Azerbaijan's growing role in the regional green energy transition and COP29

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Following the liberation of its occupied territories in the Second Garabagh War, Azerbaijan opened new opportunities for its renewable energy capacity in those territories. Yet Azerbaijan's renewable energy portfolio does not merely eye an internal audience, it also has an international dimension. Azerbaijan approved the United Nations Framework Convention on Climate Change (UNFCCC) in 1995 and the Kyoto Protocol in 2000. The country joined the Paris Climate Agreement in 2016 and committed to decreasing the level of GHG emissions by 35% by 2030 compared to the base year (1990). Azerbaijan also has accelerated and increased the deployment of renewable energy sources across the country. In recent years, the country has created 'Green Energy Zones' and initiated the gradual process of decarbonization. Azerbaijan's green growth strategy and green energy projects aim to transform the country into a 'green energy hub' in the region. Notably, on December 17, 2022, Azerbaijan, Georgia, Romania, and Hungary signed an agreement to support the Black Sea submarine cable project to supply electricity from the region to Europe. This project will serve as a 'Green Energy Corridor' that could become a new power source for the EU and may also ensure the export of electricity from Central Asian nations to Europe in the future. The country has declared 2024 'Green World Solidarity Year', and Azerbaijan will host the 29th Conference of the Parties (COP29), an important step demonstrating Azerbaijan's commitment to environmental protection and climate action.

Keywords: Azerbaijan, green economy, renewable energy, green transition, GHG emissions, COP29, Green Energy Zones, Black Sea electric cable

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Introduction

The impacts of climate change have become more evident as greenhouse gas (GHG) emissions from human activities cause increased heat, drought, floods, etc. Changes in the earth's climate balance are negatively affecting many nations around the world. Therefore, climate challenges are a global problem that needs urgent attention from all nations to effectively address the challenges and save our ecosystem. In this context, the Conference of the Parties (COP) to the UN Framework Convention on Climate Change is an important multilateral forum to discuss climate-related issues and an opportunity for governments and the private sector to work together to address climate change.

Moreover, the unstable global energy market has demonstrated the importance of a green transition to ensure long-term energy security and sustainable development. According to the United Nations Environment Programme (UNEP), "*a green economy is defined as low carbon, resource efficient and socially inclusive. In a green economy, growth in employment and income are driven by public and private investment into such economic activities, infrastructure, and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services*".[1] In this context, the development of renewable energy sources will play a significant role for countries to diversify energy sources and build their energy policies and strategies towards green development.

In 2023, the International Energy Agency (IEA) reported unprecedented growth in global renewable energy capacity, suggesting the potential achievement of a crucial climate target by the decade's end. The world's renewable energy capacity grew by 50% last year (2023) to 510 gigawatts (GW), the 22nd year in a row that renewable capacity additions set a new record. By 2028, the IEA forecasts that renewable energy sources will account for more than 42% of global electricity generation. That would mean tripling global renewable energy by the end of the decade, one of five main climate targets designed to help cut carbon emissions and prevent runaway global heating. The others are doubling energy efficiency, cutting methane emissions, transitioning

1 UN environment program, "Green Economy", Available at: https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-economy (Accessed: 25 April 2024).

away from fossil fuels, and scaling up financing for emerging and developing economies.[2]

Azerbaijan places a strong emphasis on achieving sustainable development goals through green energy infrastructure development and the wider use of renewables throughout the economy.

Touching upon Azerbaijan's energy strategy, it should be noted that the energy production of Azerbaijan, as a resource-rich country, is strongly tied to fossil fuels. However, Azerbaijan places a strong emphasis on achieving sustainable development goals through green energy infrastructure development and the wider use of renewables throughout the economy. Transforming the country into 'a country of green growth' is one of the key priorities of Azerbaijan's economic and energy policy.[3]

In the international context, Azerbaijan joined the Paris Climate Agreement in 2016 and made a voluntary commitment to reduce the amount of GHG emissions by 35% by 2030, compared to the base year (1990). In November 2021, during COP26, held in Glasgow (United Kingdom), Azerbaijan renewed its voluntary obligations by pledging to reduce its GHG emissions 40% by 2050 and declaring its liberated territories a 'net-zero emission' zone.[4] In order to speed up the green transition in the country, the government of Azerbaijan has taken several legal measures and is developing a long-term strategy. For example, the Presidential Order on "*Azerbaijan 2030: National Priorities for Socio-Economic Development*" has set goals to take measures to preserve the environment in a clean, healthy, and sustainable condition.[5] Moreover, the "Law on the Use of Renewable Energy Sources in the Production of Electricity", dated May 31, 2021, defined the requirements for using renewable energy sources in the production of electricity, a field of activity that includes the production, storage, transmission, supply, and consumption of electricity from renewable energy sources.[6] Overall, the country targets increasing the

