

# The Growing Importance of the Middle Corridor as an Energy Transport Route, and Opportunities for Azerbaijan and Georgia

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In light of Russia's war in Ukraine and the imposition of Western sanctions, a new multimodal trade route, the Middle Corridor, the shortest available, which passes via Central Asia, the Caspian Sea, and the South Caucasus, is expected to improve interconnection between Asia and Europe. The goal of this article is to examine the Middle Corridor's growing relevance as an energy transportation route and its potential to offer new opportunities for the European Union (EU), Central Asian countries, as well as for Azerbaijan and Georgia. In particular, this article covers the Middle Corridor's growth factors; the EU's current energy shortfall; the potential for fossil and renewable energy in Central Asia, Azerbaijan, and Georgia; as well as the main challenges to and prospects for its development. The Middle Corridor, as an alternative to conventional routes through Russia or the Middle East, presents a solution to geopolitical vulnerabilities. While its current infrastructure capacity falls short of Europe's energy demands, Central Asia and the South Caucasus offer vast amounts of fossil and renewable energy resources that could enhance the EU's energy security and bolster the Middle Corridor's capacity. Despite economic, political, and technical obstacles, global circumstances are creating momentum for its expansion. Azerbaijan, Georgia, and Central Asian countries stand to gain from economic diversification, regional integration, diplomatic strength, and reduced dependence on Russia.

**Keywords:** Middle Corridor, Caucasus, Asia, Energy, Transport, Azerbaijan, Georgia.



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### *Introduction*

The Middle Corridor has the potential to grow into a global initiative that will contribute to international peace and cooperation while improving the geopolitics, security, and economic ties between the two continents. The Middle Corridor is a novel multimodal transport route comprising diverse infrastructure undertakings that aims to enhance interconnectivity and trade between Asia and Europe through Central Asia, the Caspian Sea, and the South Caucasus. It is the shortest and fastest route compared to its rivals, the Northern and Southern Corridors. Its significance has surged during the Russia–Ukraine war and because of the Western sanctions imposed on Russia and Iran.

Among other opportunities, the Middle Corridor is becoming a more important route for the transportation of energy, and its significance

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is projected to increase in the years to come as the EU's demand for energy resources rises and the transportation infrastructure along the corridor keeps growing. The corridor makes it possible to transport a variety of energy resources, including liquefied natural gas (LNG), natural gas, oil, green electricity, and renewable hydrogen, thereby accelerating the EU's green transition. Exporting these resources to the EU can contribute to it achieving its target for renewable energy share in the total energy mix<sup>1</sup> of 42.5% by 2030 and to increasing the union's energy security.

By facilitating the transportation of energy resources, the Middle Corridor can help to create a common market for energy, as well as other goods and services, that can boost economic growth and trade in the region.

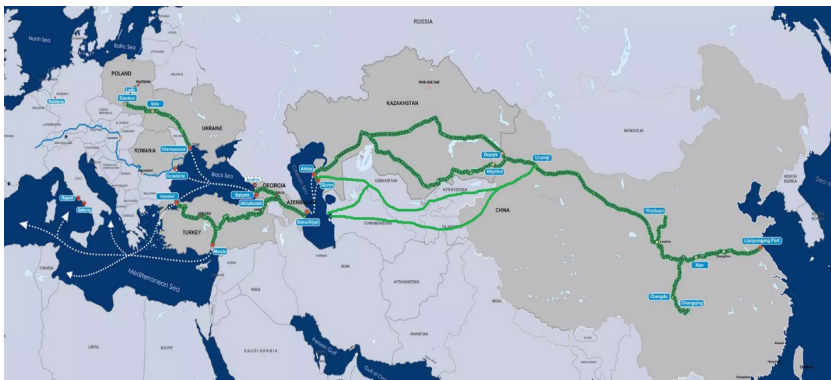
By strengthening ties with the EU and increasing economic integration through providing an alternative trade route for the West, the development of the Middle Corridor can weaken Russia's influence on the countries of the region, both in Central Asia and the South Caucasus.

<sup>1</sup> European Commission, "On 30 March 2023, the European Parliament and the Council reached a provisional agreement to raise the binding renewable energy target to at least 42.5% by 2030.", 2023, Available at: [https://energy.ec.europa.eu/topics/renewable-energy/renewable-energy-directive-targets-and-rules/renewable-energy-targets\\_en](https://energy.ec.europa.eu/topics/renewable-energy/renewable-energy-directive-targets-and-rules/renewable-energy-targets_en) (Accessed: November 22, 2023)

The existing infrastructure capacity along the Middle Corridor is currently, in the short term, insufficient to transport the amount of energy that Europe needs. However, the fossil and renewable energy resources in Central Asia and the South Caucasus are so abundant that they can easily meet the growing energy demand of Europe in the medium and long term.

### *Rise of the Middle Corridor*

The Middle Corridor, also known as the Trans-Caspian International Transport Route (TITR), refers to a transportation and energy corridor that aims to connect East and Central Asia, the South Caucasus, and Europe. It is a new multimodal transport corridor involving various infrastructure projects, including transportation networks, pipelines, and other initiatives, with the goal of improving connectivity and trade between these regions.



*Figure 1 - The Middle Corridor/The Trans-Caspian International Transport Route. Source: [www.middlecorridor.com](http://www.middlecorridor.com).*

The idea of the corridor was initiated back in 2013 by Kazakhstan, Azerbaijan, Georgia, Türkiye, and Romania. On February 20, 2014, the Coordination Committee of Azerbaijan, Kazakhstan, and Georgia was established to develop the TITR.<sup>2</sup>

<sup>2</sup> Ahmadov, N., “Global Insecurity: New Momentum for the Middle Corridor”, in “European Union-Azerbaijan Relations”, eds New Direction - AIR Center, 2022, p.29, Available at: <https://aircenter.az/uploads/JQtZi6TBPadh.pdf> (accessed: November 22, 2023)

After the collapse of the Soviet Union, important transport and energy transit projects were developed along the route of the Middle Corridor. For instance, the TRACECA (Transport Corridor Europe–Caucasus–Asia) project aimed to develop multimodal transportation routes, including by road, rail, and sea, to connect the Caspian Sea and Black Sea regions. At the end of the 1990s, the Western Route Export Pipeline (WREP, or Baku–Tbilisi–Supsa oil pipeline) was brought into operation. The South Caucasian Gas Pipeline (SCP, the SGC’s first pipeline chain, starting from Azerbaijan, passing through Georgia, and ending in Türkiye) and the Baku–Tbilisi–Ceyhan (BTC) oil pipeline, which today supplies Azerbaijani and Kazakh oil to the world market via Georgia and Türkiye, represented an important breakthrough.

The Baku–Tbilisi–Kars (BTK) railway, opened in 2017, is another significant development in the history of the Middle Corridor. It connects the railway systems of Azerbaijan, Georgia, and Türkiye, thus providing a direct rail link between Europe and Central Asia.

Currently, several factors have led to growing interest in the Middle Corridor. These include the Russia–Ukraine war and Western sanctions imposed on Russia and Iran; the EU’s need to diversify energy sources and routes; the existence of significant potential fossil and renewable energy resources in the Central Asia and South Caucasus regions; a necessity to diversify trade routes between Asia and Europe; and the need for a secure internet connection between the continents bypassing Russia.

