtoe), and then Armenia (2.97 mtoe) (Table 1). The highest growth rate during 1995-2012 was seen in Armenia (3.37%). Its share in energy use of the region also registered an increase from 8.53% to 14.58%. Azerbaijan remained the highest consumer of energy throughout 1995-2012, though there was a decline in its regional share from 72.14% to 67.22% due to the negative growth registered in volume of energy use. Georgia also witnessed negative growth in energy use and in its regional share. The region's per capita energy use is below the global average. Per capita energy use of Armenia and Georgia increased during 1995-2012, while in Azerbaijan this figure saw negative growth (though it remained above the global average).

Energy intensity (a ratio of energy use to GDP) of the South Caucasus region was higher than the world average in 1995, indicating the region's relatively poor energy efficiency (Table 1). Between 1995 and 2012, energy intensity has dropped considerably across all three countries, demonstrating that the entire region has become more energy efficient in comparison to the global average. Azerbaijan has the lowest energy intensity in the region and accordingly more energy efficiency, which is continuing to decline due to the combination of high GDP growth and comparatively slower growth in energy use.

Households are the largest consumer group in the region (Figure 1). The residential sector consumed more than 30% of the total energy consumption in the three regional countries. The transport sector and then the industrial sector are the next major drivers of energy consumption. During 1995-2012, the share of industrial energy consumption declined in both Armenia and in Azerbaijan. The highest increase during this period was observed in energy consumption in the transport sector, and its share in the energy mix of all these countries.

Between 1995 and 2012, energy intensity has dropped considerably across all three countries, demonstrating that the entire region has become more energy efficient in comparison to the global average. Azerbaijan has the lowest energy intensity in the region and accordingly more energy efficiency, which is continuing to decline due to the combination of high GDP growth and comparatively slower growth in energy use.

Figure 1: Trends in share of sectors in total final energy consumption of South Caucasus countries during 1995-2012



Source: Calculations based on IEA database

Imported fossil and nuclear fuels meet around 70% of the energy needs of Armenia and Georgia.¹ Heavy dependence on imported energy has placed an increased burden on their balance of payments. Fossil fuels remained the main source of energy in all countries. In 2012, energy from fossil fuels accounted for 78%, 81% and 64% of the total final energy consumption of Armenia, Azerbaijan, and Georgia respectively.² Fossil fuel consumption increased during 1995-2012 in Armenia and Georgia, but declined in Azerbaijan. The share of fossil fuels in total energy consumption increased in all three countries, and the highest increase was observed in Georgia (from 43% to 67%), due to increased consumption of oil and natural gas.

In Armenia and Georgia, the major challenge is to ensure sustained energy supplies, whereas for Azerbaijan, a producer of fossil fuel-based energy, the challenge is to ensure environmental security.

Armenia can meet only 35% of its energy demand through domestic resources. More than half of its energy needs are met by natural gas. Azerbaijan is well-endowed with fossil fuel reserves, particularly oil and natural gas. Energy production in Azerbaijan mainly relies on natural gas and oil. Georgia satisfies its energy demand primarily from imported oil and natural gas, as well as domestically produced hydropower. It also receives in-kind payments for functioning as a pipeline transit country, which has made natural gas prices lower. In Armenia and Georgia, the major challenge is to ensure sustained energy supplies, whereas for Azerbaijan, a producer of fossil fuel-based energy, the challenge is to ensure environmental security.

Electricity produced from fossil fuels in 2012 accounted for 42%, 22%, and 95% of total electricity production in these coun-

¹ World Bank (2016) 'World Development Indicators', Available at: <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>. (Accessed: 16 August, 2016).

² IEA database. Available at: www.iea.org (Accessed: 16 August, 2016).

tries respectively.³ In Armenia, electricity generation is based on nuclear energy and thermal plants consuming imported fuels and from hydro power plants (HPPs). Azerbaijan produces 90% of its electricity from natural gas and is a net exporter of electricity. Georgia is also an exporter of electricity, though this is subject to seasonal variations. Most of Georgia's electricity needs are met by hydro and thermal power plants.

RE is yet to be utilized fully in the South Caucasus countries. Though the region is rich in resources for the generation of RE, it is significantly under-exploited. In 2012, Armenia consumed 6.57% of its total energy from renewables, whereas for Azerbaijan this figure is just 2.85% (Table 1). Georgia revealed a promising figure of 28.69%. The share of renewables in the total energy mix of Georgia contracted from 46.39% due to a fall in biofuels consumption, as households switched to natural gas. However, the majority of RE is only hydro energy (particularly large HPPs) in all these countries. RE generation from other sources such as wind, solar, geothermal and biofuels is almost negligible. The share of RE in total energy consumption has declined in Armenia and Georgia during 1995-2012, while it rose slightly in Azerbaijan.

Trends in GHG emissions

In 1995, the total GHG emissions of the South Caucasus region was 78.12 million tons of carbon dioxide equivalents (MtCO_{2e}), which constituted 0.23% of global GHG emissions (Table 2). Azerbaijan was the largest emitter with a share of 77% (60.27 MtCO_{2e}). Armenia was the lowest emitter, with a share of just 9%. Georgia contributed 10.58 MtCO_{2e} of GHGs, which accounted for about 14% of the regional emissions. Between 1995 and 2012, global GHG emissions increased significantly, at a rate of 2.04%. But the South Caucasus has recorded a slow growth of 0.94% in its GHG emissions. The share of the region in global GHG emissions also gradually declined to 0.19%, though there was an increase in the volume of emissions to 89.42 MtCO_{2e} in 2012. Azerbaijan's regional share in GHG emissions remained almost the same, whereas Armenia's share increased slightly to 10%, while Georgia's share dropped to 12%. However, the volume of GHG emissions increased in all these countries to 9.30 MtCO_{2e}, 69.34 MtCO_{2e} and 10.78 MtCO_{2e} respectively. Until 2002, the GHG emissions of all three countries saw a gradual

³ World Bank (2016) *World Development Indicators*. Available at: <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>. (Accessed: 16 August, 2016).

decline due to reductions in energy use, but increased thereafter as this trend was reversed. Within the region, Armenia recorded the highest and statistically significant growth rate in its total GHG emissions during 1995-2012 (2.15%), whereas Azerbaijan and Georgia witnessed below average growth in the region (0.86% and 0.48% respectively). The region’s per capita GHG emissions also remained below the global average throughout the period 1995-2012. Azerbaijan experienced the highest per capita GHG emissions in the region, followed by Armenia and Georgia. During 1995-2012 per capita GHG emissions in Armenia and Georgia registered an increase while that of Azerbaijan declined slightly.