2 Ambrose, J., "World's renewable energy capacity grew at record pace in 2023", *The Guardian,* January 11, 2024, Available at: https://amp.theguardian.com/environment/2024/jan/11/worlds-renewable-energy-capacity-grew-at-record-pace-in-2023 (Accessed: May 1, 2024).

3 President.az, *Order of the President of the Republic of Azerbaijan on approval of "Azerbaijan 2030: National Priorities for Socio-Economic Development*, February 2, 2021, Available at: https://president.az/en/articles/view/50474 (Accessed: June 20, 2024).

4 Ministry of Energy of the Republic of Azerbaijan, "EU Covenant of Mayors for climate and energy - Eastern Partnership", Available at: https://minenergy.gov.az/en/beynelxalq-emekdasliq/merler-razilasmasi_6064 (Accessed: May 1, 2024).

5 *Ibid*.

6 Decree of the President of the Republic of Azerbaijan, on the implementation of the Law No. 339-VIQ dated May 31, 2021 of the Republic of Azerbaijan "On the use of renewable energy sources in the production of electricity", Available at: https://e-qanun.

share of the installed capacity of renewable energy in the country's overall energy balance to 30% by 2030.[7]

Azerbaijan's Green Energy Strategy

A green economy – a holistic economic system that transcends profit margins to prioritize social equity, ecological balance, and robust economic growth – is central to sustainable development. The energy transition, a substantial shift from fossil fuels to renewable energy sources, emerges as the linchpin of our battle against climate change. Renewable energy sources like solar, wind, and hydropower are key to reducing greenhouse gas emissions and staving off the catastrophic consequences of global warming.[8] Azerbaijan supports a sustainable energy future, and transforming the country into a 'green energy hub' is a key component of Azerbaijan's energy policy.

As an energy-rich country, Azerbaijan can make significant contributions to carbon-free energy by supporting net-zero strategies. Relevant laws and normative legal acts have been adopted to develop the renewable energy sector, and to improve the legislative and institutional environment in this area. Azerbaijan's national priorities on the implementation and development of renewable energy sources are outlined in the "*Azerbaijan 2030: National Priorities on Socio-economic Development*" plan. Among the five national priorities, special attention was given to a clean environment and green growth.[9] According to this document, in order to better meet the needs of present and future generations, environmentally friendly green technologies must proliferate. Based on scientific and technological potential, it is necessary to increase the share of alternative and renewable energy sources in primary consumption and reduce impact on climate change in all sectors of the economy.

az/framework/47843 (Accessed: 20 June 2024)

7 Ministry of Energy of the Republic of Azerbaijan, "The Use of Renewable Energy Resources in Azerbaijan", March 6, 2024, Available at: https://minenergy.gov.az/en/alternativ-ve-berpa-olunan-enerji/azerbaycanda-berpa-olunan-enerji-menbelerinden-istifade (Accessed: June 20, 2024).

8 Castanho, R., A., "Green Economy and Renewable Energy Transitions for Sustainable Development" in book "Green Economy and Renewable Energy Transitions for Sustainable Development" (pp.xv-xvii), Publisher: IGI GLOBAL, January 2024,

9 President.az, *Order of the President of the Republic of Azerbaijan on approval of "Azerbaijan 2030: National Priorities for Socio-Economic Development*", February 2, 2021, Available at: https://president.az/en/articles/view/50474 (Accessed: May 5, 2024).

Moreover, as discussed above, the "*Law on the Use of Renewable Energy Sources in the Production of Electricity*" dated May 31, 2021, makes a special contribution to the development of renewable energy in the country by prioritizing the use of renewable energy sources in the production of electricity.[10]

Azerbaijan has increased the number of renewable energy sources and accelerated their deployment. The country's climate conditions offer major potential for electricity generation from solar and wind.

