WORKING PAPER

Energy security in the South Caucasus: views from the region

Leila Alieva and Natalia Shapovalova (Editors)

Co-authors: Vahan Asatryan, Murman Margvelashvili and Jeyhun Veliyev

The research for this paper is funded by the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 613354 - CASCADE Project (FMSH, Paris).

About the authors

- *Leila Alieva* is director of the Center for National and International Studies, Azerbaijan
- *Natalia Shapovalova* is researcher at FRIDE, Spain
- *Vahan Asatryan* is researcher at the International Center for Human Development, Armenia
- *Murman Margvelashvili* is founder of World Experience for Georgia and director of the Institute of Energy and Sustainable Development at Ilia State University, Georgia
- *Jeyhun Veliyev* is researcher at the Center for National and International Studies, Azerbaijan

Abstract

The South Caucasus is often depicted as the main doorway to the energy-rich Caspian region in the energy security narratives of the European Union and of other Western actors in the region. But what are the views from the South Caucasus countries – Armenia, Azerbaijan and Georgia – concerning their own energy security? This CASCADE working paper seeks to shed light on energy security notions from South Caucasus governments and energy companies, as well as of citizens and consumers. It finds that there are significant differences in the perceptions of the different actors in the energy sector within each South Caucasus country that could lead to political conflicts over energy security strategies.

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1. Introduction[1]

The South Caucasus is often depicted as the main doorway to the energy-rich Caspian region in the energy security narratives of the European Union (EU) and of other Western actors in the region. The EU's energy security strategy[2] considers Caspian hydrocarbons as a means to diversify its energy supplies (and reduce its dependency on Russia in particular, which in 2013 accounted for over 40 per cent of the EU's gas imports and a third of its oil imports) and the South Caucasus as a strategic transit route connecting Caspian energy resources with European markets. This paper does not focus, however, on the importance of the South Caucasus for the EU's or other international actors' energy security. Instead, it analyses the views from the South Caucasus countries – Armenia, Azerbaijan and Georgia – including perspectives of national governments and energy companies, as well as of citizens and consumers.

The paper intends to portray the multiple stakeholders – industrial and household consumers, international and national energy companies, governments, citizens and interest groups[3] – in the energy sector of each South Caucasus country and present their different perceptions of energy security, instead of focusing on definitions and interpretations of state actors.[4] Utility companies are concerned about the security of supply of their services. Energy-producing companies are interested in complying with the obligations deriving from regulations and contracts, and building a sound reputation among customers. End consumers are interested in service delivery at an affordable price. Citizens may also be concerned with the environmental and social impacts of energy exploitation and use. In energy-rich countries, citizens care about how revenues from energy exports are distributed, how energy exports affect their welfare and how they are managed. While most governments tend to worry about the security of supply, for energy-exporting states what matters most is the security of demand.[5] States also care about the wider impacts of energy security on the economy and society, the maintenance of critical energy infrastructure and the level of influence from external actors.

[1] The authors would like to thank Konstantin Golub for his input, as well as Jos Boonstra, Daniel Keohane and Kataryna Wolczuk for their valuable comments on earlier drafts of this paper. Any errors are the sole responsibility of the authors.

[2] European Commission, European Energy Security Strategy, Communication from the Commission to the European Parliament and the Council, *COM (2014) 330 final*, Brussels: European Commission, 28 May 2014.

[3] See L. Chester, 'Conceptualising energy security and making explicit its polysemic nature', *Energy Policy*, 38 (2010), 887-895; C. Winzer, 'Conceptualizing Energy Security', *EPRG Working Paper* 1123, *Cambridge Working Paper in Economics* 1151, Cambridge: University of Cambridge, Electricity Policy Research Group, 2011.

[4] Little research to date has analysed the energy security of non-state actors in the South Caucasus. See L. Alieva (ed.), *The Baku Oil and Local Communities: A History (*Baku, Qanun: The Center for National and International Studies, 2009); T. Barrett, 'Notes on the moral economy of gas in present-day Azerbaijan', *Central Asian Survey*, 33(2014), 517–530; J. Strakes, 'Resource dependence and measurement technology: international and domestic influences on energy sector development in Armenia and Georgia', *Central Asian Survey*, 33 (2014), 482-499.

[5] D. Yergin, 'Ensuring Energy Security', *Foreign Affairs*, 85 (2006), 69-82.

So what constitutes energy security in the South Caucasus? Four sub-questions emerge from this overarching research question:

- What are the main actors/stakeholders in each South Caucasus country?
- What are their perceived risks and threats?
- What are their strategies to manage/reduce these risks and threats?
- How do they perceive the roles of other regional players (the EU, Iran, Russia and Turkey) in relation to their energy security?

In order to provide 'a workable framework for analysis of energy security policy', Sovacool and Mukherjee identify five dimensions of energy security: availability; affordability; technology development and energy efficiency; environmental and social sustainability; and regulation and governance.[6] We draw on this framework to guide our research.

Table 1. Five dimensions of energy security

Dimension	*Description*
Availability	Having sufficient energy supplies; being energy independent; promoting a diversified collection of different energy technologies; harnessing domestically available fuels and energy resources; ensuring prudent reserves to production ratios.
Affordability	Producing energy services at the lowest cost; having predictable prices for energy fuels and services; enabling equitable access to energy services.
Technology Development and Efficiency	Capacity to adapt and respond to the challenges from disruptions; researching and developing new and innovative energy technologies; making proper investments in infrastructure and maintenance; delivering high quality and reliable energy services.
Environmental and Social Sustainability	Minimising environmental damage; possessing sufficient water resources; mitigating greenhouse gas emissions; adapting to climate change.
Regulation and Governance	Having stable, transparent, and participatory modes of energy policy-making, and competitive markets; promoting trade of energy technology and fuels; enhancing social knowledge about energy issues.

Source: Adapted from Sovacool & Mukherjee, op.cit. p. 5345.

[6] B. Sovacool & I. Mukherjee, 'Conceptualizing and measuring energy security: A synthesized approach', *Energy*, 36 (2011), 5343-5355.

The research for this paper followed a common analytical approach for the three South Caucasus countries. First, the key stakeholders in the energy sector (state and non-state; local, national and international) of each country were mapped. Second, based on semi-structured interviews conducted during the summer of 2015[7] – as well as analysis of narratives on energy security in media articles, expert discussions and policy documents – the authors analysed their perceptions regarding energy security and the role of external actors. The questionnaire for the interviews consisted of broad questions, such as what constitutes energy security, as well as more specific ones concerning the five dimensions of energy security outlined by Sovacool and Mukherjee.

The research is largely exploratory and aims to offer a new angle in the studies and policy debates on energy security in the South Caucasus. In this sense, it presents a first sketch of how energy security is perceived in the South Caucasus and what are the implications of these perceptions for regional energy security. This 'pilot' study leaves ample room for further research that could involve a larger number of stakeholders and adopt a mix of methods (for example, semi-structured interviews, surveys and/or focus groups/workshops) in order to generate a more nuanced analysis of energy security perceptions in the South Caucasus.

We found that there are significant differences in the perceptions of the different actors in the energy sector within each South Caucasus country that could lead to political conflicts over energy security strategies. State actors in the region share similar concerns about the security of supply, especially in energy-poor Armenia and Georgia, as well as preoccupations over the security of exports in Azerbaijan. Citizens and consumers think about energy security not only in terms of uninterrupted supply, but also of fair and affordable prices and of the governance of public energy goods.