Table 2: Trends in GHG emissions in South Caucasus countries

Indicators		Armenia	Azerbaijan	Georgia	South Caucasus	World
Total GHG Emissions (MtCO ₂ e)	1995	7.27 (9.30)	60.27 (77.15)	10.58 (13.55)	78.12 (0.23)	34309.97
	2012	9.30 (10.40)	69.34 (77.54)	10.78 (12.06)	89.42 (0.19)	47598.55
	Growth rate (%)	2.15	0.86	0.48	0.94	2.04
Per capita GHG Emissions (toCO ₂ e per capita)	1995	2.25	7.84	2.24	4.99	6.01
	2012	3.12	7.46	2.82	5.55	6.71
	Growth rate (%)	2.59	-0.23	1.65	0.76	0.77
Energy Emissions per GDP (kgCO ₂ e/\$)	1995	65.02	211.23	84.80	155.96	46.68
	2012	28.15	39.85	26.68	36.59	35.96

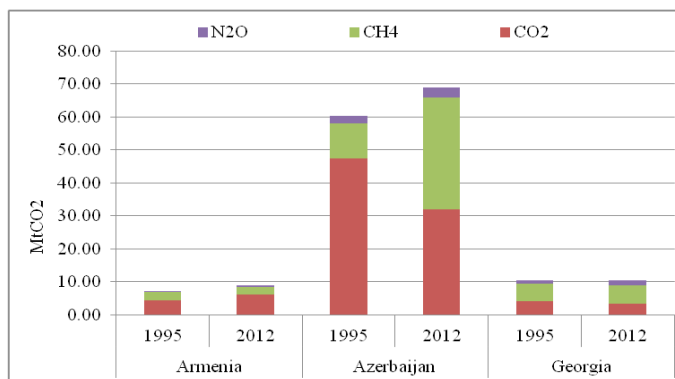
Note: Growth rates are exponential. Figures in parentheses are the percentage share of countries in the South Caucasus region for the respective values

Source: Calculations based on data taken from CAIT Climate Data Explorer

Carbon dioxide (CO₂) is the top GHG emitted in Armenia (Figure 2), accounting for 69% of the country's total GHG emissions in 2012. Methane (CH₄) was the next major GHG, constituting 24% of total emissions. Nitrous Oxide (N₂O) had a marginal share of 6%. Between 1995 and 2012 the volume of CO₂ and N₂O emissions increased, while CH₄ emissions declined. Accordingly, the share of CO₂ in Armenia's total GHG emissions significantly increased at a rate of 2.79%. However, there was a marked decline in the share of CH₄, which dropped from 33% to 24%. The share of N₂O marginally declined from 7% to 6%.

Until 2011, CO₂ was the leading GHG emitted by Azerbaijan; however in 2012 it was surpassed by CH₄. CO₂ recorded a significant negative growth rate of 2.63% during 1995-2012, while CH₄ registered a significant positive growth of 7.07%. N₂O had a marginal share in total GHG emissions of Azerbaijan. CH₄ had the largest share in Georgia's total GHG emissions throughout 1995-2012 due to increased emissions from waste. CO₂ emissions registered a negative growth during this period. This is the result of activities in the land use, land use change and forestry (LULUCF) sector.

Figure 2: Trends in GHG emissions by Gas



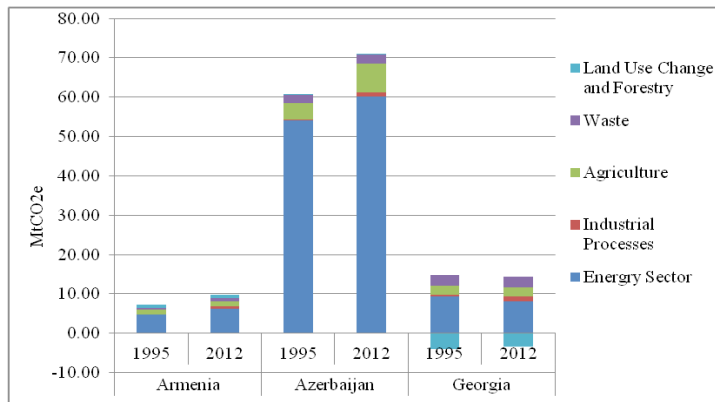
Source: CAIT Climate Data Explorer

The energy sector bears primary responsibility for GHG emissions in South Caucasus countries (Figure 3). In 2012, it contributed 65%, 85% and 75% of the total GHG emissions in Armenia, Azerbaijan and Georgia respectively. During 1995-2012, the contribution of energy sector emissions increased in Armenia. However, Georgia witnessed negative growth in the energy sector emissions. Azerbaijan saw a positive growth in the energy

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related emissions in this period, but the share of the energy sector in its total GHG emissions declined. The agricultural sector is the second largest emitter of GHG in Armenia and Azerbaijan. Emissions from waste constituted about 25% in the total GHG emissions of Georgia in 2012. Emissions from the agricultural sector grew in all three countries. There was a marked increase in the emissions from industrial processes during 1995-2012 in all three countries, though its contribution to the total GHG emissions of these countries was the lowest of all sectors. Activities in the LULUCF sector accounted for removals of GHGs from the atmosphere in Georgia.

Figure 3: Trends in GHG emissions by sector

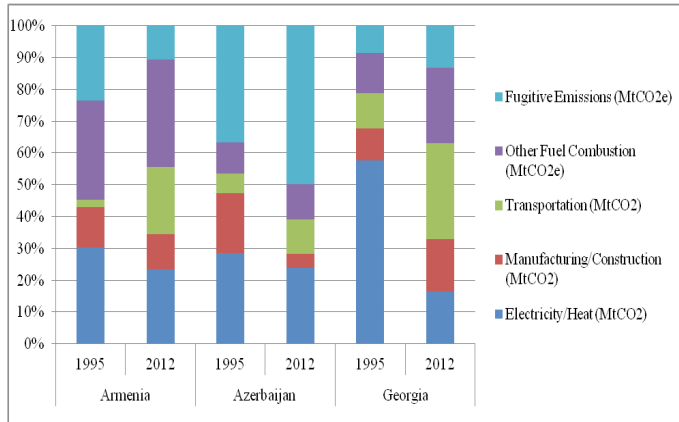


Source: CAIT Climate Data Explorer

Electricity/heat generation, other fuel combustion, and fugitive emissions constituted the bulk of GHG emissions within the Armenian energy sector in 1995. Fugitive emissions gradually declined and emissions from the transportation sector increased significantly during 1995-2012. Fugitive emissions and electricity/heat generation constituted a major part of GHG emissions within the energy sector of Azerbaijan. Fugitive emissions and transportation sector emissions significantly increased, while emissions from electricity/heat generation registered negative growth between 1995 and 2012. Electricity/heat generation accounted for 58% of energy sector emissions in Georgia in 1995. But during 1995-2012, there was a huge decline in emissions from electricity/heat generation. Emissions from the transportation sector were the highest within the Georgian energy sector, followed by other fuel combustion, manufacturing/construction

and fugitive emissions in 2012, all of which experienced remarkable increases during 1995-2012.

Figure 4: Breakdown of GHG emissions within the energy sector



Source: Calculations based on data extracted from CAIT Climate Data Explorer

Per capita GHG emission of the region is significantly below the world average (Table 2). Azerbaijan has per capita emissions above global average, though this figure fell slightly during 1995-2012. Per capita emissions of Armenia and Georgia also remained below regional and global averages throughout this period, despite increases in their values.

The ratio of energy sector emissions to the country's GDP or emission intensity of GDP is used to determine the role of energy in climate change. It shows the annual volume of emissions generated in a country per unit of its GDP, by activities relating to the energy sector. The emission intensity of GDP in the South Caucasus is above the world average (Table 2). However, there was a huge drop in emission intensity during 1995-2012, to a degree that was steeper than the global average. In 1995, all the South Caucasus countries had higher emission intensities than the world average. But these values consistently declined during this period for all the countries. Since 1999, Armenia's emission intensity has remained below the global average. From 2001, the emission intensity of Georgia also fell below the world average. Azerbaijan is the only country in the region whose emission intensity is above regional and global averages.

The ratio of energy sector emissions to the country's GDP or emission intensity of GDP is used to determine the role of energy in climate change. It shows the annual volume of emissions generated in a country per unit of its GDP, by activities relating to the energy sector.

Decline in emission intensities is attributable to the spectacular growth in the GDP of all three countries during this period, whereby the growth rate of GDP exceeded the growth rate of emissions. For Georgia, this is due to a decline in energy emissions as well as a rise in GDP. Increased deployment of energy efficiency along with RE technologies are also responsible for the relatively lower growth of emissions leading to reduction in the values of energy emissions per GDP.

