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**“THE CHALLENGES ABOUT THE ENERGY SECURITY OF
EUROPE AFTER THE WAR BETWEEN UKRAINE AND RUSSIA, AS WELL
AS THE SIGNIFICANCE OF AZERBAIJAN'S ENERGY RESOURCES IN THE
CONTEXT OF EUROPEAN ENERGY SECURITY”**

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LIST OF ABBREVIATIONS

EU - European Union
US - United States
UN - United Nations
NATO - North Atlantic Treaty Organization
OPEC - Organization of the Petroleum Exporting Countries
IEA - International Energy Agency
LNG - Liquefied Natural Gas
NGO - Non-Governmental Organization
GDP - Gross Domestic Product
GWh - Gigawatt Hour
MW - Megawatt
kWh - Kilowatt Hour
BP - British Petroleum
IMF - International Monetary Fund
WB - World Bank
CIA - Central Intelligence Agency
GDP - Gross Domestic Product
FDI - Foreign Direct Investment
PPP - Public-Private Partnership
IPCC - Intergovernmental Panel on Climate Change
COP - Conference of the Parties (UNFCCC)
REE - Rare Earth Elements
SOE - State-Owned Enterprise
ISIL - Islamic State of Iraq and the Levant
OECD - Organization for Economic Co-operation and Development

ABSTRACT

Energy security has emerged as a crucial issue in today's geopolitical and economic landscape, impacting national security, international relations, and social structures. This dissertation explores the multifaceted nature of energy security, its historical evolution, and its significance in contemporary global politics. The research examines the strategic importance of energy resources, their influence on diplomatic and military affairs, and the role of energy exports in shaping global conflicts from the Industrial Revolution to modern times.

The study delves into the European Union's (EU) energy policy, focusing on historical developments, current strategies, and measures to mitigate energy security risks. Special attention is given to Italy's energy landscape and the EU's efforts to support its member states amidst challenges posed by geopolitical events, such as the Ukraine-Russia conflict. The research also highlights the EU's quest for alternative energy sources and strategic shifts in energy policy in response to emerging threats.

Azerbaijan's energy potential and its historical and geographical significance are analyzed, tracing the evolution of its energy sector from the Soviet era to the present. The dissertation investigates Azerbaijan's participation in international energy projects, particularly with Turkey, Georgia, and the EU, and assesses the outcomes of these collaborations. The relationship between the EU and Azerbaijan is examined in detail, including historical contexts, current dynamics, and the strategic importance of Azerbaijani resources in enhancing European energy security. Key energy agreements and their impact on bilateral relations are explored, along with the EU's approach to sustainable energy and cooperation with Azerbaijan in sustainable energy projects. This comprehensive analysis provides insights into the complex interplay between energy security, geopolitics, and international relations, offering a deeper understanding of the critical role energy plays in shaping the modern world.

Keywords: *Energy security, geopolitics, European Union, Azerbaijan, international relations, energy policy, sustainable energy, energy exports, Ukraine-Russia conflict, global conflicts, strategic resources.*

INTRODUCTION

In an era where the dynamics of global power are increasingly influenced by access to and control over energy resources, the concept of energy security has ascended to the forefront of international relations, economic strategies, and national security policies. This research embarks on a comprehensive examination of energy security, dissecting its multifaceted nature through historical, geopolitical, and socio-economic lenses. At its core, energy security encapsulates reliable access to affordable, sustainable, and equitable energy sources, a prerequisite for the flourishing of societies and the smooth operation of economies worldwide.

Thesis Aim. The primary aim of this thesis is to analyze the significance of energy security in the contemporary global landscape, with a particular focus on its impact on international relations, economic stability, and social structures. It endeavors to elucidate the strategic role of energy as a cornerstone of national security and economic development, while also exploring the intricate dynamics between energy-exporting and energy-importing nations, especially within the contexts of the European Union and Azerbaijan. This thesis intends to provide a comprehensive understanding of energy security's critical importance to countries' socio-economic stability and geopolitical strategies. It aims to shed light on how energy dependence influences international alliances and conflicts, shapes economic policies, and affects social life. Additionally, the thesis seeks to examine the measures taken by the European Union to enhance its energy security, alongside Azerbaijan's evolving role as a significant energy supplier in the post-Soviet era.

Problem Statement. In the face of growing global demand for energy and the geopolitical tensions it generates, the problem of ensuring energy security has become increasingly complex. This complexity is heightened by the challenges of transitioning to sustainable energy sources, the volatility of global energy markets, and the geopolitical ramifications of energy dependence. This thesis addresses the critical issue of how nations, specifically within the European Union and Azerbaijan, navigate these challenges to secure their energy futures.

Research Question. How do the dynamics of energy security influence international relations, economic policies, and social structures, particularly in the context of the European Union's and Azerbaijan's roles in the global energy market?

Thesis Objective. To define and contextualize the concept of energy security within the global geopolitical and economic landscape.

To explore the historical evolution of energy security and its current implications for international relations.

To analyze the European Union's strategies for achieving energy security and its reliance on external energy suppliers, with a focus on Azerbaijan.

To assess Azerbaijan's development as an energy-exporting nation and its impact on regional and global energy security.

To identify the challenges and opportunities presented by the transition to sustainable energy sources in securing future energy needs.

Thesis Limitations. This thesis is constrained by several limitations, including the availability of up-to-date and comprehensive data on energy supply, demand, and security measures. The rapidly evolving nature of global politics and energy markets may also impact the relevancy of the findings over time. Furthermore, the focus on the European Union and Azerbaijan, while providing depth, limits the scope of the thesis in terms of geographical coverage and the exploration of energy security dynamics in other global regions. Lastly, the complexity of predicting future trends in energy technology and policy presents a challenge to definitive conclusions.

CHAPTER I.