This research also shows that while South Caucasus governments see benefits in regional energy cooperation, they also see significant political and security obstacles. Therefore, their energy security strategies tend to emphasise either energy independence or dependence on powerful external players. Even though elements of interdependence are present in Georgia-Azerbaijan cooperation, trilateral interdependence in the South Caucasus is still a distant perspective.

[7] A researcher from each South Caucasus country requested an interview with at least one representative of each key stakeholder group identified in the mapping. If a request was denied or no response followed, the researcher used open sources and/or materials of previously held seminar discussions on energy security to identify and analyse stakeholders' notions of energy security. On average, twelve interviews were conducted in each South Caucasus country.

2. **Armenia**

Armenia lacks indigenous resources and imports constitute around 75 per cent of the country's total energy supply.[8] Natural gas, which accounts for two thirds of energy supplies, comes mainly from Russia through Georgia, and smaller volumes of Iranian gas are swapped for electricity. Armenia is also completely dependent on Russia for nuclear fuel, which is used to generate over one third of the country's electricity at Armenia's single nuclear power plant (NPP) in Metsamor. Renewable resources account for 7 per cent of total energy supply.

Armenia produces and even exports electricity, but its key generation capacities are expected to phase out in the coming years, as their operating lifetime expires and major investments are needed to replace them.

Box 1. Key stakeholders in the energy sector

The Ministry of Energy and Natural Resources is the key state institution in charge of energy policy. The Ministry of Nature Protection has a mandate to reduce CO2 emissions, by promoting energy efficiency and a 'clean-energy' economy. The President of Armenia is arguably the most powerful actor in energy security, since he can de facto overturn any government decision. Moreover, he directly negotiates gas import deals with Russia, including prices and the privatisation of key assets. Armenia's parliament does not have a standing committee for energy issues, which means that legislation and oversight of these questions is subject to various committees.

The Public Services Regulatory Commission is the key regulator in charge of licensing energy companies, establishing tariffs and controlling the quality of services. The Renewable Energy and Energy Efficiency Fund is tasked with facilitating investment, including international assistance, in energy efficiency and renewable energy.

The gas and electricity markets are non-competitive, and increasingly dominated by Russian state-owned companies. Gazprom's subsidiary Gazprom-Armenia holds a monopoly over gas transmission, distribution and operation of underground storage. The Electric Network of Armenia (ENA), previously a subsidiary of the Russian state-owned Inter RAO UES, holds an exclusive licence for the distribution and sale of electricity and has recently changed owners to the Cyprus-registered Liormand Holdings Limited. Moreover, Russian companies (Inter RAO UES and RusHydro) own Armenia's largest thermal and hydropower generation facilities (the low efficient Hrazdan thermal power plant and the recently constructed Hrazdan-5 unit, as well as the hydropower plant (HPP) Sevan-Hrazdan Cascade), and operate the state-owned NPP in Metsamor. The Armenian state owns power and heating generation facilities in the capital Yerevan. The only wind power plant in Lori was constructed with Iranian investment. The private owners of over 170 HPPs are represented by the Union of Small Hydropower Plants, allegedly closely linked with the

[8] If not otherwise indicated, data on energy contexts in the South Caucasus countries (demand, supply, imports, exports etc.) are taken from International Energy Agency, *Eastern Europe, Caucasus and Central Asia: Energy Policies Beyond IEA Countries (*Paris: International Energy Agency, 2015), p. 470.

governing party. In 2015, Vorotan Cascade, the second largest HPP in Armenia, was sold to Contour Global Hydro Cascade, an American investor.

Households are the largest consumer group in Armenia, followed by the transport and industry sectors. However, consumer groups are largely uninvolved in Armenia's energy security policy. A notable exception was a civic protest bringing thousands of citizens together to rally against a government decision to raise electricity prices in June 2015. #ElectricYerevan, as it was dubbed in social media, has since evolved into several civic groups such as 'No to Plunder', 'Illuminator' and 'Stand up, Armenia'.

Official documents such as the National Security Strategy, as well as several government representatives interviewed for this study, emphasise energy dependence as a major security threat. To address this, the Armenian state aims to achieve energy independence by diversifying energy supplies, creating new sources of energy (including nuclear) and developing a sustainable and reliable export-oriented energy system.[9] Strategic documents, such as Energy Security Concept of the Republic of Armenia, identify the availability of supply as a prime concern.[10] The main policy priorities include increasing internal energy supply, including from renewable resources and nuclear power; building modern energy installations; the diversification of energy supplies and regional integration of energy systems; energy efficiency; and improving the security and reliability of electric energy systems.

Several government representatives interviewed for this study opined that the availability of natural gas is adequate. Russia is the main partner, and Iran was mentioned as a secondary and alternative supplier. However, supplies are vulnerable to technical accidents, natural disasters, growing instability in the conflict-torn region, and unfriendly policies of neighbouring states. An energy ministry representative referred to the possible purchase of Georgia's state-owned transit pipeline by an Azerbaijani or Turkish company as a key threat to Armenia's gas supplies.

Government representatives also hope that once Iran's international isolation is over, Armenian-Iranian energy cooperation will grow. Meanwhile, civil society representatives believe that Armenia could become a transit route for Iranian gas to Europe. However, they fear that Gazprom will use its control over Armenian gas infrastructure to prevent cooperation with Iran – and that the Armenian government will not resist the pressure. The government's decision announced in June 2015 to sell its section of the Iran-Armenia gas pipeline to Gazprom bolsters such perceptions.

Government and civil society representatives seem to agree that the current availability of electricity is satisfactory. However, both perceive the degradation of generation and transmission infrastructure as a significant risk. Given the projected phasing out of old and low efficiency capacities – such as the Hrazdan thermal power plant (TPP) and the Metsamor NPP –

[9] National Security Strategy of the Republic of Armenia, approved at the session of the National Security Council at the President's Office of the Republic of Armenia on 26 January 2007.

[10] Energy Security Concept of the Republic of Armenia, approved by Order of the President of the Republic of Armenia No. NK-182-N dated 23 October 2013; Long-Term Development Strategy of the Republic of Armenia for 2014 – 2025 (Annex to the Republic of Armenia Government Decree # 442-N dated 27 March 2014); Long-Term Energy Security Strategy for Armenia, drafted with the financial and technical assistance of the United States and officially introduced in late July 2015.

Armenia could face a deficit in electricity supplies.[11] Government officials mentioned various strategies for mitigating the risks of supply disruption, including the development of new generation capacities, the modernisation of transmission infrastructure and improving tariff structures for enhanced trade. The government hopes to attract large foreign investments. As a matter of priority, Armenia's government seeks foreign investors to help construct a new nuclear power unit and develop gas-fired thermal generating capacities.

There seems to be a broad consensus among stakeholders from the government, the industry sector and civil society regarding the importance of nuclear power for Armenia's energy security, in particular for reliability and diversification of supply. Views vary, however, on how much the development of hydropower would enhance Armenia's energy security. For some, its potential has already been fully exploited, while for others there is still huge potential. Views also diverge on the environmental impact of hydropower. Whereas industry representatives advocate for the exclusion of small HPP projects from mandatory environmental impact assessments, environmental activists (and an official from the ministry of nature protection interviewed for this project) pointed to the Yeghegis River as an example of the negative impact of hydropower generation on fish and wildlife. Hydropower generation has turned the mountain river into a conduit – a series of connecting pipelines.