Prospects of RE in the South Caucasus countries

The region has significant potential to develop RE. Only Armenia and Azerbaijan have set RE targets. No goals have been set for the development RE in Georgia. Country-specific RE potentials and targets are shown in Table 3 and Table 4 respectively.

Armenia

Armenia has significant potential for RE generation. Proper utilization of its solar potential can reduce its dependency on energy imports. The country’s small hydro potential has been evaluated at about 340 GWh/year.⁴ The country has good solar, wind and biomass potential. The average annual solar radiation is approximately 1,720 kWh/m²,⁵ and more than a quarter of the territory has solar resources with an intensity of 1,850 kWh/m². Armenia has large forestry and agricultural areas capable of generating biomass energy and biogas. The average annual wind velocity in Armenia is unevenly distributed at 1.0-8.0 meters per second. Ararat Valley has strong mountain valley winds. The Jermaghbyur region (on the Syunik volcanic plateau), Karkar and Gridzor regions have geothermal potential.

Being a non-Annex I Party to the Kyoto Protocol, Armenia does not have specific quantitative commitments to reduce GHG emissions.

Armenia has developed relevant legal and economic frameworks to support RE. RE feed-in tariffs were introduced in 2007, which provide 15 year guaranteed benefits for selected technologies. Feed-in-tariffs are applicable to wind and small hydropower plants, while net metering is applicable to solar photovoltaics (PV). The Renewable Resources and Energy Efficiency Fund provides financial support. The National Programme on Energy Savings and Renewable Energy is in force since 2007. The Scaling Up Renewable Energy Program for Armenia was introduced in 2014 as an update to the Renewable Energy Roadmap 2011. It established new RE production targets. Armenia ratified the United

⁴ Gigawatt hour per year.

⁵ Kilowatt hour per square meter.

Nations Framework Convention on Climate Change (UNFCCC) in 1993. Being a non-Annex I Party to the Kyoto Protocol, Armenia does not have specific quantitative commitments to reduce GHG emissions. Nonetheless, Armenia has already submitted its voluntary political commitment to reduce GHG emissions. So far six CDM projects have been registered in the country.

Table 3: RE Resource potential in the South Caucasus countries

Country	RE Potential
Armenia	Utility scale solar PV: 1,700 – 2,100 GWh/year Concentrating solar power: 2,400 GWh/year Distributed solar PV: 1,800 GWh/year Wind: 650 GWh/year Geothermal: at least 1,100 GWh/year Small hydro: 340 GWh/year Landfill gas: 20 GWh/year Biogas: 30 GWh/year Biomass: 230 GWh/year Solar thermal hot water: 260 GWh/year Geothermal heat pumps: 3,500 GWh/year Total electricity: 7,400 – 8,700 GWh/year Total heat: 4,690 GWh/year
Azerbaijan	Solar: > 8,000 MW Wind: 15,000 MW Bioenergy: 900 MW Geothermal: 800 MW Small hydro: 700 MW
Georgia	Solar: 60–120 GWh/year Wind: 5,000 GWh/year Biomass: 3,000–4,000 GWh/year Small hydro: 5,000 GWh/year Geothermal: 3000 GWh/year

Source: Republic of Armenia, 2014, Azernews, 2016, Energy Charter Secretariat, 2012

Azerbaijan

Azerbaijan has favorable conditions for the exploitation of solar energy. But the high cost of energy generation has stopped the country from installing large-scale plants. Absheron peninsula, Kura-Araz lowland and Nakhchivan Autonomous Republic have an estimated average solar energy potential of 0.8–1.2 kW/m². The Greater and Lesser Caucasus, the Absheron peninsula, the Talysh Mountains, the Kura lowland, and the Caspian-Guba region are rich in thermal waters for exploitation of geothermal en-

ergy. The districts of Lenkoran, Massaly, and Astara have an estimated average geothermal production capacity of about 25,000 m³ per day. Absheron peninsula, Caspian Sea coastal areas, and islands in the northwest of the Caspian Sea have the highest wind energy potential in the country. The Ganja-Dashkasan area in the west and the Sharur-Julfa region in the Nakhchivan Autonomous Republic also have significant wind energy potential. The major hydropower resources of the country are located in lower reaches of the Kura River, Aras River, creeks flowing into the Caspian Sea, reservoirs, and canals. Vast agricultural, forestry areas, and solid waste generation in the country offer attractive bioenergy potential.

In Azerbaijan, RE targets were set by the government and significant funding has been allocated for the development of its legal framework. The State Program on the Use of Alternative and Renewable Energy Sources (2005-2013) was approved in 2004, and established RE targets for the country. The State Agency on Alternative and Renewable Energy Sources (SAARES) was established in 2009 to create institutional responsibility for the development of RE. It is responsible for the development, implementation and regulation of state policies relating to RE. Azerbaijan ratified the UNFCCC in 1995 and is a non-Annex I country. The country has five CDM projects registered and two projects at the validation stage.

Table 4: RE targets adopted by South Caucasus Countries

Armenia	2020 21% of RE sources in total power generation				
	2025 26% of RE sources in total power generation				
	<i>RE generation capacity and production targets 2020-2025</i>				
		Capacity installed (MW)		Generation (GWh/a)	
	Electricity	2020	2025	2020	2025
	Small hydro	377	397	1049	1106
	Wind	50	100	117	232
	Geothermal	50	100	373	745
	Solar PV	40	80	88	176
	Heat				
	Geothermal heat pumps	12	25	16	33
	Solar thermal	10	20	13	25
Azerbaijan	Energy	9.7% of total consumption by 2020, 2,000 MW of installed capacity by 2020			
	Electricity	20% of consumption by 2020			
Georgia	None				

Source: IEA/IRENA Joint Policies and Measures Database, Republic of Armenia, 2014

Georgia

Georgia has vast untapped RE potential. Its hydropower production potential stands among the highest in the world. Out of 26,000 rivers, 300 are significant in terms of electricity generation. There are 250-280 sunny days per year in most regions, and the average annual number of hours of sunshine is over 2000. The largest solar energy potential is in the mountainous areas in the north and south. Average wind speed in different regions varies from 2.0 m/s to 9.0 m/s. There is significant wind energy potential in Javakheti region, as well as in the southern part of the Black Sea coast. Likhi Mountain region is also a promising site for wind energy generation. Crop and animal farming residues, municipal waste, sewage treatment residues, and wood are all potential sources of bioenergy. Georgia also has significant geothermal resources, particularly thermal waters, the majority of which are found in the western part of the country.

Georgia has vast untapped RE potential. Its hydropower production potential stands among the highest in the world. Out of 26,000 rivers, 300 are significant in terms of electricity generation.

Georgia does not have official targets for RE generation. It also lacks a proper supportive mechanism, and a policy framework dedicated to the promotion of RE. The State Programme for Renewable Energy 2008 was introduced to boost investments in RE and maximize the benefits of its vast RE potential. As part of the program, the government established the Georgian Energy Development Fund (GEDF) to facilitate investment in renewables. The incentives provided under this program are limited to hydropower. Feed-in-tariffs are only available to small HPPs with capacity of under 0.1 megawatt (MW). All other RE sources have been neglected. Georgia, as a non-Annex I party to the Kyoto Protocol, does not have international obligations to reduce GHG emissions. It has seven CDM projects registered, and one at validation stage.

The major barriers to RE in the region include the high cost of investment leading to weak competitiveness of RE compared to fossil fuel-based energy; lack of experience with RE technologies; absence of substantive analysis of RE potential; absence of proper legal and institutional framework; lack of technical capacity among local financiers; lack of confidence and poorly developed local markets. Along with these obstacles, lack of clearly defined goals and specific policies dedicated to the promotion of RE; and neglect of all RE sectors other than hydro power.

