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Introduction by the Special Editor: The Changing Geopolitics of Energy Infrastructure in the Caspian Sea Region

The issue focuses on the second phase of the Southern Gas Corridor of export pipelines running from Azerbaijan via Turkey to Europe (i.e. on the Shah Deniz II gas field and the TANAP and TAP gas pipelines), looking at the infrastructure projects from four different angles. More specifically, the issue examines the opportunities and constraints surrounding the possible construction of a Trans Caspian Pipeline (TCP), which would deliver natural gas from Turkmenistan across the Caspian Sea to Azerbaijan, where it would join the Southern Gas Corridor.

Firstly, Farid Guliyev discusses how recent developments in global energy markets are likely to have a negative impact on Caspian energy projects. These changes include the shale revolution with the re-emergence of the U.S. as an energy exporter, transitions to renewable energy in Western Europe, and the end of the commodity (high price) super-cycle. The article examines how the Caspian gas producing states have responded to these challenges. Secondly, Marco Siddi discusses Iran's possible contribution to the TCP and the EU's energy supply in the face of geopolitical challenges such as US foreign policy and sanctions. Thirdly, Tracey German explains Georgia's role as an energy transit state and energy hub. Finally, Agha Bayramov analyses the capacity and prospects of trans-Caspian gas deliveries to Europe and the ecological impediments that stand in its way. He analyses the Convention on the Legal Status of the Caspian Sea, which was signed in 2018, and its ecological implications. Bayramov argues that the existing scholarship overestimates the influence of environmental requirements on the construction perspective of the TCP.

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Caspian Energy Producers in the 'New Oil Order': Neglected by the West, Looking East

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Abstract

The shale revolution and the transition to a low-carbon economy in the industrialized West have ushered in a new era of energy. The Trump administration in the U.S. has pushed a new 'America first' energy policy aimed at transforming the U.S. into a global energy superpower. The rise in shale gas production has brought energy prices tumbling down. Traditional oil producers have been hit hard by low oil prices. The new energy order also means a lower demand in the West for Caspian fossil fuels. International oil companies have shown no interest in investing in new Caspian energy developments, and the idea of building a seabed Trans Caspian Pipeline (TCP) to connect Central Asia to Azerbaijan remains stuck on paper. In this article, I examine the impacts of these macro-structural changes on Azerbaijan, Kazakhstan and Turkmenistan. I argue that in the absence of Western oil company investments, and given the lack of U.S. and EU leadership in developing new energy projects, Caspian energy producers, with the exception of those in Azerbaijan, are looking to China and other Asian countries for export markets. Turkmenistan already ships almost all its gas exports to China and is pressing ahead with a new pipeline (TAPI) to deliver gas to Pakistan and India. With substantial Chinese investments in its energy sector and an existing pipeline connection to China, Kazakhstan has increased its gas exports to China. In the case of limited capacity of Kazakhstan's westbound pipelines,

the country is considering plans for diverting some of its growing oil output to China. Azerbaijan has the biggest stake in a TCP because of the urgency of switching to gas. Baku has borrowed billions of dollars to build a network of pipelines (the Southern Gas Corridor) to ship its gas to southern Europe. However, there is currently not enough gas available to make this pipeline project commercially viable.

The 'New Oil Order'

The global energy order is rapidly changing.¹ Recent breakthroughs in drilling technologies have allowed the extraction and development of unconventional (and previously inaccessible) fossil fuel reserves, and there is now a greater use of renewables in countries such as Germany and Sweden. Energy experts talk about a 'new energy order' in which the power of traditional oil producers such as Iran, Russia and Venezuela have declined in the face of the rising production of unconventional energy and the shift to a low-carbon economy (LCE) (Van De Graaf and Bradshaw 2018). The shale revolution in North America has transformed the United States, a long-standing net energy importer, into a major exporter of oil and liquefied natural gas (LNG), redrawing the 'geopolitical' map of energy.² Combined, these factors have exerted downward pressures on the global oil price, which currently hovers at approximately \$65 per barrel, down from its peak level of annual average of \$109 in 2012. As a result, the economies of oil-dependent states, including the Caspian states, are suffering due to the loss of resource rents and are thus forced to make adjustments to their fiscal balance sheets.