The Middle Corridor, which is the shortest<sup>3</sup> route connecting Asia and Europe, is a rival to the Northern and Southern Corridors. Russia’s war in Ukraine has drastically changed the picture of energy supply for the European Union and the world. The EU’s desire to reduce its energy dependence on Russia has increased its interest in countries of the South Caucasus and Central Asia that are rich in energy resources.

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3 Dušek, M., “From pathway to highway in Eurasia”, Freight transported from Shanghai to Europe could take 10 days along the Middle Corridor, compared to up to 20 days on the Northern Corridor or 45 to 60 days by sea., *We Forum*, June 9, 2023, Available at: <https://www.weforum.org/agenda/2023/06/creating-a-green-and-digital-corridor-through-eurasia/> (Accessed: November 22, 2023).



Figure 2 - Alternative Routes from China to Europe (bakuresearchinstitute.org).

The corridor would allow the transportation of various types of energy resources, including natural gas, LNG, oil, green electricity, and renewable hydrogen, to support the green energy transition in the EU.

The idea of the Middle Corridor was enhanced by the ‘Memorandum on Strategic Partnership in the Energy Sector’ signed between the EU and Azerbaijan on 18 July 2022.<sup>4</sup> The parties agreed that, by 2027, the volume of gas supply through the Southern Gas Corridor (SGC) would double and at least 20 bcm annually would be supplied to Europe. It is also planned to develop the production of renewable energy in Azerbaijan and its supply to Europe. There is also significant green energy potential in Georgia and the Central Asian countries, the development of which will significantly increase the opportunities for cooperation between the EU and the two regions.

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The European Commission has long supported the expansion of the Southern Gas Corridor (SGC) – the predecessor to the Middle Corridor

4 European Neighbourhood Policy and Enlargement Negotiations (DG NEAR), EU and Azerbaijan enhance bilateral relations, including energy cooperation, June 18, 2022, Available at: [https://neighbourhood-enlargement.ec.europa.eu/news/eu-and-azerbaijan-enhance-bilateral-relations-including-energy-cooperation-2022-07-18\\_en](https://neighbourhood-enlargement.ec.europa.eu/news/eu-and-azerbaijan-enhance-bilateral-relations-including-energy-cooperation-2022-07-18_en) (Accessed: November 22, 2023)

– as a major contributor to secure, reliable, and predictable natural gas supplies from the Caspian basin to Southeastern Europe and, potentially, also to the Western Balkans via the Trans Adriatic Pipeline (the SGC’s last pipeline chain starting from the Greece–Türkiye border, passing through Albania, crossing the Adriatic Sea, and ending in Italy).

In the 21st century, the Middle Corridor can become not only a regional corridor, but a world-scale project that can change geopolitics,<sup>5</sup> security,<sup>6</sup> and economic relations of the two continents for the better, and become a guarantee of peace and cooperation between countries.

### ***EU Energy Demand and Energy Resources in Central Asia and the South Caucasus***

The EU has successfully dealt with the energy crisis caused by the Russia–Ukraine war that broke out in 2022, and in which the joint efforts of the member states and the USA played an important role.<sup>7</sup> For 2023, the IEA estimated gas demand in the EU as 395 bcm, considering the consumption in 2022 (360 bcm), adjusted for weather, the potential increase of gas use in industry, and the need for additional gas exports to Ukraine and Moldova.<sup>8</sup>

In 2023, according to an analysis by the IEA, the main sources of gas supply to EU countries will be gas pipelines – from Norway, Algeria, Great Britain, and Azerbaijan; LNG – mainly from the USA and Africa, with a small amount from Asia; and domestic gas production in the Netherlands, Romania, and Denmark, as well as biomethane production, a large share of which comes from France.<sup>9</sup>

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5 Ahmadov, N., *op.cit.*, p.34. “The Middle Corridor is in line with the strategic interests of the United States and its Western allies as the route bypasses their three largest regional rivals—Russia, China and Iran—and connects a landlocked region to Europe.”

6 Hoagland, R., “Connecting Central Asia, The South Caucasus, and Beyond”, The current war in Ukraine has re-opened the doors of the region to the great powers. The countries in the region want more choices and are recalibrating their options. The United States is possibly more welcome than it has ever been. *Caspianpolicy.org*, July 19, 2023, Available at: <https://www.caspianpolicy.org/research/energy-and-economy-program-cep/connecting-central-asia-the-south-caucasus-and-beyond> (Accessed: November 22, 2023).

7 European Commission, “EU action to address the energy crisis”, 2023, Available at: [https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/eu-action-address-energy-crisis\\_en](https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/eu-action-address-energy-crisis_en) (Accessed: November 22, 2023)

8 IEA, “Baseline European Union gas demand and supply in 2023”, 2023 Available at: <https://www.iea.org/reports/how-to-avoid-gas-shortages-in-the-european-union-in-2023/baseline-european-union-gas-demand-and-supply-in-2023> (Accessed: November 22, 2023)

9 *Ibid.*

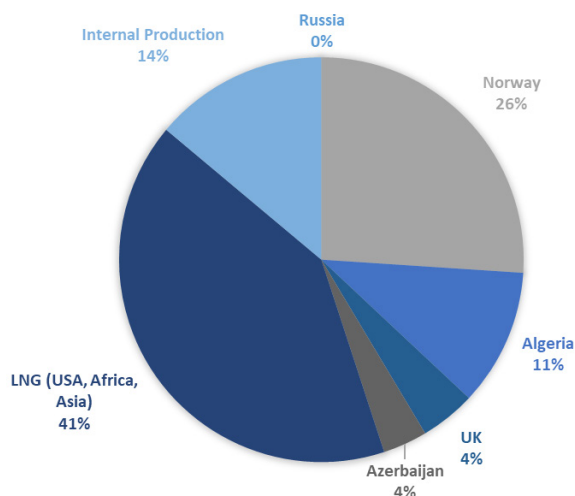


Figure 3 - Gas Supply to the EU in 2023. Source: *IEA*.

According to the IEA, if competition for supplies of LNG increases, due to a rebound of demand from China, and Europe’s mild winter temperatures do not continue, then the EU could face a shortage of 30 bcm of natural gas in 2023.<sup>10</sup> The IEA also proposed additional action on energy efficiency, renewables, heat pumps, and gas supply from new sources to close this gap.

Compared to natural gas, the European market for oil and petroleum products is significantly diversified and not critically dependent on Russian sources. However, according to the IEA, “Russia’s invasion of Ukraine sparked a surge in oil prices and brought security of supply concerns to the fore, helping accelerate deployment of clean energy technologies. At the same time, upstream investments in 2023 are expected to reach their highest levels since 2015.”<sup>11</sup>

In the current energy crisis, the role of the Middle Corridor in connecting the energy-rich countries of the Caspian Sea basin with Europe through new and safer routes has become even more important.

<sup>10</sup> IEA, “How the European Union can avoid natural gas shortages in 2023”, December 12, 2022, Available at: <https://www.iea.org/news/how-the-european-union-can-avoid-natural-gas-shortages-in-2023> (Accessed: November 22, 2023)

<sup>11</sup> IEA, “World oil markets reset”, 2023, Available at: <https://www.iea.org/reports/oil-2023/executive-summary> (Accessed: November 22, 2023)



Figure 4 - The South Caucasus and Central Asia. Source: *Vidiani*.