Nonetheless, the government plans to attract private investors to build small HPPs. An energy ministry representative interviewed for this study expressed hopes that the Armenian-Iranian deal on the construction of the Meghri HPP on the Araks River will be fully realised after international sanctions on Iran are lifted. However, some in Yerevan fear that Turkey's plans to construct new reservoirs on the Kars and Araks rivers will deplete the downstream flow needed for the Meghri HPP, as well as for the domestic and agricultural use of water.

Government officials and politicians feel that Armenia’s electricity system needs to operate more harmoniously with those of Iran and Georgia – to avoid becoming an isolated energy island. Limited regional connectivity and trade opportunities create considerable risks for energy availability. Whereas the Armenian government is interested in electricity imports to address the risk of shortages and in exports during the summer season, such opportunities remain bleak in the absence of diplomatic relations with Turkey, the conflict with Azerbaijan and Georgia's electricity balance.[12]

Government and civil society representatives agree that energy affordability is also a concern, with continuing price increases seen as a key risk for the population’s energy security. The 2015 increase in electricity tariffs – which sparked #Electric Yerevan – affects every single Armenian consumer, as the government is also discontinuing the subsidy for all households. Civil society representatives claim that the tariff increase will also raise prices for most goods and services. Commercial consumers complain that higher energy prices entail considerable risks for small and medium enterprises, and will seriously decrease the competitiveness of several large companies, such as the chemical Nairit Plant.

[11] Interview with a representative of the Ministry of Energy and Natural Resources of Armenia.
[12] Georgia’s electricity balance: Georgia generates most of its electricity from hydropower, which implies a surplus in the summer season and a deficit in winter. For more information, see section on Georgia.

According to energy-producing companies, in recent years electricity prices have frequently been below breakeven level. Despite price increases, ENA has reported that profits have critically decreased. Inter RAO UES and ENA blamed financial troubles on regulatory practices. State officials refuted these charges by pointing to company mismanagement, among other reasons (such as maintenance of power plants and the devaluation of the Armenian dram). Still, as ENA insolvency could jeopardise supply, in May 2015 the Armenian government backed ENA's request to raise electricity tariffs. A month later, however, public trust in the company was hugely damaged after the release of a 3,000-page document outlining the company's expenses, which revealed excessive spending on lavish housing and luxury car rentals for Russian executives.[13]

Public pressure brought by #ElectricYerevan convinced Armenian President Serzh Sargsyan to backtrack on the authorisation to increase prices and order an audit of ENA. In the meantime, Inter RAO UES decided to sell ENA, a move that was widely perceived by Armenian civil society as an attempt by the Russian state company to distance itself from the energy business which provoked public unrest and avoid the audit. The process was marked by a lack of transparency, highlighting the prevalence of vested interests in Armenia's energy sector. In the absence of any open and transparent competition, in September 2015 the Armenian government approved the sale to a Cyprus-based offshore company whose owners are allegedly associates of Russian President Vladimir Putin.[14]

Even if price increases can be justified from the perspective of energy producers,[15] they face vocal political and social opposition since public trust in government decisions in the energy sector is low.[16] Many civil society representatives do not consider the energy regulator as duly independent, and even the fines imposed on ENA have not helped change this negative image.[17] Armenia's Power System Operator is perceived to be managed by 'the hierarchy of phone calls'.[18] In this context, Armenian citizens are sceptical about ongoing and new investments aimed at improving the reliability of energy supplies.[19]

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[13] Armenian NGOs played a key role in analysing the ENA expenses report and revealing these facts to the broader public. See R. Demytrie, 'Armenia energy protests: Electric atmosphere in Yerevan', *BBC*, 26 June 2015, available at: http://www.bbc.com/news/world-europe-33286397.

[14] 'Russian Rosneft Might Be Involved in Armenian Power Utility's Sale: Press', *Independent Journalists' Network Press.Am*, 30 September 2015, available at: http://www.epress.am/en/2015/09/30/russian-rosneft-might-be-involved-in-armenian-power-utilitys-sale-press.html

[15] According to the World Bank, large tariff increases will be needed in 2016-2026 in order to supply electricity during NPP and Hrazan TPP phase out, as well as to cover the costs of building new generation capacities. See Artur Kochnakyan et al., *Armenia – Power sector policy note* (Washington D.C.: World Bank Group, 2014), available at: http://documents.worldbank.org/curated/en/2015/04/24421395/armenia-power-sector-policy-note.

[16] According to a public opinion poll, 95 per cent of Armenians approved #ElectricYerevan, while about 60 per cent believed that the energy and natural resources minister's performance was negative. See 'Gallup Poll: 95 per cent of Armenians Approve of Electric Yerevan Demonstrations', *Asbarez*, 21 August 2015, available at: http://asbarez.com/138978/gallup-poll-95-of-armenians-approve-of-electric-yerevan-demonstrations/

[17] On 8 July 2015 the Public Services Regulatory Commission fined ENA $126, 000 for the 'violation of consumers' rights'. See R. Gishyan, 'An expert considers PSRC's decision to fine ENA fictitious', *RFE/RL*, 10 July 2015 (in Armenian), available at: http://www.azatutyun.am/content/article/27119938.html

[18] Interview with a civil society expert on energy issues.

[19] Kochnakyan, op.cit.

In sum, government perceptions on energy security – broadly shared by stakeholders in the industry sector, consumers and civil society organisations – are tilted towards the availability of supply over other dimensions of energy security (see Table 1). This seems to be a legacy of the severe energy shortages of the 1990s. Issues such as the environmental hazards of energy exploitation, growing import prices and corporate mismanagement are seen as less pertinent compared to the threat of energy supply disruption. Efforts to develop technology and energy efficiency are perceived mainly as a means to secure the availability of supply rather than an end in itself. The environment and social sustainability dimension seems to be the last priority in Armenia.

Given the country's economic recession and widespread poverty, energy affordability is becoming more salient. Civil society increasingly challenges the government's narrative that the threats to affordability are mainly caused by policy efforts to ensure the availability of supply. For civil society and consumer interest groups, the risks in terms of affordability stem primarily from mismanagement and corruption, which in turn brings the governance and regulation dimension of energy security to the forefront of the debate. The poor governance and finances of state energy companies (partly as a result of populist policies keeping energy prices below breakeven level and continuous under-investment in infrastructure maintenance and upgrade) back these perceptions. Amidst Armenians' growing mistrust in how the energy sector is governed, policy practice should ensure transparency and ownership of decisions by all stakeholders, including civil society and consumer groups. Price increases will be needed to face the long-term challenges of ensuring an adequate supply and attracting foreign investment. Armenia's government, therefore, needs to establish a multi-stakeholder dialogue on energy security.

