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Turkey as an energy hub for the Southern Gas Corridor

Abstract

The EU has responded to Moscow's use of energy as a geopolitical force by creating a strategic priority to diversify its energy supply, particularly natural gas. The Trans-Anatolian Natural Gas Pipeline (TANAP) within the Southern Gas Corridor (SGC) is part of this effort, and this article examines the extent to which SGC and TANAP might satisfy this goal. Additionally, it analyses how the SGC might eventually change the energy power dynamics of Russia vis-à-vis the EU, with a particular note on eastern European vulnerability. Due to continued and worsening instability in Iraq, and the previous negotiations of Turkmenistan and China regarding their own gas deal, it is highly probable that there will not be enough supply that will pass through TANAP and SGC to change the Russian-EU energy equation. Additionally, Russia is unlikely to lose significant power from its energy supplier status, particularly vis-à-vis eastern Europe, as a result of the convoluted route through which the limited supply of SGC gas that could be destined for eastern Europe must pass.

Keywords: *energy, diversification, geopolitics, Caspian Sea, shale gas, infrastructure, security of supply*

Introduction

Leaders met in Prague in 2009 to discuss a new Silk Road that would once again bring resource riches to European customers.[1] This route would transport natural gas from several upstream sources and pipelines in the east through a long pipeline across Turkey to EU markets in the west. The EU continues to have high hopes for a Southern Gas Corridor (SGC) as part of its energy supply diversification strategy. In a rhyme of the thirteenth century resurgence of trade, Turkey finds itself sitting in between eastern suppliers and western buyers of the valuable commodity that powers factories and warms homes.

The implementation phase of the SGC began in 2014, though with a smaller gas supply base than what policy-makers in Prague had hoped to achieve. Turkey recently awarded contracts to steel producers for the 1841km Trans-Anatolian Natural Gas Pipeline (TANAP).[2] In September 2014, the Azerbaijani president inaugurated work

1 Solana, Javier (2009) *Remarks by Javier Solana, EU High Representative for the Common Foreign and Security Policy, at the 'Southern Corridor – New Silk Road' Summit* Prague, Czech Republic, 8 May.

2 Eraz, Seyma (2014) *Majority of TANAP entrusted to 6 Turkish Companies* last modified 15 October 2014, available at: http://www.dailysabah.com/energy/2014/10/15/majority-of-tanap-entrusted-to-6-turkish-companies.

on the Southern Caucasus Pipeline Expansion (SCPX) that will feed TANAP and Turkish domestic demand from 2018.[3] A year later, the Trans Adriatic Pipeline (TAP) is scheduled to deliver Caspian Sea gas to European markets via Greece and Italy. The SGC project, in its current status, is insufficient to meet the EU's strategic energy diversification objective due to the gas supply limitations feeding into TANAP and the expected continued increase in Turkish domestic demand. Moreover, in 2019 Russia is not likely to lose the geopolitical leverage that it holds over Europe, eastern European countries in particular, as the region will maintain dependence on Russian-supplied energy. The upside for the EU is that Russia will probably ignore work on the SCPX, TANAP and the SGC generally, while valuable infrastructure is built. Russia will continue to promote its South Stream project, but is not likely to take reprisal action against any country participating in the SGC before 2020.[4]

Background

In the mid-2000s, Russia aggressively clawed its way back on to the world stage after spending a decade and a half of irrelevancy due to institutional dysfunction and cheap hydrocarbon prices. Throughout the second half of the 2000s, oil prices steadily increased and Russia systematically rebuilt its state infrastructure and intangible confidence.[5] Marshall Goldman comments:

> *Russia has not hesitated in the past to cut off the flow of both petroleum and gas to strengthen its side of a political dispute.*[6]

Indeed, Russia has used its hydrocarbon resources to put pressure on countries and to further its foreign policy interests and is, even now, raising the stakes through 'special war' techniques when these threats are not enough.[7] Goldman argues that hydrocarbons are essential to western economies and that this gives the Russian leadership significant leverage. A major foreign policy goal of Russia is to maintain the political leverage over Europe that the hydrocarbon and pipeline resources provide Moscow.

3 *Turkey, Azerbaijan Break Ground for Trans-Anatolian Gas Pipeline* http://www.hurriyetdailynews.com/turkey-azerbaijan-break-ground-for-trans-anatolian-gas-pipeline.aspx?PageID=238&NID=71968&NewsCatID=348 [last modified 20 September 2014].