Conclusion

RE can help the South Caucasus countries to alleviate energy poverty, reduce energy dependency, support growth, reduce expenditure, and create employment. It also helps to mitigate climate change by reducing GHG emissions and to prevent the devastating environmental impact of energy exploitation. Though all these countries have substantial RE potential, they have not exploited it to the fullest extent, given the prevailing focus on the profit-generating oil and gas sector. There were no incentives to switch to RE, due to sufficient supply of fossil fuels at low prices. Hydropower is the only source of RE generation in these countries. RE generation from wind, biofuels and geothermal sources play a marginal role in the energy profile of South Caucasus countries. Recently, there has been growing awareness regarding the role of RE in ensuring sustainable energy supplies. Each country has found RE beneficial in its own geopolitical and economic context. Armenia and Georgia need RE to achieve energy independence, by reducing heavy reliance on energy imports and securing uninterrupted power supplies. For Azerbaijan, this is needed to ensure sustainable growth and to exploit its huge potential. Among the three countries, Armenia is the most advanced in the region in terms of RE deployment. Armenia has a roadmap for RE development, and Azerbaijan has a state program dedicated to RE development. Georgia has not adopted any policy or action plan. It also lacks goals for RE generation. Proper assessment of RE potential, coherent policies and instruments, effective institutional framework, effective implementation of policies, and regional integration will all help the South Caucasus countries to utilize their RE potential.

Historicity and Historical Ethnography of Azerbaijan: The 18th and 19th Century Caucasus at a Glance

Rizvan Huseynov Najafoglu*

This article is a part of a larger research project on historical territories and the Turkic population of Azerbaijan in the South Caucasus, first published in 2015 as a monograph, "Azerbaijan and the Armenian question in the Caucasus" (**Азербайджан и армянский вопрос на Кавказе**). The author drew upon nearly 300 ancient, medieval, and modern sources describing Azerbaijan's territories in the Caucasus. This article presents the European and American sources from the 18th and early 19th centuries, describing the territory and the population of Azerbaijan in the Caucasus. The aim of this study is to show the historicity of Azerbaijan in regional politics and international relations during the aforementioned period.



* Rizvan Huseynov Najafoglu is the Director of Caucasus History Center and a Senior Researcher at the Institute of Law and Human Rights of Azerbaijan National Academy of Sciences (ANAS)

Introduction

For a long time, European and Russian scientific tradition accepted the view that the historical territories of Azerbaijan are located in Iran, and that in the South Caucasus, the definition “Azerbaijan” appeared only after the establishment of Azerbaijani Democratic Republic in 1918. Based on this rather shaky assertion, it was frequently concluded that Azerbaijan is an artificial political formation, historically unrelated to the Caucasus. In many textbooks, scientific works and articles published in various countries, Azerbaijani territories in the South Caucasus are often labeled part of “South Armenia” or Persia; or split into administrative units (Shirvan, Dagestan, Zakatala, Gazakh, Aran, Karabakh, Lenkoran and other). Such accounts clearly fail to take into consideration the fact that all of these administrative units were for many centuries united as part of Azerbaijan, covering large areas of the western coast of the Caspian Sea, Caucasus, and Western Asia. The willingness of parts of the scientific and political community to deny Azerbaijan’s historical existence on the geopolitical map of the region no doubt plays

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into the hands of Armenia, a country that has illegally occupied 20% of Azerbaijan’s territories since the beginning of the 1990s. The regrettable tendency in the academic community to ignore Azerbaijan’s historicity has been used by Armenia to justify the “liberation of the ancient Armenian lands.” The occupation and the distortion of history in defining the contemporary map of the South Caucasus makes it necessary to demonstrate to the flawed nature of this interpretation of the region’s political history.

As a response to such a tendency, this paper argues that the continuity of Azerbaijan’s borders within the South Caucasus can be traced back more than two thousand years. As part of a broader research project on historical territories of Azerbaijan in the South Caucasus, this paper suggests – through studying European and American sources, writings and maps – that an initial examination of the territories, political role and ethnic composition of Azerbaijan during the 18th and 19th centuries clearly shows the historicity of the country. The paper accordingly offers a brief account of 18th and 19th century maps and writings on Azerbaijan produced by European academics and travelers.

Historicity of Azerbaijan

The Republic of Azerbaijan considers itself the spiritual heir to the great medieval oriental empires established by Azerbaijani rulers and khanates in the Caucasus, Asia Minor, the Middle East, and Central Asia over different historical periods. And historically, Azerbaijan's borders are considered to run from the Caucasian mountain ridge in the North (down to Derbent) to Central Iran in the South, from the Geycha Lake (now Sevan Lake in Armenia) and Urmia (north-west Iran) in the West, to the Caspian Sea in the East. In fact, international treaties signed by Russian emperors, Ottoman sultans, and Persian shahs had long recognized such territories as part of Azerbaijan. Nevertheless, this vast area continued to be considered as Azerbaijani territory until the surrounding empires turned the Caucasus into a battleground in the 18th and 19th centuries. Accordingly, the weakening and then the collapse of the Safavid Empire in 1774 led to a protracted battle between Russian, Ottoman, and European empires for the division of territories that had constituted the Empire. However, this process could not prevent the creation of the Azerbaijani Qajar Empire on the ruins of the Safavid state. Accordingly, following the signing of the Treaty of Turkmenchay in 1828, the historical Azerbaijan territories were divided between Russia and Qajar state. Indeed, it was in this very period (the 18th and 19th centuries) that the European scientific and political community began paying attention to the history, people, and political situation of the Caucasus and thus produced studies and writings in addition to maps and cartographies on political and ethnic composition of the Safavid and Qajar Empires.

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Jean Jacques Élisée Reclus, the 19th century French scientist, notes that the Atropatene-Azerbaijan territories spread as far as Dagestan, for example. Reclus presented a map of the region wherein the territories of Atropatene spread to the North Caucasus. The map (Figure №1) was published in two Russian pre-revolutionary books written by Reclus.¹

¹ Reclus J.E. (1908) The Earth and its inhabitants. St.Petersburg: P.P.Soykin's publishing house.

Figure №1



In his book “L’Homme et la terre” (“The Earth and its Inhabitants”), Reclus cited the works of ancient authors relating the Turkic population of Media and Azerbaijan. Reclus wrote “Herodotus in one of his history excerpts listing the six tribes (races) of Media. From interpretation of their names attempted by J. Oppert and Ch. Lenormant, it appears that two tribes named “Aryan” were of the same origin as Persian. Another four groups of tribes were the rural population of “Turanian” origin, divided into settled farmers and nomad herders.”²

Referring to the leading European Turkologists and linguists of the 19th century, Reclus came to the conclusion that from ancient times, the Turkic people had formed a considerable part of the population of the Western Asia and Caucasus, and had a serious influence on ancient Persian culture.

