

POWERFUL TIES: EU-TURKEY ENERGY RELATIONS

Turkey's role as a gas corridor to the EU is developing rapidly, but the impact on wider relations between the country and the bloc appears muted. While long-term gas pipeline projects may be overshadowed by the current tensions regarding gas exploration and exploitation in disputed areas offshore Cyprus, other energy projects could bridge the gap. On the other hand, Turkey, as a hydrocarbons-poor country, is pushing to develop green energies. This opens up another area for cooperation with the bloc, which also has ambitious targets for renewables as well as an interest in less coal use by Turkey. If both parties can cooperate positively in technical areas, there is a chance that the strained relationship can be improved.

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Energy relations have historically been central to the relationship between the European Union and Turkey. As major pipeline investments come to fruition, tensions in other areas, as well as natural gas market developments, are taking a toll on the partnership. Exploration offshore Cyprus remains a central issue, but the new energy sector presents an opportunity for additional technical cooperation.

Pipeline Progress

Turkey has long worked to establish itself as an energy hub, and traditionally energy relations between the EU and Turkey have centered around pipeline projects. The two main projects underway—TurkStream and the Southern Gas Corridor (SGC)—have seen a rapid series of advancements in the second quarter of 2018. However, other recent developments regarding source countries, the EU’s relationship with Gazprom, and the increasing role of liquefied natural gas (LNG) have hindered progress.

Making Connections

The delayed agreement on the land section of TurkStream—running from Russia under the Black Sea to join a Turkish pipeline—was finalized in late May 2018.¹ During the same month, Bulgaria and Russia announced plans for the second branch of the line to run through Bulgaria.² The plan was somewhat surprising after the 2014 cancellation of the similar South Stream project. Commenting on the cancellation, the Russian senator Aleksey Pushkov tweeted: “Bulgaria ditching the South Stream was a gross error, Turkey immediately seized its chance [with Turkish Stream], and Germany is building Nord Stream 2. A good lesson for Sofia.”³ The decision will allow construction on the second line, reaching the EU, to progress. Still, this project is one of many pipelines transporting Russian gas, giving it less strategic heft. Also in late May, Azerbaijan inaugurated the first phase of the SGC.⁴ The project is expected to eventually supply 10 billion cubic meters (bcm) of gas per year when it becomes fully operational in 2020. The next link in the chain, the Trans-Anatolian Pipeline (TANAP), began deliveries to Turkey at the end of June 2018, with the first deliveries to Greece expected in June 2019.⁵

¹ “Documents signed for TurkStream’s Europe-oriented onshore section,” *Gazprom*, 26 May 2018, <http://www.gazprom.com/press/news/2018/may/article432092/>

² “Bulgaria says will be entry point for Russian TurkStream gas link,” *Reuters*, 30 May 2018.

³ “Too late for Bulgaria to ask Russia for gas pipeline after ditching South Stream – Russian senator,” *RT*, 22 May 2018.

⁴ “Azerbaijan launches natural gas pipeline project to Turkey, Europe,” *Platts*, 29 May 2018.

⁵ Murat Temizer and Huseyin Erdoğan, “Turkey: Historic TANAP gas pipeline project goes live,” *Anadolu Agency*, 12 June 2018.

The SGC pipeline was originally planned to be extended to include supplies from Iran, northern Iraq, and Turkmenistan,⁶ but recent developments between the Kurdistan Regional Government (KRG) and the Turkish government, as well as the US withdrawal from the Iran nuclear deal, placed those plans in jeopardy. If the connection projects go forward at all, the additions of Iranian and northern Iraqi gas to the SGC pipeline will at least be delayed. Despite the apparent obstacles, the Azerbaijani government maintains that Turkmenistan will eventually join the project, a subject that has been under discussion since 2011. “In the future, we will be able to increase the volume of gas that can be transported through the SGC pipeline thanks to the projects completed in Azerbaijan and other sources, Turkmenistan among them,” Azerbaijani Energy Minister Parviz Shahbazov told *Trend News Agency* in May 2018.⁷