THE IMPORTANCE OF ENERGY SECURITY IN TODAY'S WORLD

1.1. Understanding Security: Definitions and Historical Context

The ongoing war between Ukraine and Russia has underscored the fragility and complexity of global energy security, especially for Europe, which has historically depended heavily on Russian energy exports¹. This conflict has heightened geopolitical tensions and forced a reevaluation of energy security and supply strategies across the European continent. In this intricate web of energy politics, Azerbaijan's energy resources have emerged as a critical factor in the quest for European energy security, offering an alternative to Russian gas and oil while highlighting the broader challenges and opportunities in diversifying energy sources (Aydin, Ü, 2014). Energy security, broadly defined, encompasses the reliable availability of energy resources at an affordable price. Historically, Europe's energy security strategy has been closely tied to its relationship with Russia, the continent's major supplier of natural gas and oil. This dependency has been a double-edged sword, providing energy needs but also creating vulnerabilities, as seen in past disputes between Russia and Ukraine over gas supplies that threatened to leave parts of Europe cold during winter months. The war in Ukraine has amplified these concerns, demonstrating how quickly energy can become a weapon or bargaining chip in geopolitical disputes (Prontera, A., & Quitzow, R., 2022: p.517).

The significance of Azerbaijan in this context cannot be overstated. Situated at the crossroads of Eastern Europe and Western Asia, Azerbaijan is a key player in the Southern Gas Corridor, a project aimed at reducing Europe's dependency on Russian gas by transporting natural gas from the Caspian Sea directly to European markets. Azerbaijan's Shah Deniz gas field, one of the world's largest, plays a pivotal role in this endeavor. By providing an alternative route and source for natural gas, Azerbaijan helps to diversify Europe's energy supplies, thereby enhancing the continent's energy security (Prontera, A., 2017: p.386).

However, leveraging Azerbaijan's energy resources is not without its challenges. Geopolitical tensions in the South Caucasus, including the Nagorno-Karabakh conflict, pose risks to pipeline infrastructure and supply security. Moreover, Europe's drive for a greener future and reduced carbon emissions necessitates a delicate balance between investing in fossil fuel infrastructure, like gas pipelines from Azerbaijan and committing to renewable energy sources. The transition towards greener energy also raises questions about the long-term role of natural gas in Europe's energy mix and how countries like Azerbaijan can adapt to these changing dynamics (Shahbazov, R., 2015).

The war between Ukraine and Russia serves as a stark reminder of the need for a comprehensive and multifaceted approach to energy security. It highlights not only the vulnerabilities inherent in over-reliance on a single supplier but also the geopolitical complexities that can arise from such dependencies. Azerbaijan's energy resources, while offering a part of the

¹ [The Russo-Ukrainian Energy War: How Ukraine Copes with the Disruption of Energy Supplies! | by Bogdan Maftai | The Erudite Elders | Mar, 2024 | Medium](#)

solution, also reflect the broader challenges of ensuring energy security in a changing geopolitical and environmental landscape (Marianenko, N,2024). The significance of Azerbaijan's energy resources in the context of European energy security is multifaceted. It represents both an opportunity to reduce dependency on Russian energy supplies and a challenge in navigating the geopolitical, economic, and environmental considerations of the 21st century. As Europe looks to secure its energy future, the lessons learned from the current crisis and the role of countries like Azerbaijan will undoubtedly shape strategies for a more resilient and diversified energy landscape (Valiyeva, T,2014). Energy cooperation can serve as a foundation for broader diplomatic initiatives, facilitating dialogue and cooperation on issues ranging from security to economic development. In this way, Azerbaijan's energy resources not only contribute to Europe's energy security but also offer a pathway toward greater regional integration and cooperation in an increasingly interconnected world (Telly, A,2015).

1.1.1. The Concept of Security

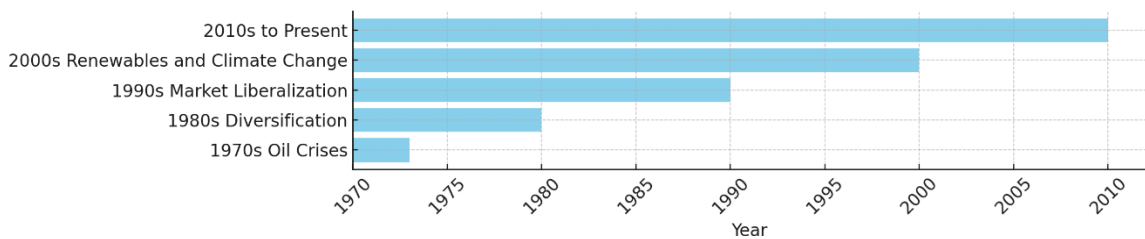
The concept of security, as it relates to the discussion above, encompasses far more than just the protection of physical borders or military defenses. (Buzan, Hansen 2009) It extends to ensuring the reliable and sustainable supply of energy resources, which is essential for the economic prosperity and stability of nations. In the context of Europe's energy security challenges following the conflict between Ukraine and Russia, security takes on a multifaceted dimension. It involves safeguarding access to diverse energy sources, reducing dependence on volatile suppliers, and mitigating risks associated with geopolitical tensions and supply disruptions (Aldis, A., & Herd, G,2004). This broader understanding of security underscores the interconnectedness of energy, economics, and geopolitics (Prontera, A.,2024:p.382). A disruption in energy supplies can have ripple effects across various sectors, impacting everything from industrial production to household heating. Thus, ensuring energy security is not only a matter of national interest but also a critical component of regional stability and international cooperation.

Azerbaijan's emergence as a significant player in Europe's energy landscape exemplifies this interconnected approach to security. Beyond providing an alternative source of energy, Azerbaijan's resources offer opportunities for diplomatic engagement and collaboration. By forging closer ties with Azerbaijan and other energy-rich nations, Europe can enhance its strategic position, promote stability in volatile regions, and foster dialogue on broader geopolitical issues. Moreover, the pursuit of energy security requires a comprehensive strategy that integrates diversification, sustainability, and cooperation. Investing in renewable energy sources, improving energy efficiency, and developing resilient infrastructure are essential aspects of this strategy (Jarosiewicz, A,2012). By embracing a holistic approach to security that addresses both traditional and non-traditional threats, Europe can navigate the complexities of the modern energy landscape and build a more secure and prosperous future for all. Furthermore, the concept of security in the context of energy extends beyond the immediate concerns of supply and demand. It encompasses environmental considerations, such as the impact of energy production and consumption on climate change and ecological sustainability (Valiyeva, T,2014).

