UDC 327.3:502/504
AGRIS P05
https://doi.org/10.33619/2414-2948/132/18

GEOPOLITICS OF THE GLOBAL GREEN TRANSITION: RETHINKING AZERBAIJAN'S ENERGY SECURITY

©***Valizada Kh***., *ORCID: 0009-0004-0067-4619, Nakhchivan State University, Nakhchivan, Azerbaijan, velizadexelil5@gmail.com*
©***Nabiyev M***., *ORCID: 0009-0001-8277-7475, Nakhchivan State University, Nakhchivan, Azerbaijan, nebiyevmeherrem068@gmail.com*
©***Jumshudova P***., *ORCID: 0009-0000-9082-1133, Nakhchivan State University, Nakhchivan, Azerbaijan, Parvinjumshudova518@gmail.com*
©***Memmedov R***., *ORCID: 0009-0000-0072-5253, Nakhchivan State University, Nakhchivan, Azerbaijan, mmdvrefael1@gmail.com*
©***Allahverdiyev T***., *ORCID: 0009-0009-9163-399X, Nakhchivan State University, Nakhchivan, Azerbaijan, togrulallahverdiyev101@gmail.com*

ГЕОПОЛИТИКА ГЛОБАЛЬНОГО ЗЕЛЕНОГО ПЕРЕХОДА: ПЕРЕОСМЫСЛЕНИЕ ЭНЕРГЕТИЧЕСКОЙ БЕЗОПАСНОСТИ АЗЕРБАЙДЖАНА

©***Вализаде Х***., *ORCID: 0009-0004-0067-4619, Нахчыванский государственный университет, г. Нахчыван, Азербайджан, velizadexelil5@gmail.com*
©***Набиев М***., *ORCID: 0009-0001-8277-7475, Нахчыванский государственный университет, г. Нахчыван, Азербайджан, nebiyevmeherrem068@gmail.com*
©***Джумшудова П***., *ORCID: 0009-0000-9082-1133, Нахчыванский государственный университет, г. Нахчыван, Азербайджан, Parvinjumshudova518@gmail.com*
©***Мамедов Р***., *ORCID: 0009-0000-0072-5253, Нахчыванский государственный университет, г. Нахчыван, Азербайджан, mmdvrefael1@gmail.com*
©***Аллахвердиев Т***., *ORCID: 0009-0009-9163-399X, Нахчыванский государственный университет, г. Нахчыван, Азербайджан, togrulallahverdiyev101@gmail.com*

Abstract. The accelerating global transition toward renewable energy frameworks and comprehensive decarbonization is structurally reconfiguring the international political economy. While shifting away from fossil fuels mitigates historical macroeconomic risks associated with hydrocarbon supply volatility and cartel-driven market manipulations, it simultaneously introduces novel structural vulnerabilities. These vulnerabilities manifest within the global energy architecture as nations transition from a reliance on liquid resource extraction to a dependency on rigid industrial supply chains, advanced technology, and geographically concentrated raw materials. This study aims to analytically deconstruct the structural transformation of the global energy security paradigm, critically evaluate the geopolitical implications of critical raw material monopolies, examine the rise of geo-economic protectionism, and comprehensively assess the strategic positioning of Azerbaijan as an emerging transnational green energy hub and corridor. A multidimensional analytical framework combining systemic economic analysis, comparative geo-economics, and institutional theory was employed. Empirical indicators and global energy supply chain data spanning from 2015 to 2026—sourced from the International Energy Agency (IEA) and the International Renewable Energy Agency (IRENA)—were synthesized alongside the national strategic roadmaps and legislative frameworks of the Republic of Azerbaijan. The research demonstrates that the green transition systematically redistributes geopolitical leverage away from traditional oil and gas producers toward states that control the refining of critical minerals (such as lithium, cobalt, nickel, and rare earth elements) and the manufacture of clean technologies, where a single nation (China) commands a 60% to 90% market

Тип лицензии CC: Attribution 4.0 International (CC BY 4.0)