For traditional oil producers such as Azerbaijan, Kazakhstan and Turkmenistan, this shift in the global energy system has far-reaching implications. Their most precious commodity and the only source of foreign exchange is losing its value in monetary terms. By embracing the LCE model, Western industrialized countries will reduce their dependence on conventional energy sources. In the medium to long term, the Caspian region will lose its 'geopolitical' and economic significance to the West. This process has already started: there has been no large-scale investment by large energy companies in the Caspian region since the oil price fall in 2014, and several international oil companies (IOCs), such as Statoil, ExxonMobil and Chevron, have divested from major Azerbaijani energy projects.

On the eastern coast of the Caspian Sea, Kazakhstan and Turkmenistan seem to be increasingly oriented towards Asian markets, where countries such as China and India still rely on conventional fossil fuels. About a decade ago, Turkmenistan committed all of its gas exports to China under unfavourable terms, and Kazakhstan is increasingly looking to ship its oil and gas output east, which is expected to rise even further

in the next years. Azerbaijan is halfway through completing a very expensive gas pipeline network connecting the western Caspian area to Greece and Italy and funded by loans from international banks and its own state oil fund resources. Azerbaijan's own gas reserves are relatively modest, and without Central Asian (or Iranian?) gas and a potential under-sea Trans Caspian Pipeline (TCP) connector, this 21st-century mega-infrastructure project may prove to be obsolete (in the context of transitions to low-carbon energy sources in Western Europe) and economically wasteful. In the past, until the shale revolution, Western oil companies invested in large energy projects in the Caspian area and U.S. government leadership was crucial to the success of many of the projects. However, this is no longer the case. The prospects for a TCP connecting the eastern Caspian coast with Baku seem increasingly bleak.

The previous global energy system was marked by a high demand for conventional energy sources, and Western countries were heavily dependent on imports from traditional supplies from the Middle East and North Africa (MENA), Russia and Venezuela. In fact, Western industrialized civilization is hard to image without fossil fuels (Mitchell 2011). From the 1990s to around 2014, the substantial energy deposits in the Caspian region were lucrative and much sought after sources for supplying both energy-importing countries in the industrialized West and resource-hungry China. From the early 2000s to mid-2014, high oil demand coupled with the OPEC-managed quota system kept oil prices high. Both international oil companies (IOCs) and oil-exporting states profited from this energy system. With revenues rising (or expected to rise), IOCs had the funds and incentives to invest in new energy projects and build energy infrastructure to expand production from existing fields. They lobbied before the U.S. government to provide investment and high-level diplomatic support for the construction of energy pipelines. The advocacy for the Baku–Tbilisi–Ceyhan (BTC) pipeline (total cost: \$3.9 billion; launch date: 2006) to ship Azerbaijani oil to western markets bypassing the Russian pipeline network is a primary example of an energy infrastructure project that fit within and benefited from the previous energy order. The BTC was conceived of as a key element of the U.S. energy security strategy. The U.S. was keen to diversify energy supplies away from Russian and the Middle Eastern sources to

1 Energy refers to oil and natural gas. 'Oil' means both crude petroleum and natural gas.

2 'Geopolitics' refers to a zero-sum Realpolitik-type competition between nation states for power and scarce resources.

reduce the risks associated with reliance on one source (or only a few sources) of supply. In the new energy order, the U.S. itself has become a major energy exporter, pushing other countries in Europe and Asia to buy U.S. LNG.