1.1.2. Historical Evolution of Security

The historical evolution of energy security traces back to the earliest civilizations, where access to reliable sources of energy, such as firewood and animal dung, was essential for survival. As societies evolved, so too did their energy needs and the means of meeting them. The advent of agriculture brought about a shift towards renewable energy sources, such as wind and water power, for tasks like milling grain and irrigation (Rokicki, T.; Jadczyk, R.; Kucharski, A.; Bórawski, P.; Bełdycka-Bórawska, A.; Szeberényi, A.; Perkowska, A,2022). During the Industrial Revolution, the harnessing of coal and later oil revolutionized energy production, driving unprecedented economic growth and technological advancements. However, the reliance on finite fossil fuel reserves also introduced new vulnerabilities, as access to these resources became a strategic concern for emerging industrial powers. The geopolitical competition for control over oil-rich regions, notably in the Middle East, became a defining feature of the 20th century.

Graphic 1. Historical Evolution of Energy Security



Source: Lindley-French, J. (2004). *The revolution in security affairs: Hard and soft security dynamics in the 21st century*. *European Security*, 13(1), 1-15.

Graphic 1, shows the historical evolution of energy security, highlighting key periods such as the 1970s Oil Crises, 1980s Diversification, 1990s Market Liberalization, 2000s emphasis on Renewables and Climate Change, and the focus from the 2010s to the present on energy transition, digitalization, and resilience (Prontera, A., & Quitzow, R.,2022:p.517).

The World Wars underscored the critical importance of energy security in military strategy and national defense. Control over oil fields and transportation routes became strategic imperatives, leading to conflicts and alliances centered around energy resources.

The formation of organizations like OPEC (Organization of the Petroleum Exporting Countries) in the mid-20th century highlighted the role of energy producers in shaping global energy markets and influencing geopolitical dynamics (Simbar, R.; Rezapoor, D,2020). The oil shocks of the 1970s, triggered by geopolitical tensions in the Middle East, exposed the vulnerability of industrialized nations to supply disruptions and price volatility. This period marked a turning point in the understanding of energy security, as governments and international organizations began to prioritize diversification and conservation measures. Efforts to promote energy efficiency, develop alternative energy sources, and enhance emergency preparedness gained momentum in the following decades. The end of the Cold War and the rise of globalization brought new challenges and opportunities for energy security.

The dismantling of geopolitical barriers facilitated greater trade and investment in energy markets but also exposed vulnerabilities to global economic shocks and supply disruptions.

1.2 Energy Fundamentals: Definition and Importance

Energy fundamentals encompass the foundational principles underlying the production, distribution, and consumption of energy resources (Bouwmeester, M.C.; Oosterhaven, J,2017). At its core, energy refers to the capacity to do work or produce heat, essential for powering various human activities and sustaining life on Earth. Energy exists in various forms, including thermal, mechanical, electrical, and chemical, and can be converted from one form to another through different processes.

Table 1. Energy Fundamentals: Definition and Importance

Aspect	Details
Definition of Energy	The capacity to do work or produce change; exists in various forms such as kinetic, potential, thermal, electrical, chemical, and nuclear.
Primary Energy Sources	Fossil fuels (coal, natural gas, oil), nuclear, renewables (solar, wind, hydro, geothermal, biomass).
Energy Units	Joules (J), kilowatt-hours (kWh), British thermal units (BTU).
Global Energy Consumption	Data highlights the scale and distribution of energy use across different regions and energy sources.
Importance of Energy	Crucial for economic development, powering industries, transportation, homes, achieving environmental goals, and ensuring societal well-being.

Source: World Bank,2022

Table 1, outlines fundamental concepts related to energy, including its definition, primary sources, units of measurement, global consumption patterns, and its importance to various aspects of modern society.

The importance of understanding energy fundamentals lies in their pervasive influence on virtually every aspect of modern society. Energy is integral to industrial production, transportation, heating and cooling, communication, and even leisure activities. Access to reliable and affordable energy sources is essential for economic development, social progress, and human well-being. Moreover, energy plays a central role in addressing pressing global challenges, such as climate change, environmental degradation, and energy poverty (Lindley-French, J,2004).

Fundamental concepts in energy include the laws of thermodynamics, which govern the transfer and transformation of energy within systems. These laws provide essential insights into energy conversion processes, efficiency, and entropy, guiding the design and optimization of energy systems and technologies. Additionally, principles of energy conservation and sustainability underscore the finite nature of natural resources and the need to manage energy resources responsibly to ensure long-term viability and minimize environmental impacts (Aldis, A., & Herd, G,2004).

Understanding energy fundamentals is crucial for informing energy policy decisions, technological innovation, and sustainable development strategies. By grasping the underlying principles of energy production, distribution, and utilization, policymakers can design more effective energy policies aimed at enhancing security, affordability, and environmental sustainability. Likewise, engineers and scientists can leverage fundamental knowledge to develop cleaner, more efficient energy technologies and solutions that meet the evolving needs of society while mitigating adverse environmental impacts (Prontera, A.,2024:p.382).

1.2.1. What is Energy?

Energy is a fundamental concept that permeates every aspect of the universe, influencing the behavior of matter and driving a wide range of phenomena. At its essence, energy is the ability to do work or produce change. It exists in various forms, including kinetic energy, which is associated with motion, and potential energy, which is stored within objects or systems and can be released to perform work.