4 Editor's Note: this article was written prior to the cancellation of the South Stream project in early December.

5 Much of the following work is taken from research the author is performing on Caspian Sea politics: Thomas Batten (2014) *Two Caspian Sea Resource Rich Countries Encounter the East-West Rift: A Comparative Analysis of the Foreign Policy Objectives of Turkmenistan and Azerbaijan in a Turbulent Region* draft thesis, Harvard University, pp. 11-32.

6 Goldman, Marshall (2010) *Petrostate: Putin, Power and the New Russia* New York: Oxford University Press, p. 3.

7 Special war refers to 'An amalgam of espionage, subversion, …forms of terrorism to attain political ends without actually going to war in any conventional sense.' Schlinder, John (2014) *The Coming Age of Special War* last modified 20 September 2014, http://20committee.com/2013/09/20/the-coming-age-of-special-war/.

In this context, Europe wishes to diversify the sources from where it purchases its gas supplies, as gas is not fungible and supplies are hard to replace in the short term.[8] The EU hopes that, by having a broad and diverse gas supplier base, it will reduce the reliance on Russia and diminish the geopolitical power that this reliance gives Moscow.

Many European countries rely on Russia for imported gas, and eastern European countries in the Russian near-abroad are specifically highly reliant on Gazprom pipelines full of Russian energy for domestic consumption needs as well as gas transit obligations to neighbouring European countries. It is important to note that the specific energy mix of each of these eastern European countries matters when discussing energy geopolitics. For example, Poland imports all of its gas from Russia, yet only uses gas for ten per cent of its energy consumption as it mostly relies on domestically-produced coal.[9]

Jack Sharples and Andy Judge compiled a table of gas import dependency in Central and South-Eastern Europe for 2012. These countries are vulnerable to Russian pressure, whether for domestic consumption or transit purposes, without alternative gas supplies:

Table 1 – Gas import dependency in central and south-eastern Europe

Country	Gas import dependency	Share of Russia in gas imports	Share of Russia in consumption
Slovenia	100.0%	60.2%	60.2%
Greece	100.0%	55.6%	55.6%
Slovakia	98.4%	83.5%	82.2%
Czech Republic	98.0%	58.6%	57.5%
Bulgaria	97.7%	100.0%	83.3%
Italy	88.5%	32.6%	28.9%
Austria	78.9%	76.1%	60.0%
Hungary	78.2%	100.0%	78.2%
Poland	72.0%	81.3%	58.6%
Croatia	34.5%	N/A	N/A
Romania	24.3%	100.0%	24.3%
Average	79.1%	68.0%	53.5%

Source: Jack Sharples and Andy Judge 13 March 2014: http://blogs.lse.ac.uk/europpblog/2014/03/13/bulgaria-macedonia-and-romania-would-be-hardest-hit-by-a-suspension-of-russian-gas-exports-through-ukraine/ [last accessed 15 October 2014]. Data sourced from Eurogas: http://www.eurogas.org/uploads/media/Eurogas_Statistical_Report_2013.pdf

8 Skalamera, Morena (2014) *China's Energy: Getting it There – Pipelines, CSR and Other Challenges Part 2* YouTube video, 51:16, posted by "columbiauniversity", 28 April 2014, http://www.youtube.com/watch?v=XL65nvYWMCg.

9 Shaffer, Brenda (2014) *Energy as a Tool of Foreign Policy* Presentation at the Kennedy School International Security series at Harvard University, Cambridge, MA, 20 October 2014.

Southern Gas Corridor project

Journalists report that Russia and Ukraine have resolved their gas dispute in time for the upcoming winter, yet the winter of 2014-15 still could see a repeat of the gas cut-offs of 2006 and 2009.[10] Leaders of central and eastern European countries are scrambling to make contingency plans should the worst case happen. One short-term measure that EU policy-makers could do, should Gazprom turn off the gas, would be to backfill eastern European gas pipelines from German supplies. Longer term, the EU sees the need to have robust gas supply diversification and the SGC is a main part of this effort.[11] European Commission President, Jose Manuel Barroso, said in June 2014 that the SGC is a priority project for the EU and an important source of energy supply diversification. The EU would like the SGC to be operational by 2019.[12]

Originally, there were to be at least three input sources of gas to the SGC pipeline network: Iraq, Turkmenistan and Azerbaijan would each contribute gas with the largest share coming from Turkmenistan and Iraq.