Kazakhstan is a major oil producer in Central Asia, with significant proven reserves of oil (about 30 billion barrels) and gas (2.4 trillion cubic meters).<sup>12</sup> In contrast, Turkmenistan has substantial natural gas reserves (more than 11 trillion cubic meters) and has been a major supplier of natural gas to neighbouring countries. Uzbekistan has both oil and natural gas reserves and is a significant player in the Central Asian energy landscape. Tajikistan and Kyrgyzstan have smaller oil and gas reserves, and their energy sectors are less developed. They generally rely on imports to meet their energy needs.<sup>13</sup>

Azerbaijan, which is an important player in the Middle Corridor, is rich in energy resources, with both oil and natural gas reserves.<sup>14</sup> Georgia, which plays an important transit role in the Middle Corridor, does

12 CIA, “The World Factbook”, November 14, 2023, Available at: <https://www.cia.gov/the-world-factbook/countries/kazakhstan/> (Accessed: November 22, 2023)

13 CIA, “The World Factbook”, November 14, 2023, Available at: <https://www.cia.gov/the-world-factbook/countries/> (Accessed: November 22, 2023)

14 The Ministry of Energy of the Republic of Azerbaijan, “History of Development of Oil Industry”, January 31, 2020, Available at: <https://minenergy.gov.az/en/neft/neft-senayesinin-inkisaf-tarixi> (Accessed: November 22, 2023)



not have rich fossil energy resources but is rich in renewable energy sources, mainly hydro, wind, and solar.<sup>15</sup>

*Table 1 - Fossil and Renewable Energy Reserves in Central Asia, Azerbaijan, and Georgia. Source: CIA World Factbook 2023.<sup>16</sup>*

Country	Crude oil reserves (billion barrels, 2021 estimates)	Natural gas reserves (trillion cubic meters, 2021 estimates)	Renewable energy sources
Kazakhstan	30	2.407	Hydro, solar, wind
Turkmenistan	0.6	11.327	Solar, wind
Uzbekistan	0.6	1.840	Solar, WIND
Tajikistan	0.0012	0.006	Hydro (main), solar, wind
Kyrgyzstan	0.04	0.006	Hydro (main), solar, wind
Azerbaijan	7	1.7	Hydro, solar (main), wind
Georgia	0.035	0.008	Hydro (main), solar, wind

However, there are several challenges in terms of resource development, such as: lack of modern production technologies in the region and therefore high extraction costs; limited capacities of transit infrastructure; political instability and the significant influence of Russia and China in the region;<sup>17</sup> and difficulties in attracting investment from the EU.<sup>18</sup>

15 Ministry of Economy and Sustainable Development of Georgia, “National Renewable Energy Action Plan”, 2023, Available at: <https://www.economy.ge/?page=ecopolitic&s=63> (Accessed: November 22, 2023)

16 CIA, “The World Factbook”, November 14, 2023, Available at: <https://www.cia.gov/the-world-factbook/countries> (Accessed: November 22, 2023)

17 Bradsher, K., “In the ‘Great Game’ of Central Asia, China’s Leader Seeks the Advantage”, *NY Times*, September 17, 2022, Available at: <https://www.nytimes.com/2022/09/16/world/asia/china-xi-central-asia.html?searchResultPosition=1> (Accessed: November 22, 2023).

18 Bloomberg, *Gas-Rich Turkmenistan Is Running Out of Time to Feed Europe’s Fuel Appetite*, July 31, 2023, Available at: <https://www.bloomberg.com/news/articles/2023-07-31/gas-rich-turkmenistan-is-running-out-of-time-to-feed-europe-s-fuel-appetite> (Accessed: November 22, 2023)

For decades, the development of the Caspian Basin as an important source of fossil energy resources for Europe and the world was prevented by several factors. On the one hand, the effective resistance of Russia and Iran blocked the construction of the Trans-Caspian gas pipeline, while Russia itself became the supplier of Central Asian energy resources to Europe.<sup>19</sup> On the other hand, the growing markets of China<sup>20</sup> and India shifted Turkmenistan's gas exports to the East. Nevertheless, significant reserves of energy resources remain untapped and are waiting for investment from the West.

The countries of Central Asia are looking for a higher degree of independence from Russia, which has proved itself to be an

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unreliable and monopolistic partner that disregards the sovereign interests of its neighbours. If Russia significantly cuts back or stops buying oil and gas from Kazakhstan and Turkmenistan due to its own excess production, those countries may start more active trade relations with European countries.<sup>21</sup> The first examples of this can already be seen in Kazakhstan increasing its oil exports to Azerbaijan for the European market<sup>22</sup> and Turkmenistan's recently reached agreement with Hungary on gas trade.<sup>23</sup>

19 Hoagland, R., *op.cit.* The five Central Asian states, each in its own way, have inherited the strong Russian political tradition of the confluence of oligarchs and intelligence services; that always plays a role in government decision-making.

20 Lingling, W., "China's 40-Year Boom Is Over. What Comes Next?", The end of China's economic boom may be accompanied by a slowdown in the growth rate of its energy demand. *Wall Street Journal*, August 20, 2023, Available at: <https://www.wsj.com/world/china/china-economy-debt-slowdown-recession-622a3be4> (Accessed: November 22, 2023).

21 Bushuev, M., "Russia targets EU, cutting off Kazakhstan's oil exports", *DW*, August 7, 2022, Available at: <https://www.dw.com/en/russia-targets-eu-cutting-off-kazakhstans-oil-exports/a-62408644> (Accessed: November 22, 2023).

22 Abbasova, V., "Kazakhstan Increases Oil Exports via Azerbaijan", *Caspiannews*, July 14, 2023, Available at: <https://caspiannews.com/news-detail/kazakhstan-increases-oil-exports-via-azerbaijan-2023-7-13-16>. (Accessed: November 22, 2023).

23 Caspianpolicy, *Hungary to Become the First Country to Sign a Commercial Agreement on the Import of Turkmen Gas*, August 20, 2023, Available at: <https://www.caspianpolicy.org/research/weekly-media-highlights/headlines-from-the-caspian-august-22-2023> (Accessed: November 22, 2023)

Azerbaijan and Georgia are also important players in the Middle Corridor, as an energy producer and a transit country respectively, and each has significant potential in renewable energy sources. Azerbaijan is making every effort to increase its exports of hydrocarbons to the European market, and to help achieve this it plans to significantly promote energy efficiency<sup>24</sup> and renewable energy production<sup>25</sup> and to export the saved gas and oil. At the same time, Azerbaijan is increasing imports of gas for its own use from Turkmenistan through an Iran-enabled swap. In June 2022, Iran and Azerbaijan agreed to double (from the existing 1.5–2 bcm/y) the annual gas exchange from Turkmenistan to Azerbaijan via the Iranian pipeline system.<sup>26</sup>

Azerbaijan possesses substantial potential for renewable energy sources, including a technical potential of 135 GW onshore and 157 GW offshore.<sup>27</sup> The economic potential for renewables is estimated at 27 GW, encompassing wind (3,000 MW), solar (23,000 MW), bioenergy (380 MW), and run-of-river hydro (520 MW). Despite being recognized as a fossil fuel energy exporter, Azerbaijan places special emphasis on renewable energy under President Ilham Aliyev’s energy security policy. The country’s total power generation capacity is 7,954 MW, with renewable sources contributing 16.5%. Azerbaijan aims to achieve a 30% share of renewable energy in its energy balance by 2030, thus fostering a clean and sustainable energy future.<sup>28</sup>

Georgia has abundant water resources, ranking among the top countries in the world on a per capita basis.<sup>29</sup> About 300 of its 26,060 rivers have

24 President of the Republic of Azerbaijan, *The order of the president of Azerbaijan dated July 17, 2023, on the approval of the “Procedure for the Implementation of State Control in the Field of Rational Use of Energy Resources and Energy Efficiency.”*, Azerbaijan, July 17, 2023.