3. **Azerbaijan**

With large oil and natural gas reserves, Azerbaijan is a major energy producer. Hydrocarbons are mainly exported to European markets, and to a lesser extent to Russia and other countries in the region. In 2013, energy accounted for 95 per cent of Azerbaijan's total export revenues, and 64 per cent of total fiscal revenues.[20] These exports explain Azerbaijan's rapid economic growth over the last decade (34 per cent in 2006). However, in recent years economic growth has sharply slowed down (2.8 per cent in 2014), reflecting the decline in oil production (as a result of the drop in global oil prices) and slow growth in non-oil sectors.[21]

[20] Centre for Social and Economic Development (CESD), *Assessment of Effect of Declining Oil Prices on Azerbaijan Economy* (Baku: CESD Press, 2014), available at: http://cesd.az/new/wp-content/uploads/2014/12/Assessment_of_Effect_of_Declining_Oil_Prices_on_Azerbaijan_Economy.pdf

[21] World Bank Group, *Azerbaijan Partnership Program Snapshot*, April 2015, available at: http://www.worldbank.org/content/dam/Worldbank/document/Azerbaijan-Snapshot.pdf

Box 2. Key stakeholders in the energy sector

The state is the major stakeholder in Azerbaijan's energy sector, with multiple institutional mechanisms to control and supervise the domestic energy market and oil and gas exploitation. The Ministry of Energy implements energy policy and regulations, while the Ministry of Industry and Economy and the Tariff Council develop regulatory policies. The State Agency for Alternative and Renewable Energy resources established in 2009 is the main regulatory body for alternative and renewable resources, which currently account for less than 2 per cent of Azerbaijan's energy supply.

In practice, however, the key institution is the State Oil Company of the Azerbaijan Republic (SOCAR). It has close ties with the President and represents Azerbaijan in external energy affairs. It is a shareholder in the major internationally-led upstream projects: it holds 20 per cent of shares of the Trans-Adriatic pipeline (TAP) and 58 per cent of the Trans-Anatolian pipeline (TANAP), the key elements of the EU's Southern Gas Corridor. SOCAR's dual role as a company and a government agency implies that commercial interests and energy policy are intermixed in Azerbaijan's energy sector.[22]

As a result of Azerbaijan's openness to international investments, dozens of large energy companies such as BP, Exxon, Chevron, Statoil, Lukoil, NICO, TPAO and Total participate in production sharing agreements such as the Azeri-Chirag-Guneshli (ACG), a complex of oil fields, and Shah Deniz, Azerbaijan's largest gas field. Foreign companies, with BP in the lead, have also invested in oil and gas transit infrastructure such as the Baku-Tbilisi-Ceyhan (BTC) oil pipeline, the South Caucasus Pipeline (SCP, also known as the Baku-Tbilisi-Erzurum gas pipeline), TAP and TANAP.

The domestic gas and electricity markets suffer from monopolisation. The electricity sector is dominated by state company AzerEnergy, which manages electricity production and transmission. Supply to domestic consumers is provided by the state entities Bakielecktrikshabaka in Baku and Azerishig in the regions. Azerigas holds the monopoly over the gas market, including transportation, distribution, purchase and supply.

Households are the largest consumer group in Azerbaijan, followed by the transport, industry and agriculture sectors. Moreover, hydrocarbon extraction impacts the lives, health and safety of communities adjacent to the Caspian Sea. More broadly, citizens are affected by the way in which energy exports revenues are distributed.

Several think-tanks, academic institutions and NGOs study the economic, social and political impacts of the energy sector and participate in the Extractive Industries Transparency Initiative (EITI) NGO coalition. However, efforts by civil society activists to shed more light on energy governance in Azerbaijan have been severely restrained by the authorities.

[22] H. Kjaernet, 'The State Oil Company SOCAR: A Microcosm of Azerbaijani Development?', *Caucasus Analytical Digest* 16 (2010), p. 7.

Government officials in Azerbaijan say that uninterrupted exports to international markets and ensuring supply to the domestic market are the country's key energy security concerns. Official discourse states that Azerbaijan's energy security and that of Europe are closely intertwined. President Ilham Aliyev stresses diversification of routes and supply sources as the main tenets of energy security for both Azerbaijan and Europe, and energy security is depicted as a part of national security.[23] The president of SOCAR has defined diversification and security of supplies, the deepening of energy market reforms, the modernisation of energy infrastructure, energy efficiency and the use of renewable resources as key energy policy priorities for Azerbaijan.[24]

The government wants to increase its importance for the EU's energy security by becoming an important transit country in addition to being a reliable supplier. The Azerbaijani energy minister has expressed interest in involving Iran and other energy-rich states in Central Asia and the Middle East in the Southern Corridor.[25] Arguably, this would make Azerbaijan's heavy investments in transit pipelines more lucrative and boost the country's position in Europe's energy security. Partnership with Turkey is seen as beneficial as it would help turn the region into a major energy hub, as well as ensure reliability of supply. While Azerbaijan is entering a market that Russia has long dominated, the government in Baku has never openly expressed concerns about Russia's intentions to preserve its position as the primary gas supplier to Europe by constructing parallel pipelines, including the Turkish Stream. Regarding the security of supply, government officials have raised concerns about physical threats to the transit systems, such as terrorist attacks, or an escalation of the Nagorno-Karabakh conflict and broader geopolitical complications in the region, including the war in Ukraine and Russia's aggressive policies in the neighbourhood.

Power supply across the country is depicted as a key domestic issue. Addressing the Cabinet of Ministers, President Aliyev acknowledged that despite the installation of new power plants and generators, energy infrastructure in the regions remains obsolete, which causes supply disruptions in stormy weathers. SOCAR is investing to provide access to gas to consumers in rural areas. It is likely that making gas widely available could increase the amount of electricity available for exports, as consumers prefer cheap gas over electricity. Thus, a reliable power supply to the domestic market could also enhance Azerbaijan's role as an electricity exporter to neighbouring countries.

Security of production and supply is a major concern for energy companies operating in Azerbaijan. Foreign energy companies are interested in keeping production levels stable and delivering operations and projects safely and reliably.[26] The regional president of BP, a key shareholder in the ACG oil field, is confident that this field has the potential to remain one of the world's largest producing fields for the coming decades. However, it will require continual

[23] 'President Ilham Aliyev, President of the European Council, Donald Tusk made press statements', *Azerbaijan State News Agency*, 22 July 2015, available at: http://azertag.az/en/xeber/872433

[24] 'SOCAR president gives interview to Greek Newspaper', *SOCAR webpage*, 19 November 2014, available at: http://www.socar.az/socar/az/news-and-media/news-archives/news-archives/id/7879

[25] A. Tully, 'Could Iran play a part in EU energy security?', *Oil Price*, 4 June 2015, available at: http://oilprice.com/Latest-Energy-News/World-News/Could-Iran-Play-A-Part-In-EU-Energy-Security.html

[26] 'Interview with Gordon Birrell, BP's Regional President for Azerbaijan, Turkey and Georgia', *SOCAR Plus*, 2014, available at: http://www.socarplus.az/en/article/441/interview-with-gordon-birrell-bp%EF%BF%Bds-regional-president-for-azerbaijan-turkey-and-georgia

investment and increased efficiency.[27] Similarly, Shah Deniz Stage 2 is expected to provide 16 bcm of gas per year, and drilling and construction works are running on schedule to start deliveries in the second half of 2018.[28]

Major energy companies thus do not have serious concerns about resource availability and possess the necessary technology to maintain stable production rates. However, physical security remains a serious concern – several explosions have occurred, including in August 2015 in the Turkish sections of SCP, an incident that was blamed on Kurdish militants.