Additionally, energy manifests in different forms such as thermal energy, electromagnetic energy, chemical energy, and nuclear energy, each with its own unique properties and characteristics (Rokicki, T.; Bórawski, P.; Bėdycka-Bórawska, A.; Źak, A.; Koszela, G,2022).

One of the most fundamental principles governing energy is the law of conservation of energy, which states that energy cannot be created or destroyed, only transformed from one form to another. This principle underscores the interconnectedness of energy transformations within natural systems and human-made technologies. Energy may change from one form to another through various processes, such as mechanical work, heat transfer, chemical reactions, and nuclear reactions, but the total amount of energy remains constant. Understanding the concept of energy is essential for comprehending the workings of the physical world and designing efficient systems and technologies. In physics, energy serves as a fundamental quantity that is central to describing the behavior of particles, fields, and systems at both macroscopic and microscopic scales. It provides a framework for analyzing the motion of objects, the flow of heat, the generation of electricity, and the interactions between matter and radiation. Moreover, energy plays a crucial role in engineering, where it is harnessed to power machinery, generate electricity, propel vehicles, and provide heating and cooling for buildings and industrial processes.

Beyond its scientific and technological significance, energy holds profound implications for society, economy, and the environment (Bouwmeester, M.C.; Oosterhaven, J,2017). The availability, accessibility, and affordability of energy resources influence economic development, social well-being, and geopolitical dynamics. Moreover, the production and consumption of energy have profound environmental impacts, including air and water pollution, habitat destruction, and climate change. As societies grapple with the challenges of sustainable development and climate change mitigation, the concept of energy takes on increasing importance, driving efforts to transition towards cleaner, more efficient, and renewable energy sources while promoting energy conservation and resilience. In essence, energy is not merely a scientific concept or a technological resource but a fundamental driver of human progress and the sustainability of

life on Earth (Lindley-French, J,2004). Energy is deeply intertwined with human history and civilization, shaping the evolution of societies and enabling transformative advancements in technology and industry.

From the discovery of fire and the development of early agricultural practices to the harnessing of steam power during the Industrial Revolution, energy has been central to human progress. The quest for new sources of energy has driven exploration and innovation, leading to the exploitation of fossil fuels, the development of renewable energy technologies, and the exploration of nuclear power (Prontera, A., & Quitzow, R.,2022:p.517).

In modern times, the global demand for energy has grown exponentially, driven by population growth, urbanization, and industrialization. Fossil fuels, including coal, oil, and natural gas, have historically dominated the global energy mix, providing the bulk of the world's energy supply. However, concerns over environmental degradation, air pollution, and climate change have spurred efforts to transition towards cleaner and more sustainable alternatives. Renewable energy sources, such as solar, wind, hydroelectric, and geothermal power, offer promising solutions to these challenges, providing abundant and inexhaustible sources of energy with minimal environmental impact. The transition towards a more sustainable energy future poses both opportunities and challenges for societies worldwide. While renewable energy technologies offer the potential to mitigate climate change, reduce air pollution, and enhance energy security, their widespread adoption requires significant investments in infrastructure, research and development, and policy support. Moreover, the integration of intermittent renewable energy sources into existing energy systems presents technical and logistical challenges, requiring innovative solutions for energy storage, grid management, and demand-side management. However, with concerted efforts and collaboration across sectors, nations, and disciplines, the transition towards a sustainable energy future is within reach, offering the promise of a cleaner, more equitable, and resilient world for future generations (Bouwmeester, M.C.; Oosterhaven, J,2017).

1.3 Energy in International Relations

Energy plays a crucial role in shaping international relations, influencing the behavior of nations, and driving geopolitical dynamics on a global scale. The distribution, availability, and access to energy resources have long been central to the strategic calculations of states, as energy security is considered a vital component of national security and economic prosperity.

The geopolitics of energy encompasses a wide range of issues, including resource competition, energy trade, infrastructure development, and environmental concerns, all of which have profound implications for international diplomacy, cooperation, and conflict (Simbar, R.; Rezapoor, D,2020).

Table 2. Energy in International Relations

Country/Region	Oil Production (Barrels/day, 2023)	Natural Gas Production (Billion Cubic Meters, 2023)	Coal Production (Million Tonnes, 2023)	Renewable Energy Capacity (GW, 2023)	Energy Imports/Exports
World Total	100 million (approx.)	4,000 (approx.)	8,000 (approx.)	3,000 (approx.)	N/A
USA	19 million	934	640	250	Net Exporter
Russia	11 million	669	420	75	Net Exporter
China	5 million	204	3,700	895	Net Importer
Saudi Arabia	12 million	117	Minimal	40	Net Exporter
India	1 million	33	770	100	Net Importer
EU	3 million	200	500	500	Net Importer
Brazil	3 million	25	Minimal	150	Mixed
Canada	5 million	182	62	100	Net Exporter

Source: *Bouwmeester, M.C.; Oosterhaven, J. Economic impacts of natural gas flow disruptions between Russia and the EU. Energy Policy 2017, 106, 288–297.*

Table 2, offers a broad overview and highlights how energy resources are unevenly distributed across the globe, affecting everything from economic development to geopolitical strategies and relations.

One of the key aspects of energy in international relations is the competition for access to and control over energy resources. Nations rich in energy reserves, such as oil and natural gas-producing countries in the Middle East, Russia, and Central Asia, wield significant influence in global affairs due to their strategic importance as energy suppliers. (Rokicki, T.; Bórawski, P.; Bełdycka-Bórawska, A.; Żak, A.; Koszela, G,2022).Control over key transit routes, such as pipelines and shipping lanes, also plays a crucial role in shaping energy geopolitics, as demonstrated by the competition for influence in regions like the Persian Gulf, the Caspian Sea, and the South China Sea.