In 2009, the United States military had successfully tamed Iraqi insurgents through much bloodshed and money, with the clever strategy of buying off Sunni leaders and then integrating them into the Iraqi army turning defeat into victory. Unfortunately, the Shi'ite government promptly fired these Sunni military men and officers when the United States military left Iraq in 2011, and, by 2014, ISIS had caused such chaos in the region that plans to include Iraq gas are no longer credible.[13]

Turkmenistan has some of the largest gas fields outside of the middle east and Russia. In the late 2000s, Turkmenistan made deals with China to ship the gas east. Recently, Turkmenistan signed yet another deal with China to increase the gas supplied to the Asian powerhouse. The current agreement is for the soon-to-be-four pipelines to carry up to 65 billion cubic metres (bcm) per year of gas from the central Asian country's Caspian Sea shores to China by 2020.[14][15]

This large amount of gas, combined with a presumably-large quantity of gas from properly-developed Iraqi fields to supply the SGC, could have concretely changed the power equation of Russia *vis-à-vis* Europe. Alas, it was not to be and the SGC is now scheduled to rely on Azerbaijan Caspian Sea gas production alone. The undersea Shah Deniz II gas field, with an expected output by 2019 of 16 bcm, will supply the SGC

10 Lewis, Barbara (2014) *Ukraine, Russia, EU energy chiefs meet to finalize gas deal* last modified 21 October 2014, http://www.reuters.com/article/2014/10/21/us-ukraine-crisis-gas-idUSKCN0IA17920141021.

11 Solana (2009) op.cit.

12 *Barroso: EU, Azerbaijan to Accelerate Southern Corridor Project* Radio Free Europe Radio Liberty, last modified 15 June 2014 http://www.rferl.org/content/barroso-eu-azerbaijan-to-accelerate-southern-corridor-project/25422747.html.

13 The General Petraeus strategy of defeating the Iraqi insurgents in 2007-8, by integrating Sunni fighters and former officers into the new Iraqi Army, is covered in a PBS Frontline special. Kirk, Michael (Dir.) (2014) *Losing Iraq* (DVD), Providence, RI: PBS.

14 Hasanov, Huseyn (2014) *Gas Pipeline from Turkmenistan to China to be Completed in 2016*, last modified 21 October 2014: http://en.trend.az/casia/turkmenistan/2324446.html.

15 Skalamera (2014) *op. cit.*

project through the SCPX, TANAP and TAP pipeline systems.[16] It will deliver this gas through the SGC as follows: Turkey will receive six bcm; Bulgaria and Greece will split one bcm per year; while Italy will receive nine bcm per year and will probably absorb most of this delivery for its own consumption needs rather than export it to other central and eastern European countries. Bulgaria will receive roughly one-half bcm per year and this will equal 25 per cent of its 2012 gas consumption and imports.[17] Greece will receive the equivalent of 12 per cent of its 2013 gas imports from the SGC project, while the 9 bcm delivered to Italy through TAP would equal almost 15 per cent of its 2013 imports, should it indeed consume all of the gas domestically rather than transit it to Austria or beyond.

The amount of gas delivered to these countries is not enough to change the geopolitical game, but it could provide additional supplies should there be technical difficulties in deliveries from other gas suppliers. Gas delivery systems are extremely complex and it is not uncommon to have temporary shutdowns for technical reasons, so the SGC will add to a diversified source of gas delivery even if it does not change the European-Russian strategic energy calculus.[18]

Turkish interests

Turkey imports nearly all the natural gas that it uses. Moreover, Figure 1 shows that, during the past ten years, domestic gas consumption has doubled, making a reliable and diverse supply increasingly important to Turkey.[19] Thus, Turkey is pursuing the primary interest of further diversifying its own gas imports in the face of increasing domestic demand by participating in the SGC project. In terms of its secondary interest, Turkey would like to capture transit feeds in the long-term, though there will not be significant fees due in 2019 with the initial transit of 10 bcm of gas to Europe. Later increases in the volume of gas transported by the SGC project would, however, lead to substantial fees: as much as $3bn per year.[20]

This EIA-produced graph shows that Turkish consumption of natural gas has doubled in the last ten years, without any increase in domestic production. Turkey must, therefore, import nearly all the gas that it uses:

16 *Shah Deniz Stage 2* http://www.bp.com/en_az/caspian/operationsprojects/Shahdeniz/SD-stage2.html [last accessed 15 October 2014].