The political elite and society in Azerbaijan have different perceptions of energy security. As a civil society representative put it, 'energy security has been artificially exaggerated by the political elite to become one of the top concerns in order to demonstrate the importance of Azerbaijan for Europe, especially after the crisis in Ukraine'.[29] Similarly, another interviewee pointed out that 'the government has no interest in the concerns of citizens, and the provision of energy security serves to secure the power of the ruling elite'.[30] Citizens are seen to play no role in energy policy-making and the government lacks transparency and accountability. Whereas Azerbaijan's government has boasted of its participation in the EITI, NGO experts and civil society activists say that the reports submitted are biased. In 2015, the EITI downgraded Azerbaijan to a candidate position due to its non-compliance with basic EITI principles and rules, such as human rights and basic freedoms, after which the government in Baku threatened to leave the initiative.

For Azerbaijani civil society activists and researchers, energy security is not primarily about resource availability, security of demand or the physical security of pipelines. They opine that insecurity emerges from the 'resource curse', whereby energy abundance leads to excessive spending of energy export revenues and results in the destruction of the economy. Most civil society interviewees underlined that the main threat to energy security is the lack of competition as the market is monopolised by SOCAR (in other words, the government). As one activist put it, 'the government is not interested in the development of commerce or agriculture because easy money comes from the oil and gas industry'.[31] In fact, trade comprises only 8 per cent of the GDP and agriculture 5 per cent, whereas the energy industry accounts for 41 per cent.[32]

Civil society activists and consumers stressed that the price of gas and electricity are barely affordable for most people, and that tariffs are raised sharply rather than gradually (in less than two years gas prices increased by 65 per cent, even though the electricity price remained unchanged). Moreover, most interviewees argued that citizens did not directly benefit from oil revenues, such as in the form of salary increases or employment opportunities, and that wealth was unequally distributed. Most consumers believe that salary increases barely cover the concomitant rise in electricity, gas and other bills, but living conditions do not actually improve.

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[27] 'Future Intentions: Azerbaijan's ACG oilfield. Interview with Gordon Birrell, BP's regional president for Azerbaijan, Georgia and Turkey', *The Oil and Gas Year*, 21 January 2015, available at: http://www.theoilandgasyear.com/interviews/future-intentions-azerbaijans-acg-oilfield/

[28] 'Interview with Joe Murphy BP's vice president-Southern gas corridor', *The Caspian Barrel*, 3 March 2015, available at: http://caspianbarrel.org/?p=27802

[29] Interview with an independent expert on energy policy.

[30] Interview with a representative of the Caspian Barrel Oil Research Centre.

[31] Interview with a civil society expert and senior affiliate of Turan News Agency.

[32] State Oil Fund of Azerbaijan (SOFAZ), *SOFAZ Annual Report 2014* (Baku: SOFAZ, 2015).

Consumer representatives also underlined the importance of social cohesion and the environment for energy security. Corruption and the lack of transparency were also widely mentioned. [33] According to one interviewee, Azerigas representatives abuse their authority and apply illegal additional taxation charges to households.[34]

A commercial energy consumer representative from a non-energy sector complained that government spending is ineffective in the non-oil sectors and that public resources are wasted.[35] For him, transparency, accountability and public access to information should be priorities in energy security. A notable portion of the population living in poverty,[36] an underdeveloped social welfare system and an unaccountable government are perceived by citizens as impediments to a more equal distribution of oil revenues. To avoid this trap and prevent serious challenges to social and economic sustainability when hydrocarbon reserves become exhausted, employment opportunities, technological development and investment in longer-term sustainable areas of the economy should be the government's priority.[37]

Unsurprisingly, resource availability is not perceived as a prime concern for energy-rich Azerbaijan. However, the availability dimension is not insignificant. Government and extracting industry representatives see regional instability as a risk to the security of production, supply and cross-border transit. Investments in technology development to keep up production rates, diversify exports and ensure the security of critical infrastructure are perceived to be the main challenges for improving energy security.

There are significant differences in the energy security perceptions of the government and the energy industry on the one hand, and of consumers and citizens on the other. For civil society groups and consumers, economic diversification and better spending of energy revenues is closely linked with energy security. Customers worry mainly about affordability. Citizens also emphasise non-transparency, corruption and an unequal distribution of oil revenues as risks to energy security. They point out that larger energy revenues do not imply more employment and social welfare. Moreover, citizens feel largely detached from state energy projects such as export pipelines. Thus, along with energy affordability, governance is the most salient dimension of energy security in the perceptions of civil society and consumers (see Table 1). Many interviewees stressed that political corruption and the government's monopoly over the economy undermine Azerbaijan's energy security, thereby exacerbating social and economic problems. In contrast, fewer references were made about the environmental sustainability of energy exploitation and use.

[33] See also Barrett, op.cit.
[34] Interview with a consumer representative. See also Ibid.
[35] Interview with a consumer representative from the agriculture sector.
[36] According to the Government of Azerbaijan, the percentage of the population living below the poverty line dropped from over 15 per cent in 2007 to 5.3 per cent in 2013. However, civil society experts believe that figures are not exact. See 'Experts Do Not Agree with the Rosy Assessment from Ilham Aliyev', *Contact*, 10 January 2014, available at: http://www.contact.az/docs/2014/Economics&Finance/011000064921en.htm#.VjAQTLfhAg
[37] Oil reserves are expected to be depleted by 2035, and gas reserves by 2070. See International Monetary Fund (IMF), 'Republic of Azerbaijan: 2014 Article IV Consultation – Staff Report', *IMF Country Report* 14/159, p.4.

4. Georgia

Georgia is strategically located on the East-West and North-South energy trading routes, due to its access to the Black Sea and land transit links to major energy exporter and importer countries. Georgia lies within the EU's Southern Gas Corridor: SCP that traverses Georgia is currently being expanded to link up with TANAP. Furthermore, transit agreements entitle Georgia to preferential gas prices.

About two thirds of Georgia's primary energy supply comes from abroad. Natural gas is mainly imported from Azerbaijan, and 10 per cent comes from Russia, previously the main provider. Georgia possesses vast hydro resources that account for 17 per cent of its energy supplies and 80 per cent of its electricity generation. However, due to the seasonal volatility of hydropower supply (excess in summer and deficit in winter), Georgia depends on regional trade, which explains why it intensively develops interconnections with all neighbouring countries.

Box 3. Key stakeholders in the energy sector

The Ministry of Energy has a key role in Georgia's energy sector, as it is responsible for energy policy formulation and market regulation. The National Energy and Water Supply Regulatory Commission strives to become a strong and professional regulatory body, though its decisions are subject to strong political influence. The role of the parliament and the president in the energy sector is insignificant.

The government has established several initiatives to fund the development of energy infrastructure. For example, the first combined cycle power plant recently built in Gardabani was funded by the Partnership Fund, a state-owned investment facility, and the state-owned Georgian Oil and Gas Corporation. The Georgian Energy Development Fund, founded by the Ministry of Economy and Sustainable Development, develops renewable energy projects, including hydropower and wind farms.