25 The Ministry of Energy of the Republic of Azerbaijan, “The Use of Renewable Energy Resources in Azerbaijan”, June 16, 2023, Available at: <https://minenergy.gov.az/en/alternativ-ve-berpa-olunan-enerji/azerbaycanda-berpa-olunan-enerji-menbelerinden-istifade> (Accessed: November 22, 2023).

26 Newscentralasia, *NIGC: Iran recorded a surge in gas swap from Turkmenistan to Azerbaijan*, April 16, 2023, Available at: <https://www.newscentralasia.net/2023/04/16/nigc-iran-recorded-a-surge-in-gas-swap-from-turkmenistan-to-azerbaijan/> (Accessed: November 22, 2023)

27 The Ministry of Energy of the Republic of Azerbaijan, *op.cit.*

28 The Ministry of Energy of the Republic of Azerbaijan, *op.cit.*

29 REN21, “Factsheet: Renewable Energy in Georgia”, 2021, Available at: [https://ren21.net/wp-content/uploads/2019/05/Factsheet\\_Georgia-HardTalk-2021.pdf](https://ren21.net/wp-content/uploads/2019/05/Factsheet_Georgia-HardTalk-2021.pdf) (Accessed: November 22, 2023)

the potential to generate hydropower, but only 20–22% of this potential is currently being utilized. Georgia also has significant solar and wind energy potential. According to REN21, the economic potential for renewables in Georgia is estimated at 18 GW, including 15 GW of hydropower and 1.5 GW each for wind and solar energy.<sup>30</sup> In its National Integrated Energy and Climate Plan, Georgia plans to develop an additional 895 MW of renewables (hydro: 330 MW, wind: 400 MW, and solar: 165 MW) by 2024, and 1980 MW (hydro:700 MW, wind: 730 MW, and solar: 550 MW) by 2030.<sup>31</sup> Georgia aims to achieve a 27.4% share of renewables in its final energy consumption by 2030. The increased share of renewables will allow for increased electricity exports during spring and summer.

Georgia is also actively working on opportunities for the development of renewable hydrogen, for which it has already developed a strategy. With the help of donors, it has begun research on alternative technologies for its development.<sup>32</sup>

Fossil-fuel-rich Central Asia also has a lot to offer in terms of renewable energy, mainly solar and wind, which can play an important role in the decarbonization of the Middle Corridor and enhance the green energy transition in Europe and the region. The production and export of green electricity and renewable hydrogen may be one way to promote renewable energy in the Middle Corridor.

According to an IEA assessment, the deserts of KaraKum (mainly in Turkmenistan) and KyzylKum (divided between Kazakhstan, Turkmenistan, and Uzbekistan) can accommodate 26.3 and 22.5 TW of solar panel capacity capable of producing, respectively, 30.4 and 26 thousand TWh annually,<sup>33</sup> which is more than current world electricity

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30 *Ibid.*

31 GSE, Ten-Year Network Development Plan of Georgia, the existing capacities of power plants are distributed as follows - regulatory hydroelectric plants: 2381 MW, seasonal hydroelectric plants: 995 MW, combined thermal plants: 1079 MW, air turbine: 110 MW and wind power plant: 21 MW. 2023, Available at: [https://www.gse.com.ge/sw/static/file/TYNDP\\_GE-2023-2033\\_GEO.pdf](https://www.gse.com.ge/sw/static/file/TYNDP_GE-2023-2033_GEO.pdf) (Accessed: November 22, 2023)

32 Ministry of Economy and Sustainable Development of Georgia, “Draft National Integrated Energy and Climate Plan (NECP), of Georgia”, Tbilisi, MoESD, as of August 2023.

33 K. Komoto, “Energy from the Desert: Very Large Scale PV Power Plants for Shifting to Renewable Energy Future”, February 2015, Table A.2-1, Available at: [https://iea-pvps.org/wp-content/uploads/2020/01/Energy\\_from\\_the\\_desert\\_Ed-5\\_2015\\_lr.pdf](https://iea-pvps.org/wp-content/uploads/2020/01/Energy_from_the_desert_Ed-5_2015_lr.pdf) (Accessed: November 22, 2023)

production.<sup>34</sup> Another important site for renewable energy production in Central Asia is the Ustyurt Plateau, located between the Caspian and Aral Seas, and shared by Kazakhstan, Uzbekistan, and Turkmenistan. According to some estimates, this unoccupied flat clay desert has good solar potential alongside the highest wind potential in Central Asia. If only 20% of this territory could be exploited, it could generate an estimated 0.8 TW of wind or 2 TW of solar power, giving an estimated total of 2.4–2.8 thousand TWh of electricity production.<sup>35</sup>

In addition, Central Asian countries, especially Kazakhstan and Uzbekistan, are rich in critical minerals, which are important raw materials in the production of renewable energy technologies. This further increases the competitiveness of the region and creates a favourable environment for investment.<sup>36</sup>

Considering the significant potential of green energy production, Central Asian countries could become globally competitive in renewable hydrogen production. Production of renewable hydrogen is an emerging technology that can support the development of intermittent renewable energy sources such as wind and solar; the energy from those technologies can be stored and transported using hydrogen as the energy carrier. The EU's hydrogen strategy and REPowerEU plan aim to make hydrogen a key part of the energy mix by 2030, as it can help to reduce greenhouse gas (GHG) emissions and improve energy security.<sup>37</sup>

Although the development of even a part of the renewable energy capacity in Central Asia could fully satisfy not only the demands of the region but also contribute to the growing demand of Europe for electricity, it requires significant investment by and political readiness of the interested parties.

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34 IEA, “Energy Statistics Data Browser”, about 27 thousand TWh in 2020, August 18, 2022, Available at: <https://www.iea.org/data-and-statistics/data-tools/energy-statistics-data-browser?country=WORLD&fuel=Energy%20supply&indicator=TESbySource> (Accessed: November 22, 2023)

35 Margvelashvili, M., “Central Asia Decarbonizing the Southern Gas Corridor”, *www.weg.ge*, 2023, Available at: [http://weg.ge/sites/default/files/other\\_paper\\_10\\_weg.pdf](http://weg.ge/sites/default/files/other_paper_10_weg.pdf) (Accessed: November 22, 2023).