In order to ensure the arrangement and regulation of activities in the field of renewable energy sources and their efficient use in the country, and to support the implementation of state policy, the Azerbaijan Renewable Energy Agency under the Ministry of Energy of the Republic of Azerbaijan was established on September 22, 2020. The main objectives of the State Agency are to increase the share of renewable energy sources in the country's installed electricity generation capacity to 30% by 2030, to transform the liberated territories into a 'Green Energy Zone' (GEZ), and to ensure the participation of the private sector in this arena.[11]

In recent years, Azerbaijan has increased the number of renewable energy sources and accelerated their deployment. The country's climate conditions offer major potential for electricity generation from solar and wind. On- and offshore wind farms/clusters, solar power, and hydro will be major renewable energy sources. The potential for solar and wind power generation in particular is very high. The possibilities for wind power development are also very strong, especially on the Absheron Peninsula and the Caspian Sea coastline. Overall, the economic potential of renewable energy sources in Azerbaijan is estimated at 27 GW, including 3,000 MW of wind energy, 23,000 MW of solar energy, 380 MW of bioenergy potential, and 520 MW from mountain rivers, an important source for the generation of electricity to support the energy transition and sustainable development.[12]

The government is also focusing on the development of a long-term energy strategy. This strategy will cover the period to 2050 and reflect

10 "Law of the Republic of Azerbaijan on the use of renewable energy sources in the production of electricity", E-qanun, available at: https://e-qanun.az/framework/47842 (Accessed: April 29, 2024).

11 Azerbaijan Renewable Energy Agency under the Ministry of Energy of the Republic of Azerbaijan, "Azerbaijan Renewable Energy Agency under the Ministry of Energy of the Republic of Azerbaijan", Available at: https://area.gov.az/en/page/haqqimizda (Accessed: 30 April 2024).

12 Hajiyev, Sh., "Azerbaijan's Green Growth Plan", *News.az*, January 9, 2024, Available at: https://news.az/news/azerbaijans-green-growth-plan-opinion (Accessed: May 8, 2024).

important areas such as electricity and natural gas supply, energy efficiency, and renewables use.[13] The government intends to support a 'twin-pillar' approach to promote sustainable energy to achieve its long-term goals. This process will help the country produce electricity using renewable energy sources while decreasing the use of natural gas for electricity production. Increasing the share of renewables in power generation will also decrease GHG emissions.

Along with the adoption of different laws and strategies, the government of Azerbaijan pays special attention to strengthening energy ties with foreign partners. On July 18, 2022, the European Union and Azerbaijan signed a new "*Memorandum of Understanding on a Strategic Partnership in the Field of Energy*", which supports further cooperation in the field of energy efficiency and renewable energy sources. As noted by the European Commission's President Ursula von der Leyen:

Today, with this new Memorandum of Understanding, we are opening a new chapter in our energy cooperation with Azerbaijan, a key partner in our efforts to move away from Russian fossil fuels. Not only are we looking to strengthen our existing partnership which guarantees stable and reliable gas supplies to EU via the Southern Gas Corridor. We are also laying the foundations of a long-term partnership on energy efficiency and clean energy, as we both pursue the objectives of the Paris Agreement.[14]

This important document opened new opportunities for the country to develop renewable energy sources and facilitate their export to the European energy market.

Developing renewable energy sources in the liberated territories

Following the liberation of the occupied territories after the Second Garabagh War, the country opened up new opportunities for renewable energy in the liberated areas. Together, the Garabagh and East Zangezur regions and the Nakhchivan Autonomous Republic of Azerbaijan have been declared a 'Green Energy Zone' (GEZ). These regions hold vast potential for the development of renewable energy sources such as hydro, solar, and wind. The Japanese company

13 IEA, "Azerbaijan's energy context", Available at: https://www.iea.org/reports/implementing-a-long-term-energy-policy-planning-process-for-azerbaijan-a-roadmap/azerbaijan-s-energy-context (Accessed: June 20, 2024).

14 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 (Accessed: May 13, 2024).

TEPSCO and the Ministry of Energy of Azerbaijan have signed an agreement that envisages the effective use of potential renewable energy resources such as wind, solar, hydro, geothermal, and bioenergy in the liberated territories.[15] The purpose of the agreement is to provide the area with environmentally friendly 'green energy' by using the existing high renewable energy potential in the liberated territories and to formulate proposals by studying the prospects for the application of environmentally friendly and energy-efficient green technologies. Also included in the GEZ scheme are electricity generation from renewable energy sources; energy efficiency measures; electric vehicle use; installation of renewable energy facilities (especially solar panels) on roofs; use of solar energy-based LED lamps for street and road lighting; use of renewable energy technologies in heating, cooling, and hot water supply; application of smart energy management; and the design of measures such as targeted waste energy management.