The Georgian state controls only some of the most sensitive assets in the energy sector. These include high voltage transmission and dispatch, the Enguri HPP, the Gardabani combined cycle power plant (which will be privatised) and the gas transportation network. All electricity and gas distribution as well as hydro and thermal power plants have been privatised and ownership lies mostly with foreign energy companies.[38]

The electricity market is almost entirely dominated by two major players: Energo-Pro, a Czech investor owning the biggest distribution system and the majority of medium and big HPPs, and the Russian state company Inter RAO UES that owns the Tbilisi electricity distribution company 'Telasi', HPPs Khrami-1 and Khrami-2 and Georgia's biggest thermal power plant 'Mtkvari' in Gardabani. The gas sector also has two major players. Azerbaijan's state company SOCAR controls gas distribution in the regions through SOCAR Gas Georgia

[38] G. Mukhigulishvili & M. Margvelashvili, *Competition and Monopoly in Internal Energy Markets* (Tbilisi: World Experience for Georgia, 2012), available at: http://weg.ge/wp-content/uploads/2012/12/Competition-and-monopoly-in-internal-energy-markets.pdf

and Sakorggas; and Kazakhstan's state company KazMunayGas owns gas distribution in Tbilisi through KazTransGas.[39]

BP operates transit gas and oil pipelines, namely SCP, Baku-Supsa (also known as the Western Route Export Pipeline) and BTC. The Kazakhstan state company KazMunayGas owns an oil terminal and exclusive rights to the sea port in Batumi. Georgia has several major oil suppliers: LUKoil (Russia), Wissol (Georgia), KazMunayGas, Gulf (Gulf Oil Int) and SOCAR, among others. Whereas the oil products market is reasonably diversified, cartel deals are still possible.[40]

The involvement of public interest groups in the sector is weak. There are no established energy research institutes and civil society is not sufficiently informed and qualified to provide a valuable contribution to the energy security discourse. Civil society advocacy (for example, regarding access to the European Energy Community, or the development of Georgia's energy strategy) has been limited. There are no consumer associations involved in the debate on energy security or energy tariffs. While there is an energy ombudsman, it is not independent because it is housed within the energy regulator. The low level of public and parliamentary awareness and involvement in the energy sector leaves the Georgian government without serious oversight, and strips it of incentives to improve the quality of policy analysis, strategic planning and decision-making.

The National Security Concept of Georgia refers to energy security as a key component of national security and a basic national interest.[41] Improving Georgia's energy security via the 'uninterrupted supply of various energy products under acceptable quantity, quality and price' is the government's main objective.[42] Most state officials interviewed considered Georgia's energy sector to be dependent on hydropower and the attraction of foreign or private investments to expand generation capacities as a crucial element of energy security, economic growth and sustainable development.[43] The availability of supply emerges as the key dimension of energy security with resource availability, security of supply and energy independence featuring high in the perceptions of state officials.

Whereas reliance on hydropower implies uncertainty given seasonal variations and climate change (causing the reduction of water flows), geopolitical threats to the security of supply such as instability in the region and the role of Russia – whose energy interests are seen contrary to the free flow of Caspian hydrocarbons to the West – appear to be more salient.[44] Moreover, the large share of foreign state-owned (especially Russian) companies in Georgia's energy sector is

[39] Kaztransgaz Tbilisi is currently under special management by the Georgian government due to a financial dispute with the Kazakh owners.
[40] N. Japarashvilia, 'Georgia's Competition Agency Fines Major Fuel Retailers', *Georgia Today*, 16 July 2015, available at: http://georgiatoday.ge/news/645/Georgia%E2%80%99s-Competition-Agency-Fines-Major-Fuel-Retailers
[41] National Security Concept of Georgia, 23 December 2011, available at: http://www.mfa.gov.ge/MainNav/ForeignPolicy/NationalSecurityConcept.aspx?lang=en-US
[42] Main Directions of the State Policy in the Energy Sector of Georgia, 7 June 2007, available at: http://www.energy.gov.ge/ministry.php?id_pages=12&lang=eng
[43] Interviews with stakeholder representatives in Georgia were conducted with the help of Levan Ushkhvani at the World Experience for Georgia.
[44] Interview with a Georgian Oil and Gas Corporation representative.

seen as a risk.[45] The supply of Azerbaijani gas via Georgia (the SCP) has put an end to the previous dependence on Russian gas, and has generated budget revenues. Moreover, energy transit through Georgia is widely seen as a way of attracting more international interest in support of political stability and security in the country.

Russia is also seen as a threat to critical energy infrastructure. This perception has been enhanced after several pipeline explosions occurred on Russian territory close to Georgia's border in 2006 and air strikes in the vicinity of the BTC oil pipeline during the 2008 Russia-Georgia war. Three days prior to the war there was also an explosion at the Turkish section of BTC, which was allegedly caused by a Russian cyber-attack.[46] The recent moves of the administrative border demarcation sites by Russian border guards in South Ossetia bringing 1,600 meters of the Baku-Supsa oil pipeline under Russian control aggravate the feeling of insecurity. The involvement of other important external players, including the EU and the US, investment from large financial corporations, banks and energy companies are seen to 'increase the political role of infrastructure and positively affect the stability of the region'.[47]

The impact of the unresolved conflict in Abkhazia is seen as hindering the security of supply for the rest of Georgia. The Enguri-Vardnili hydropower cascade, which produces around 40 per cent of Georgia's electricity, is partly located on Abkhazian territory, *de facto* controlled by Russia. Although there have been no serious problems reported to date, Abkhazia's energy consumption is growing, while supply to the rest of Georgia is decreasing.[48] There is a concern that the threat of supply interruption from the Enguri HPP could be easily used as a political weapon. The lack of generation capacity and uncertainty regarding supply in winter force the Georgian government to import electricity, which in turn affects affordability. State representatives and electricity providers consider the construction of new HPPs as a solution to the problem of availability.

This view is challenged by environmental groups, which claim that building HPPs will not secure energy independence nor help economic development. Whereas the Georgian government is interested in producing electricity to export, with Turkey considered the most promising market, such plans are criticised by environmental NGOs as unrealistic since Turkey is planning to boost its own exports. Civil society groups underlined the lack of strategic planning to define energy priorities and financial resource allocations as a major obstacle for a viable energy security strategy.

Whereas most state officials maintain that affordability is not an issue, as energy tariffs are one of the lowest in Eastern Europe, consumer representatives polled for this research argued that the price of electricity is not affordable for all societal groups. The recent devaluation of the Georgian Lari and the concomitant increase in energy prices have made the issue of affordability more pressing. However, it seems difficult to strike a balance between the needs of the energy sector and the natural desire of consumers to pay less.

[45] Interviews with representatives from the Georgian National Energy and Water Supply Regulatory Commission and environmental NGOs.
[46] T. Pataraia, 'Energy Transit and Security Imbalance in South Caucasus: The Road Between Russia and the European Union', Heinrich Boll Stiftung South Caucasus, 30 March 2015, p.2, available at: http://ge.boell.org/sites/default/files/uploads/2015/03/energy_eng-final_1.pdf
[47] Ibid. p.8.
[48] Interview with a representative of the Joint Stock Company Telasi.

Consumers and state representatives tended to agree that a part of the electricity distribution network is in poor condition, producing recurrent shut-offs, and that the voltage of electricity in the regions is very low. The lack of renovation of generation assets is seen as a threat to electricity supply.[49] Thus, the importance of effective investment in developing the energy sector, especially in terms of renewable energy, is widely shared by different stakeholders in Georgia. Energy experts also added that along with hydropower, other sources such as solar and wind energy should be exploited as hydro resources may not be enough, especially in winter. Moreover, investment should boost the energy market and improve the economy and social welfare without damaging the environment. Civil society groups also underlined the need to have a strategic environmental impact assessment for the development of renewable energy, and strategic and resource planning for energy efficiency.