Т. 12. №11 2026
https://doi.org/10.33619/2414-2948/132

share. In response, major Western economic blocs are deploying aggressive "green protectionism" mechanisms, such as the US Inflation Reduction Act and the EU's Critical Raw Materials Act, effectively fragmenting international trade into regional alignment blocs. Concurrently, Azerbaijan is successfully leveraging its 157 GW Caspian offshore wind potential, transitioning from a classic hydrocarbon supplier to a pivotal green electricity hub via the implementation of the Black Sea Green Energy Cable. Although the global green transition successfully reduces carbon dependence, it fundamentally destabilizes traditional energy geopolitics by establishing mineral-centric monopolies and techno-nationalist trade barriers. For transitioning economies like Azerbaijan, strategic reorientation toward transnational green corridors and renewable electricity export is essential to maintain geopolitical relevance, hedge against long-term fossil-fuel demand destruction, and ensure domestic macroeconomic stability.

Аннотация. Ускоряющийся глобальный переход к возобновляемым источникам энергии и комплексная декарбонизация структурно реконструируют международную политическую экономию. В то время как отказ от ископаемого топлива снижает исторические макроэкономические риски, связанные с волатильностью поставок углеводородов и картельными манипуляциями на рынке, он одновременно порождает новые структурные уязвимости. Эти уязвимости проявляются в глобальной энергетической архитектуре по мере того, как страны переходят от зависимости от добычи ликвидных ресурсов к зависимости от жестких промышленных цепочек поставок, передовых технологий и географически концентрированного критического сырья. Данное исследование направлено на аналитическую деконструкцию структурной трансформации глобальной парадигмы энергетической безопасности, критическую оценку геополитических последствий монополий на критически важное сырье, изучение роста геоэкономического протекционизма и всесторонний анализ стратегического позиционирования Азербайджана как формирующегося транснационального центра и коридора зеленой энергии. Использовалась многомерная аналитическая база, сочетающая системный экономический анализ, сравнительную геоэкономику и институциональную теорию. Эмпирические показатели и данные о глобальных цепочках поставок энергоносителей за период с 2015 по 2026 год, полученные от Международного энергетического агентства (МЭА) и Международного агентства по возобновляемым источникам энергии (IRENA), были синтезированы совместно со стратегическими дорожными картами и законодательной базой Азербайджанской Республики. Исследование показывает, что зеленый переход систематически перераспределяет геополитические рычаги влияния от традиционных производителей нефти и газа к государствам, контролирующим переработку критически важных минералов (таких как литий, кобальт, никель и редкоземельные элементы) и производство чистых технологий, где одна страна (Китай) удерживает долю рынка от 60% до 90%. В ответ на это крупные западные экономические блоки развертывают агрессивные механизмы «зеленого протекционизма», такие как Закон США о снижении инфляции и Закон ЕС о критическом сырье, эффективно фрагментируя международную торговлю на региональные альянсы. Одновременно с этим Азербайджан успешно реализует свой потенциал морской ветроэнергетики Каспия мощностью 157 ГВт, переходя от классического поставщика углеводородов к ключевому узлу зеленой электроэнергии посредством реализации проекта Черноморского зеленого энергетического кабеля. Хотя глобальный зеленый переход успешно снижает углеродную зависимость, он фундаментально дестабилизирует традиционную энергетическую геополитику, устанавливая минерально-центрированные монополии и техно-националистические торговые барьеры. Для переходных экономик, таких как Азербайджан, стратегическая переориентация на

Тип лицензии CC: Attribution 4.0 International (CC BY 4.0)

Т. 12. №11 2026
https://doi.org/10.33619/2414-2948/132

транснациональные зеленые коридоры и экспорт возобновляемой электроэнергии имеет важное значение для сохранения геополитической роли, хеджирования рисков долгосрочного падения спроса на ископаемое топливо и обеспечения внутренней макроэкономической стабильности.

Keywords: Green transition, energy security, geopolitics, critical raw materials, Azerbaijan, green corridors, protectionism, techno-nationalism.

Ключевые слова: Зеленый переход, энергетическая безопасность, геополитика, критическое сырье, Азербайджан, зеленые коридоры, протекционизм, техно-национализм.