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The liberated territories have huge potential for developing hydroenergy. The restoration of existing and construction of new energy infrastructure in the liberated territories are among the main objectives. In accordance with these goals, 20.2 MW of power generating capacity have been reinstated in the form of four restored hydroelectric power plants in the Lachin and Kalbajar districts, and Sugovushan settlement: "Gulabird" hydroelectric power plant (HPP) (8 MW), "Sugovushan-1" small hydroelectric power plant (SHPP) (4.8 MW), "Sugovushan-2" SHPP (3.0 MW), and "Kalbajar-1" SHPP (4.4 MW).[16]

Moreover, SHPPs including "Chirag-1" with a capacity of 8.33 MW, "Chirag-2" with a capacity of 3.6 MW, "Gamishli" with a capacity of 6.33 MW, "Soyugbulag" with a capacity of 5.3 MW, and "Meydan" with a capacity of 3.4 MW were inaugurated after reconstruction in Kalbajar district. Additionally, in 2023, Azerenerji opened the newly built 110 kV "Gorchu" substation in Lachin district and the "Lachin" city hub substation. At the same time, the 8.25 MW "Mishni", 8 MW "Gulabird" and 6 MW "Alkhasli" small hydroelectric power plants in the Lachin district were reconstructed and put into operation, and the 4 MW "Sus" HPP has been restored. More than 77 million kilowatt

15 Azerbaijan Renewable Energy Agency under the Ministry of Energy of the Republic of Azerbaijan, "Green Energy Zone (GEZ) in the liberated territories", Available at: https://area.gov.az/en/page/layiheler/yasil-enerji-zonasi/yasil (Accessed: May 13, 2024).

16 *Ibid*.

Azerbaijan is strengthening its international cooperation with different energy companies. One of the main aims of the country is transforming itself into an 'energy hub' exporting not only fossil fuels, but also green energy.

hours of ecologically sourced clean energy have been produced by the HPPs put into operation by Azerenerji OJSC in Lachin district. The production of those 77 million kWh of green energy has saved 18 million cubic meters of gas and millions of tons of Azerbaijani manat (AZN), and avoided the release of 32,000 tons of carbon dioxide into the atmosphere.[17] On May 10, 2024, the "Zabukh" and "Garigishlag" SHPPs in Lachin district, owned by Azerenerji OJSC, were commissioned. The "Zabukh" SHPP has a capacity of 2.8 MW and will produce 8–9 million kWh of green energy annually. The "Garigishlag" SHPP, with a capacity of 4 MW, will produce 11–12 million kWh annually.[18]

Moreover, on May 19, 2024, Azerbaijan and Iran inaugurated the "Giz Galasi" hydroelectric complex on the Aras River. The hydro dam holds 62mn cubic meters of water in its reservoir, enough to supply water to agricultural farmlands in three regions on both sides of the border and generate 270-gigawatt hours of renewable electricity a year using two 40 megawatt powerhouses.[19]

In addition to hydropower, the implementation of wind and solar power plants in the liberated territories will significantly contribute to the green energy transition. The Garabagh region's solar energy potential is estimated at 3,000–4,000 MW, and its wind energy potential at 300–500 MW. For instance, a wind power plant with an estimated capacity of 100 MW in Lachin/Kalbajar districts and a 240 MW solar power plant in the Zangilan/Jabrayil districts will make additional contributions to the creation of the GEZ.[20] The implementation of all the above-mentioned projects and ongoing growth will significantly influence the power generation and export potential of the country.

17 AzərEnerji, *Four HPPs commissioned in Lachin produce 77 mln kWh of green energy*, Available at: https://azerenerji.gov.az/newsdetail/1873?language=en (Accessed: May 15, 2024).

18 President.az, *Ilham Aliyev participated in inauguration of small hydropower stations,* May 10, 2024, Available at: https://president.az/en/articles/view/65807 (Accessed: May 15, 2024).

19 Intellinews, *Iran, Azerbaijan open border hydro dam on shared river*, Available at: https://www.intellinews.com/iran-azerbaijan-open-border-hydro-dam-on-shared-river-325884/ (Accessed: July 3, 2024).

20 Azerbaijan Renewable Energy Agency under the Ministry of Energy of the Republic of Azerbaijan, "Green Energy Zone (GEZ) in the liberated territories", Available at: https://area.gov.az/en/page/layiheler/yasil-enerji-zonasi/yasil (Accessed: May 10, 2024).