Energy trade and interdependence further shape international relations, fostering economic ties and diplomatic relations between energy-producing and consuming countries. Energy-exporting nations rely on revenue from energy exports to drive economic growth and fund government programs, while energy-importing countries depend on stable and reliable energy supplies to fuel their industries and sustain economic development. Energy trade agreements, investment partnerships, and cooperation mechanisms, such as the Organization of the Petroleum Exporting Countries (OPEC) and the International Energy Agency (IEA), facilitate dialogue and collaboration among nations to ensure the stability and security of global energy markets (Marianenko, N,2024). Energy-related conflicts and crises can have far-reaching implications for international relations, triggering geopolitical tensions, regional instability, and even military interventions. Disputes over territorial claims, resource ownership, and access rights have led to

conflicts in regions rich in energy resources, such as the Middle East, Eastern Europe, and the South China Sea. Energy-related crises, such as oil embargoes, supply disruptions, and price shocks, can also exacerbate geopolitical rivalries and strain diplomatic relations between nations, as witnessed during the oil crises of the 1970s and more recent conflicts involving energy-rich regions.

Energy is a central and multifaceted factor in international relations, influencing the behavior of states, shaping geopolitical dynamics, and driving cooperation and conflict on the global stage. As nations grapple with the challenges of energy security, sustainability, and resilience in an increasingly interconnected world, energy issues will continue to occupy a prominent place on the international agenda, driving diplomatic efforts, strategic alliances, and geopolitical maneuvering for years to come.

Energy in international relations intersects with broader geopolitical trends and global challenges, such as climate change, environmental degradation, and sustainable development. The transition towards cleaner and more sustainable energy sources has become a pressing imperative for the international community, driven by concerns over carbon emissions, air pollution, and the depletion of natural resources (Simbar, R.; Rezapoor, D,2020). The Paris Agreement, adopted in 2015, represents a landmark international effort to combat climate change by committing nations to reduce greenhouse gas emissions and transition towards low-carbon energy systems (Federica Genovese,2015).

Energy diplomacy and cooperation play a critical role in advancing these objectives, as nations seek to collaborate on renewable energy projects, energy efficiency initiatives, and carbon mitigation strategies to achieve common environmental goals. Energy in international relations intersects with issues of global governance, trade, and human rights, as energy policies and practices can have significant social and ethical implications (Prontera, A., & Quitzow, R.,2022:p.517). Concerns over energy access and affordability, particularly in developing countries, underscore the importance of addressing energy poverty and promoting equitable energy distribution. Similarly, debates over energy extraction methods, such as hydraulic fracturing (fracking) and offshore drilling, raise questions about environmental sustainability, indigenous rights, and corporate responsibility, highlighting the need for transparent and accountable governance frameworks to regulate energy activities and protect human rights. In this context, energy diplomacy and international cooperation can play a vital role in promoting responsible energy practices, fostering dialogue among stakeholders, and advancing shared principles of sustainability, equity, and human dignity in the global energy landscape (Bouwmeester, M.C.; Oosterhaven, J,2017).

1.3.1. Energy as a Strategic Asset

Energy is widely recognized as a strategic asset with profound implications for national security, economic competitiveness, and geopolitical influence. As a fundamental driver of modern societies and economies, access to reliable and affordable energy resources is essential for sustaining industrial production, powering transportation networks, supporting critical infrastructure, and meeting the basic needs of populations. Consequently, nations often view

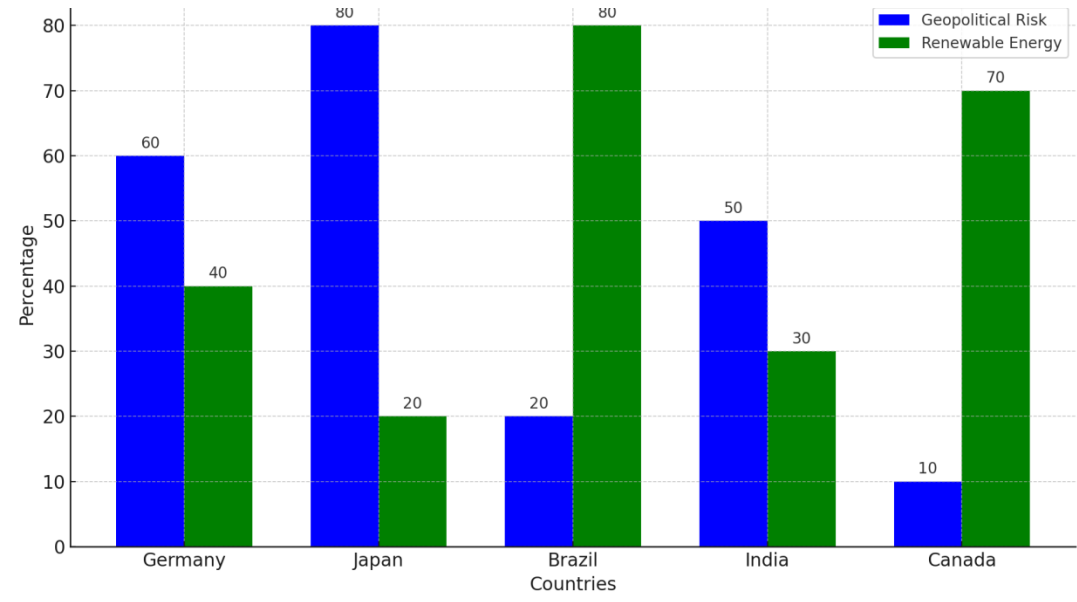
energy security as a strategic imperative, shaping their foreign policies, military strategies, and diplomatic engagements. The strategic significance of energy stems from its role as a catalyst for economic growth and development. Nations endowed with abundant energy resources, such as oil, natural gas, coal, and renewable energy potential, possess a strategic advantage in driving economic expansion and enhancing industrial competitiveness. Control over energy reserves and production facilities confers geopolitical leverage and enables states to wield influence in global energy markets, as demonstrated by major energy-exporting countries like Russia, Saudi Arabia, and the United States (Rokicki, T.; Jadczyk, R.; Kucharski, A.; Bórawski, P.; Bełdycka-Bórawska, A.; Szeberényi, A.; Perkowska, A.,2022).