“*Turkey has long worked to establish itself as an energy hub.*”

As another major stakeholder, the Turkish government also hopes for Turkmenistan’s participation. The Turkish Ambassador to Turkmenistan stated in May 2018: “The TANAP project is very important for strengthening the energy security of Europe, and all the countries through which the gas pipeline will be laid are interested in Turkmenistan as a participant of the SGC project.”⁸

A pipeline under the Caspian Sea would be the most practical option but is not feasible before an agreement on its status is set between the littoral states. A convention is set for August 2018, but even if that deal is signed, bilateral negotiations would be required to demarcate exact borders.⁹

Without gas from Turkmenistan, 10 bcm per year is expected to begin flowing to Europe in 2020,¹⁰ which will make a small dent in the EU’s total supply pipeline capacity of 397 bcm per year.¹¹ Turkmenistan has reserves of 17.5 trillion cubic

⁶ Simone Tagliapietra and Georg Zachmann, “Designing a New EU-Turkey Strategic Gas Partnership,” Bruegel Policy Contribution, Issue 2015 Vol. 10 (July 2015).

⁷ “Parviz Shahbazov: Azerbaijan plays an important role in energy security and implements projects that change the energy map of the world,” *Trend News Agency*, 8 May 2018.

⁸ Huseyn Hasanov, “Turkey hopes for Turkmenistan’s participation in TANAP,” *Trend News Agency*, 28 May 2018.

⁹ Camilla Hagelund and Verisk Maplecroft, “Will convention on Caspian unlock oil and gas exploration scope?,” *Intellinews*, 16 March 2018, <http://www.intellinews.com/maplecroft-risk-briefing-will-convention-on-caspian-unlock-oil-and-gas-exploration-scope-138444/>

¹⁰ Nuran Erkul Kaya, “TANAP to supply Turkey’s cheapest gas: SOCAR Turkey,” *Anadolu Agency*, 30 May 2018.

¹¹ European Commission, “In-depth study of European Energy Security Accompanying the document Communication from the Commission to the Council and the European Parliament: European energy security strategy,” 2 July 2014, https://ec.europa.eu/energy/sites/ener/files/documents/20140528_energy_security_study.pdf

meters,¹² and the country currently exports 30 bcm to China, which could increase to 65 bcm. Meanwhile, the Turkmenistan-Afghanistan-Pakistan-India Pipeline is under construction with plans to export 33 bcm per year.¹³ While the reserves could prove sufficient for all prospective buyers, the competition and volatile status can also make investors wary.

Gas Reassurances

In late May 2018, the European Commission issued a decision on Gazprom's gas exports to the bloc in order to "address the Commission's competition concerns and enable the free flow of gas at competitive prices in Central and Eastern European gas markets."¹⁴ The decision required the gas giant to remove restrictions on cross-border reselling of gas and facilitate flows to isolated markets. It also required a structured process to ensure competitive gas prices and forbade the leveraging of its midstream dominance. The Commission stipulated that violations of these conditions can result in a fine of up to 10 percent of Gazprom's worldwide turnover. While the measures were not as harsh as some were hoping for, the decision did provide guarantees that make diversifying the EU's gas supply less critical. The protections the decision outlines for the internal resale of Gazprom gas give the member states greater leverage over the energy giant, reducing the need to find alternative suppliers.

Rise of LNG

Another reason for the lessening importance of pipelines is the rise of LNG projects around the world, which allow greater flexibility in trade. Pipelines require long-term contracts to guarantee profitability after huge capital investments in their construction, while LNG can be shipped to varying destinations. LNG is the fastest growing gas supply source in the world, with imports to Europe expected to rise 16 percent by 2035.¹⁵ In the face of "lower-for-longer" oil prices, LNG has become a more attractive investment option for international oil companies looking to diversify their assets.¹⁶

The EU is working to take advantage of this resource. The European Commission's 2016 communication on an EU Strategy for liquefied natural gas and gas storage¹⁷

¹² BP Statistical Review 2017.