International cooperation in the field of renewable energy sources (RES)

International cooperation plays a crucial role in promoting green energy on a global scale. Azerbaijan is strengthening its international cooperation with different energy companies. One of the main aims of the country is transforming itself into an 'energy hub' exporting not only fossil fuels, but also green energy. The country closely cooperates with Saudi-listed ACWA Power, the UAE's global renewables company Masdar, bp, Japanese TEPSCO, and China Gezhouba Group Overseas Investment to implement various green energy projects across the country.[21]

On October 26, 2023, Azerbaijan opened the 230 MW Garadagh Solar Power Plant, the region's largest operational solar plant. The plant was built by Masdar, the UAE's global renewables company, with direct foreign investment worth $262 million. The plant will produce 500 million kilowatt hours of electricity annually, saving 110 million cubic meters of natural gas. At the same time, carbon emissions into the atmosphere will be reduced by 200 thousand tons.[22] Moreover, Masdar has signed agreements for solar and onshore wind projects with a total capacity of 1 GW in Azerbaijan. Strategic agreements signed in June 2022 cover the implementation of the first phase of a 10 GW pipeline of renewable energy projects in the country. Masdar has also signed agreements to develop integrated offshore and onshore wind, green hydrogen, and solar projects with a total combined capacity of 4 GW.[23]

ACWA Power has agreed to develop 500 MW of renewable energy projects in Azerbaijan's Nakhchivan Autonomous Republic with Masdar and the State Oil Company of Azerbaijan Republic (SOCAR). ACWA Power signed implementation agreements with the Ministry of Energy of Azerbaijan for a 1 GW onshore wind farm and a 1.5 GW offshore wind farm with storage. It also has an agreement with SOCAR

21 Interfax, *Azerbaijan, China Gezhouba Group sign memorandum on renewable power projects totaling 2 GW*, June 2, 2023, Available at: https://interfax.com/newsroom/top-stories/91115/ (Accessed: June 20, 2024).

22 Azerbaijan Renewable Energy Agency under the Ministry of Energy of the Republic of Azerbaijan, "230 MW Garadagh Solar Power Plant", Available at: https://area.gov.az/en/page/layiheler/cari-layiheler/230-mvt-gunes-elektrik-stansiyasi (Accessed: May 8, 2024).

23 Masdar, *Masdar signs 1GW Clean Energy Agreement in Azerbaijan following Presidential Inauguration of Garadagh Solar Park, Largest in the Region*, October 26, 2023, Available at: https://masdar.ae/en/news/newsroom/masdar-signs-1gw-clean-energy-agreement-in-azerbaijan (Accessed: May 15, 2024).

for collaboration and exploration in the fields of renewable energy and green hydrogen.[24]

During the official visit of the President of the UAE and ruler of Abu Dhabi, Sheikh Mohamed bin Zayed Al Nahyan, to Azerbaijan on January 8–9, 2024, energy cooperation further intensified as the two countries signed important documents. The strategic cooperation document covers cooperation and investment opportunities in new areas such as rooftop solar projects, green hydrogen, green ammonia, synthetic methane, sustainable aviation fuel production, and export of green energy, along with projects for 2 GW of solar, 2 GW of onshore wind, and 6 GW of offshore wind energy. The Calendar of Actions, a road map for the construction of 1 GW of solar and onshore wind projects in Azerbaijan, documents the implementation measures for two solar and one wind energy projects in the period 2024-2027.[25]

Moreover, during Baku Energy Week, which was held on June 4–6, 2024, Azerbaijan signed an agreement with Masdar to construct two solar power plants in Bilasuvar (445 MW) and Neftchala (315 MW) districts, as well as a wind power plant in Garadagh, Absheron, with a capacity of 240 MW. The total investment in these projects is estimated to be around $1 billion. The plants are expected to save around 496 million cubic meters of natural gas per year and preventing more than 943 thousand tonnes of carbon dioxide emissions.[26]

Green energy projects will indeed support Azerbaijan's goal of increasing the share of electricity in its installed capacity. As noted by Azerbaijan's President Ilham Aliyev during the International Forum "COP29 and Green Vision for Azerbaijan", "*This year, we will see the ground-breaking ceremony for four more solar and wind power plants with a total capacity of 1,300 megawatts. Only in Garabagh and Eastern Zangezur, the capacity of the hydropower stations has reached*

24 Wood, J., "ACWA Power and Masdar in 500MW Azerbaijan cooperation deal", *WindPower Monthly*, November 23, 2023, Available at: https://www.windpowermonthly.com/article/1848673/acwa-power-masdar-500mw-azerbaijan-cooperation-deal (Accessed: May 3, 2024).