The contemporary global economic architecture is undergoing its most profound structural reconfiguration since the Industrial Revolution, driven by a coordinated international imperative to mitigate anthropogenic climate change. At the core of this monumental transformation is the "green transition"—a systematic, capital-intensive shift away from carbon-heavy energy systems toward sustainable, renewable, and zero-emission alternatives. While historically and publicly framed as an ecological necessity and a technological milestone, this transition has rapidly transcended its environmental boundaries. Today, it operates as a primary driver of the international political economy, altering trade flows, industrial policies, and national security strategies across the globe.

Throughout the twentieth century, the parameters of global energy geopolitics were clearly defined by the extraction, ownership, and maritime or pipeline transit of liquid hydrocarbons. The strategic calculations of superpowers and developing states alike revolved around securing oil and gas fields, protecting vulnerable chokepoints like the Strait of Hormuz, and navigating the market-moving pricing decisions of resource cartels such as OPEC. This fossil-fuel-centric paradigm created distinct geopolitical hierarchies, splitting the world into resource-rich exporters and energy-dependent importers. However, the twenty-first-century structural pivot toward deep decarbonization is systematically dismantling this established framework, eroding the traditional leverage of hydrocarbon states while giving rise to entirely new vectors of geopolitical power [1-4].

Crucially, the rapid transition to renewable energy frameworks does not eliminate geopolitical conflict or resource dependency; rather, it redistributes and reshapes them into more complex dimensions. The emerging global energy security architecture is defined by a transition from *resource extraction dependency* to *technological and material manufacturing dependency*. Renewable energy systems—such as solar photovoltaic networks, industrial wind farms, hydrogen production facilities, and electric vehicle battery arrays—are fundamentally different from fossil-fuel systems; they require massive up-front capital and an extraordinary volume of specialized mineral inputs rather than continuous fuel inputs. Consequently, international competition has intensified over the extraction and refining of critical raw materials (CRMs) and the advanced industrial intellectual property required to manufacture clean technologies [5].

This structural shift has triggered the rise of "green protectionism" and techno-nationalism. Industrialized nations are increasingly viewing the green transition through the lens of national security rather than environmental stewardship. As a result, states are deploying aggressive regulatory instruments, state subsidies, and tariff barriers to protect domestic markets, secure fragile supply chains, and isolate geopolitical competitors. This shifting environment poses a severe challenge to traditional hydrocarbon-exporting nations, which must adapt to avoid economic obsolescence [6].

Within this volatile global context, the South Caucasus region, and specifically the Republic of Azerbaijan, serves as an essential analytical case study. Having historically served as a reliable stabilizer of European energy security via the Southern Gas Corridor, Azerbaijan faces the dual challenge of domestic economic diversification and international repositioning. Following its

Тип лицензии CC: Attribution 4.0 International (CC BY 4.0)

Т. 12. №11 2026
https://doi.org/10.33619/2414-2948/132

successful execution of the COP29 presidency, Baku has actively integrated its long-term economic goals with the evolving demands of the global market. By shifting its strategic focus from fossil-fuel exports to the development of transnational green electricity corridors, Azerbaijan aims to redefine its geopolitical leverage and secure its position within the newly emerging global energy matrix [7-9].

Material and Methods

This study utilizes a comprehensive, multi-dimensional methodological framework that integrates systemic economic analysis, comparative geo-economics, and institutional theory to examine the shifting structures of global energy security. To ensure empirical validity, the research synthesizes qualitative and quantitative data spanning the period from 2015 to 2026. The primary data sources include global energy balance sheets, supply chain maps, and mineral processing statistics published by the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA), and the World Bank [10-14].

These global datasets are evaluated in conjunction with the national strategic roadmaps, legislative decrees, and economic diversification programs enacted by the Ministry of Energy and the Ministry of Economy of the Republic of Azerbaijan. The analytical approach employs geo-economic modeling to assess the structural impacts of critical mineral monopolies on international trade agreements. Additionally, comparative policy analysis is used to evaluate the retaliatory mechanisms developed by major economic blocs (the United States, the European Union, and China) against the backdrop of emerging green trade barriers. Finally, the study applies qualitative forecasting to map out the economic feasibility and strategic security of the proposed South Caucasus-European green energy corridors under various geopolitical scenarios [15].