Referring to the leading European Turkologists and linguists of the 19th century, Reclus came to the conclusion that from ancient times, the Turkic people had formed a considerable part of the population of the Western Asia and Caucasus, and had a serious influence on ancient Persian culture. This implies that 2,700 years ago, on the lands of Media and Atropatene, Turkic people were prosperous people and formed the majority of the population in the region (according to Herodotus: of six tribes, four were Turkic). In contrast to most European scholars, Reclus openly admitted that that contemporary Western academics had a biased view on the role of Turkic people in

Western Asia in ancient times, attributing all the achievements to Persian influence. “Scholars until now could not tell the proportion of these two ethnic elements in mixed population of Media

2 Reclus J.E. (1906) The Earth and its inhabitants. Early man – ancient history. Vol.1. Translated from French by L.Schmidt. St.Petersburg: The Brockhaus and Efron publishing house, p. 394

but the fact of similarities in origin of Western European languages and Aryan language of Persians induce us under egoistic feelings to attribute to Aryans the leading role in Iranian plateau. At the same time we unwittingly set the highest premium on Persians not only in number but also in political meaning.”³

In another example, the famous Behistun inscription is a trilingual cuneiform text on a cliff at Mount Behistun (Bisutun) southwest of Ecbatana, between Kermanshah and Hamadan in Iran. This was carved on the order of Achaemenid King Darius I on the events of 523-521 B.C. European orientalists admit that one of the three languages used in the inscription was Turkic. Unfortunately, modern historians have not publicized this fact. In 1868, the Swedish scientist Eric Nustrem (1833-1897) wrote in his “Bible Dictionary”: “Starting from the reign of Darius the inscription written in three languages was preserved on the high Behistun rock at the western border of Media. The king was depicted there trampling the lying man probably Gaumata which pretended to be Smerdis. The inscription consists of 300 lines in Persian, Assyrian and Tatar languages (cuneiform).”⁴

It is important to note that Reclus counted nearly one hundred of cuneiform inscriptions in Armenia and Azerbaijan that were destroyed or moved to different countries. He also mentions that the lands of the Caucasus, Azerbaijan and present day Armenia were settled by Turkic people in ancient times. He specifically locates Armenia in Asia Minor, stating that Armenians moved to the South Caucasus from those areas. Furthermore, he writes that many different ethnicities call themselves “Armenians”, noting their relationship to the Armenian Gregorian church. Reclus also explained that in ancient times, Turkic people inhabited and ruled vast territories including present day Armenia.

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For instance, Reclus writes: “The name “Armenia” applied in ancient times apparently, to the south west of the country having this name nowadays. Herodotus knows “Armenians” only in the upper Euphrates near Phrygia and on mountains where from the river Halys starts. Consequently, movement of this nationality

3 Reclus J.E. (1906) The Earth and its inhabitants. Early man – ancient history. Vol.1. Translated from French by L.Schmidt. St.Petersburg: The Brockhaus and Efron publishing house, p. 395

4 Nustrem E. (2008) Bible dictionary. Translated from Swedish under the editorship of I.S. Swenson, Kiev, p. 168

(Armenians - R.H.) should happen in West to East direction and ended with their advent in the Aras valley.”⁵ “[...] people, who call themselves “Armenians” are Kurds and Jewish.”⁶

Therefore, as the above sources suggest, the spread of the Atropatene-Azerbaijan territories to the North Caucasus and its population with Turkic peoples is proven by ancient inscriptions and in archaeological findings. Thus the so-called scientific approaches of confining and reducing the heritage of the region to Persian people or to “ancient Armenians” are vague, biased, and mostly politically driven.

The human geography and ethnography of historical Azerbaijan

European authors and cartographers of the 18th and 19th centuries wrote that the territories of Azerbaijan covered a considerable part of South Caucasus, present Armenia, and also included Derbent in the north. They were confirmed also by medieval Arab and other sources. The map of the 18th century German cartographer Georg Matthäus Seutter (Figure №2) for example shows the territory of Azerbaijan covering the vast lands of the Southern Caucasus and present day Armenia, where the Erivan khanate was situated.⁷

Figure №2



5 Reclus J.E. (1906) *The Earth and its inhabitants. Early man – ancient history. Vol.1.* Translated from French by L.Schmidt. St.Petersburg: The Brockhaus and Efron publishing house, p. 452

6 *Ibid.*, p. 453

7 Seutter's Map of Turkey (Ottoman Empire), Persia and Arabia (1730). *Magni Turcarum Dominatoris Imperium per Europam, Asiam Et Africam, se extendens Regiones tam proprias, quan tributarias et clientelares ut et omnes Beglerbegatus sive Praefecturas Generales oculis sistens accuratissima cura delineatum per Matthaeum Seutter, S.C. Maj. Geogr. Aug., Atlas Novus. Matthaeo Seutter. (1730)*

There are several different sources of information on Azerbaijan's division between the Russian and Qajar Empires under the 1828 Turkmenchay Treaty. An interesting source on the post-Russian annexation geography of Azerbaijan is the map drawn up by Thomas Gamaliel Bradford (1802-1887). In his book "A Comprehensive Atlas: Geographical, Historical & Commercial" (Boston, 1835), a map on "Persia, Arabia, Tartary, Afghanistan" (Figure №3) shows the territories of Azerbaijan encompassing present day Armenia and Yerevan.⁸ Thomas Bradford was indeed a reliable academic, as he was the junior editor of "Encyclopedia Americana", the first significant Encyclopedia of the USA and during his career he drew up several maps of United States and other countries.

Figure №3



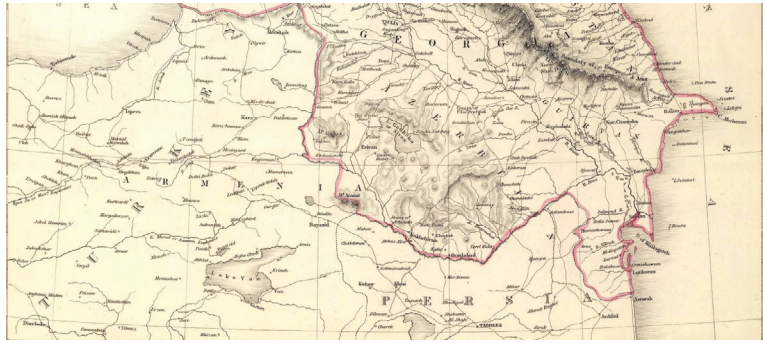
In another example, the British "Society for the Diffusion of Useful Knowledge" (1826-1848) published the Encyclopedia "The penny cyclopedia" in 1838, which stated that the Muslim population of Karabakh exceeded the Armenian population by a factor of 10. The source also states that the mass movement of the Muslim population from Karabakh to Iran occurred, while simultaneously, Russia encouraged Armenians to settle in Karabakh. "The population of Karabagh, according to the official returns of 1832, consisted of 13,965 Mohammedan and 1491 Armenian families, besides some Nestorian Christians and Gypsies. This limited population may be ascribed to the frequent wars which have long desolated the province, and to the emigration to Persia of many Mohammedan

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⁸ Bradford, T. G (1835) 'Persia, Arabia, Tartary, Afghanistan' A comprehensive atlas geographical, historical & commercial. Boston: Ticknor, William Davis, p. 308.

families since its subjection to Russia, although many Armenians were induced by the Russian government, after the peace of Toorkmanchai peace accord between Russia and Qajar state, to emigrate from Persia to Karabagh.”⁹ The British Society map, drawn up in 1835 and published in 1844, (Figure №4) depicted Azerbaijan as encompassing the current territories of the Armenian Republic.¹⁰

Figure №4



In his 1864 memorandum for the Royal Geographical Society, the British consul in Tabriz, Keith Abbott, described Azerbaijan: "The country known to the Persians as Azerbaijan is divided between them and Russia, the latter Power possessing about five-eighth of the whole, which may be roughly stated to cover an area of about 80,000 square miles, or about the size of Great Britain; 50,000 square miles are therefore about the extent of the division belonging to Russia, and 30,000 of that which remains to Persia. The Russian division is bounded on the north and north-east by the mountains of Caucasus, extending to the vicinity of Bakou (Baku) on the Caspian. On the west it has the provinces of Imeritia, Mingrelia, Gooriel, and Ahkhiska (now belonging to Russia); on the east it has the Caspian Sea, and on the south the Boundary is marked by the course of the River Arrass (Araxes) to near the 46th parallel of longitude, then by a conventional line across the plains of Moghan to the district of Talish, and by the small stream of Astura which flows to the Caspian through

9 Society for the Diffusion of Useful Knowledge. (1844) *Russia in Europe and Georgia. Caucasus, Circassia, Astrakhan, Georgia. Part IX.* Published under the superintendence of the Engraved by J. & C. Walker. London, published by Baldwin and Cradock, 47 Paternoster Row Augt. 1st. 1835. London: Chapman & Hall, p. 175

10 *The penny cyclopaedia of the Society for the diffusion of useful knowledge.* (1828) London: ed. by G. Long

the latter country. In this area are contained the following territorial divisions: Georgia or Goorjistan, comprising Kakhetty, Kartaliny, Somekhetty, Kasakh; the Mohammedan countries of Eriwan, Nakhshewan, Karabagh, Ghenja, Shirwan, Shekky, Shamachy, Bakou, Koobeh, Salian and a portion of Talish.”¹¹ This memorandum shows that in the 1860s, the populations of Erivan, Nakhchivan and Karabakh were predominantly Muslim and Turkic, even after several thousands of Armenians from Iran and Turkey had settled there.

