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Azerbaijan's Emerging Role in the Green Energy Architecture of the Balkans and the Black Sea Region

Aytaj Mahammadova

Vusal Guliyev

Mirza İbrahimov 8, Baku, AZ1005, Azerbaijan

(+994 12) 596-82-39, (+994 12) 596-82-41

E-mail: www.aircenter.az, info@aircenter.az

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Key Takeaways:

- *The Balkans and Black Sea region are undergoing a strategic transition from fossil fuel dependency toward renewable energy, driven by EU climate goals, sanctions on Russia, and the need for energy diversification. Once energy competitors, Türkiye and Bulgaria are now aligning through bilateral and quadrilateral frameworks to develop a green electricity corridor connecting the Caspian region to Europe.*

- *In April 2025, Türkiye, Bulgaria, Azerbaijan, and Georgia signed a Memorandum of Understanding under the "Green Electricity Transmission and Trade" initiative. Bulgaria is leveraging its geographic position and EU support to establish itself as a regional hub for green electricity. Türkiye is extending its influence beyond gas transit by emerging as a key producer and exporter of renewable energy. Meanwhile, Azerbaijan is strategically positioning itself to diversify its energy exports beyond hydrocarbons by becoming a reliable supplier of clean electricity to Europe through this corridor.*

- *This four-party collaboration is driven by Europe's climate goals and energy transition needs, aiming to bolster regional energy security. While initiatives like the Zangezur Corridor could further enhance green electricity export routes for Azerbaijan, political challenges currently hinder its full integration. Ultimately, this green energy cooperation fosters interdependence and has the potential to contribute to regional stability, economic development, and environmental sustainability.*

A profound energy metamorphosis is underway in the Balkans and the Black Sea region, as a long-standing reliance on hydrocarbons gives way to an era increasingly defined by renewable energy sources. This transition is not merely an environmental imperative driven by Europe's ambitious climate objectives; it is actively reshaping alliances, economic opportunities, and strategic calculations across these critical territories. Historically, nations like Bulgaria and Türkiye, strategically positioned as energy transit corridors, often found themselves competing rather than cooperating, each aspiring to play a central role in channeling Caspian and Middle Eastern energy to European markets.

However, a confluence of factors, the European Union's accelerated push towards climate neutrality, the escalating strategic value of renewables, and geopolitical shifts, including sanctions against traditional energy suppliers like Russia, has decisively redirected regional focus. Yesterday's gas-centric infrastructure projects are now being complemented, and in some aspects superseded, by a new emphasis on electricity, particularly green electricity. This evolving landscape has culminated in a landmark "Green Electricity Transmission and Trade" initiative, formalized by a quadrilateral Memorandum of Understanding in April 2025, which brings together Türkiye, Bulgaria, Azerbaijan, and Georgia. This accord aims to forge a new green energy corridor, fundamentally altering traditional energy dynamics and heralding a new chapter of cooperation.

Underpinning this energy pivot, the European Union's ambitious drive toward climate neutrality by 2050, enshrined in the European Green Deal, stands as a primary catalyst. This comprehensive strategy mandates a significant reduction in greenhouse gas emissions and a fundamental shift towards a decarbonized energy system. Consequently, the strategic value of renewable energy sources such as solar, wind, and green hydrogen has surged, as nations seek to enhance their energy security and reduce reliance on volatile global fossil fuel markets. Furthermore, the ongoing sanctions against Russia, a historically dominant energy supplier to Europe, have acted as a critical catalyst. These measures have disrupted traditional energy flows and underscored the urgent need for diversification of energy sources and routes. Collectively, these factors have powerfully redirected global and regional attention toward green energy as a cornerstone of future energy security and geopolitical stability.

These overarching drivers for a green energy transition gain further significance when contrasted with the historical energy dynamics of key regional players. Historically, Bulgaria and Türkiye, occupying strategic positions as energy transit corridors linking producers in the Caspian and Middle East regions to European markets, found their shared geography fostering competition rather than cooperation for decades. Türkiye has long aspired to become a regional energy hub by leveraging its unique position between Europe and Asia, focusing on projects like TurkStream and the Southern Gas Corridor. Bulgaria, meanwhile, has been a key transit point for Russian gas pipelines entering Europe, operating the “Balkan Stream” gas pipeline, an extension of TurkStream. This rivalry was also shaped by differing geopolitical alignments and energy dependencies, with Bulgaria historically more reliant on Russian supplies and Türkiye seeking diversification through Azerbaijani and other sources.