Results and Discussion

The Structural Shift from Volatile Commodity Geopolitics to Rigid Supply Chain Monopolies. The empirical transition from a fossil-fuel-dominated global economy to one anchored in renewable energy systems fundamentally alters the nature of state vulnerability. In the twentieth-century paradigm, energy crises were transient and operational, characterized by immediate pipeline closures, maritime blockades, or sudden production cuts by oil cartels. These actions resulted in instantaneous market price shocks but could be resolved through strategic reserves or diplomatic negotiations [16].

In sharp contrast, the green energy matrix introduces a structural and infrastructural risk profile. Renewable energy generation is essentially a manufacturing-intensive sector. Once a wind turbine or solar farm is built, the "fuel" (wind or sunlight) is free and non-monopolizable; however, the physical infrastructure itself requires an unprecedented front-loaded volume of specialized minerals. Consequently, geopolitical risk shifts from the *control of resource flows* to the *control of processing technologies, fabrication capabilities, and raw material logistics*. States no longer fear the daily withholding of fuel; instead, they face the long-term threat of being excluded from the technology supply chains required to expand or maintain their domestic energy networks [17].

Critical Raw Materials and the Asymmetry of the Sino-Centric Processing Monopoly. The infrastructure underpinning the global green transition—encompassing electric vehicle (EV) drivetrains, lithium-ion battery arrays, photovoltaic cells, and permanent magnets for offshore wind turbines—is exceptionally mineral-intensive. Quantitative evaluations by the International Energy Agency (IEA) reveal that manufacturing an electric vehicle requires approximately six times the mineral inputs of a conventional internal combustion engine automobile. Similarly, constructing an onshore or offshore wind plant requires between nine to eleven times more mineral resources than a natural gas-fired power plant of equivalent capacity [18].

The core geopolitical challenge lies in the extreme geographical concentration of these critical raw materials (CRMs), particularly regarding their chemical refining and industrial processing stages.

Тип лицензии CC: Attribution 4.0 International (CC BY 4.0)

Т. 12. №11 2026
https://doi.org/10.33619/2414-2948/132

While the raw extraction of minerals is somewhat distributed—with Chile holding vast lithium reserves and the Democratic Republic of the Congo dominating cobalt mining—the critical bottleneck is localized within a single sovereign entity: China. Through long-term state-subsidized industrial policies over the past three decades, Beijing has successfully established a near-monopoly over the processing nodes of the green economy. China currently refines approximately 60% to 70% of the world's lithium, 70% of its cobalt, and an astonishing 90% of all Rare Earth Elements (REEs). This extreme asymmetry creates a profound strategic vulnerability for the Western hemisphere. Unlike oil, which can be sourced from alternative global suppliers if a single country disrupts production, alternative refining capacities for CRMs take up to a decade to construct, leave Western nations exposed to potential export restrictions or geopolitical leverage from Beijing (Figure).

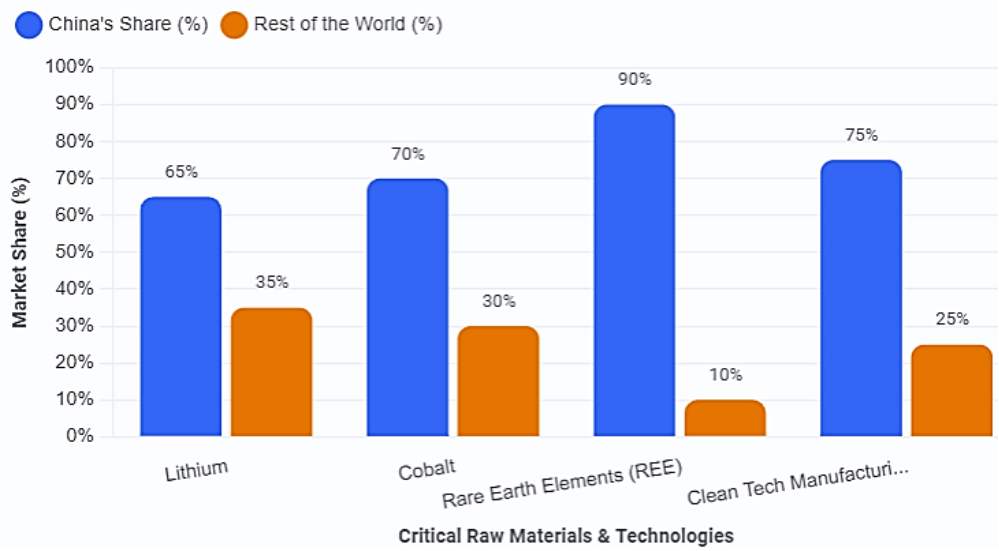


Figure. China's Share in Global Refining of Critical Raw Materials and Clean Tech Manufacturing (%)
Source: Compiled by the author based on International Energy Agency (IEA) data.