¹³ "Five working to clear way for gas pipeline killed in Afghanistan," *Reuters*, 21 May 2018.

¹⁴ European Commission, "Antitrust: Commission imposes binding obligations on Gazprom to enable free flow of gas at competitive prices in Central and Eastern European gas markets," 24 May 2018.

¹⁵ Shell LNG Outlook 2018.

¹⁶ Carolyn Davis, "E&Ps Likely to Lead Next Wave of LNG Development, Says Goldman," 18 May 2018, *Natural Gas Intelligence*.

¹⁷ "Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on an EU strategy for liquefied natural gas and gas storage," 16 February 2016, https://ec.europa.eu/energy/sites/ener/files/documents/1_EN_ACT_part1_v10-1.pdf

cites the expansion of the LNG market as an opportunity to diversify supply. The commission recommends ensuring “that the necessary infrastructure is in place to complete the internal market and allow all member states to benefit from access to international LNG markets, either directly or via other member states. This is particularly urgent for member states that are overly dependent on a single supplier.” Although the EU is working to raise its regasification capacity from 200 bcm to 275 bcm per year, its facilities are currently underused.¹⁸

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The growing role of LNG in the energy market is also decreasing the importance of pipeline projects for the EU. LNG allows countries to import gas from more diverse sources than piped gas. Qatar dominates LNG exports globally, but long-standing EU allies such as Australia and the US are expected to increase LNG export capacity in the short term, so the EU will have less motivation to support the expansion of the SGC to include Turkmenistan, Iran or the Kurdistan Region of Iraq. For these reasons, EU-Turkey energy cooperation could find more fruitful results in other areas.

Cyprus

Since Cyprus reunification peace talks stalled in July 2017, ongoing tension in the region has overshadowed the progress made on pipelines. There was optimism surrounding the potential of the island’s offshore gas to incentivize the two sides to come to terms, but, instead, continued exploration without a resolution to the Cyprus problem has led to greater tension in the region.

Exploration Tensions

In February 2018, Cyprus accused the Turkish military of blocking a drillship contracted by Italian energy giant Eni for operations in the contested Block 3,¹⁹ which Turkey and Northern Cyprus claim as part of the northern side of the island’s territory.

¹⁸ European Commission, “In-depth study of European Energy Security Accompanying the document Communication from the Commission to the Council and the European Parliament: European energy security strategy,” https://ec.europa.eu/energy/sites/ener/files/documents/20140528_energy_security_study.pdf

¹⁹ “Cyprus says Turkish ships obstructing gas drill ship in east Med,” *Reuters*, 11 February 2018.

The move was denounced by EU leaders:

The European Council strongly condemns Turkey's continued illegal actions in the Eastern Mediterranean and the Aegean Sea and underlines its full solidarity with Cyprus and Greece. Recalling its conclusions of October 2014 and the Declaration of 21 September 2005, the European Council urgently calls on Turkey to cease these actions and respect the sovereign rights of Cyprus to explore and exploit its natural resources in accordance with EU and International Law. In this context, it recalls Turkey's obligation to respect International Law and good neighborly relations, and normalize relations with all EU member states including the Republic of Cyprus.²⁰

Earlier in the month, Eni had announced a promising gas discovery in Block 6, another working area Turkey claims as part of its continental shelf. The proximity of the find and its similarity to the Zohr gas field offshore Egypt add to its potential.²¹ The block had been included in earlier bidding rounds but was not awarded, which was interpreted as a concession to Ankara, however, it was assigned to Eni and Total in Cyprus' third auction.

Profit Pipeline

The unresolved conflict with Cyprus is also preventing greater pipeline development in the region. The tensions between the countries preclude the construction of a pipeline linking Cyprus and Israeli gas resources to Europe through Turkey, a route that is estimated to be much more profitable than a longer underwater duct to Greece.