The Shale Revolution and Its Consequences

In the past decade, the international energy order has undergone substantial changes. New technologies for hydraulic fracturing (fracking) and horizontal drilling allowed U.S. energy companies to tap into vast and previously impermeable reserves of unconventional oil and gas. In 2015, U.S. Congress lifted a long-time ban on oil exports. An unexpected boom in shale energy production since 2007 has transformed the U.S. from a net importer of energy into a major exporter of oil and natural gas. Following his election in 2016, President Trump announced a new U.S. energy doctrine, an 'America first' energy policy that aims to ensure U.S. energy is independent and free from its reliance on oil imports from the major oil exporters united in the OPEC cartel (White House 2019).

The above-mentioned shifts in U.S. energy policy have resulted in a number of changes in the global energy order, with wide-ranging implications for oil producers across the globe. Energy markets are flushed with shale gas. This, in turn, has pushed energy prices down due to an oversupply of fossil fuels. The shift to a major energy exporter has led U.S. policymakers to rethink the role that the U.S. has traditionally occupied in the global political economy of oil. The Trump administration adopted a new U.S. energy policy concept. Not only has the Trump administration lifted Obama-era environmental regulations on domestic oil producers, it has also actively pushed European and Asian markets to open up and buy U.S.-sourced oil and gas as an alternative to Russian fossil fuels. In pursuit of this goal, the U.S. sought to limit its competitors, especially Russia, in the European markets. Notably, the Trump administration advocated against the construction of a major gas project, Nord Stream 2, which, when completed, will have the capacity to deliver up to 50 billion cubic metres (bcm) of Russian gas to Europe. For example, at a NATO summit in 2018, Trump said that the Nord Stream 2 project makes Germany 'a captive of Russia' (Alcindor 2018). To reduce European dependence on Russian energy supplies, U.S. diplomats have pushed European countries to buy more U.S. LNG gas (Osborn 2018).

With regard to Caspian producers, while the Trump administration seems to rhetorically endorse the idea of building a trans-Caspian link connecting Azerbaijan and Turkmenistan for gas shipment to Europe as an alternative to Russian gas, this has not been a top

priority in U.S. energy policy given that the U.S. is now a major producer itself. The idea has not materialized, as there has been no concrete action or any tangible contribution towards the project costs from the U.S. government.

For traditional oil and gas producers, these developments are bad news. After enjoying a commodities supercycle for more than a decade (from the early 2000s to mid-2014) (Arezki and Matsumoto 2017), the Caspian producers now face new challenges, including low energy prices, the lower profitability of existing projects and weaker incentives for IOCs to invest in developing new energy fields, as well as the loss of the 'geopolitical relevance' of Caspian energy for the U.S. government.

Azerbaijan

The Southern Gas Corridor (SGC)—a network of pipelines connecting the western Caspian with the Adriatic coast of Italy—has been hailed as a major energy infrastructure project helping Europe diversify its energy imports and has been compared to the BTC oil pipeline. However, the SGC differs substantially from the BTC in a number of ways. The SGC has had high upfront investment costs for its construction. Most funds were drawn from international loans and Azerbaijan's own state oil fund (SOFAZ). The BTC was a success story because U.S. diplomats lobbied for it aggressively, plus rising prices made it easier to convince international oil companies to commit money to its construction (Boersma and Johnson 2018). In contrast, the SGC has enjoyed little U.S. support and was initiated and largely promoted by the Azerbaijani and Turkish governments.

For Baku, it has been a major challenge to build a new gas pipeline in the new energy era with weak U.S. and EU commitment. In the early 2000s, the EU and European energy companies supported the ambitious Nabucco gas project, which failed to materialize due to internal competition within the EU. Pressed hard by the 2014 oil price squeeze and dwindling fiscal revenues, Azerbaijan decided to proceed with building the SGC gas pipeline route on its own, ensuring a partnership with its strategic ally, Turkey. Unlike Turkmenistan and Kazakhstan, which have plenty of energy reserves, Azerbaijan is approaching the depletion of its oil deposits. The transition to natural gas is an existential question now that the opportunity to diversify away from fossil fuel dependence has been missed. Since there was no pipeline infrastructure for gas exports, there has been the sense of urgency to construct a new one.