The Rise of Green Protectionism and Techno-Nationalist Fragmentation. In response to this supply chain vulnerability, major Western economic blocs have abandoned laissez-faire trade principles in favor of "green protectionism" and techno-nationalist industrial policies. This regulatory shift is designed to decouple vital supply chains from China through friend-shoring, near-shoring, and domestic manufacturing subsidies. The United States pioneered this defensive economic strategy through the enactment of the Inflation Reduction Act (IRA). The IRA deploys hundreds of billions of dollars in tax credits and direct subsidies, explicitly conditioning financial incentives on the domestic or ally-centric sourcing of battery minerals and clean energy components. By restricting subsidies for clean technologies that utilize components sourced from "Foreign Entities of Concern," Washington has effectively erected a regulatory wall around its green tech market [19].

Simultaneously, the European Union has implemented its own defensive architecture via the Critical Raw Materials Act (CRMA) and the Net-Zero Industry Act. The CRMA establishes strict internal benchmarks, dictating that by 2030, no single third country should provide more than 65% of the EU's annual consumption of any strategic raw material. Furthermore, the EU's Carbon Border Adjustment Mechanism (CBAM) serves as a fiscal instrument that levies tariffs on carbon-intensive imports. While framed as an environmental policy to prevent carbon leakage, CBAM functions as a geopolitical tool that forces external trading partners to either dekarbonize their industrial sectors or face economic exclusion from the European single market. This escalating regulatory warfare is systematically fragmenting the global trading system, replacing multilateralism with localized, climate-aligned economic blocs [20-26].

Тип лицензии CC: Attribution 4.0 International (CC BY 4.0)

Т. 12. №11 2026
https://doi.org/10.33619/2414-2948/132

Azerbaijan's Strategic Reorientation and the South Caucasus Green Energy Corridor. Within this fragmented geo-economic landscape, the Republic of Azerbaijan presents a highly dynamic case study of structural adaptation. Historically positioned as a vital hydrocarbon exporter that anchored Southeastern Europe's energy security through the Baku-Tbilisi-Ceyhan (BTC) oil pipeline and the Southern Gas Corridor (SGC), Baku has recognized the long-term threat of fossil-fuel demand destruction. Consequently, the state has launched a comprehensive economic pivot aimed at transforming Azerbaijan from a traditional fossil-fuel supplier into a primary Transnational Green Energy Hub [26].

Azerbaijan's transition strategy is backed by vast geographic and climatic advantages. The country possesses a verified domestic renewable energy potential exceeding 27 GW on land, complemented by an extraordinary 157 GW of offshore wind potential within the Azerbaijani sector of the Caspian Sea. Following its hosting of the COP29 global climate summit, Azerbaijan aligned its national development agenda with international decarbonization pathways, setting a strategic target to generate 30% of its domestic electricity from renewable sources by 2030.

Strategic Parameter	*Hydrocarbon Era (20th–Early 21st Century)*	*Renewable Energy Era (Emerging Matrix)*
Primary Export Asset	Crude Oil & Natural Gas	Green Electricity & Green Hydrogen
Key Infrastructure	BTC Pipeline, Southern Gas Corridor	Black Sea Green Cable, Caspian-EU Corridor
Target Market	Southern & Central European Industrial Centers	European Union Unified Green Grid
Geopolitical Function	Fossil-fuel diversification for Europe	Stabilizer of Europe's variable green energy architecture

The cornerstone of Baku's external green strategy is the development of regional green energy corridors. The most strategically significant initiative is the Black Sea Green Energy Cable project, institutionalized via a quadripartite agreement between Azerbaijan, Georgia, Romania, and Hungary. This undersea, high-voltage direct current (HVDC) cable is designed to transmit green electricity generated from Caspian wind farms directly into the European grid. By constructing this transnational corridor, Azerbaijan achieves two critical macro-economic objectives: it successfully diversifies its sovereign export revenues away from hydrocarbon dependency, and it secures fresh geopolitical leverage by positioning itself as an indispensable partner in the European Union's structural dekarbonization and energy diversification strategies.