Cyprus has been in talks to export gas to Egyptian LNG facilities via a subsea pipeline, a project that would reportedly cost between 800 million-1 billion dollars.²² The East Med pipeline, which will cross from Israel and Cyprus into Greece and Italy, estimated to cost 7 billion dollars, is also still on the table,²³ whereas a 600-kilometer pipeline to Turkey is estimated to cost 3.3 billion dollars.²⁴ After a final investment decision expected in early 2019, the duct is projected to carry 9-12 bcm per year to Europe. Cyprus' Aphrodite gas field holds about 128 bcm, so the participation of

²⁰ European Council, "European Council conclusions on the Western Balkans and actions by Turkey in the Eastern Mediterranean and the Aegean Sea," 22 March 2018.

²¹ ENI, "Eni announces a gas discovery Offshore Cyprus," 8 February 2018.

²² "Cyprus-Egypt gas pipeline to cost \$800 mln-\$1 bln," *Reuters*, 7 May 2018.

²³ Ron Bousso, "Israel expects decision on East Med gas pipeline to Europe in 2019," *Reuters*, 8 March 2018.

²⁴ Burak Şakir Şeker, "Sea Energy Security: The effect of current developments on the geopolitical balance in the East Mediterranean," *Turkish Studies*, Vol. 13, No. 7, (Winter 2018), p. 215.

Israel, with 900 bcm of offshore gas, or additional discoveries in Cypriot waters are crucial to making this project viable.

Search Intensifies

Tensions in this region are likely to grow as Turkey plans to begin drilling wells in Cypriot waters. Energy Minister Berat Albayrak announced plans to drill in offshore Cyprus in October 2017,²⁵ following seismic surveys that began in April. President Recep Tayyip Erdoğan confirmed the plan in March 2018,²⁶ and at the end of May, Albayrak announced that preparation works on the *Deepsea Metro II*, renamed *Fatih*, had been completed and it would be sent to the Mediterranean.²⁷ The conflicting claims over exploration blocks in this region highlight the need for additional cooperation in the region as tensions are likely to intensify with Turkey beginning to carry out its own exploration work in the area.

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Common Goals

As tensions between Turkey and the EU runs high over Cyprus, as well as other political issues, several energy-related topics offer an opportunity for cooperation on the shared interests between Turkey and the bloc such as coal reduction, renewables, energy efficiency, and electricity grid cooperation.

Coal Reduction

Coal is one of the few energy resources Turkey has available domestically, with 11.4 billion metric tons of coal reserves,²⁸ compared with 348 million barrels of oil²⁹ and 6 bcm of gas. The Turkish government aims to increase the exploitation of coal in the country. A statement on the Ministry of Energy and Natural Resources website reads, “Instead of using natural gas, which is an imported resource to generate

²⁵ “Turkey to hold first deep drilling for oil and gas in Med in 2018: Minister,” *Hürriyet Daily News*, 11 October 2017.

²⁶ “Total seeks interest in Block 8 off Cyprus,” *Oil & Gas Journal*, 23 May 2018.

²⁷ “Drillship Fatih sent to Mediterranean,” *Doğan Haber Ajansı*, 31 May 2018.

²⁸ BP Statistical Review of World Energy 2016.

²⁹ Eni World Oil Review 2017.

electricity, the efforts towards swiftly activating our lignite fields whose reserves have been determined and which possess the features required to establish thermal plants, into operation quickly, and the addition of new units to existing power plants has been carrying on.”³⁰ The country’s coal development plan is reported to be the third largest in the world after China’s and India’s.³¹ Production grew 18 percent between 2015 and 2016 to 15.2 million metric tons of oil equivalent, while consumption reached 38.4 million metric tons of oil equivalent in 2016, a 10 percent increase year-over-year.³²

The EU is careful in its language surrounding coal, as it is an important industry in many regions and the Union’s most abundant fossil fuel source. However, the Commission notes coal is the energy source that emits the most carbon, which the bloc is working to reduce drastically. The EU has launched three pilot projects in coal regions to help them transition towards other economic sectors. Initiatives include building geothermal and hydro energy plants in former coal mines, investing in e-mobility, digitalization and data centers, creating innovation parks, forming local energy communities, and developing tourism and agricultural activities.³³ Additionally, the EU is also working on carbon capture and storage technologies.³⁴