36 Vakulchuk, R., “Central Asia is a missing link in analyses of critical materials for the global clean energy transition”, Volume 4, Issue 12, p.1678-1692, December 17, 2021, Available at: <https://www.sciencedirect.com/science/article/pii/S2590332221006606#!> (Accessed: November 22, 2023).

37 European Commission, “Hydrogen”, 2022, Available at: [https://energy.ec.europa.eu/topics/energy-systems-integration/hydrogen\\_en](https://energy.ec.europa.eu/topics/energy-systems-integration/hydrogen_en) (Accessed: November 22, 2023).

Kazakhstan has already taken the first steps. It has signed a deal with Swedish company Svevind Energy Group to build a 20-GW green hydrogen plant on its territory. The \$50-billion-value plant is expected to produce up to 2 million tons of green hydrogen per year, which could be used to meet 20% of the EU's hydrogen import needs by 2030.<sup>38</sup> However, the transportation logistics need to be clarified. The current understanding is that this will be achieved in the form of green ammonia.<sup>39</sup>

As the shortest and safest alternative route to the North and South routes, the Middle Corridor facilitates the export of significant volumes of fossil energy resources and, by developing large-capacity renewable energy, can contribute to the decarbonization of the corridor and support the EU in reaching its renewables target. Despite a number of challenges<sup>40</sup> – economic, political, and technical – that hinder the large-scale and timely development of the corridor, current events in the world have created momentum for the expansion of this corridor. All interested parties, including Central Asia and South Caucasus countries, the EU, and the USA, should unite their efforts to realize the Middle Corridor and share the benefits of economic, political, social, and security development in the region.

### ***Energy Infrastructure in the Middle Corridor***

Modern technologies and infrastructure are critical to developing the abundant energy resources in Central Asia and the South Caucasus and transporting them along the Middle Corridor. Although large-scale projects such as BTC and SCP have been developed over the years, the infrastructure available today does not allow for the full exploitation and export of fossil and renewable energy resources to the European

38 Dezem, V., “Kazakhstan Signs Deal to Make Hydrogen at a \$50 Billion-Plant”, *Bloomberg*, October 27, 2022, Available at: <https://www.bloomberg.com/news/articles/2022-10-27/kazakhstan-signs-deal-to-make-hydrogen-at-a-50-billion-plant#xj4y7vzkg> (Accessed: November 22, 2023).

39 Atchison, J., “More green hydrogen & ammonia for Kazakhstan”, *Ammoniaenergy*, November 9, 2021, Available at: <https://www.ammoniaenergy.org/articles/more-green-hydrogen-ammonia-for-kazakhstan/> (Accessed: November 22, 2023).

40 Conflicts among countries, lack of production technology and infrastructure development, the willingness of gas-rich countries to allow hydrogen transportation rather than developing and exporting their gas etc. Author's note.

market. Table 2 provides a brief technical description of the main oil and gas transit infrastructure in the corridor.

*Table 2 - The main oil and gas transit infrastructure in the Middle Corridor*

Energy resource	Project	Means of transportation	Full capacity	Real load
Oil	Western Route Export Pipeline (WREP, operational since 1999)	Oil pipeline	7.2 mln. tons a year	4.2 mln. tons. (58%, in 2021) <sup>41</sup>
Oil	Baku–Tbilisi–Ceyhan pipeline (BTC, operational since 2006)	Oil pipeline	Up to 70 mln. tons (≈500 mln. barrels) a year (throughput capacity is currently 1.2 million barrels per day)	500 mln. barrels. (100%, in 2021) <sup>42</sup>
Gas	South Caucasus Pipeline (SCP, operational since 2006)	Gas pipeline	24 bcm/y with the extension perspective up to 31 bcm/y <sup>43</sup>	19.8 bcm (83% in 2022) <sup>44</sup>
Gas	Southern Gas Corridor (SGC, operational since 2020, when TAP began commercial operation <sup>45</sup> )	Gas pipelines	SCPX (current 24.04 bcma, with up to 31 bcma extension capacity), TANAP (16.2 bcma, up to 31 bcma), TAP (10.5 bcma, with up to 20 bcma by 2027),	11.4 bcm (109% in 2022)

41 O’Byrne, D., “Ukraine war forces closure of Azerbaijani oil export pipeline”, *Eurasianet*, June 6, 2022, Available at: <https://eurasianet.org/ukraine-war-forces-closure-of-azerbaijani-oil-export-pipeline> (Accessed: November 22, 2023).

42 BP, “Baku–Tbilisi–Ceyhan pipeline”, 2022, Available at: [https://www.bp.com/en\\_az/azerbaijan/home/who-we-are/operationsprojects/pipelines/btc.html](https://www.bp.com/en_az/azerbaijan/home/who-we-are/operationsprojects/pipelines/btc.html) (Accessed: November 22, 2023).

43 SGC, “South Caucasus Pipeline (SCP)”, 2020, Available at: <https://www.sgc.az/en/project/scp> (Accessed: November 22, 2023).

44 GOGC, “Years Statistics, Georgian Oil & Gas Corporation”, 2023, Available at: <https://www.gogc.ge/en/statistics/years/> (Accessed: November 22, 2023).

45 The Ministry of Energy of the Republic of Azerbaijan, “The Southern Gas Corridor”, May 31, 2023 Available at: [https://minenergy.gov.az/en/layiheler/cenub-qaz-dehlizi\\_2196](https://minenergy.gov.az/en/layiheler/cenub-qaz-dehlizi_2196) (Accessed: November 22, 2023).

Oil	Baku–Tbilisi–Kars Railway (BTK, operational since 2017)	Railway transportation of oil and oil products <sup>46</sup>	5 mln. tons of cargo (potential increase up to 17) and 3 mln. passengers.	Oil not observed as of 2023, while 1.4 mln tons of dry cargo was transported during 2017-2022
Oil	Georgian Railway, excluding BTK route	Railway transportation of oil and oil products	Up to 30 mln. tons of cargo <sup>47</sup>	14.8 mln. tons of cargo (53% in 2022)

**The Western Route Export Pipeline (WREP) (Baku–Supsa)** was the first oil pipeline to begin operation (in February 1999) after the collapse of the Soviet Union. The WREP transports crude oil from offshore oil fields in the Caspian Sea (Azerbaijan) to the Black Sea (Georgia), where it is further shipped via tankers through the Bosphorus to European markets. The construction budget of the WREP was about \$600 million.

**The Baku–Tbilisi–Ceyhan (BTC)** oil pipeline was another major development that became operational in June 2006. The pipeline transports oil from the Azeri-Chirag-Deepwater Gunashli (ACG) field and condensate from the Shah-Deniz field across Azerbaijan, Georgia, and Türkiye. It links the Sangachal terminal on the shores of the Caspian Sea to the Ceyhan marine terminal on the Turkish Mediterranean coast. Starting in October 2013, the BTC pipeline also resumed the transportation of some volumes of

46 TRACECA, “Opening ceremony of the Baku-Tbilisi-Kars railway - Uninterrupted and Reliable Rail Transport Bridge for the TRACECA Corridor”, October 31, 2017, Available at: [https://www.traceca-org.org/en/news/single-news/n/opening\\_ceremony\\_of\\_the\\_baku\\_tbilisi\\_kars\\_railway\\_uninterrupted\\_and\\_reliable\\_rail\\_transport\\_bridge/](https://www.traceca-org.org/en/news/single-news/n/opening_ceremony_of_the_baku_tbilisi_kars_railway_uninterrupted_and_reliable_rail_transport_bridge/)(Accessed: November 22, 2023).