25 Hajiyev, Sh., "Azerbaijan And The United Arab Emirates Are Fostering Bilateral Ties", *Eurasia Review*, January 16, 2024, Available at: https://www.eurasiareview.com/16012024-azerbaijan-and-the-united-arab-emirates-are-fostering-bilateral-ties-oped/ (Accessed: May 3, 2024).

26 Euronews, *Azerbaijan and UAE launch joint renewable energy project as COP29 preparations underway*, June 5, 2024, Available at: https://www.euronews.com/2024/06/05/azerbaijan-and-uae-launch-joint-renewable-energy-project-as-cop29-preparations-underway (Accessed: 20 June 2024).

close to 170 megawatts in the last three years."[27] So far, Azerbaijan's energy transition has been driven by several factors, such as the growing economy, increasing energy demand, increasing energy exports, and the target to reduce GHG emissions. All the above-mentioned projects show Azerbaijan's ambitious commitments to reduce GHG emissions and increase the share of renewables in its energy mix.

Accelerating the use of renewable energy has become a key element of Azerbaijan's energy and foreign policy in recent years. Along with the development of various green energy projects across the country, Azerbaijan also supports inter-regional green energy projects.

The Green Energy Corridor

Accelerating the use of renewable energy has become a key element of Azerbaijan's energy and foreign policy in recent years. Along with the development of various green energy projects across the country, Azerbaijan also supports inter-regional green energy projects. Towards this end, Azerbaijan, Georgia, Romania, and Hungary signed an agreement to support the underwater Black Sea electric cable project to supply electricity from the South Caucasus to Europe. An investment decision is expected in late 2024 at the earliest.[28] This green energy project will connect the South Caucasus with Southeastern Europe, connecting the electricity systems of these countries and continental Europe. This project will serve as a 'Green Energy Corridor', which could become a new power source for the EU as Europe seeks to reduce its reliance on Russian energy resources, as well as being able to ensure a green energy supply from Central Asian countries to Europe in the future.[29]

The Black Sea submarine cable project opens new opportunities for Central Asian countries to tap vast green energy resources and, later, export electricity to Europe via Azerbaijan. To this end, Azerbaijan is one of the important countries of the Middle Corridor that supports strategic connectivity and energy projects and the transit of energy

27 President.az, *Ilham Aliyev attended the International Forum "COP29 and Green Vision for Azerbaijan*, April 23, 2024, Available at: https://president.az/en/articles/view/65580 (Accessed: May 14, 2024).

28 World bank, "Enhancing Energy Security through Power Interconnection and Renewable Energy Program", May 22, 2023, Available at: https://documents1.worldbank.org/curated/en/099052223113527405/text/P179950073482501009 5dc03b757832c29e.txt (Accessed: June 20, 2024).

29 Hajiyev, Sh., "Navigating the climate challenges for COP29", *NEGlobal*, May 9, 2024, Available at: https://www.neglobal.eu/cop29-and-navigating-climate-challenges/ (accessed: 15 May 2024).

sources from Central Asia to global energy markets.

Fossil fuels and renewable energy resources in Central Asia and the South Caucasus are so abundant that they can easily meet the growing energy demand of European countries in the medium and long term. These resources can also contribute to achieving the target of 42.5 percent (by 2030) renewable energy in Europe.[30] 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.

Central Asia is becoming a strategically vital region for many external powers. The West is trying to strengthen its position there and reduce China's influence in the region. This further increases the competitiveness of the region, creates a favourable environment for investment, and makes the South Caucasus a key segment in Asia–Europe energy and trade flows.

On May 1, 2024, Azerbaijan, Uzbekistan, and Kazakhstan signed a Memorandum of Cooperation to connect the energy systems of the three countries. According to Mikayil Jabbarov, Minister of the Economy of Azerbaijan, "The implementation of this document will allow the three parties to interact in the production of 'green' energy and the organization of its export through Azerbaijan to Europe, to ensure the integration of energy systems and the efficient use of renewable energy sources."[31] To this end, Uzbekistan sets goals for renewable energy aiming 27GW capacity and 40% electricity production by 2030.[32] Kazakhstan has set a renewable energy target of at least 15% of all electricity generated to be provided by renewable energy sources by 2030, and at least 50% by 2050.[33] All the abovementioned shows that Central Asian countries aim to diversify the economy and energy mix. The energy cooperation

30 Hajiyev, Sh., & Mukhigulishvili, G., "Azerbaijan-Georgia Partnership as a Key for EU's Long-term Energy Security", *Warsaw Institute*, September 13, 2023, Available at: https://warsawinstitute.org/azerbaijan-georgia-partnership-as-a-key-for-eus-long-term-energy-security/ (Accessed: May 8, 2024).