The British newspaper “The universal gazetteer” published an article stating that at the beginning of the 19th century, vast territories in Caucasus and especially the present Republic of Armenia, were located inside Azerbaijan: “Aiderbezan, or Azerbeyan, a fruitful province of Persia, situated at the west coast of the Caspian Sea, and having Georgia on the north. Its chief town [Aiderbezan] is Taurus. The climate is healthy, but cold”¹²

French orientalist Amable Louis Marie Michel Bréchillet Jourdain is another interesting source of information from the 19th century, the period when Russian expansion in the Caucasus and Azerbaijan began and resulted in the mass migration of Armenians to the region from Asia Minor and Middle East. Jourdain, whose work was published in 1814-1815, writes that “There are still Armenians in Adzerbadagan especially at Meragan, Urmiag, Salmas, Tavriysk, Karabagh and Erivan cantons. There estimated population not more than 60,000 people, which exceeds the any likelihood.”¹³

Amable Jourdain conceived Azerbaijan’s borders as encompassing large areas in Asia Minor and the South Caucasus. This included the whole of Karabakh and Erivan. According to his calculations, the Armenian population living in North and South Azerbaijan amounted to just over 60,000. Jourdain mainly lists Armenian populations in the Azerbaijani territories located in Iran. According to him in Karabakh and (which for that period also included territory of Zangezur province) Erivan Armenians were not more than 10-12 thousand. In the 1815 edition of

Jourdain describes Azerbaijan and the traditions of Azerbaijani Qajar dynasty ruling Iran. He apparently admired the crown prince of the Persian throne, Abbas-Mirza and again admiringly mentioned the special role of Turkic people in the history of the region.

11 Abbott, Keith E. (1863-1864) Extracts from a Memorandum on the Country of Azerbaijan, Proceedings of the Royal Geographical Society of London, 8(6), pp. 275-279.

12 The universal gazetteer (1801) by John Walker, M.D, London (reprint – 1815), p. 25.

13 Vestnik Evropy (1815). A journal. Part 80. № 8. Jourdain Amable. La perse ou tableau de gouvernement, de la religion et de la litterature de cette empire, pp. 291-292.

“Vestnik Evropy” (The Bulletin of Europe), Jourdain describes Azerbaijan and the traditions of Azerbaijani Qajar dynasty ruling Iran. He apparently admired the crown prince of the Persian throne, Abbas-Mirza and again admiringly mentioned the special role of Turkic people in the history of the region.¹⁴

Victor Bérard (1864-1931), French Hellenist, archaeologist, politician, and diplomat is another writer who compiled important information about Azerbaijan. He became more famous after his translation of “Odyssey” by Homer into French. Bérard was a senator, later elected as a chief of the French Senate Committee on foreign affairs. Bérard left a huge volume of work devoted to Muslim and Turkic countries. In particular, in his work published in 1910 in Paris, “Révolutions de la Perse: les provinces, les peuples et le gouvernement du roi des rois”, he compiled unique materials about Azerbaijan and its territories, political-administrative system, population and its role in the geopolitics of the East. He notes in particular that during 8th century Azerbaijan and its Turkic population - termed “Azeries” - played an important role in the civilizational processes of the Islamic world. He compares the influence of Azerbaijan in Islamic civilization to the influence of Ancient Egypt on the ancient and antique world. Bérard mentions Azerbaijani territories in Caucasus, emphasizing the public and political domination of “Azeri-Turks”: “Azerbaijan and north-western provinces were for a long time loyal to the Qajars – this feeling doubled with Turanian relativity between Turkic Qajars and Turkic Azeries, which were the majority of settled population. These north-west provinces of (Azerbaijan - R.H.) were in some unity. To the north, its sphere of influence (Azerbaijan - R.H.) spread to the Caucasus from the subordinate provinces of Shirvan and Dagestan and vassal principalities - Georgia and Mingrelia.”¹⁵

Bérard continues, “Russian realignment of borders after 1828 took away from (Azerbaijan - R.H.) the northern lands and added them to Tbilisi (Russian possessions in Caucasus - R.H.), including the region to the north from Aras River. In the East, the Russians left only the strip of mountainous regions and the Caspian coast... Turkic language is used in the villages and the towns. Azerbaijan is Turkic country. This ‘Azeris Turkestan’ remains as

¹⁴ Ibid, pp. 284-305.

¹⁵ Bérard V. (1910) *Revolutions de la Perse, les provinces, les peuples et le gouvernement du roi des rois*. Paris: Librairie Armand Colin, pp. 154-155.

one of the piers of that Turkic-Tatarian bridge...¹⁶

In a final example, an extensive data on the history, territories and administrative structure of Azerbaijan was compiled in a 1919 article titled “La premieres republique musulmane: l’Azerbaedjan”. The article was published in Paris in the journal of *Revue du Monde Musulman*. The article states that, “There are two Azerbaijanians populated with Turkic people, with Persian culture and Shia Islam: Tabriz Azerbaijan in Persia and Baku Azerbaijan in Transcaucasia... During many centuries, Azerbaijan territories in Caucasus were limited by the Caspian Sea in the east, in south Persia, in the west with Turkey and Georgia and along the chain of high Caucasian mountains in the north. Azerbaijan consisted of independent khanates, Ganja, Erivan, Nakhchivan, Karabakh, Shaki, Shirvan, Talysh, Baku, Guba, etc. These territories were transferred by inheritance and ruled by sovereign khans. The legislation, court and administrative authority was joint, but (khanates) had a right to their own monetary system. Consequently, the foreign affairs were concentrated in hands of khans. In short, these khanates were sovereign in their activities and also had good relations with their neighbors.”¹⁷

In short, the European sources mentioned above provide a clear description of the territories of Azerbaijan in the Caucasus and its ethno-cultural composition. This suggests that contrary to Russian and Armenian history denialists, Azerbaijan historically included territories where the Republic of Armenia was later established.

Final remarks

For many centuries Azerbaijan was recorded as the major administrative, military, political, and territorial unit of the Caucasus. European sources provide a different perspective on the socio-political processes in the region, and reveal Russia’s role in organizing the mass settlement of Armenians in the Caucasus in the 19th century. What followed was the appropriation by Armenian immigrants of the rich spiritual, architectural and written heritage of the Christian people of the region, as well as the

¹⁶ Ibid, pp. 164-165.

¹⁷ Revue du Monde Musulman, publiée par la mission scientifique du Maroc (1918-1919), Tome 36. La premières république musulmane: l’Azerbaedjan. Paris: Editions Ernest Leroux, p. 230.

Azerbaijani people. In this way, Armenian immigrants were able to declare themselves as the ancient people of the Caucasus and make territorial claims upon four neighboring countries: Turkey, Azerbaijan, Georgia, and Iran. Armenian propaganda is currently trying to prove that Azerbaijan and its state structures in the South Caucasus did not exist in the ancient history, and that the term “Azerbaijan” only appeared a hundred years ago on the map of the region.