Many of the lessons learned here could be applied in Turkey, which has strong agricultural and tourism industries; geothermal and hydro potential; and a growing information, communications, and technology sector. The EU has an incentive to help mitigate greenhouse gases globally, and to neighboring Turkey especially because the air pollution associated with coal-fired power plants can travel across borders.³⁵

Renewables and Efficiency

In recent years, Turkey has been pushing to increase the share of renewables in its energy mix. The ruling Justice and Development Party’s (AKP) Vision 2023 goals include increasing the share of renewable energy in the country’s energy mix to 30 percent, with 20 GW of wind capacity installed.³⁶ While critics have called these targets too ambitious, the country did increase usage of renewable energy (excluding

³⁰ “Transit Pipelines and Projects,” Republic of Turkey Ministry of Energy and Natural Resources, <http://www.enerji.gov.tr/en-US/Pages/Transit-Pipelines-and-Projects>

³¹ Simone Tagliapietra, “We need a broader, greener EU-Turkey energy partnership,” *Hürriyet Daily News*, 2 November 2017.

³² BP Statistical Review 2017.

³³ EU Commission, “Coal and other solid fuels,”

³⁴ EU Commission, “Coal and other solid fuels.”

³⁵ “Europe’s Dark Cloud: How coal-burning countries are making their neighbours sick,” *Health and Environment Alliance, Climate Action Network Europe, WWF European Policy Office and Sandbag*, 5 July 2016.

³⁶ AK Parti, “Yenilenebilir enerjiyi artıracagız,” [We will increase renewable energy] <http://m.akparti.org.tr/site/hedef/2201/yenilenebilir-enerjiyi-artiracagiz>

hydropower) by 34 percent between 2015 and 2016. This increase only brought it to 5.2 million metric tons of oil equivalent.³⁷ (For comparison, Turkey's hydropower consumption was 15.2 million metric tons of oil equivalent in 2016.)

“The tensions between Cyprus and Turkey preclude the construction of a pipeline linking Cyprus and Israeli gas resources to Europe through Turkey.”

Solar capacity has been growing exponentially, increasing from zero in 2000 to 249 MW in 2015 and 833 MW in 2016.³⁸ Turkey's Energy Market Regulatory Authority reported that solar capacity reached nearly three GW in 2017,³⁹ and investment in the sector was expected to reach five billion dollars in 2017.⁴⁰ Wind power has been rising with a compound annual growth rate of 42.9 percent since 2000, reaching 5.75 GW of capacity in 2016.⁴¹ The government announced plans for one GW of renewables tenders by summer 2018⁴² and in June launched a 1.2 GW offshore wind tender.⁴³ In November 2017, the Turkish government established its National Energy Efficiency Action Plan 2017-2023 with the aim of reducing energy consumption by 14 percent.⁴⁴ The plan laid out 10.9 million dollars of investments over the five year period.

The EU could offer both technical and financial assistance in the expansion of Turkey's renewable energy sector. Renewables were included in a 2012 joint statement as a potential area for enhanced energy cooperation with the EU,⁴⁵ which holds 30 percent of global patents in renewables.⁴⁶ Moreover, financial support for Turkey has been provided through the European Investment Bank, the European Bank for Reconstruction and Development, and the European Commission since 1965.⁴⁷ The

³⁷ BP Statistical Review 2017.

³⁸ Eni World Gas and Renewables Review 2017.

³⁹ Turkish solar power production sees near triple boost,” Muhsin Barış Tiryakioğlu, *Anadolu Agency*, 14 May 2018.

⁴⁰ “Turkey aims to reach \$5 bln wind investment by year-end,” *Anadolu Agency*, 24 November 2017.

⁴¹ BP Statistical Review 2016.

⁴² “Turkey plans to hold new big tenders for wind, solar plants by summer 2018: Minister,” *Hurriyet Daily News*, 22 February 2018.

⁴³ “Turkey opens tender for 1,200 MW offshore wind plant project,” *Hurriyet Daily News*, 21 June 2018.