31 Trend News Agency, *Azerbaijan signs cooperation memo to integrate Kazakhstan and Uzbekistan's energy networks,* May 1, 2024, Available at: https://en.trend.az/business/green-economy/3893516.html (Accessed: May 16, 2024).

32 Daryo, *Uzbekistan sets goals for renewable energy aiming 27GW capacity and 40% electricity production by 2030*, January 19, 2024, Available at: https://daryo.uz/en/2024/01/19/uzbekistan-sets-goals-for-renewable-energy-aiming-27gw-capacity-and-40-electricity-production-by-2030 (Accessed: July 3, 2024).

33 Ccacoalition, "Kazakhstan joined the CCAC in 2023", Available at: https://www.ccacoalition.org/partners/kazakhstan (Accessed: July 3, 2024).

between Azerbaijan, Kazakhstan, and Uzbekistan will further support the Caspian's strategic importance.

2024 UN Climate Change Conference (UNFCCC COP29) in Azerbaijan

The 29th annual United Nations (UN) climate meeting, where governments discuss important climate change issues, will take place in Azerbaijan, a first for the region. Even though the country is rich in fossil fuels and its energy mix is heavily reliant on oil and natural gas, Azerbaijan supports a sustainable energy future and a green economy.

A Presidential order declared 2024 'Green World Solidarity Year' in Azerbaijan, an important step to demonstrate Azerbaijan's commitment to environmental protection and climate action. Azerbaijan's role as a reliable energy partner and a responsible member of the international community in the fight against global warming has been recognized by many countries. At COP28 in Dubai, the parties agreed on the "loss and damage" fund and setting a "new collective quantified goal on climate finance" in 2024, taking into account the needs and priorities of developing countries.[34] At COP29 in Baku, negotiations for a new climate finance goal will dominate the agenda. Wealthy countries will need to fulfil their responsibilities by playing a role in providing climate-vulnerable countries with a level of support sufficient to transition to a low-emission and climate-resilient future.[35]

The COP29 summit is a much bigger event than any other events hitherto hosted in the country. President Ilham Aliyev signed a decree on the establishment of the Organizational Committee for the successful planning and organization of this important event.[36] COP29 in Baku will be an important platform to support international cooperation to act on climate change, implement the Paris commitments, and focus on long-term goals. Hosting COP29 for the first time in the region creates an enormous opportunity for the South Caucasus and Central Asian

34 United Nations Climate Change, "COP28 Agreement Signals "Beginning of the End" of the Fossil Fuel Era", December 13, 2023, Available at: https://unfccc.int/news/cop28-agreement-signals-beginning-of-the-end-of-the-fossil-fuel-era (Accessed: May 16, 2024).

35 World Resources Institute, *What Climate-vulnerable Countries Need on the Road to COP29*, May 16, 2024, Available at: https://www.wri.org/insights/vulnerable-countries-cop29-climate-action (Accessed: June 20, 2024).

36 Azernews, *Azerbaijan sets up Organizational Committee for COP29 – decree*, January 13, 2024, Available at: https://www.azernews.az/nation/220291.html (Accessed: June 20, 2024).

countries to promote sustainable development and accelerate green transition.

According to Huseyn Huseynov, Head of the Sustainable Development and Social Policy Department at the Ministry of Economy of the Republic of Azerbaijan, "*Azerbaijan is going to propose creation of a new North-South Financial Mechanism at COP29. The North-South Financial Mechanism's role will serve as a bridge between National Oil (Energy) Companies and International Oil (Energy) Companies, showcasing collaborative efforts for global benefit.*"[37]

The organization of COP29 in Baku is also a success of Azerbaijan's multi-vectored foreign policy. After the Second Garabagh War, amidst the ongoing crisis in global affairs, Azerbaijan was able to win backing from Eastern European nations, including Armenia, to host COP29 in Baku.