This ideological appropriation of Azerbaijani heritage and history has become an open war by Armenia against Azerbaijan, ultimately leading to the occupation of nearly 20 percent of Azerbaijani territories and the expulsion of one million Azerbaijanis from their lands.

Book Review*

The Rise and Fall of Emerging Powers: Globalisation, US Power and the Global North-South Divide

Ray Kiely



* The Book Review was prepared by Dr. Özgür Tüfekçi Ph.D., Senior Editor of Caucasus International

Ray Kiely

The Rise and Fall of Emerging Powers: Globalisation, US Power and the Global North-South Divide

Palgrave Macmillan, 2016, 111 pp.

Ray Kiely's new book by is an impressively erudite and insightful contribution to the main debates regarding the emerging powers. This book examines both international relations (IR) theories and development theories in order to consider the rise and fall of the South. Kiely also draws upon modernization and dependency approaches as framing devices to contextualize and analyze the discussion.

Each chapter questions the rise of the South. Kiely's book advances the debate on the rise and fall of emerging powers in several important ways. First, it draws on significantly new data, especially on corporate ownership, the unfolding crisis in the South, and poverty and inequality. Second, it develops the argument concerning the growing crisis in the South in much greater empirical depth and detail. Third, this book has much greater analytical depth because there is far more discussion of how the rise and fall of the South can be understood within wider frameworks drawn from theories of both IR and development.

Following the introduction, Chapter 2 provides a brief introduction to the idea of the rise of the South in recent years, and the arguments pertaining to that notion. It demonstrates the two main arguments for this: (1) there has been a rise, and this is a threat to the US and the West; (2) there has been a rise due to market friendly policies as advocated by the West. The chapter first of all provides a brief outline of this rise, and then relates this to the most influential "mainstream" theories of international relations, realism and liberal internationalism. The chapter argues that while in many respects problematic, the old development debate cast in terms of modernization versus dependency theory remains a useful one, not least for analyzing "the rise and fall of the South" in recent years. The chapter's final section provides an initial and strictly preliminary illustration of this argument through a brief assessment of the BRICs and the South in the period up to 2008. Kiely suggests that the question of desirability or undesirability of a new Chinese or BRIC hegemony is less significant than the fact that the rise of new China and BRICs and so-called transformation of the international order have been exaggerated.

Chapter 3 starts by considering the question of globalization, focusing in particular on the rise of multinational companies and global production networks. The chapter examines the question of the political economy of globalization, looking at how it is useful for understanding changes in the international order in recent years. The chapter then considers whether these developments have led to some degree of convergence in the international economy through the diffusion of capitalism across the globe. The idea of a rising South can be considered one significant aspect of this process of diffusion.

In addition, Chapter 4 examines the extent to which the 2008 financial crisis and its aftermath have altered the balance of power in the international order. It shows how the emerging markets boom rested on a number of specifics and how, after the crisis, recovery in the South also rested on a number of factors. This chapter argues that most of the countries in the South, including the BRICs, have emerged because of China's continued expansion; China's slowdown and economic problems are also serious problems for them. Kiely suggests that China's problems will affect the global North as well as the South. However, the uneven impact that is likely to occur also reflects the South's continued subordinate place in the global order.

The next chapter moves from an analysis of relations between states to one that focuses on inequality, not only within and between states, but also between peoples across and within states. The chapter adds bolsters the previous arguments by focusing on the geography of global inequality and poverty. It briefly introduces questions around measuring inequality and to some extent problematizes these measures as well as upbeat assessments around poverty reduction, and then draws on the latest available data to examine questions of concentrations of global poverty and inequality in middle income countries.

The final chapter brings the arguments together to discuss the key themes of the book. In particular it looks at US power, IR theory, globalization, and uneven and combined development. It revisits the question of the growing shift from boom to bust in the global South. Lastly, the author emphasizes the shift from boom to crisis in emerging markets.

To sum up, Kiely's book is a valuable contribution to the literature on emerging powers. He critically examines the argument that the Global South has risen in recent years, and argues that the dependency of the South in the context of the uneven and

combined development of international capitalism continues. The rigorous scholarship and richness of detail throughout the book make it a crucial source for scholars of the emerging powers.

OZGUR TUFEKCI, Ph.D.
Senior Editor of Caucasus International

CAUCASUS UNDER REVIEW* - RECENTLY PUBLISHED BOOKS

While the Caucasus is a region of enormous diversity and potential, it is also a region about which relatively little is known. However, during the last decade, numerous publications on the region have expanded both regional and international understanding of this diversity and potential. This overview of recent publications provides an up-to-date reading list for anyone interested in the region.



* The Book Review was prepared by Dr. Özgür Tüfekçi Ph.D., Senior Editor of Caucasus International

This issue presents seven books that can improve our understanding of the 25 years of independence of the South Caucasus states, Armenia-Azerbaijan Nagorno-Karabakh conflict, the European Neighborhood Policy, the dynamics of Turkish-European Union relations, integration of Azerbaijan, Georgia, and Turkey in the energy and transport sectors, along with other key issues.

*The first book, **Tanks in Paradise: Armenia-Azerbaijan Nagorno-Karabakh Conflict***, examines very important issues such as history of Azerbaijan's Nagorno-Karabakh region, relocation of the Armenians from Iran and Ottoman Empire to Azerbaijani territories after the Turkmenchay and Adrianople peace treaties, Armenia's territorial claims against Azerbaijan, and the occupation of Nagorno-Karabakh and adjacent regions of Azerbaijan by Armenia in 1991-1994. The author of the book, Professor of Free University Berlin Michael Reinhard Hess stresses that the return of the occupied territories to Azerbaijan is an immediate condition for the long-awaited solution of this the problem. According to the book, the recent horrible escalation of fighting along the line of contact in April 2016 demonstrated that Nagorno-Karabakh conflict remains an open wound in Europe.

The second book, **25 Years of Independent Azerbaijan through the Eyes of Ambassadors**, is a collection of articles dedicated to the 25th anniversary of independence of Azerbaijan. The collection includes parallel texts in Azerbaijani and English, and consists of articles by the ambassadors from 49 countries, as well as and directors of the representative offices of the United Nations, European Union, TRACEKA, and TURKPA accredited to Azerbaijan Republic. The articles provide insights into the past 25 years of bilateral and multilateral diplomatic relationships, outline the challenges, achievements and perspectives of foreign policy and bilateral relations of Azerbaijan.

In the third book, **Integration in Energy and Transport: Azerbaijan, Georgia, and Turkey**, the author assesses both the achievements of regional integration and their limitations in regard to Azerbaijan, Georgia, and Turkey. The book is a ground-breaking study of integration processes among the aforementioned countries. Alexandros Petersen assesses the surprising degree to which energy and transportation networks contribute to institutional harmonization across participating states. Petersen sets the stage for a stimulating research agenda on the externally-promoted processes of regional integration in

the Black Sea and Caspian region.

The fourth book, **The Eurasian Triangle: Russia, the Caucasus and Japan, 1904-1945**, discusses the unknown history of the relationship between the Caucasus and Japan. The geographical distance between the two is great; Tokyo and Tbilisi are almost 8000 kilometers apart. It is difficult to see any immediate historical or cultural links. Nonetheless, from the beginning of the twentieth century, an area of mutual concern developed between them.

Divergent Pathways: Turkey and the European Union: Re-Thinking the Dynamics of Turkish-European Union Relations, analyzes the process of the European integration in the context of the EU-Turkish relations. This book argues that the limits of integration have been reached, as illustrated by the member states' reactions to the post-2005 crisis, specifically to the financial crisis and the subsequent debt crisis. Based on this reasoning, this book addresses Turkey's relations with the EU from the specific angle of the changing dynamics in Europe. This novel approach to Turkish-EU relations distinguishes this book from other evaluations of the EU and Turkey-EU relations, and represents a valuable contribution to the theoretical debate on EU enlargement.