Governance and regulation is another important dimension of energy security in Georgia. A majority of stakeholders opined that the energy sector is not liberal, transparent and competitive, and called for more effective legislation and greater involvement of different interest groups in energy policy-making. Civil society and energy companies have criticised the government for signing memoranda with big utility companies, which is seen to violate basic principles of unbundling and transparency, and lead to excessive payments. As a representative of an environmental group put it, 'we all see that the market is monopolised by the huge enterprises and this of course is a big threat to our country's energy security and economy'.[50] The recent fine of 51.6 million Lari (22.7 million USD) imposed by the Georgian Competition Agency on Georgia's top five petrol and diesel retailers for price manipulation is seen as a step forward.

One interviewed government representative admitted that the energy market is not competitive, but argued that state policy and regulation should solve the problem.[51] The implementation of the EU-Georgia Association Agreement (concluded in 2014) and Georgia's accession to the European Energy Community are seen as instrumental in obliging the government to make the sector more transparent, and liberalise and deregulate the market by 2017 to allow users to choose their energy providers. The interviewed consumer representatives believed that the existence of several service providers would have a positive impact on prices.

The analysis shows that – according to the five-dimensional framework (see Table 1) – energy availability is the most salient issue in Georgia. Electricity generation from hydro resources and increased transit are seen as strategies to satisfy domestic demand. In this regard, regional cooperation for energy transit and seasonal energy exchange are perceived as effective measures to increase security. Moreover, the potential for Caspian gas transit to the EU is viewed as an important factor for increasing Georgia's international role, regional stability and security.

Energy affordability is also a major consumer concern. However, to a large extent, this is due to low incomes in general rather than problems in the energy sector. Trust in the independent regulator does not seem strong enough to encourage consensus on tariffs.

The main technological need is the rehabilitation of existing assets and the expansion of hydropower capacities. The energy efficiency dimension is largely neglected by most

[49] Interviews with representatives from the Georgian National Energy and Water Supply Regulatory Commission and the Ministry of Energy, and consumers.
[50] Interview with a representative of the Green Alternative NGO.
[51] Interview with a Ministry of Energy representative.

stakeholders. There is little information and demand for modern technologies, including renewable resources, which remain underdeveloped in Georgia.

The social and environmental sustainability dimension of energy security draws less attention in Georgia when compared to other dimensions. Concerns over the environmental and social impacts of hydropower development are higher outside the energy sector. Environmental NGOs and civil society groups are very vocal in raising environmental concerns; however, those directly involved in the management of the energy sector seem to ignore most of them.

In contrast, the governance and regulation dimension of energy security features high in Georgian discussions. The quality of energy legislation is widely viewed as substandard and allowing for 'grey areas' and arbitrary action. The institutional weakness of the independent regulator and the centralisation of power in the energy sector make the system vulnerable to political influence and corruption. Many stakeholders also pointed towards the need to establish an energy strategy – a long-term vision for energy security – which is still lacking. Most stakeholders have a vague understanding of their own role in the energy sector. The energy ministry is perceived by stakeholders as the only body responsible for energy security, whereas the role of the regulator, parliament, civil society and consumers is neglected. Approximation to the EU energy *acquis* (rules and standards) is considered to be the remedy to Georgia's regulation problems. However, the importance of reforms to attract investment and improve energy security through the implementation of new transit projects seems underestimated by most stakeholders.

5. Implications for regional energy security

National energy security strategies have implications for regional cooperation in the South Caucasus, as well as cooperation with external players. Three different patterns of energy security strategies are present in the region: independence, dependence on an external patron, and interdependence.

State elites in the South Caucasus perceive the availability of supply as a pivotal dimension of their energy security. Energy independence is considered important for mitigating energy security risks, especially in energy-poor Armenia and Georgia. Increasing self-sufficiency and developing domestic energy sources are among the key objectives of official energy security strategies. In spite of Armenia's location in a highly-seismic zone, there is remarkably wide agreement among Armenian stakeholders on continuing to rely on nuclear power. Azerbaijan's strive for independence is evident in its approach, by not only securing diversified energy exports, but also transit routes by investing in Turkey and Georgia.

Security of supply and transit is also sought by South Caucasus countries through diversification strategies to decrease dependence on a single supplier or transit route. However, in the case of Armenia, the official discourse and practice do not coincide, as dependence on one main external regional player – Russia – has in fact increased. A lack of transparency and limited civil society involvement in the governance of the energy sector seems to contribute to this dynamics, as the ruling elite is allowed to conduct secret energy deals with no accountability.

The potential of greater interdependence to help regulate economic relations in the energy sector and act as a guarantor of peaceful coexistence is undervalued in the South Caucasus.[52] On the one hand, government stakeholders express interest in regional energy cooperation. Trade in electricity constitutes a common interest for the wider region, including Turkey and Iran. The South Caucasus countries are interested in importing electricity to meet their seasonal shortages or until their critical generation capacities are replaced, and in exporting electricity as a means to boost their energy sectors and economies at large. Similarly, there is a growing interest in trading more gas. Whereas Azerbaijan and Georgia are part of the Southern Corridor, there are also hopes in Armenia that once Iran comes out of isolation, the country can improve its security of supply and benefit from becoming a transit country too. This matches Iran's interest in future possibilities for gas exports to Europe via Armenia and Georgia.

On the other hand, the geopolitical fragmentation of the South Caucasus into blocs is seen as a major obstacle to energy security strategies oriented towards interdependence. While physical barriers to trade in energy can be overcome through investment in new interconnections, spoiled relations with neighbours (Azerbaijan-Armenia, Armenia-Turkey, Georgia-Russia) and unresolved conflicts (such as Nagorno-Karabakh) further exacerbate the perceived risks to energy security in the South Caucasus states. Possible economic benefits from cooperation do not seem sufficient to improve political relations and contribute to conflict resolution.

Recurrent explosions in critical transit infrastructure, such as that occurred in August 2015 on the Turkish segment of SCP, are seen as a common threat to the security of supply and transit in all South Caucasus countries. Conflicts and subversive activities of militant organisations (such as the Kurdistan Workers' Party – PKK) and states (for example, Russia has been blamed for pipeline explosions in Georgia and Turkey)[53] are frequently identified by stakeholders in the region as contributing to energy insecurity. Thus, promotion of energy security is closely linked to the promotion of conflict resolution in the region.

Russia is widely perceived as a source of risk and threat to energy security in the South Caucasus. In Georgia, Russia is seen as the main threat to the country's energy security. Azerbaijan's government considers it as a spoiler of Caspian hydrocarbons transportation projects to the EU. This serves as a solid basis for Azerbaijan-Georgia cooperation, as both need each other in the supply chain. The energy transportation infrastructure that links such regional pipelines and the Baku-Tbilisi-Kars railway strengthen this interdependence. Perceptions of Russia's role are more ambivalent in Armenia. On the one hand, the government in Yerevan pictures Moscow as a partner in energy security; on the other, Armenia's dependence on energy imports is seen as a threat to national security. Moreover, the government's views are challenged by civil society and consumer groups who do not necessarily regard Russia's domination of Armenia's energy markets as contributing to energy security.