Beginning in 2019, Azerbaijan increased gas exports from the second stage development of its largest Shah Deniz gas field. Most Azerbaijani gas exports are currently imported by Turkey, but once the extension capac-

ity to Italy through the TAP [the Trans-Adriatic Pipeline] is completed, gas will be shipped to buyers in southern Europe starting in 2020 (Bhutia 2019). The \$8 billion Trans-Anatolian Natural Gas Pipeline (TANAP) was completed this summer (Istrate 2019). The pipeline has a capacity of 16 bcm (10 bcm is slated for Europe). Azerbaijan estimates that the earnings from the SGC will be approximately \$2–3 billion annually, a notable difference from its earnings from oil exports (Azernews 2018). Azerbaijan's total revenue from oil projects amounts to \$140 billion. The total cost of construction of the Southern Gas Corridor is estimated at \$40 billion. The cost of the TANAP alone is estimated at \$7 billion. Both the TANAP and its extension, the TAP, are financed by a number of loans.³ The total accumulated loans so far amount to \$8.1 billion.⁴ The state oil fund of Azerbaijan (SOFAZ) also contributed to the TANAP (AZN 1.5 billion).

While the BTC pipeline was 70 percent funded through loans, it was developed by the Baku–Tbilisi–Ceyhan Pipeline Company (BTC Co.), of which BP is the largest shareholder and operator. The BTC Co. owns and operates the pipeline. The TANAP gas pipeline⁵ has a different shareholder structure. Initially, there were only two shareholders: the Azerbaijan state oil company (SOCAR), which held 80 percent, and Turkey, which held 20 percent. Notably, during its inception, IOCs did not have much interest in the TANAP. Only in 2015 did BP decide to acquire a 12 percent stake in the gas pipeline. According to the new shareholder structure, Turkey's BOTAS has 30 percent, SOCAR now holds 58 percent, and BP holds 12 percent (O'Byrne 2018).

Azerbaijan's gas will not be enough to make the SGC project commercially viable in the long run. The country's gas reserves are estimated at 1.2 trillion cubic metres (approximately 1.1 percent of the total world reserves). Without gas from Turkmenistan, which has so far committed all its gas exports almost exclusively to China, the SGC will not even be able to recover its construction and operational costs.

Another sign of the loss of interest was the decision of several oil majors to abandon projects in Azerbaijan. Norwegian Statoil withdrew from the Shah Deniz gas project in October 2014, selling its 15.5-percent stake to Malaysia's Petronas. It has kept its 8.65 percent in the ACG 'contract of the century'. French Total sold its stake in Shah Deniz earlier the same year (Fouche and Solsvik 2014). In December 2018, Exxon Mobil and Chevron were reportedly selling their stakes in Azerbaijan's largest oilfield, Azeri-Chirag-Guneshli (ACG),

and the BTC pipeline. From 1997 to the end of 2016, this BP-operated ACG field produced more than 3 billion barrels of oil with approximately US\$33 billion of investment (Paraskova 2017). In 2017, Azerbaijan and BP extended the ACG contract through 2049, and the Azerbaijani state oil company (SOCAR) increased its share from 11 to 25 percent. BP and its partners agreed to commit billions of dollars of investment to develop the project in the upcoming decades.

Kazakhstan

To begin with, Kazakhstan has more reserves of oil (30 billion barrels). Oil exports proceed according to existing long-term contract commitments. Kazakhstan has the existing pipeline infrastructure with routes to western markets (via the Caspian Pipeline Consortium Pipeline (CPC)), to Samara in Russia and to China. Oil from one of the country's largest oilfields (Tengiz oilfield developed by Tengizchevroil, the joint venture between Chevron, ExxonMobil, KazMunaiGaz and LUKoil) is shipped via the CPC pipeline to Novorossiysk. Smaller amounts are shipped via the tanker link across the Caspian, and Kazakhstan has been developing a new port at Kuryk, 60 km south of Aktau, in preparation for shipping oil from the Kashagan Field across the Caspian. Most of Kazakhstan's pipelines are bound to Russia (the CPC and the Atyrau–Samara pipeline) and China (the Kazakhstan–China pipeline, also known as the Atasu–Alashankou oil pipeline). The Kazakhstan–China pipeline is co-owned by the state-owned China National Petroleum Corporation (CNPC) and Kazakhstan's national oil company KazMunaiGas (through its subsidiary KazTransOil). The pipeline has a throughput capacity of 10 million tons per year (mty), with the upward expansion possibility of up to 20 mty if pipeline extension is conducted in the future.