⁴⁴ “Ulusal Enerji Verimliliği Eylem Planı 2017-2023,” [National Energy Efficiency Action Plan 2017-2023] <http://www.resmigazete.gov.tr/eskiler/2018/01/20180102M1-1-1.pdf>

⁴⁵ European Commission Memo, Joint statement by EU Commissioners Oettinger and Füle and Turkish Ministers Bağış and Yıldız: “Enhanced EU-Turkey energy cooperation,” 14 June 2012, http://europa.eu/rapid/press-release_MEMO-12-434_en.htm

⁴⁶ European Commission, “Renewable Energy Progress Report,” 1 February 2017.

⁴⁷ Tagliapietra and Zachmann (2015).

one-billion-dollar Turkish Mid-Size Sustainable Energy Financing Facility has supported 42 projects that have added 700 MW of renewable capacity. Additional support would yield further results, as the cost of capital is hindering investment in the area.

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Electricity Grid

One of the flagship projects of the EU delegation to Turkey has been the integration of the Turkish and neighboring electrical grids with that of the EU. TEİAŞ, Turkey’s grid operator, is the only observer member of ENTSO-E, the European power network association, and it participates in several working groups.⁴⁸ Interconnectors were built between the Turkish and Greek and Bulgarian grids, and after a trial period, the EU and Turkey agreed to permanently link the Turkish electricity grid to Europe in 2015.⁴⁹ In 2017, Bulgaria was Turkey’s highest volume electricity supplier with 743.19 million kilowatt hours imported.⁵⁰ TEİAŞ is negotiating with its Bulgarian counterpart to increase transmission capacity between them.⁵¹ All sides profit by selling extra power and preventing blackouts through emergency power assistance.

Nuclear

Turkey began construction of the country’s first nuclear power plant in April 2018.⁵² The facility, located in Akkuyu Mersin province, is being constructed by Rosatom under a build-own-operate model, allowing the Russian corporation to construct, own and manage the facility. It is the first of three nuclear plants planned in the country, expected to come online in 2023, followed by plants built in cooperation with Japanese and Chinese companies.

The EU could support Turkey’s nuclear development under the umbrella of Euratom. The institution has formed cooperation agreements with third countries, including

⁴⁸ ENTSO-E, “Neighbouring Regions Observer membership of Turkey,” entsoe.eu/cooperation/

⁴⁹ “Turkish electrical grid to gain competitive power with links to Europe,” *Daily Sabah*, 16 April 2015.

⁵⁰ Ebru Şengül, “Turkey’s electricity import bill down by 60% in 2017,” Anadolu Agency, 3 February 2018.

⁵¹ “Turkey, Bulgaria hard at work on gas interconnector ITB,” Anadolu Agency, 25 September 2017.

⁵² “Russia’s Rosatom pours first concrete at the Akkuyu Nuclear Power Plant,” *New Europe Online*, 4 April 2018.

the US, Japan, Canada, Australia, Kazakhstan, Ukraine, Uzbekistan and South Africa.⁵³ Euratom's expertise on safety regimes would benefit Turkey while also helping to prevent accidents that would affect its EU neighbors. The facilitation of investment, research, and development would provide further incentive for Turkey to join the EU as it develops a nuclear industry from the ground up.

Closer Cooperation

The European Union evolved from the European Coal and Steel Community through enhanced technical cooperation that has built trust between the member states. Mutually beneficial economic collaboration allowed the member countries to forge closer political ties. While relations between the EU and Turkey have become strained in a number of areas, their common interests in the energy sector could be used as a catalyst to strengthen connections.

The basic framework for this cooperation can already be seen in pre-existing EU structures. Investment in enhancing these programs through additional funding and copying EU initiatives with other countries would go a long way towards improving the future relationship between Turkey and the EU in the long term, while the mutual benefits in the short term would also make cooperation palatable in the current climate.

⁵³ Alex Barker, Arthur Beesley, and Andrew Ward, "UK confirms it will leave European atomic energy community," *Financial Times*, 26 January 2017.