Conclusion

The structural shift of the global economy toward a low-carbon matrix is fundamentally altering the rules of international trade and energy security. The traditional twentieth-century geopolitics of hydrocarbons, defined by oil cartels and volatile fluid flows, is being replaced by a rigid architecture centered on clean technology manufacturing and critical raw material processing. As this study demonstrates, the extreme concentration of chemical refining nodes—specifically within China—has introduced new structural vulnerabilities for Western economic blocs. The resulting emergence of "green protectionism" through instruments like the US Inflation Reduction Act and the EU's Carbon Border Adjustment Mechanism reflects a fragmented, bloc-based global economic order driven by techno-nationalism. Within this highly competitive and changing landscape, traditional resource-dependent nations must rapidly adapt to protect their long-term macroeconomic stability. The Republic of Azerbaijan represents a highly successful model of this strategic reorientation. By shifting its focus from fossil fuels toward exporting green electricity via transnational initiatives like the Black Sea Green Energy Cable, Baku is effectively leveraging its massive 157 GW Caspian offshore wind potential. Following its commitments at COP29, Azerbaijan is moving away from being simply a

Тип лицензии CC: Attribution 4.0 International (CC BY 4.0)

hydrocarbon provider to become an indispensable green corridor for the European market. Ultimately, navigating the geopolitics of the green transition requires a balanced combination of domestic industrial policy and flexible regional connectivity, ensuring that economic diversification aligns smoothly with global climate mandates.

References:

1. Nasirov, I. R., Mammadov, F., & Akhmineyev, R. (2026). Azerbaijan's Strategic Role in the Global Energy Transition: A Regional Model for Balancing Hydrocarbon and Renewable Energy Development. *Journal of Sustainable Development Issues*, *4*(1), 105-120. https://doi.org/10.62433/josdi.v4i1.81

2. Khanayev, A., & Al, A. (2025). Azerbaijan’s renewable energy policies and green energy corridors. Marmara Türkiyat Araştırmaları Dergisi, 12(2), 800-818. https://doi.org/10.16985/mtad.1724847

3. Hool, A., Helbig, C., & Wierink, G. (2024). Challenges and opportunities of the European Critical Raw Materials Act: Hool A. et al. *Mineral Economics*, *37*(3), 661-668. https://doi.org/10.1007/s13563-023-00394-y

4. International Energy Agency (IEA). (2024). The role of critical minerals in clean energy transitions. Paris: IEA Publications.

5. International Renewable Energy Agency (IRENA). (2025). Geopolitics of the energy transition: The critical materials shift. Abu Dhabi: IRENA.

6. Mammadov, F., & Ismayilov, R. (2024). Decarbonization and green protectionism: Implications for hydrocarbon-exporting transition economies. Journal of World Economic Problems, 33(4), 104–121.

7. Yusifova, M., & Alizade, Sh. (2026). Solar Energy Potential of the Eastern Zangezur Economic Region of Azerbaijan. *Bulletin of Science and Practice, 12*(3), 81-94. (in Russian). https://doi.org/10.33619/2414-2948/124/08

8. U.S. Congress. (2022). The Inflation Reduction Act of 2022 (Public Law 117-169). Washington, DC: U.S. Government Publishing Office.

9. World Bank. (2025). Azerbaijan country climate and development report (CCDR). Washington, DC: World Bank Group.

10. Yergin, D. (2021). The new map: Energy, climate, and the clash of nations. New York: Penguin Books.

11. Abbasov, T., & Garayev, V. (2024). Geopolitical shifts in the South Caucasus energy transit routes. *Journal of Eastern European Studies, 8*(3), 201–215.

12. Guliyev, R. (2025). Renewable energy integration and smart grid infrastructure development in transition economies. *Energy Policy Analysis, 14*(1), 40–58.