This backdrop of strategic rivalry and differing dependencies shaped the nature of their past energy interactions. While past energy cooperation between Bulgaria and Türkiye was predominantly centered on natural gas infrastructure, with landmark projects such as TurkStream and the Trans-Anatolian Natural Gas Pipeline (TANAP) epitomizing this era and solidifying their roles as crucial fossil fuel transit hubs, today, the dialogue and an emerging framework of cooperation are increasingly centered on electricity, with a pronounced emphasis on green electricity. This shift reflects evolving energy priorities and the recognition of mutual benefits in developing renewable energy capacities and enhancing cross-border electricity interconnectivity. Recent developments, including a Memorandum of Understanding signed in May 2025 between Bulgaria and Türkiye, formalize this new direction. This agreement focuses on expanding cross-border electricity transmission, fostering cooperation in energy efficiency, promoting renewable energy sources, and exploring newer technologies like energy storage and carbon capture, alongside a shared interest in developing hydrogen technology and next-generation fuels. This evolving bilateral partnership also fits into a broader regional vision, exemplified by the quadrilateral MoU involving Azerbaijan and Georgia, positioning Türkiye as a vital conduit for renewable electricity and enabling Bulgaria's further integration into the pan-European electricity system (ENTSO-E).

The culmination of these evolving bilateral dynamics and broader regional preparatory discussions was the landmark April 2025 quadrilateral Memorandum of Understanding signed by Türkiye, Bulgaria, Azerbaijan, and Georgia. Forged under the ambitious framework of the "Green Electricity Transmission and Trade" initiative, this agreement signals a collective commitment to fostering a new energy corridor dedicated to renewable power. The key milestones leading to this agreement illustrate the deliberate progression towards this new regional energy partnership.

The first step toward a future four-party agreement occurred in August 2024, when Bulgarian Energy Minister Vladimir Malinov held talks with Turkish Energy Minister Alparslan Bayraktar in Istanbul. Their discussions focused on drafting an intergovernmental memorandum to establish a framework for the interconnection of electricity and gas networks, the development of renewable energy sources, and the promotion of energy efficiency. Among the strategic priorities outlined were the advancement of cross-border electricity infrastructure and the mobilization of private sector investment to support these efforts.

Further discussions took place in November 2024 at the inaugural Istanbul Energy Forum, held in a quadrilateral format with the participation of the energy ministers of Azerbaijan, Türkiye, and Bulgaria, as well as Georgia's First Deputy Prime Minister, Levan Davitashvili. The forum placed green energy at the center of its agenda, focusing on the development of the Azerbaijan–Türkiye–Europe energy corridor via Nakhchivan and the broader prospects for transmitting renewable electricity from the Caspian region and Central Asia to Europe through Georgian and Turkish territory. The meeting concluded with a shared understanding of the urgent need for concrete, coordinated actions to deepen cooperation in this field.

The process progressed further during the third deputy ministerial meeting of the four participating states, held on February 7, 2025, in Istanbul. The meeting reaffirmed their shared interest in expanding electricity exchange and finalized the draft Memorandum of Understanding. This document formalizes cooperation between the Ministry of Energy of Azerbaijan, the Ministry of Economy and Sustainable Development of Georgia, the Ministry of Energy and Natural Resources of Türkiye, and the Ministry of Energy of Bulgaria on the transmission of green electricity.

With this quadrilateral framework for green electricity transmission established, the specific roles and national transitions of the signatory countries become central to realizing their ambitions. Among them, Bulgaria is navigating a pivotal stage in its national energy transition, a period characterized by a decisive shift from past vulnerabilities to emerging strategic opportunities. Geographically and politically positioned on the periphery of the European Union and at the heart of the dynamic Balkan region, the country has, for an extended period, operated somewhat in the shadow of more influential European states, its role often confined to that of a transit nation. This peripheral status historically exacerbated its susceptibility to external energy shocks, starkly underscored by the geopolitical upheaval from the war in Ukraine and the subsequent surge in natural gas prices.