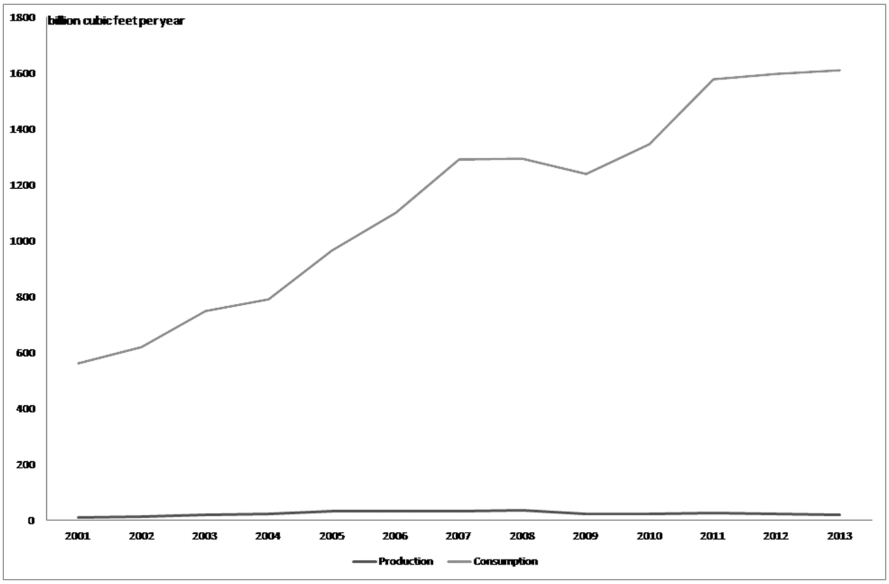
17 Shaffer (2014) *op. cit.*

18 *ibid.*

19 US Energy Information Administration (2014) *Turkey* last modified 17 April 2014: http://www.eia.gov/countries/cab.cfm?fips=tu [last accessed 15 October 2014].

20 Karakelle, Abduelkadir (2014) *TANAP to Provide Energy Security to EU, Turkey: Experts* http://www.dailysabah.com/energy/2014/09/21/tanap-to-provide-energy-security-to-eu-turkey-experts [last modified 21 September 2014].

Figure 1 – Natural gas consumption and production in Turkey, 2001-13



Source: US Energy Information Administration EIA Analysis on Turkey last modified 17 April 2014. Available online: http://www.eia.gov/countries/country-data.cfm?fips=tu#ng

From Turkey's perspective, however, the highest priority is to diversify its own gas supplies before transporting gas to Europe. Turkish imports of gas come mainly from Russia through two pipelines: Blue Stream, running south through the Black Sea; and the Western Pipeline, running from Bulgaria. It also imports some gas from Azerbaijan and Iran through the BTE pipeline, as well as through LNG terminals from African nations and Qatar.[21]

In 2012, Turkey imported 56 per cent of its gas from Russia, 18 per cent from each of Iran and Azerbaijan, and 16 per cent (in the form of LNG) delivered mostly from Qatar and Algeria. The LNG imports are mostly long-term contracts. Turkey used 45 bcm of gas in 2012 and imported roughly 26 bcm from Russia. Turkey uses just under half its gas for electricity generation, about one-fifth for industrial uses and the remainder for residential and commercial use.[22] The six bcm that it will see from the SGC, starting at the end of 2018, will further help to diversify and stabilise its gas supply in the face of technical disruptions. Additionally, gas is now the largest part of the Turkish energy mix, making a diversified, stable supply ever more important. Finally, Turkey has highly seasonal gas demand, but only a five per cent storage capacity

21 US Energy Information Administration (2014) *op. cit.*

22 The actual consumption mix: power generation 48%; industry 21%; residential 20%; commercial use 6%; and transport 1%. *ibid.*

compared to its annual usage.[23] This makes it even more dependent on a diverse supply to meet its own needs; it would be unable to supply consumers in other countries for any length of time should supply disruptions occur. This is in contrast to countries like Germany or France that have much larger storage capacities.