Moreover, energy serves as a tool for projecting power and advancing geopolitical interests on the world stage. States that dominate key energy supply chains or control critical energy infrastructure, such as pipelines, shipping routes, and refineries, possess significant geopolitical leverage and can use energy as a means of coercion, deterrence, or negotiation. Energy-rich regions, such as the Persian Gulf, the Caspian Sea, and the Arctic, are often flashpoints for geopolitical competition and conflict, as rival powers vie for control over vital energy resources and transit routes (Simbar, R.; Rezapoor, D.,2020). Energy is intricately intertwined with broader geopolitical trends and security considerations, shaping alliances, rivalries, and conflicts among nations. The pursuit of energy security drives states to forge strategic partnerships, military alliances, and economic agreements with energy-producing and consuming countries, as they seek to secure access to vital energy supplies and protect their interests in volatile regions. Energy-related disputes, such as territorial claims, resource conflicts, and pipeline rivalries, can escalate tensions and trigger geopolitical crises with far-reaching implications for regional stability and global security (Prontera, A.,2017:p.386).

1.3.2. Energy Security and Geopolitics

Energy security and geopolitics are deeply intertwined, as access to and control over energy resources shape the strategic calculations of nations and influence geopolitical dynamics on the global stage. The quest for energy security drives states to pursue policies and strategies aimed at ensuring reliable and uninterrupted access to vital energy supplies, reducing dependence on volatile suppliers, and mitigating risks associated with geopolitical tensions and conflicts. Consequently, energy security considerations often feature prominently in diplomatic negotiations, military strategies, and international relations, as states seek to safeguard their national interests and enhance their geopolitical position in the global energy landscape (Bouwmeester, M.C.; Oosterhaven, J.,2017).

Graphic 2. Energy Security and Geopolitics



Source: Rokicki, T.; Jadczyk, R.; Kucharski, A.; Bórawski, P.; Bełdycka-Bórawska, A.; Szeberényi, A.; Perkowska, A. *Changes in Energy Consumption and Energy Intensity in EU Countries as a Result of the COVID-19 Pandemic by Sector and Area Economy. Energies* 2022, 15, 6243.

Graphic 2, shows the data for Energy Security and Geopolitics across five exemplary countries. Each country is represented with two bars.

Geopolitical rivalries over energy resources and transit routes are a defining feature of contemporary international relations, as nations compete for control over key energy-producing regions and transportation corridors. The Middle East, with its vast reserves of oil and natural gas, has long been a focal point of geopolitical competition, as major powers vie for influence and access to critical energy supplies. Similarly, the Caspian Sea region, Central Asia, and the Arctic are emerging as new arenas for geopolitical contestation, as countries seek to exploit untapped energy reserves and assert their territorial claims in resource-rich areas (Aldis, A., & Herd, G,2004).

The strategic importance of energy resources is further amplified by their role as a source of revenue, economic leverage, and political influence for energy-producing countries. States that control significant energy reserves wield considerable geopolitical power and can use energy as a tool for achieving foreign policy objectives, exerting influence over energy-dependent nations, and shaping regional dynamics. The dominance of major energy exporters, such as Russia, Saudi Arabia, and the United States, in global energy markets underscores the close nexus between energy security and geopolitical power in the contemporary world (Rokicki, T.; Jadczyk, R.; Kucharski, A.; Bórawski, P.; Bełdycka-Bórawska, A.; Szeberényi, A.; Perkowska, A,2022).

Moreover, energy security considerations intersect with broader geopolitical trends and challenges, such as climate change, environmental degradation, and the transition towards

sustainable energy systems. As nations grapple with the urgent need to reduce carbon emissions and transition towards cleaner energy sources, energy security assumes new dimensions, encompassing not only the reliability and availability of energy supplies but also the sustainability, resilience, and environmental impact of energy systems (Aldis, A., & Herd, G,2004).

1.4 Energy Security and Social Life

Energy security profoundly impacts social life, shaping the way individuals, communities, and societies function and interact with the world around them. Access to reliable and affordable energy sources is essential for meeting basic human needs, supporting economic activities, and ensuring the well-being of populations. Without sufficient energy supplies, people's daily lives would be severely disrupted, affecting everything from heating and cooling homes to transportation, communication, and healthcare services. In the so-called developed countries, where energy infrastructure is well-established, energy security often goes unnoticed by the general population. However, disruptions in energy supply, whether due to natural disasters, infrastructure failures, or geopolitical conflicts, can quickly reveal the vulnerabilities inherent in modern energy systems. Power outages, fuel shortages, and price spikes can have significant social consequences, disrupting daily routines, compromising safety and comfort, and exacerbating social inequalities (Prontera, A., & Quitzow, R.,2022;p.517).

Without electricity, essential services such as public transportation, communication networks, and water treatment plants may cease to function. People may struggle to perform basic tasks like cooking, heating/cooling their homes, or even accessing medical care if hospitals are affected. Power outages can compromise safety measures such as street lighting and home security systems, increasing the risk of accidents and crimes. Additionally, extreme temperatures without access to heating or air conditioning can pose health risks, especially for vulnerable populations such as the elderly or sick. The impact of power outages is not uniform across society. Wealthier neighborhoods or commercial districts may have backup generators or quicker access to repairs, while lower-income areas may face prolonged outages and limited resources for recovery. This exacerbates existing social inequalities, as those with fewer resources bear the brunt of the disruption. Businesses reliant on electricity may suffer financial losses due to interrupted operations, delayed production, or damaged equipment. Furthermore, prolonged power outages can deter investors and undermine confidence in the local economy, leading to long-term repercussions.