This sixth book, **Torn between East and West: Europe's Border States**, is enormously valuable, offering expert accounts of what drives the EU and NATO border states, and the economic and political pressured experienced on both sides. This book is essential reading for all international affairs specialists, as it explains the regional impact of the 'tug of war' between the great powers, both in terms of military capacity as well as their 'soft power' potential. To its credit, the book remains impartial, and criticizes the EU and NATO where appropriate, especially for their relentless refusal to accept Russia's reasonable expectations from its history, and its right to act as a regional player.

The next book, **The European Neighborhood Policy in a Comparative Perspective: Models, Challenges, Lessons**, is timely collection of high quality essays. The neighborhood of the European Union, both to the south and the east, has experienced significant changes in recent years, with new conflicts but also new cooperation efforts emerging. In response to these challenges,

the European Neighborhood Policy (ENP) and the European Security Strategy, both launched in 2003, are, in 2015-2016, undergoing broad consultation processes and review. Taking a comparative perspective, the book brings added value to this debate. This book seeks to identify the key models, challenges, and lessons for the ENP.

Tanks in Paradise: Armenia-Azerbaijan Nagorno-Karabakh Conflict

By Michael Reinhard Hess

Along with the literature in the German, English and Russian languages, Dr. Hess benefitted from the archive materials on the region in the Azerbaijani, Armenian, Georgian, Turkish, Greek and Persian languages in his study of the topic. The author highlights that after early April escalation on the frontline in 2016, the conflict drew increased attention from the European and German audiences, particularly taking into account that Germany chairs OSCE (Minsk Group of which is tasked with the mediation of peace talks between Armenia and Azerbaijan) in 2016.

Along with the thorough examination of already-mentioned issues, in his book Dr. Hess dedicated a special sub-chapter to Khojaly genocide committed by Armenian army against Azerbaijani civilians in Nagorno-Karabakh in 1992, and stressed that certain members of the current Armenian government, including President Serj Sargsyan, got personally involved in committing this massacre. Moreover, one more novelty of the book is that, the author devoted a part of study to the Western-based Armenian Diaspora's active contribution to occupation of Azerbaijani territories by the Republic of Armenia, through financial and economic support to Yerevan war efforts, as well as Diaspora members' direct participation in fighting in and around Nagorno-Karabakh during the early 1990s.



25 Years of Independent Azerbaijan through the Eyes of Ambassadors

The main sentiment of this collection is that despite its complex geopolitical location and difficult path of development, Azerbaijan is implementing an independent foreign policy that serves its national interests and is based on multidirectional cooperation and equal partnership. The country's post-independence foreign policy concept, developed by National Leader Heydar Aliyev and successfully maintained by President Ilham Aliyev, has helped Azerbaijan to become a regional leader and a key player in regional and global economic projects. Azerbaijan has been accepted as a stable and credible partner in providing regional, global and energy security. This collection is a valuable contribution to the country's 25th anniversary of independence. It was compiled by the Department of Foreign Relations of Presidential Administration of the Republic of Azerbaijan, and published by the Center for Strategic Studies under the President of the Republic of Azerbaijan.



Integration in Energy and Transport: Azerbaijan, Georgia, and Turkey

By Alexandros Petersen

The South Caucasus has established itself as a corridor for transporting energy from Azerbaijan to Georgia, Turkey, and on to Europe, symbolized by the Baku-Tbilisi-Ceyhan oil pipeline. This new infrastructure has created an east-west "Eurasian bridge" in which transnational extra-regional actors, especially the European Union and international financial institutions, have played a critical role. This book offers an original exploration of integration in the energy and transport sectors amongst Azerbaijan, Georgia, and Turkey, and the capacity of this to fundamentally change relations between these countries. In the period studied, from the mid-1990s to 2008, integration in energy and transport did not result in broader political, security, and sociocultural integration in any significant way. The author sets his analysis in a theoretical framework, drawing on theories of integration, but also grounds it in the detailed, empirical knowledge that is the measure of true expertise.

The Eurasian Triangle: Russia, the Caucasus and Japan, 1904-1945

By Hiroaki Kuromiya and Georges Mamoulia

Even the best books on international history are ignorant of the secret war against the Russian Empire and the Soviet Union waged jointly by the Caucasian peoples and Japan in the first half of the twentieth century. This book explores and exposes previously unknown passages in Eurasian international history. Although the secret war ultimately failed in liberating the Caucasian peoples, the lessons of this Eurasian collaboration were not lost on the United States, which after World War II confronted the Soviet Union just as Japan had earlier. Washington copied the strategy of its former enemy and developed it further. The Eurasian triangle of Russia, the Caucasus, and Japan is a forgotten history of cardinal importance that, stretching from the Russo-Japanese War to World War II, influenced Western Cold War strategies. This book is also the story of a friendship rare in international politics between two unlikely partners unspoiled by political vicissitudes.



Divergent Pathways: Turkey and the European Union: Re-Thinking the Dynamics of Turkish-European Union Relations

By Meltem Müftüleri-Baç

Should Turkey become a part of the European Union? This heated debate has been going on for many years now, always under the assumption that it is Turkey that must adapt to the EU's demands. This book argues that the Turkish accession needs to be analyzed not only through the lens of the EU's impact on Turkish transformation, but also from an angle that captures the Turkish role in reshaping Europe.

Torn between East and West: Europe's Border States

By Iulian Chifu, Simona Tutuianu

This book is a very timely account of the legal, economic and political consequences for the border states caught in the current tug-of-war between the West and Russia. The Ukraine crisis of 2014 focused policy-makers' attention on a geographical area full of dangers that had gone relatively unnoticed since the breakup of the Soviet Union, namely the security dynamics of the border states of Eastern Europe and the Black Sea. Twenty-five years after the collapse of the Soviet Union, a strong Russia returns alternatively threatening and cajoling - but at risk of economic damage through western reprisals, stemming from nostalgia for the Yalta map. That conflict, which escalated over the Ukraine, was soon being played out over Syria and Turkey, while the border states themselves are likely to be drawn into the European refugee crisis and have the potential, after the 2015 Paris atrocities, to become breeding grounds for international terrorists.



The European Neighborhood Policy in a Comparative Perspective: Models, Challenges, Lessons

By Sieglinde Gstohl

The European Neighborhood Policy (ENP) has evolved into one of the European Union's major foreign policy instruments and as such has received considerable attention. However, other EU neighborhood policies, and their relevance for the ENP, must also be examined. The Arab uprisings, civil wars in Libya and Syria, the ongoing Israeli-Palestinian conflict, the crisis in Ukraine, and Russia's annexation of the Crimean peninsula have all brought the institutional design and tools of the ENP into question. A comparative perspective is crucial in order to reach a broader understanding of the EU neighborhood policies.

This timely contribution places the ENP into context by exploring the major challenges and key lessons of the EU's other policy frameworks with neighboring countries. Mapping the EU's bilateral and multilateral neighborhood relations in comparison to the ENP and investigating the major challenges, it provides a comprehensive, up-to-date view of the EU's relations with its

neighbors. With a focus on current affairs and future challenges, the comparison with the ENP and the lessons learned, the book provides novel insights into the EU's immediate external relations.

This book will be of key interest to students and scholars studying European Politics, policies and comparative politics.

Notes for Contributors

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Articles should be original and in English, between 3,000–6,000 words and should include a 200-word abstract, as well as the full title and affiliation of the author. Please check with the editor should you wish to extend beyond the suggested length or would like to submit a shorter contribution. All notes should appear as footnotes and provide full citations. References should

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