There is a movement for Turkey to produce gas domestically from shale deposits; estimates vary widely of the total gas that could be produced. Proven reserves are a miniscule 7 bcm as of 2013, although some analysts claim that shale gas reserves could be three thousand times as much.[24] Even if shale gas field development is successful, Turkey has an antiquated and limited gas pipeline system, so it would be difficult to transport the gas everywhere that it is needed within Turkey, or easily to export it from the newly-developed fields to European customers. Turkey would need to spend large sums of money on improving its pipeline system and increasing its coverage and capacity both for bringing domestic gas production to its internal market and also moving gas from the production fields to external customers.

Over the last century, Turkey has had a tradition of secularism based on the strength of a non-religious military, but Turkish politics are now experiencing turbulence and a possible transformation away from the secularly-controlled past of the twentieth century.,[25][26] Turkey is at a crossroads and the news is full of young people protesting in the streets. It is still possible that the current government could continue on its business-as-usual path, although scenarios such as further radicalisation or, conversely, a return of Kemalists escorted by tanks seem more likely.[27]

This NATO member plays a major role in the politics of the eastern Mediterranean, as well as an increasingly important role to the north-east of its border. Policy-makers and academics in Europe and the United States have heavily invested in the idea of a Southern Gas Corridor that would bring Azerbaijani gas to Europe through Turkish pipelines, and political factors could play a greater role in the reliability of Turkey as a transport partner in future years.[28]

23 *ibid*.

24 Coskun, Orhan (2013) *ExxonMobile in Talks with Turkey over Shale Gas Exploration* available at: http://www.reuters.com/article/2014/06/23/exxon-mobil-turkey-idUSL6N0P425520140623, last modified 23 June 2013 [last accessed 21 October 2014].

25 In a seminar, Jocelyne Cesari explained that, in the twentieth century, the Turkish state combined religion with politics, but it made an effort to have an equidistant relationship with many religions, such that Jewish or Christian followers had access to equal rights. She provides a useful three-tier model of state, society and individual aspects of religion and secularism. Subsequent to 2007, religious freedom has been eroding in Turkey at the state level due to a reduction in this equidistant relationship. Cesari, Jocelyne (2014) *The Awakening of Muslim Democracy: Religion, Modernity and the State* Presentation at seminar hosted by East Asian Institute of Harvard University, Cambridge, MA, 7 October.

26 Interview with Bruno Sergi. October 2014.

27 Vladimir Vepryev (regional expert), in discussion with the author, October 2014.

28 Morena Skalamera (post-doctoral Research Fellow, Geopolitics of Energy Project at Harvard University) in discussion with the author, October 2014.

Future projects and problems

The ambitious plans of the Prague conference for the SGC were reduced as the conflict in Iraq continued and Turkmenistan looked to the east to sell gas. However, there exist future possibilities to increase the amount of gas delivered to Europe through the SGC as supplier countries increase the gas produced or even as new supplies become available. The main sources of future gas include Azerbaijan increasing its production in the Shah Devin II field; Turkey domestically producing gas, including shale gas; countries such as Cyprus or Israel exploiting newly-found and yet-to-be-found offshore gas fields in the Levant Basin; and Turkmenistan exporting gas to the west through the future undersea Caspian Sea pipeline, in addition to the gas it exports to China.

Azerbaijan already has plans to increase production in the Shah Deniz II field beyond 2019's 16 bcm per year of exported gas. By 2025, there are plans to export 32 bcm of gas that will be delivered to Turkey, Italy, Bulgaria, Greece and other countries in Europe.[29] Turkey is likely to absorb a portion of this newly-provided gas; as the US Energy Information Administration report on Turkey says:

> *In the long run, Turkey's need to satisfy rapidly growing domestic demand consumption could affect the country's position as a gas transit state.*[30]

There is, therefore, the question of how much gas Turkey will take out of TANAP as it continues to gasify its economy. Turkey, as a transit state, is in a position of leverage over both consumption and supplier states, and it has used this power to achieve its political goals in the past.[31] Turkey may begin to produce gas domestically, but there are problems with this scenario, including an inadequate pipeline infrastructure to carry such gas to market.[32]

The gas which is estimated to lie in the Levant Basin is, at a total reserve estimate of between 200 and 300 bcm, not enough to satisfy the needs of Europe in a significant way.,[33][34] Should there be additional discoveries of large gas fields, or an updated estimate of the total eastern Mediterranean Sea reserves, the geopolitical situation could drastically change and it might be inevitable that Cyprus, Israel, or both, might hook

29 Krashakov, Artem (2014) *Perspectives of Trans-Caspian Project: Business View* last modified 7 April 2014: http://www.naturalgaseurope.com/perspectives-of-trans-caspian-project-business-view [last accessed 21 October 2014].