13. Ahmadov, M. (2024). Post-conflict reconstruction and green economy initiatives in Karabakh and East Zangezur. *Karabakh Economic Review, 5*(2), 15–32.

14. Taghiyev, E. (2025). Strategic legal and regulatory frameworks for foreign direct investment in Azerbaijan's renewable energy sector. *Baku Law Journal, 21*(1), 74–91.

15. Hasanov, R., & Mehdiyev, S. (2026). Decarbonization of oil and gas exports: Case study of SOCAR's clean tech initiatives. *Caspian Energy Systems, 18*(2), 112–129.

16. Suleymanov, E. (2024). The role of green finance and ESG investments in sustainable development goals of Azerbaijan. *Journal of Sustainable Finance, 9*(4), 310–326.

17. Kerimov, N. (2025). Comparative analysis of European Union net-zero industrial targets and its implications for neighboring oil producers. *European Energy Policy Review, 30*(2), 85–102.

18. Rustamov, F. (2024). Assessing the 157 GW wind power potential of the Azerbaijani sector of the Caspian Sea. *Marine Energy Technologies, 7*(3), 142–159.

Тип лицензии CC: Attribution 4.0 International (CC BY 4.0)

19. Jafarov, G. (2025). Climate diplomacy in the post-Soviet space: From hydrocarbon dependency to ecological transition. *World Politics & Economics, 42*(1), 53–70.

20. Ibrahimov, C. (2024). Energy supply chain security in times of regional geopolitical fragmentation. *Global Trade and Security Journal, 16*(3), 220–238.

21. Sadigov, E., & Mustafayev, T. (2025). The Black Sea high voltage direct current (HVDC) cable: Engineering feasibility and macroeconomic impacts. *Journal of Regional Infrastructure, 12*(2), 99–114.

22. Veliyev, A. (2024). Evaluating the impact of CBAM on non-EU mineral and energy processing states. *Journal of Green Protectionism, 3*(1), 14–31.

23. Aslanov, R. (2025). Techno-nationalism and the international race for lithium-ion battery manufacturing nodes. *Advanced Industrial Economy, 22*(4), 415–433.

24. Rzayev, F. (2026). Strategic forecasting of European gas demand versus electricity interconnectors in the 2030 horizon. *Eurasian Energy Outlook, 15*(1), 60–77.

25. Huseynova, L. (2024). Public policy and national strategies for solar photovoltaic expansion in arid regions of Azerbaijan. *Azerbaijan Economic Horizon, 11*(3), 44–59.

26. Valizade, Kh. (2017). Economic diplomacy. Nakhchivan: Ajami Publishing.

Список литературы:

1. Nasirov I. R., Mammadov F., Akhmineyev R. Azerbaijan's Strategic Role in the Global Energy Transition: A Regional Model for Balancing Hydrocarbon and Renewable Energy Development // Journal of Sustainable Development Issues. 2026. V. 4. №1. P. 105-120. https://doi.org/10.62433/josdi.v4i1.81

2. Khanayev A., Al A. Azerbaijan’s renewable energy policies and green energy corridors // Marmara Türkiyat Araştırmaları Dergisi. 2025. V. 12. №2. P. 800-818. https://doi.org/10.16985/mtad.1724847

3. Hool A., Helbig C., Wierink G. Challenges and opportunities of the European Critical Raw Materials Act: Hool A. et al // Mineral Economics. 2024. V. 37. №3. P. 661-668. https://doi.org/10.1007/s13563-023-00394-y

4. International Energy Agency (IEA). The role of critical minerals in clean energy transitions. Paris: IEA Publications. 2024.

5. International Renewable Energy Agency (IRENA). Geopolitics of the energy transition: The critical materials shift. Abu Dhabi: IRENA. 2025.

6. Mammadov F., Ismayilov R. Decarbonization and green protectionism: Implications for hydrocarbon-exporting transition economies // Journal of World Economic Problems. 2024. V. 33. №4. P. 104–121.

7. Юсифова М. М., Ализаде Ш. Н. Потенциал солнечной энергии Восточно-Зангезурского экономического района Азербайджана // Бюллетень науки и практики. 2026. Т. 12. №3. С. 81-94. https://doi.org/10.33619/2414-2948/124/08

8. U.S. Congress. The Inflation Reduction Act of 2022 (Public Law 117-169). Washington, DC: U.S. Government Publishing Office. 2022.