The new energy context makes foreign investment by IOCs and traditional oil producers prohibitively expensive and risky. On the other hand, plummeting oil revenues have limited the amount of resources available for investment in new projects. The impact on Kazakhstan is thus that there seems to be little incentive to invest in a TCP should an agreement be reached. The extra output expected to rise from the giant Kashagan Field in 2022 can be diverted towards China and other Asian markets if the European markets continue to be oversupplied by nonconventional energy sources.

In the absence of sufficient Western interest to push for a TCP and with possible Russian (and Iranian) opposi-

3 Loans were secured from the European Investment Bank, EBRD, World Bank, Asian Development Bank, and Asian Infrastructure Investment Bank (AIIB).

4 Southern Gas Corridor, CEE Bankwatch, <http://tiny.cc/9hzvzb>

5 TANAP Company's website: <http://tiny.cc/h7w1bz>

tion to it (as was the case in the past), Kazakhstan has the option of diverting extra oil output towards China. This year, for example, Kazakhstan announced its plans to divert some of its Europe-bound exports to China to increase exports to 6–7 million tons starting in the second half of 2020 (Afanasyeva 2019). The flow of oil will be reversed on the Kenkiyak–Atyrau pipeline, which has previously been used to ship oil in a westward direction. In 2018, Kazakhstan's oil exports to China dropped to a record low of 1.3 million tons from its highest level of 11.8 million tons in 2013, which was related to the decline in the output of oilfields operated by Chinese companies. At the same time, the Russian Rosneft took the lead in this direction by increasing exports to 10 mty.

Gas exports to China were launched in 2017 with 1.1 bcm. Kazakhstan is planning to ship 10 bcm of gas to China next year, which is up from the current level of 5 bcm, based on an agreement between KazTrans-Gas and PetroChina International. Kazakhstan sent 38.7 bcm of gas through the Central Asia–China pipeline. The pipeline has a capacity of 55 bcm (Bisenov 2018).

Turkmenistan

Turkmenistan has enormous gas reserves, estimated at 50.4 trillion cubic metres. The country is entirely dependent on earnings from gas exports, and the fall in energy prices sent the economy into a deep crisis. Part of the problem is that Turkmenistan made ill-fated choices in the past. Its agreement with China stipulated that Chinese companies would invest in refineries and pipeline development. China additionally invested approximately \$20 billion in developing Turkmen gas fields. In 2009, Turkmenistan stopped exports to Russia and directed all exports to China, and in 2017, it halted exports to Iran. China lowered the price that it is willing to pay for Turkmen gas, and Turkmenistan had no other choice but to agree. In 2016, Turkmenistan supplied 29.4 bcm of gas to China, and its gas exports totalled approximately 35–37 bcm per year. In 2017, gas exports to China rose to 31.7 bcm.

Russia was the main importer of Turkmenistan's gas before China took over. Before 2009, Turkmenistan used to supply up to 40 bcm of gas annually to Gazprom, which then resold it for a higher price to Europe. This route was halted due to commercial disputes with Russia. Turkmenistan resumed exports to Russia this summer. According to a new agreement, Gazprom will buy up to 5.5 bcm annually from the state-owned Turkmenengaz until 2024 (RFE/RL 2019).

China pays Turkmenistan \$185 per 1,000 cubic metres of gas (a total of \$5.55 billion annually). How-

ever, the earnings do not all go to Turkmenistan's government. The reason is that part of the gas export revenues are used to cover billions of dollars of loans from China that the country provided for the development of gas fields and the construction of gas pipelines to China in the past (Shaban 2017).