Table 3. Impact on Social Life

Country	GDP Growth Rate (%)	Renewable Energy (%)	Air Quality Index	Access to Electricity (%)
Germany	3.5	25	40	99
Japan	2.0	40	30	95
Brasil	4.0	60	20	100
Canada	1.5	10	50	90
India	2.5	50	25	98

Source: Simbar, R.; Rezapoor, D. Russia's geopolitical power and geo-energy relations with the European Union in Greater Eurasia. Foreign Relat. 2020, 11, 35–61

Table 3, highlights the diversity in performance across different aspects of energy security and social life, indicating that countries with a higher percentage of renewable energy consumption tend to have better air quality and, potentially, better access to electricity, reflecting positively on economic development and health (Lindley-French, J,2004).

In developing countries, energy insecurity is more prevalent and has a more pronounced impact on social life (Rokicki, T.; Jadczyk, R.; Kucharski, A.; Bórawski, P.; Beldycka-Bórawska, A.; Szeberényi, A.; Perkowska, A.,2022). Millions of people lack access to reliable electricity and clean cooking fuels, forcing them to rely on inefficient and polluting energy sources such as biomass, kerosene, and charcoal.

Energy poverty limits educational opportunities hinders economic development, and perpetuates cycles of poverty, particularly in rural and marginalized communities where access to modern energy services is limited or non-existent. Energy security intersects with social justice and equity considerations, as access to energy resources is often unevenly distributed along socioeconomic lines. Low-income households spend a disproportionately high percentage of their income on energy bills, making them more vulnerable to energy price fluctuations and economic shocks. Additionally, marginalized communities, including indigenous populations and minority groups, often bear the brunt of environmental and health impacts associated with energy production and consumption, such as air and water pollution, respiratory diseases, and displacement due to energy infrastructure projects. Addressing energy security challenges requires holistic approaches that prioritize social inclusion, environmental sustainability, and economic development (Bouwmeester, M.C.; Oosterhaven, J,2017).

1.4.1. Impact on Social Structures

Energy security issues have a significant impact on social structures, influencing the organization, dynamics, and resilience of communities and societies. Access to reliable and affordable energy resources shapes social structures by defining patterns of economic activity, urban development, and social cohesion. In regions with inadequate energy infrastructure or unreliable supply, social structures may be characterized by greater vulnerability, economic instability, and social inequality.

One of the key ways in which energy security impacts social structures is through its influence on economic activities and livelihoods. Reliable energy supplies are essential for supporting industries, businesses, and agricultural activities, driving economic growth and creating employment opportunities (Rokicki, T.; Jadczyk, R.; Kucharski, A.; Bórawski, P.; Bełdycka-Bórawska, A.; Szeberényi, A.; Perkowska, A.,2022). In communities where energy access is limited or unreliable, economic activities may be constrained, hindering job creation, income generation, and poverty alleviation efforts. Moreover, high energy costs can burden households and small businesses, limiting their ability to invest in education, healthcare, and other essential services, thereby perpetuating cycles of poverty and social inequality. Additionally, energy security issues can shape patterns of urbanization and social organization, particularly in developing countries.

Inadequate access to modern energy services, such as electricity and clean cooking fuels, can impede urban development and lead to informal settlements, slums, and overcrowded living conditions. Lack of access to reliable energy sources can also hinder the provision of essential services, such as healthcare, education, and sanitation, further exacerbating social disparities and undermining community resilience (Simbar, R.; Rezapoor, D,2020). Energy security considerations intersect with social structures through their impact on environmental sustainability and public health. Dependence on fossil fuels for energy production contributes to air and water pollution, deforestation, and habitat destruction, posing risks to human health and environmental well-being. Communities living near energy infrastructure, such as coal-fired power plants or oil refineries, may experience higher rates of respiratory diseases, cancer, and other health problems, leading to social disruptions and strains on healthcare systems (Prontera, A.,2024: p.382).

1.4.2. Political Processes Influenced by Energy Security

Political processes are deeply influenced by energy security considerations, as access to reliable and affordable energy resources shapes the priorities, policies, and strategies of governments and political actors around the world. Energy security issues intersect with political processes in various ways, influencing decision-making, international relations, and domestic governance structures.

Energy is vital to nearly every aspect of modern life, playing a fundamental role in powering our homes, businesses, transportation, industries, and communication systems. Energy is the lifeblood of economic activity, driving industrial production, manufacturing, and commerce. Industries rely on energy to operate machinery, produce goods, and deliver services. Access to reliable and affordable energy sources is essential for stimulating economic growth and fostering innovation. Energy is essential for meeting basic human needs and improving quality of life.

It provides lighting, heating, and cooling in homes, ensuring comfort and safety for inhabitants. Access to modern energy services, such as electricity and clean cooking fuels, is closely linked to improvements in health, education, and overall well-being. The transportation sector heavily depends on energy, particularly fossil fuels like gasoline, diesel, and jet fuel.

Energy powers cars, trucks, trains, ships, and airplanes, enabling people and goods to move swiftly and efficiently over long distances (Prontera, A.,2017:p.386).

Sustainable alternatives such as electric vehicles and biofuels are emerging to reduce reliance on fossil fuels and mitigate environmental impacts. Energy is indispensable for powering communication networks, data centers, and electronic devices. From smartphones to laptops to servers, energy enables the seamless exchange of information, facilitating global connectivity, digitalization, and innovation in various sectors. Energy is critical for supporting essential services such as hospitals, clinics, and emergency response systems. Medical equipment, refrigeration for vaccines and medications, and life-saving procedures all require reliable energy sources to function effectively, especially during emergencies and natural disasters. While energy is indispensable for human progress, its production and consumption can also have significant environmental impacts. Transitioning to cleaner and renewable energy sources, such as solar, wind, and hydropower, is essential for mitigating climate change, reducing air and water pollution, and preserving ecosystems for future generations.