9. World Bank. Azerbaijan country climate and development report (CCDR). Washington, DC: World Bank Group. 2025.

10. Yergin D. The new map: Energy, climate, and the clash of nations. New York: Penguin Books. 2021.

11. Abbasov T., Garayev V. Geopolitical shifts in the South Caucasus energy transit routes // Journal of Eastern European Studies. 2024. V. 8. №3. P. 201–215.

Тип лицензии CC: Attribution 4.0 International (CC BY 4.0)

12. Guliyev R. Renewable energy integration and smart grid infrastructure development in transition economies // Energy Policy Analysis. 2025. V. 14. №1. P. 40–58.

13. Ahmadov M. Post-conflict reconstruction and green economy initiatives in Karabakh and East Zangezur // Karabakh Economic Review. 2024. V. 5. №2. P. 15–32.

14. Taghiyev E. Strategic legal and regulatory frameworks for foreign direct investment in Azerbaijan's renewable energy sector // Baku Law Journal. 2025. V. 21. №1. P. 74–91.

15. Hasanov R., Mehdiyev S. Decarbonization of oil and gas exports: Case study of SOCAR's clean tech initiatives // Caspian Energy Systems. 2026. V. 18. №2. P. 112–129.

16. Suleymanov E. The role of green finance and ESG investments in sustainable development goals of Azerbaijan // Journal of Sustainable Finance. 2024. V. 9. №4. P. 310–326.

17. Kerimov N. Comparative analysis of European Union net-zero industrial targets and its implications for neighboring oil producers // European Energy Policy Review. 2025. V. 30. №2. P. 85–102.

18. Rustamov F. Assessing the 157 GW wind power potential of the Azerbaijani sector of the Caspian Sea // Marine Energy Technologies. 2024. V. 7. №3. P. 142–159.

19. Jafarov G. Climate diplomacy in the post-Soviet space: From hydrocarbon dependency to ecological transition // World Politics & Economics. 2025. V. 42. №1. P. 53–70.

20. Ibrahimov C. Energy supply chain security in times of regional geopolitical fragmentation // Global Trade and Security Journal, (2024). 16(№3), 220–238.

21. Sadigov E., Mustafayev T. The Black Sea high voltage direct current (HVDC) cable: Engineering feasibility and macroeconomic impacts // Journal of Regional Infrastructure. 2025. V. 12. №2. P. 99–114.

22. Veliyev A. Evaluating the impact of CBAM on non-EU mineral and energy processing states // Journal of Green Protectionism. 2024. V. 3. №1. P. 14–31.

23. Aslanov R. Techno-nationalism and the international race for lithium-ion battery manufacturing nodes // Advanced Industrial Economy. 2025. V. 22. №4. P. 415–433.

24. Rzayev F. Strategic forecasting of European gas demand versus electricity interconnectors in the 2030 horizon // Eurasian Energy Outlook. 2026. V. 15. №1. P. 60–77.

25. Huseynova L. Public policy and national strategies for solar photovoltaic expansion in arid regions of Azerbaijan // Azerbaijan Economic Horizon. 2024. V. 11. №3. P. 44–59.

26. Valizade Kh. Economic diplomacy. Nakhchivan: Ajami Publishing. 2017.

Поступила в редакцию
23.09.2026 г.

Принята к публикации
02.10.2026 г.

Ссылка для цитирования:

Valizada Kh., Nabiyev M., Jumshudova P., Memmedov R., Allahverdiyev T. Geopolitics of the Global Green Transition: Rethinking Azerbaijan's Energy Security // Бюллетень науки и практики. 2026. Т. 12. №11. С. 157-`65. https://doi.org/10.33619/2414-2948/132/18

Cite as (APA):

Valizada, Kh., Nabiyev, M., Jumshudova, P., Memmedov, R., & Allahverdiyev, T. (2026). Geopolitics of the Global Green Transition: Rethinking Azerbaijan's Energy Security. *Bulletin of Science and Practice, 12*(11), 157-165. https://doi.org/10.33619/2414-2948/132/18

Тип лицензии CC: Attribution 4.0 International (CC BY 4.0)