30 US Energy Information Administration (2014) *op. cit.*

31 Shaffer (2014) *op. cit.*

32 US Energy Information Administration (2014) *op. cit.*

33 Brenda Shaffer (Professor at the University of Haifa), in conversation with the author at the end of her presentation at the Kennedy School at Harvard University, October 2014.

34 Brenda Shaffer indicated in her presentation that Israel is using its new gas production for energy-intensive desalination efforts that have effectively ended the water shortage for Israel and the neighbours with which it has made trade deals. She also mentioned in a post-presentation conversation with the author that she had advised the Israeli government not to supply gas to any Russian customers, as it would be wise not to involve itself in Russia's sphere of influence due to a fear of Russian repercussions. Conversation with Brenda Shaffer, October 2014.

their production pipelines into the SGC. In this scenario, due to the trajectory of Turkey's domestic and foreign policies away from Israel and the frozen conflict in Cyprus, the supply would most likely join TAP rather than TANAP. A long undersea pipeline would then be needed and this again raises the minimum threshold of the size of the gas field needed and the level of annual production capability which would be sufficient to justify an extremely expensive 800km undersea pipeline.

In some scenarios, analysts see that Turkmenistan could produce enough gas to supply China and Europe. However, with the recent upgrade to the Sino-Turkmen deal, to accommodate up to 65 bcm per year of gas, this is not a likely scenario, especially because China owns an equity stake in the newly-developed fields that are producing gas and sending it east.[35]

Conclusion

Clever negotiating by Turkmenistan to ship its gas to China and maximise its profits has eliminated the possibility of a trans-Caspian undersea gas pipeline that would have added significant gas supplies to the Southern Gas Corridor in the near future. The chaotic circumstances in Iraq attest that no gas will be flowing from the south to fill TANAP; only the western Caspian Sea remains, and Azerbaijan will be the supplier to TANAP, with a relatively meagre amount in the face of enormous European demand. It hopes to double supply from 16 bcm in 2019 to 32 bcm by 2025, but Turkey, Italy and other European countries are likely to absorb this capacity before it reaches vulnerable Russian near-abroad countries, with the one exception of Bulgaria and the roughly half a billion cubic metres it has been allocated per year from the SGC.

The SCPX, TANAP and TAP pipeline network for exporting gas capacity to Europe is too small to raise grave concern in Russia. Therefore, Russia will take no significant additional steps to counter the Southern Gas Corridor beyond continuing to support the South Stream development. Russia will remain in a strong position, since TANAP will not have sufficient gas to 'circle around the horn' and provide a supply to eastern European countries which closes Russia's sphere of influence. Each country along the way from the TAP terminus to vulnerable eastern European states is likely to use increasing amounts of gas from the SGC for their own domestic purposes; first Italy, then Austria and so on. There will only be nine billion cubic metres to share after Greece and Bulgaria take their portion, and these other countries will quickly absorb the remainder. Romania and Poland are two examples of countries that will not benefit in any appreciable way from TANAP. Russia will retain substantial leverage over these countries and will have additional time to build its South Stream infrastructure that will considerably reduce Ukrainian leverage over European supply.

New gas field finds and exploitations might offer a different future. Turkish domestic gas production, including shale gas production, could resolve much of its own domestic needs and allow for the importation of Azerbaijani gas into Europe. Turkish domestic needs are quite high, and increasing each year, and Turkey would have vastly to improve its pipeline infrastructure and build robust shale production outfits to supply its needs in full. This domestic plan is costly, in terms of finding and gathering the gas

35 Krashakov (2104) *op. cit.*

and then improving the pipeline infrastructure. However, should Turkey make the commitment, it would help Europe achieve its strategic gas supply diversification goal. A scenario of an extremely large-scale gas find in the eastern Mediterranean is unlikely, but it would have enormous geopolitical impact should it occur.

Russian little green men might once again be seen, this time south of the Russian homeland.

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