However, this narrative of vulnerability is progressively being rewritten. Bulgaria's advantageous geographic placement—on the EU's southern flank, with Black Sea access, and at the crossroads connecting Europe with the Caucasus and the Middle East—presents tangible opportunities. This unique positioning allows Bulgaria to aspire to a more prominent role in Europe's evolving energy landscape, particularly within the continent-wide drive towards renewables and diversified supply routes. In this transformative context, Bulgaria is proactively adapting its national energy policy, aiming for a 27% share of renewable energy in its gross final energy consumption by 2030 and striving for carbon neutrality by 2050. This ambition is pursued through international investment (e.g., €50 million from the EBRD for a 237 MW solar plant) and domestic reforms, evidenced by 249 renewable energy projects reportedly underway as of early 2025. This strategic reorientation is supported by Bulgaria's domestic energy mix; as of 2024, over 70% of its electricity was from low-carbon sources, with nuclear power (Kozloduy plant) accounting for approximately 42%, and declining coal contributing about 22%.

A key pillar of Bulgaria's energy sector modernization is the "Greenabler" project. As part of this initiative, the Bulgarian Electricity System Operator (ESO) signed an agreement with the Ministry of Energy to launch the first phase, focused on upgrading the national electricity transmission network. Backed by €857 million in funding from the EU's Modernisation Fund, the project is designed to expand grid capacity and enable the seamless integration of renewable energy, supporting Bulgaria's broader transition to a low-carbon economy. The first stage involves reconstructing 720 km of transmission lines (upgrading from 220 kV to 400 kV) and modernizing related substations. According to Bulgarian Energy Minister Vladimir Malinov, this will increase grid efficiency and accelerate renewable energy integration. Deepening energy cooperation with Türkiye, through joint electricity transmission projects and the framework of the recent MoU envisaging green electricity imports from the Caspian via Türkiye, is anticipated to enhance cross-border interconnectivity, drive infrastructure modernization, and facilitate Bulgaria's deeper integration into ENTSO-E, bolstering its energy security and contributing to Europe's collective energy resilience.

Just as Bulgaria is leveraging this new cooperative framework to redefine its energy posture, its partner in this initiative, Türkiye, is resolutely cementing its position as a linchpin in the energy landscape, bridging Eastern producers with European consumers. More than just a geographical conduit, Ankara is strategically maneuvering to expand its influence beyond the traditional confines of a transit country, particularly by becoming an active player in the burgeoning green energy sector. The country's active participation in the "Green Energy Corridor" initiative, a collaborative effort with Azerbaijan, Georgia, and Bulgaria, underscores its commitment to this strategic ambition. This initiative represents a notable shift from earlier projects such as TANAP and TAP, in which Türkiye primarily served as a gas transit country. In contrast, the "Green Energy Corridor" positions Türkiye in a more dynamic role, as a vital link and active participant in the renewable electricity supply chain to Europe.

By diversifying its energy mix and increasing domestic renewable production, Türkiye reduces its reliance on imported fossil fuels, mitigating exposure to volatile global energy prices and geopolitical uncertainties. As energy imports have historically contributed to Türkiye's current account deficit, scaling up domestic renewable generation offers significant economic relief. This green transformation is propelled by robust policy frameworks, including successful auction mechanisms like the Renewable Energy Resource Areas (YEKA) tenders, increased investments in green infrastructure, and ongoing regulatory reforms. Consequently, Türkiye is rapidly emerging as a key regional actor in green energy development. In this context, the MoU underpinning the "Green Energy Corridor" is poised to become a cornerstone of the region's future energy architecture, enabling Ankara to leverage its extensive energy transit experience and modernize its electricity grid to become a significant producer, consumer, and exporter of renewable electricity.

Complementing Türkiye's role as a producer and transit hub within this green corridor, Azerbaijan's active participation is strategically positioning it as a key supplier and partner in the burgeoning renewable energy sector. Baku is proactively deepening cooperation with international partners to leverage its considerable renewable energy potential. A clear demonstration occurred on May 2, 2025, when Azerbaijani Energy Minister Parviz Shahbazov engaged in discussions with his Romanian and Bulgarian counterparts in Istanbul to advance the ambitious Caspian–Black Sea–Europe Green Energy Corridor. This project envisions transporting green electricity from Azerbaijan's wind and solar resources across the Black Sea to Romania and Bulgaria, and onward into Europe. Talks with Romania focused on transit infrastructure (subsea cables, converter stations), while discussions with Bulgaria centered on project progress and coordination. These engagements underscore Azerbaijan's ascending role as a reliable energy partner for Southeastern Europe, moving beyond its established reputation as an oil and gas supplier to become a key provider of green electrons. Azerbaijan's participation in this corridor underscores its commitment to becoming a key supplier and partner in the burgeoning renewable energy sector. The country is proactively deepening cooperation with international partners to leverage its considerable renewable energy potential. This includes plans to develop and export significant green energy capacities, as highlighted by Minister Shahbazov during the Baku Energy Forum on June 3, 2025.