Russia sees the South Caucasus gas market as of no interest for its energy security in terms of imports diversification.[54] Even the growing role of Azerbaijan in the European energy market is not perceived as a real threat to Russia's position, given that current exports of Azerbaijan's natural gas to the European markets constitute 6 bcm per year in comparison with Russia's 141

[52] L. Aliyeva, 'Imperial Legacy: Economics and Conflict', *Security Dialogue* 27 (1996), 101-103.
[53] Pataraia, op.cit.; Orhan Gafarli, 'Could Russia Have Had a Role in Recent PKK Attacks on Turkish Pipelines?', *Eurasia Daily Monitor* 12 (170), 22 September 2015.
[54] See more in K. Golub, *Russia and Energy Security in the South Caucasus*, November 2015, available soon at: http://cascade-caucasus.eu/.

bcm.[55] Gas volumes extracted in Azerbaijan are expected to grow to 26 bcm per year from late 2018,[56] but they are likely to be absorbed by growing demand in Turkey and the Western Balkans. At the same time, Moscow sees supplying cheap gas to Russian citizens and allies in the South Caucasus as essential – especially Armenian energy supply, and energy stability in Georgia's breakaway regions of Abkhazia and South Ossetia. Moreover, Russia is interested in preserving its economic presence in the South Caucasus energy markets as it gives it leverage over those countries.

Whereas Azerbaijan and Russia compete on Turkish and European energy markets, the construction of the Southern Corridor pipelines – TANAP and TAP – does not constitute a serious menace for Gazprom market positions in Europe. Moreover, some in Moscow hope that a future huge gas hub on the Greek-Turkish border at the end point of TANAP may facilitate Gazprom's efforts to negotiate the re-routing of gas transit from Ukraine to the envisioned Turkish Stream. However, a Trans-Caspian gas pipeline and the potential arrival of large volumes of Turkmenistan gas is perceived by Moscow as highly undesirable (though less probable) threat to Russia's energy security.

The Russian factor is essential for Turkish and Iranian policies towards the South Caucasus. Both governments have so far refrained from challenging or upsetting Russian interests in the region. The recent rift in Russia-Turkey relations over the war in Syria and the political shift in the Turkish political scene – in particular the rise of the pro-Kurdish Peoples' Democratic Party which has openly spoken in favour of the opening of the Turkish-Armenian border, and the weakening of the ruling Justice and Development Party – may gradually transform Turkey's policies towards Russia and the South Caucasus. This may translate into difficulties in negotiating the agreement on Turkish Stream.

The EU has a long-term interest in improving the energy security of the South Caucasus, since it can contribute to stability in the EU's neighbourhood. Since the 1990s, the EU has provided technical and financial assistance to promote regulatory reform, energy efficiency and renewable energy, nuclear safety and the development of infrastructure and interconnections. Energy security is among the priority areas of the EU's Eastern Partnership (the framework for EU policies towards Eastern neighbours), both in its bilateral and multilateral dimensions. The image of the EU as a good governance promoter in the energy sector has been most evident in Georgia. In general, however, the promotion of 'markets and institutions' in the South Caucasus is overshadowed by the EU's interest in Azerbaijan's hydrocarbons.[57] The EU's energy policy towards the region has been conducted mainly through the prism of its diversification plans after Russia's perceived reliability as a supplier was shaken in the 2006 and 2009 gas supply disruptions.

[55] Gazprom, *The Power of Growth, OAO Gazprom Annual Report 2014* (Moscow: Gazprom, 2015).
[56] G. Rzayeva, 'The Outlook for Azerbaijani Gas Supplies to Europe: Challenges and Perspectives', *OIES Paper* 97, The Oxford Institute for Energy Studies, June 2015.
[57] See R. Youngs, *Energy security: Europe's new foreign policy challenge (*London and New York: Routledge, 2009), p. 99-125; N. Babayan, 'The Geek, The Bully, and The Freaks: Diversifying EU Energy Sources Through and Exercising Influence in the South Caucasus', in A. Boening, J. Kremer & A. van Loon (eds.), *Global Power Europe - Vol. 2*. (Berlin, Heidelberg, Springer Berlin Heidelberg, 2013), 147-163.

In sum, while South Caucasus state elites declare a common interest in regional energy trade and cooperation, mutual fears, mistrust, territorial conflicts and spoiled political relations serve as major obstacles to greater collaboration. The different interests and strategies of external players, especially Russia and the EU, only aggravate this situation. Russia wants to keep its influence and dominant position in the South Caucasus and the EU energy markets. The EU encourages interdependence through the promotion of regional cooperation, liberal markets and good governance, but it also has a strong interest in increasing access to Caspian hydrocarbons to help reduce its dependence on Russia. The patterns of energy cooperation reflect geopolitical cleavages. The South Caucasus is divided into blocs: Armenia's energy alliance with Russia; and Georgia's and Azerbaijan's with Turkey and the EU. Thus, strategies seeking independence or dependence on external players prevail over interdependence.

6. Conclusion

Energy security is a multi-faceted and complex concept that has different meanings for states, energy producers and consumers. The notions of energy security in the South Caucasus are both deep and wide. In a nutshell, among the five dimensions of energy security presented in the introduction of this paper, availability, affordability and governance and regulation are most salient in the notions of energy security in the South Caucasus. In addition, technology development is often seen through the prism of supply availability. Whereas energy efficiency and social and environmental sustainability of energy exploration and use feature high on the EU's agenda, for South Caucasus countries they seem to be the 'next generation's' problems and less important than other energy security concerns.

State elites in the South Caucasus countries put the security of supply (and exports in the case of Azerbaijan) at the centre of energy security, with the availability of resources being particularly important for Armenia and Georgia. Most often, they see investment in modern technologies for domestic production, critical infrastructure and transit capacities as ways to boost resource supply and/or energy exports. State elites also pursue energy security strategies aimed at greater energy independence through the diversification of supplies and domestic production – which in practice is implemented through reliance on support from external regional players such as Russia, the EU, Turkey and Iran rather than interdependence within the South Caucasus region. Political barriers to enhanced energy trade and cooperation within the South Caucasus play an even greater role than insufficient physical interconnections.

In contrast, the affordability dimension of energy security is paramount for consumer groups across the region. Increases in energy tariffs have hit impoverished populations in all the South Caucasus countries. In turn, energy affordability is closely linked in many stakeholder perceptions with governance and regulation issues. The risks related to governance and energy regulation gain greater importance across an array of stakeholders in the industry sector, and consumers and citizens in the South Caucasus, regardless of whether a country is endowed with energy resources or lacks them, and whether it aims to liberalise its energy market or to preserve (state) monopolies.

The South Caucasus energy security discourse should not be considered a monopoly of the states. Consumers and citizens have their distinct views and increasingly voice them on what constitutes energy security and how threats should be mitigated. However, governments and energy companies (often state-owned) are at the centre of energy policies. Citizens and consumers still play a minor role in energy policies. This is a reflection of the region's broader democracy deficit, on the one hand, and the securitisation of energy policy that in the post-Soviet context implies the dominance of state security above human security, on the other. Such views are increasingly challenged from within, by civil societies that demand a transparent, accountable and participatory governance of the energy sector, increased competitiveness of energy markets, fair energy prices and fair distribution of energy export revenues. While all this bears the risk of political conflicts in the short term, it may also contribute to a more inclusive energy security policy oriented towards citizens in the South Caucasus in the long term.