47 Ministry of Economy and Sustainable Development of Georgia, “2020-2030 national logistics strategy of Georgia”, 2023, Available at: [https://www.economy.ge/uploads/files/2017/transport/2023/strategy/transportisa\\_da\\_logistikis\\_strategia\\_2023\\_2030.pdf](https://www.economy.ge/uploads/files/2017/transport/2023/strategy/transportisa_da_logistikis_strategia_2023_2030.pdf) (Accessed: November 22, 2023).



Tengiz crude oil from Kazakhstan.<sup>48</sup> Kazakhstan hopes to deliver up to 1.5 million tons of oil through the BTC pipeline in 2023 as part of growing efforts to find export routes bypassing Russia.<sup>49</sup> The total cost of the BTC oil pipeline project was estimated to be around \$3.9 billion.



Figure 5 – The WREP, BTC, and SCP pipelines. Source: The State Oil Company of Azerbaijan Republic (SOCAR, 2018).

**The South Caucasus Gas Pipeline (SCP)**<sup>50</sup> was constructed jointly with the BTC oil pipeline to minimize the environmental and social impact and to achieve synergies in capital and operating costs. The pipeline has been operational since late 2006, transporting gas from Azerbaijan to Georgia and, starting from July 2007, to Türkiye from the Shah-Deniz field’s Stage 1 development.

**The South Caucasus Pipeline Expansion (SCPX)** is being constructed to increase the capacity of SCP. The expanded section of the pipeline began commercial deliveries to Türkiye in June 2018 and to Europe in December 2020. The SCPX is a joint venture between the State Oil Company of the Republic of Azerbaijan (SOCAR), BP, Chevron, Equinor, Shell, Total-Energie, and the State Oil and Gas Company of Turkmenistan (Turkmengas). The project has an

48 bp, *op.cit.*,

49 Oilmarketnews, “Kazakhstan To Start Using New Oil Export Route In 2023”, 2023, Available at: <https://oilmarket.news/kazakhstan-to-start-using-new-oil-export-route-in-2023/> (Accessed: November 22, 2023).

50 SGC, South Caucasus Pipeline (SCP), *op.cit.*,

estimated cost of about \$3 billion.<sup>51</sup> The SCPX is a major component of the SGC, a network of pipelines that transports natural gas from Azerbaijan to Europe.

**The Southern Gas Corridor (SGC)**, a predecessor of the Middle Corridor, includes the SCP, Trans-Anatolian Pipeline (TANAP), and Trans-Adriatic Pipeline (TAP), with a total budget of about \$20 billion.<sup>52</sup> The SGC aims to increase and diversify European energy supply by bringing gas resources from the Caspian Sea to markets in Europe to reduce the continent’s reliance on Russian gas and assist in diversifying the energy supply therein. Upon completion, the Shah-Deniz natural gas field development (SD2) project will add a further 16 bcm/a of natural gas production capacity to the existing 11 bcm/a production capacity already existing from the first-stage (SD1) project. The total length of the newly constructed SCPX, TANAP, and TAP pipelines is more than 3,200 km.



**Southern Gas Corridor:** SCPX (current 24.04 bcma, with up to 31 bcma extension capacity), TANAP (current 16.2 bcma, with up to 31 bcma extension capacity), TAP (current 10.5 bcma, with up to 20 bcma extension capacity by 2027),

*Figure 6 - The Southern Gas Corridor, Source: SGC.*

The SGC’s current 10.5 bcm/a capacity for supplying gas to the EU can be enhanced to 16.2 bcm/a, if Türkiye delivers its portion of TANAP to the EU, by saving gas through energy efficiency, increasing the share of renewables, purchasing LNG, or imports from other sources. This would account for about 20% of the current gas shortage (30 bcm/a in 2023) in the EU.

51 Socor, V., “SCP, TANAP, TAP: Segments of the Southern Gas Corridor to Europe”, Jamestown Foundation, January 15, 2014, Available at: <https://jamestown.org/program/scp-tanap-segments-of-the-southern-gas-corridor-to-europe/>(Accessed: November 22, 2023).

52 *Ibid.*

The implementation of the above-mentioned projects was challenging, as they involved significant technical, environmental, political, and economic difficulties. However, each project was successfully completed and now plays an important role in the regional development and energy security of Georgia, Türkiye, and the EU.

Along with oil pipelines, railways play an important role in the transportation of oil from Asia to Europe, doing so even in the 19th century. The Baku–Tbilisi–Batumi railway line, a vital artery linking the Caspian Sea and the Black Sea, became operational in 1883, allowing the transportation of Azerbaijani oil through the port of Batumi. Over the past decade, more than 38.7 million tons of Kazakh and Turkmen oil have been delivered to world markets by rail via the Azerbaijan-Georgia railway infrastructure.<sup>53</sup> So far, more than 14.8 million tons of transit oil products, including fuel oil, jet fuel, petrol, diesel, and gas oil, have been transported to Georgia and exported to world markets.<sup>54</sup> The modern Alat Port of Baku is connected by railway to the ports of Batumi and Poti on the Black Sea of Georgia. The Port of Baku is also well connected to the newly developed BTK railway line connecting Azerbaijan, Georgia, and Türkiye, which became operational on 30 October 2017. This route provides transportation of goods from Central Asia, primarily oil and oil products, to ports on the Mediterranean Sea in Türkiye and, subsequently, to world markets. Despite BTK providing significant transit opportunities to Georgia, the capacity of the Akhalkalaki line is not fully utilized for unknown reasons.<sup>55</sup>

The significance of Georgian ports as gateways to the Black Sea cannot be overstated. Companies from Georgia, Azerbaijan, and Kazakhstan have launched new feeder vessels operating between Poti and Constanta (Romania), while Denmark’s Mærsk and Finland’s Nurminen Logistics have joined the Middle Corridor initiative.<sup>56</sup> The EU’s support under

53 SOCAR, “Rail transportation”, 2021, Available at: <https://socar.az/en/page/rail-transportation> (Accessed: November 22, 2023)

54 *Ibid.*

55 Radiotavisupleba, “The Baku-Tbilisi-Kars railway section was temporarily closed”, May 16, 2023, Available at: <https://www.radiotavisupleba.ge/a/32413707.html> (Accessed: November 22, 2023)

56 Eldem, T., “Russia’s War on Ukraine and the Rise of the Middle Corridor as a Third Vector of Eurasian Connectivity, SWP-Berlin, October 28, 2022 Available at: <https://www.swp-berlin.org/10.18449/2022C64/> (Accessed: November 22, 2023) / [www.maersk.com](https://www.maersk.com), Maersk launches a revamped Middle Corridor rail service, May 16, 2022 Available

the Trans-European Transport Network (TEN-T) programme would further boost the corridor's capacity.