Azerbaijan may also integrate important topics such as the environmental threats of war and landmine threats into COP29's agenda, as the country is suffering from environmental degradation and the contamination of its territories with landmines sown by Armenia during the latter's occupation of the country's territories. Along with climate change, Azerbaijan supports the peace agenda in the region and, as emphasized by Hikmet Hajiyev, foreign policy adviser to the president, "*Azerbaijan continues and will exert additional efforts to make COP yet another success story with regard to peace, and to make COP29 a COP of peace alongside the climate action issue.*"[38]

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Azerbaijan's engagement in this important international event epitomizes the country's leveraging of national capacities and resources through strategic investments in renewable energy projects, supporting reforestation initiatives, and the country's sustainable development policies. From an economic standpoint, COP29 will support various sectors of the economy, especially the tourism and hospitality industries,

37 Zeynalova, L., "Azerbaijan to propose creation of new North-South Financial Mechanism at COP29", *Trend News Agency*, April 29, 2024, Available at: https://en.trend.az/business/3892103.html (Accessed: May 12, 2024).

38 Harvey, F., "Cop29 summit to call for peace between warring states, says host Azerbaijan", *The Guardian*, May 5, 2024, Available at: https://www.theguardian.com/environment/article/2024/may/05/cop29-summit-to-call-for-peace-between-warring-states-says-host-azerbaijan (Accessed: May 9, 2024).

as thousands of delegates and guests, the public and private sectors, media, and youth, as well as NGOs, will attend the climate summit. In turn, COP29 preparations support green infrastructure development across the country. Last but not least, hosting COP29 also supports Azerbaijan's environmental policy objectives and green technology innovations.

Conclusion

Azerbaijan's green growth strategy and green energy projects aim to transform the country into a 'green energy hub' in the region, ready to supply renewable energy sources from the South Caucasus and Central Asia to Europe. Azerbaijan has huge potential to develop renewable energy sources, and cooperation between Azerbaijan and its partners can support broader Black Sea–Caspian Sea energy cooperation, which is crucial for Europe's long-term energy security. By implementing critical energy infrastructure projects, Azerbaijan is working towards becoming a 'bridge state' between Europe and Central Asia, where there are fossil fuels, renewable energy resources, and essential minerals that are crucial for energy security and economic development.

The Presidential Order to declare 2024 the 'Green World Solidarity Year' in Azerbaijan is an important measure to demonstrate Azerbaijan's commitment to environmental protection and climate action. COP29 will be one of the largest and most important international events in 2024, and as insufficient progress has been seen in reducing global greenhouse gas emissions, with progress too slow across all areas of climate action, the Baku COP29 will be an important platform to support international cooperation on these areas and, ultimately, to focus on financial issues. In order to successfully host the UN climate summit, Azerbaijan mobilized its diplomatic power. Azerbaijan (COP29), together with UAE (COP28) and Brazil (COP30), launched 'The COP Presidencies Troika' to improve cooperation and continuity between current and future COP Presidencies, leading to increased climate action in support of 'Mission 1.5°C'.[39]

Moreover, fluctuations and instability in the global energy market

39 COP28.com, *COP28 launches 'The COP Presidencies Troika' in partnership with the COP29 and COP30 Presidencies-a groundbreaking initiative to support 'Mission 1.5°C' by maintaining momentum, locking in continuity, and anchoring implementation*, Available at: https://www.cop28.com/en/news/2024/02/COP28-launches-The-COP-Presidencies-Troika (Accessed: May 16, 2024).

have demonstrated the importance of a cleaner and more secure energy future. Conflicts cause environmental degradation and landmine contamination, which are serious threats to sustainable development. The environmental impact of war is a serious challenge, as war fuels greenhouse gas emissions, pollution, soil degradation, biodiversity loss, and ecosystem destruction. In addition, the post-conflict clearance of landmines and explosive remnants of war leads to further soil degradation and localized pollution. Considering all these factors, COP29 in Baku will provide the right momentum for parties to discuss the environmental impacts of conflicts and how to prevent further environmental degradation.

Finally, despite all the environmental and other challenges posed by the former Armenia–Azerbaijan war, Azerbaijan supports sustainable development and the green transition. Azerbaijan's green energy strategy targets the diversification of energy resources and supplies, as well as increasing the share of renewable energy in its energy mix. This will help the country to save natural gas in power generation and, simultaneously, increase the export of gas and electricity to European energy markets. This strategy will also help the country to meet its Paris Agreement CO_2 mitigation pledges.