Earlier, on March 10, 2025, this commitment was further reinforced during the 10th Ministerial Meeting on the Caspian–Black Sea–Europe Green Energy Corridor, held in Budapest. The gathering brought together energy officials from Azerbaijan, Georgia, Hungary, Romania, and Bulgaria, alongside representatives from the European Commission, GECO Power Company, and Italian consultancy CESI. Key topics included the development of Azerbaijan’s renewable energy capacities, the status of the corridor’s feasibility study, GECO’s operational role, EU financing mechanisms, and Bulgaria’s integration into the project framework. Minister Shahbazov announced that Azerbaijan is negotiating with international wind energy companies for four designated offshore sites in the Caspian Sea, with the aim of not only exporting electricity but also supporting future green hydrogen production. He proposed a dual-stream working group, one focusing on investor engagement and commercial models, and the other on technical design and compliance with ENTSO-E regulations. He also emphasized the importance of incorporating a fiber-optic component into the project's feasibility scope to align with digital infrastructure goals. Following the discussions, ministers signed a protocol outlining the meeting’s outcomes and submitted a joint letter to EU Energy Commissioner Dan Jørgensen, requesting Project of Mutual Interest (PMI) status for the corridor. It was also agreed to initiate Bulgaria’s formal accession to the intergovernmental agreement, with GECO authorized to coordinate integration processes and contractual obligations. These developments reflect Azerbaijan’s strategic transformation into a clean energy bridge between the Caspian region and Europe, reinforcing regional sustainability and energy security goals.

Further amplifying Azerbaijan's potential as a green energy exporter is the increasing strategic importance of the Zangezur Corridor. Azerbaijan's potential as a green energy exporter is further reinforced by the growing strategic importance of the Zangezur Corridor. The corridor is increasingly viewed as a key route for electricity exports to Europe, a perspective highlighted by officials like Deputy Energy Minister Elnur Soltanov during discussions at the 9th Global Baku Forum in June 2022. Once fully operational, it would provide a vital land-based channel for transmitting green electricity from both mainland Azerbaijan and the Nakhchivan Autonomous Republic to Türkiye and onward to European markets. However, its full realization is currently hampered by unresolved political instability and complex regional dynamics, including significant Armenian opposition to its proposed operational framework. Looking towards a more integrated future, there is a long-term possibility that Armenia could also participate in the Green Energy Corridor, contingent upon resolving deep-seated political differences and fostering regional cooperation. These efforts are complemented by robust policy frameworks and strategic investments, positioning Azerbaijan as a pivotal player in the region's transition to sustainable energy.

Beyond the individual national strategies and bilateral challenges, such as those surrounding the Zangezur corridor, the collective impact of this four-party green energy cooperation represents a paradigm shift in regional energy dynamics, carrying profound implications for the future energy landscape of Southeastern Europe and beyond. This partnership signals a clear evolution from historically dominant hydrocarbon-based relations to a forward-looking collaboration centered on renewable electricity, designed to strengthen regional energy security and ensure robust alignment with Europe's climate objectives. For Bulgaria, this initiative offers a pathway to convert perceived peripheral vulnerability into a distinct strategic advantage, positioning itself as a regional hub for sustainable energy through infrastructure modernization like the "Greenabler" project and deeper ENTSO-E integration. Türkiye, meanwhile, is leveraging its expanding domestic renewable capacity to redefine its regional energy role, transcending its transit state position to emerge as a pivotal player in the low-carbon energy market. Azerbaijan stands to reap substantial benefits by diversifying its energy export portfolio beyond hydrocarbons, tapping into the growing global demand for clean energy. The potential future integration of the Zangezur Corridor, despite current political challenges, could further revolutionize regional energy integration.

Ultimately, this four-party collaboration embodies a strategic reconfiguration of regional interdependencies, driven by the urgent imperatives of climate action and the European energy transition. By fostering a virtuous cycle of interdependence and mutual benefit through shared green energy objectives, this initiative holds the significant potential to contribute positively to enhanced regional stability, stimulate sustainable economic development, and promote long-term environmental sustainability. By successfully navigating the inherent complexities, the success of this corridor could serve as a compelling model for future cross-border energy cooperation in other parts of the world.

Authors:

Aytaj Mahammadova, Intern at the Center of Analysis of International Relations

Vusal Guliyev, Expert at the Center of Analysis of International Relations