In the framework of the Middle Corridor, one of the critical project ideas is the Trans-Caspian Pipeline (TCP), a proposed undersea pipeline that would transport 30 bcm of gas annually from Turkmenistan to Azerbaijan and then to Europe. The TCP is seen as a way to diversify European gas supplies and reduce the continent's dependence on Russia. The TCP has been on the agenda since the United States first suggested the project in 1996, but construction has not yet begun due to border disputes among the five littoral states of the Caspian Sea and the resistance of Iran and Russia.

However, the last four years have seen the most remarkable and dynamic changes in the Caspian and South Caucasus regions. The Caspian Convention, which has a provision that undersea pipelines may be constructed by countries involved in the project without requiring others to first approve, was signed in 2018.<sup>57</sup> Azerbaijan and Turkmenistan have also opened a new era in their bilateral relations, culminating in January 2021 with a memorandum of understanding (MoU) on the joint development of the offshore 'Dostluk' field, raising hopes for the realization of the TCP.<sup>58</sup> The TCP would be an eastward extension of the SGC and would increase the latter's capacity in the future. In light of the Russia–Ukraine war and induced energy crisis, the TCP pipeline is receiving renewed attention. The EU and the United States should seize this opportunity to increase their support for the project.

In addition to the TCP gas pipeline, other projects such as the Azerbaijan–Georgia–Romania Interconnector (AGRI) for LNG<sup>59</sup> and

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at: <https://www.maersk.com/news/articles/2022/05/16/maersk-launches-a-revamped-middle-corridor-rail-service> (Accessed: November 22, 2023)

57 Nortonrosefulbright, "The Convention on the Legal Status of the Caspian Sea - A sea or not a sea: that is still the question", September 2018, Available at: <https://www.nortonrosefulbright.com/en-in/knowledge/publications/5f222b95/the-convention-on-the-legal-status-of-the-caspian-sea---a-sea-or-not-a-sea-that-is-still-the-question#:~:text=On%20August%2012%2C%202018%2C%20the%20leaders%20of%20Azerbaijan%2C,Legal%20Status%20of%20the%20Caspian%20Sea%20%28the%20Convention%29>. (Accessed: November 22, 2023)

58 Hajiyev, Sh., "Has the Trans-Caspian Pipeline's Time Finally Arrived?" Aircenter, June 15, 2021, Available at: <https://aircenter.az/en/single/has-the-trans-caspian-pipeline-time-finally-arrived-728> (Accessed: November 22, 2023)

59 Azernews, *Timeframe for implementation of AGRI project revealed*, March 8, 2019, Available at: [https://www.azernews.az/oil\\_and\\_gas/146939.html](https://www.azernews.az/oil_and_gas/146939.html) (Accessed: November

the White Stream<sup>60</sup> pipeline should not be overlooked. These projects were previously supported by the EU and could be revived in light of current events in the region for the further development of the Middle Corridor.

Georgia, Azerbaijan, Romania, and Hungary have already reached an agreement on the development of the Black Sea Submarine Power Cable; this was signed at a meeting in Bucharest on 17 December 2022.<sup>61</sup> It will be the longest (1,100 km) underwater power cable in the world, aiming to connect the South Caucasus region with southeastern Europe and involving the electricity systems of Azerbaijan, Georgia, Romania and Hungary, and continental Europe. Within the framework of the project, a high-speed fibre optic internet cable is also being considered, which will increase the security of information transmission between the regions, bypassing Russia. According to the President of the European Commission, Ursula von der Leyen, the Black Sea submarine cable is “an ambitious project. It would connect us on both sides of the Black Sea and run further towards the Caspian Sea region both for digital communication and for energy. It will help reinforce our security of supply by bringing electricity from renewable sources to the European Union.”<sup>62</sup> A feasibility study of the submarine cable is ongoing and will be completed in the first half of 2024.<sup>63</sup>

*Although the Zangezur Corridor is the shortest route connecting Azerbaijan with its Nakhchivan Autonomous Republic and with Türkiye through Armenia and would also provide economic benefits for Türkiye, it still faces opposition from Armenia and Iran.*

The development of the Zangezur Corridor could increase the capacity and importance of the Middle Corridor. Although the Zangezur Corridor is the shortest route connecting Azerbaijan with its Nakhchivan

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22, 2023)

60 Actmedia, *White Stream, is currently being considered, bringing gas through Romania and Bulgaria*, December 4, 2014, Available at: <https://actmedia.eu/energy-and-environment/white-stream-is-currently-being-considered-bringing-gas-through-romania-and-bulgaria/55487> (Accessed: November 22, 2023)

61 GSE, *Black Sea Submarine Cable Project Feasibility Study Review*, June 15, 2022, Available at: <https://gse.com.ge/communication/news/2022/black-sea-submarine-project-feasibility-study-review/> (Accessed: November 22, 2023)

62 RFE/RL's Romanian Service, *Hungary, Romania, Georgia, Azerbaijan Agree To Black Sea Electricity Project*, December 17, 2022, Available at: <https://www.rferl.org/a/romania-hungary-azerbaijan-georgia-electric-cable-black-sea/32180990.html> (Accessed: November 22, 2023)

63 GSE, *op.cit.*

Autonomous Republic and with Türkiye through Armenia and would also provide economic benefits for Türkiye, it still faces opposition from Armenia and Iran.<sup>64</sup>

Overall, the existing gas transport infrastructure capacity in the Middle Corridor is insufficient to transport the amount of energy that Europe needs in this critical period. The Middle Corridor requires further development and scaling up of transport infrastructure. In addition, it is necessary to harmonize the transport and economic policies of the Middle Corridor countries and bring them closer to EU standards.

### *Implications of the Middle Corridor for Azerbaijan and Georgia*

The development of the Middle Corridor will bring significant economic and political and security benefits to Azerbaijan and Georgia, further increasing their cooperation. These countries now have unprecedented potential to diversify their economies and establish a major regional energy hub thanks to the Middle Corridor. By leveraging their strategic location and the transportation infrastructure of the Middle Corridor, Azerbaijan and Georgia can attract investment in energy infrastructure, stimulate economic growth, and enhance their energy security.

By positioning them as regional energy centres and proponents of regional integration, the Middle Corridor can provide Azerbaijan and Georgia with more leverage in international negotiations. To fully reap the rewards of the Middle Corridor, Azerbaijan and Georgia must also further their cooperation with the EU and apply its principles of good governance and trade-related acquis.

The development of the Middle Corridor has the potential to bring significant benefits to Armenia as well. The opening of the Middle Corridor would provide Armenia with a new trade route to both East and West, which would help to boost its economy, increase trade and investment, and improve connectivity. The development of the Middle Corridor would require cooperation between Armenia, Azerbaijan,

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<sup>64</sup> Huseynov, V., "Uncertainty Looms Over Zangezur Corridor as Armenian-Azerbaijani Disputes Persist", Jamestown Foundation, March 7, 2023, Available at: <https://jamestown.org/program/uncertainty-looms-over-zangezur-corridor-as-armenian-azerbaijani-disputes-persist/> (Accessed: November 22, 2023)

Türkiye, and other countries in the region. This would help to improve relations between these countries and promote peace and stability in the region.