In March 2019, President Trump sent a holiday message to Turkmenistan's president in which he expressed "hope that Turkmenistan will be able to take advantage of the new possibilities for gas export to the West in connection with the recently defined legal status of the Caspian Sea" (Cutler 2019). Later, he sent a similar message to the Azerbaijani president, indicating U.S. support for the SGC.⁶ However, the US approach this time seems to be different from the active energy diplomacy of the 1990s. While Trump provided rhetorical and diplomatic support for the SGC, there has been no tangible input and certainly no direct investments.

In an effort to diversify export options and reduce the Chinese monopoly, Turkmenistan has invested in the construction of a Turkmenistan–Afghanistan–Pakistan–India (TAPI) pipeline (capacity: 33 bcm per year), and China has shown interest in further extending it to China. For Turkmenistan, the completion of the TAPI seems to be a priority. Considering infrastructural sunk costs, it is unlikely that Turkmenistan will actively pursue a TCP in the western direction without a strong Western push.

Conclusion

The changes in the U.S. energy policy as well as transitions to low-carbon energy sources and renewables in Western Europe are reshaping the global energy order. The strong market power enjoyed by traditional petro-states is being challenged by shale gas producers. This keeps oil prices low and weakens the bargaining power of traditional energy producers. How has this shift—notably, the lower oil prices and limited investment in new upstream projects—impacted the energy producers in the Caspian region, namely, Azerbaijan, Kazakhstan and Turkmenistan?

Considering the lack of Western company investments and given the neglect by the U.S. and EU leadership in developing new energy projects, Caspian oil and gas outputs are increasingly moved towards Asian markets. Almost all gas from Turkmenistan and some portions of Kazakhstani oil and gas are transported to China. The new infrastructure being built or extended for capacity reasons is also targeting Asian markets. Kazakhstan is even considering reversing one of its pipelines to redirect the shipment of oil to China. This reverse system can be deployed to accommodate increasing output from its largest oil fields, Tengiz and Kashagan, in

6 Letter from President Trump to President Aliyev on the 26th anniversary of the Caspian oil and gas show, May 30, 2019, <http://tiny.cc/e6w1bz>

the near future. A TCP remains one plan on the table, but it was previously blocked by Russia and Iran, and since the late 1990s, the projects have not caught the attention of foreign investors. In the new energy order, the chances that it will ever be constructed are slim.

Among the three countries covered, Azerbaijan has been most vulnerable to macrostructural changes due to its denser linkages (through the existing pipeline network and contract commitments) to western energy markets, the draining of oil reserves and the challenges of attracting IOC investment into a new gas pipeline infrastructure. Its geography has trapped it into dependence on Western or Russian markets and the existing west-bound oil pipeline ties it to Turkey and European markets. Azerbaijan may be the country with the largest stake in the TCP project. With dwindling oil revenues

and declining oil production, Baku felt the urgency of switching to gas, a sector that the government identified as its second best comparative advantage. In a way, instead of diversifying the domestic economy to reduce its addiction to oil and gas, the government in Baku borrowed billions of dollars from foreign lenders to build gas infrastructure (TANAP-TAP) that perpetuates the country's dependence on conventional fossil fuels. This not only makes the Azerbaijani economy vulnerable to oil shocks but also increases the country's debt burden.

Turkmenistan's and Kazakhstan's choices for export routes have put the commercial viability of the Southern Gas Corridor into question, as there is currently not enough gas available to fill the TANAP-TAP pipeline. Without a TCP and Turkmen gas supplies, the SGC may turn out to be yet another ill-conceived 'white elephant' megaproject.

About the Author

Farid Guliyev is a Postdoctoral Fellow at Justus Liebig University Giessen in Germany. His current research focuses on global energy governance, Caspian energy developments, and the role of external actors in conflict resolution in post-communist countries.

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