The favourable geopolitical locations of Georgia and Azerbaijan can enable them to become educational hubs for significant academic and scientific initiatives in the Middle Corridor development. They can become centres of research that will promote the green transition, energy security, and making and keeping peace in the region. Projects of strategic importance that will reinforce the Middle Corridor can be initiated and will be facilitated by attracting students and researchers from Central Asia and neighbouring countries.

Georgia and Azerbaijan are therefore taking important steps for the development of the Middle Corridor:

As a member of the Energy Community, Georgia is actively implementing reforms in the energy sector by introducing European directives and regulations.<sup>65</sup> This is creating a favourable investment environment for the development of renewable energy resources that might later be exported to the EU.

Georgia supports the Black Sea Transmission Planning (BSTP) project, which aims to strengthen electricity trade potential between Black Sea countries, regional cooperation, and improved market operation studies. Project participants include TSO representatives of Georgia, Ukraine, Moldova, Bulgaria, and Türkiye.<sup>66</sup>

Azerbaijan aims to produce more electricity from renewables, thereby attracting investment, particularly from the UAE and Saudi Arabia.<sup>67</sup>

Another important development in EU–Azerbaijan cooperation was a new ‘Memorandum of Understanding on a Strategic Partnership in

*The opening of the Middle Corridor would provide Armenia with a new trade route to both East and West, which would help to boost its economy, increase trade and investment, and improve connectivity.*

65 Energy-Community, “The 2022 Country Report Georgia”, 2022, Available at: <https://www.energy-community.org/implementation/report/Georgia.html> (Accessed: November 22, 2023)

66 Ministry of Economy and Sustainable Development of Georgia, “Draft National Integrated Energy and Climate Plan (NECP), of Georgia”, Tbilisi, MoESD, as of August 2023

67 Zawya, “Saudi’s ACWA Power, UAE’s Masdar, Azerbaijan’s SOCAR team up for 500MW renewable energy projects”, November 9, 2023, Available at: <https://www.zawya.com/en/wealth/sustainability/saudis-acwa-power-uaes-masdar-azerbajians-socar-team-up-for-500mw-renewable-energy-projects-mrvi2j39> (Accessed: November 22, 2023)

the Field of Energy’ signed on 18 July 2022.<sup>68</sup> The MoU includes a commitment to double the capacity of the SGC to deliver at least 20 bcm annually to the EU by 2027 and to accelerate the development of renewable energy generation and green hydrogen production. This will contribute to the diversification objectives in the REPowerEU Plan and help Europe to ease its dependency on Russian gas.

Despite this, even stronger cooperation between Azerbaijan and Georgia is needed to promote the Middle Corridor. They can set an example for Central Asian countries in terms of simplifying border relations, eliminating tariffs and bureaucratic barriers, implementing joint infrastructure projects, and cooperating with the EU.

### *Conclusion*

The Middle Corridor has the potential to develop into a major undertaking that will alter the geopolitics, security, and economic ties between Europe and Asia in the 21st century. It can also enhance cooperation between countries.

The conflict between Russia and Ukraine, Western sanctions against Iran and Russia, the EU’s need to diversify its energy sources and trade routes, the significant potential of fossil and renewable energy resources in Central Asia, the requirement for a secure internet connection between Asia and Europe bypassing Russia, and other factors have all contributed to the current increase in interest in the Middle Corridor.

The Middle Corridor is essential because it offers an alternative transportation route for the delivery of energy resources, avoiding conventional routes that pass through or originate from Russia or the Middle East, which can be vulnerable to geopolitical tensions and disruptions. The corridor facilitates the movement of a variety of energy resources, including LNG, natural gas, oil, green electricity, and renewable hydrogen, all of which can help accelerate the EU’s green transition.

In the past two years, important steps have been taken in the development of the Middle Corridor, examples of which are the EU–Azerbaijan

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<sup>68</sup> European Commission, “EU and Azerbaijan enhance bilateral relations, including energy cooperation”, July 18, 2022, Available at: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_22\\_4550](https://ec.europa.eu/commission/presscorner/detail/en/IP_22_4550) (Accessed: November 22, 2023)



MoU on strategic partnership in the energy sector, the natural gas trade agreement reached between Hungary and Turkmenistan, the agreement between Kazakhstan and a Swedish company on the development of a gigawatt-scale renewable hydrogen plant, increased oil exports from Kazakhstan to Azerbaijan and on to EU markets, and an agreement among Georgia Azerbaijan, Romania, and Hungary on the development of a high-voltage submarine electricity cable under the Black Sea. In the Middle Corridor, the interests of the world's leading logistics companies, such as Denmark's Mærsk, Austria's Rail Cargo Group, Finland's Nurminen Logistics, and the Dutch Rail Bridge Cargo, all taking actions aimed at increasing cargo turnover along the route, have amplified the significance of the initiative.

The fossil-fuel-rich Central Asian region has a lot to offer in terms of renewable energy, especially solar and wind, which can help decarbonize the Middle Corridor and advance the green energy transition in Europe and the region. The best way to encourage renewable energy generation in the Middle Corridor may be through the production and export of green electricity and renewable hydrogen. Azerbaijan, a significant player in the Middle Corridor, is endowed with vast oil and natural gas deposits. Georgia, which is a key transit state in the Corridor, has a wealth of renewable energy resources, particularly hydro, wind, and solar, making up for its lack of abundant fossil fuel resources.

Overall, Central Asia and the South Caucasus offer a wide range of fossil and renewable energy sources and export routes, which can significantly improve the EU's energy security and be instrumental in the growth of the Middle Corridor. The Middle Corridor facilitates the export of significant amounts of fossil fuels and, by developing large-capacity renewable energy, can help to decarbonize the corridor and aid the EU in meeting its renewable energy target. It is also the shortest and safest alternate route to the North and South routes. Despite numerous obstacles – economic, political, and technical – that have prevented the corridor's rapid and extensive development, the current situation in the world is creating momentum for its growth.

If Türkiye delivers its share of gas from TANAP to the EU (by saving gas through energy efficiency, increasing the share of renewables, purchasing LNG, or import from other sources), the SGC's existing 10.5 bcm/a capacity for supplying gas to the EU can be increased to

16.2 bcm/a. About 20% of the EU's current gas shortage (30 bcm/a in 2023) would be attributable to this increase. Despite the Middle Corridor's limited ability to transport the amount of gas required for Europe to meet its current energy needs, Central Asia and the South Caucasus have abundant fossil and renewable energy resources that can more than meet the continent's growing long-term energy needs.

The Middle Corridor can have significant economic and political implications for Azerbaijan and Georgia, including economic diversification, enhanced regional integration, increased diplomatic leverage, and reduced dependence on Russia. Georgia's advantageous location makes it a potential centre for academic and scientific activities in the Middle Corridor. It can attract students and researchers from the region to promote the green transition, energy security, and peace-making. This could contribute to the overall development and stability of the South Caucasus region.

Much depends on whether the energy-rich countries of Central Asia manage to break free from Russian influence and actively begin negotiations and cooperation with the EU to increase production and export on the scale required to meet Europe's current deficit. This is an urgent moment, because fossil energy resources may soon become a thing of the past in light of the development of green and clean energy sources, and countries' decarbonization commitments. Viewing this from the perspective of national interests is crucial; however, the world as a whole, and these nations themselves, will benefit most from a larger-scale vision at this time.