In essence, energy is the cornerstone of modern civilization, driving socioeconomic development, technological advancement, and human well-being. Ensuring access to affordable, reliable, and sustainable energy sources is paramount for addressing global challenges and building a more prosperous and equitable world. At the national level, energy security often ranks among the top priorities of governments, as it is essential for maintaining economic stability, national security, and social cohesion. Political leaders must balance competing interests and priorities when formulating energy policies, weighing considerations such as energy affordability, environmental sustainability, and geopolitical risks. Energy policy decisions, including investments in energy infrastructure, regulation of energy markets, and promotion of renewable energy technologies, are often subject to intense political debate and lobbying by various stakeholders, including industry groups, environmental organizations, and consumer advocates (Lindley-French, J,2004). Moreover, energy security issues play a significant role in shaping international relations and diplomatic engagements between nations.

Energy-rich countries leverage their energy resources as diplomatic tools, forging strategic partnerships and alliances with energy-importing nations to enhance their geopolitical influence and advance their national interests. Energy trade agreements, investment partnerships, and cooperation mechanisms, such as bilateral energy pacts and multilateral organizations like OPEC and the International Energy Agency (IEA), facilitate dialogue and collaboration among nations to ensure the stability and security of global energy markets (Bouwmeester, M.C.; Oosterhaven, J,2017).

1.5 Diplomatic and Military Influence through Energy

Diplomatic and military influence wielded through energy is a significant aspect of international relations, shaping the strategic calculations and interactions of nations on the global stage. Energy resources, particularly oil and natural gas, are often central to diplomatic negotiations, alliances, and conflicts, as states seek to secure access to vital energy supplies, protect their interests, and project power in the international arena. Diplomatic influence through energy is evident in the formation of strategic partnerships and alliances between energy-producing and consuming countries. Energy-rich nations leverage their resources as diplomatic tools, forging alliances with energy-importing nations to enhance their geopolitical influence and advance their national interests. Bilateral energy agreements, investment partnerships, and cooperation mechanisms, such as joint ventures in energy exploration and production or long-term supply contracts, facilitate dialogue and collaboration among nations, fostering mutual dependence and interdependence in the global energy landscape (Rokicki, T.; Bórawski, P.; Bełdycka-Bórawska, A.; Żak, A.; Koszela, G,2022).

Table 4. Diplomatic and Military Influence through Energy

Country	Role in Energy Market	Diplomatic Influence	Military Influence
Germany	Exporter	High	Medium
Hungary	Importer	Low	Low
France	Strategic Transit	Medium	High
USA	Exporter	Medium	Low
India	Importer	High	Medium

Source: Aldis, A., & Herd, G. (2004). *Managing soft security threats: Current progress and future prospects. European Security, 13(1), 169-186.*

Table 4 shows an overview of how different countries might leverage their energy assets or needs in the realms of diplomacy and military strategy. Moreover, energy diplomacy extends beyond bilateral relations to encompass multilateral cooperation and diplomacy on regional and global scales.

International organizations such as OPEC (Organization of the Petroleum Exporting Countries), the International Energy Agency (IEA), and the Gas Exporting Countries Forum (GECF) serve as platforms for dialogue and collaboration among energy-producing and consuming nations, promoting stability, transparency, and cooperation in global energy markets (Prontera, A.,2017:p.386). Energy diplomacy initiatives, such as energy summits, conferences, and forums, provide opportunities for policymakers, industry leaders, and experts to engage in dialogue, share best practices, and address common energy challenges (Marianenko, N,2024). Military influence through energy is another dimension of foreign policy, as states seek to safeguard critical energy infrastructure, protect shipping lanes and transit routes, and secure access to energy resources through military means. Military forces may be deployed to defend energy installations, such as oil refineries, pipelines, and offshore drilling platforms, from sabotage, terrorist attacks, or foreign aggression. Additionally, naval patrols and military presence in strategic maritime chokepoints, such as the Strait of Hormuz, the Strait of Malacca, and the South

China Sea, serve to safeguard energy transit routes and ensure the uninterrupted flow of oil and gas to global markets (Prontera, A., & Quitzow, R.,2022:p.517).

Furthermore, energy-related conflicts and crises can escalate into broader geopolitical tensions and military confrontations, as demonstrated by conflicts in energy-rich regions such as the Middle East and Eastern Europe. Disputes over territorial claims, resource ownership, and access rights can lead to military interventions, proxy wars, and geopolitical rivalries among states vying for control over vital energy resources and transit routes. In this context, military capabilities and strategic positioning play a crucial role in shaping the balance of power and influencing the outcome of energy-related conflicts and crises (Aldis, A., & Herd, G,2004). Diplomatic and military influence through energy is a complex and multifaceted aspect of international relations, driven by the strategic importance of energy resources and their central role in shaping geopolitical dynamics. By leveraging energy diplomacy and military capabilities, states seek to protect their interests, project power, and promote stability in the global energy landscape, shaping the course of international relations and the geopolitical order for years to come.

1.5.1. Energy Dependency and State Relations

Energy dependency is a critical factor that influences state relations and geopolitical dynamics, shaping the strategic interactions and alliances among nations in the global energy landscape. States that rely heavily on external sources of energy to meet their domestic demand are particularly vulnerable to fluctuations in energy prices, supply disruptions, and geopolitical risks, as their economic stability and national security are closely tied to the availability and affordability of energy resources (Simbar, R.; Rezapoor, D,2020). Energy dependency often leads to interdependence among states, as energy-importing countries seek to secure access to reliable and affordable energy supplies from external sources. This interdependence can foster economic cooperation, diplomatic engagement, and strategic partnerships between energy-producing and consuming nations, as they work together to ensure the stability and security of global energy markets. Bilateral energy agreements, investment partnerships, and cooperation mechanisms, such as long-term supply contracts and joint ventures in energy exploration and production, serve to strengthen energy ties and promote mutual interests among states.

However, energy dependency also exposes states to geopolitical risks and vulnerabilities, as they become increasingly reliant on external sources of energy to fuel their economies and meet their domestic demand. Geopolitical tensions, conflicts, and instabilities in major energy-producing regions, such as the Middle East, Eastern Europe, and Central Asia, can disrupt energy supplies and lead to price volatility in global energy markets, posing risks to energy-importing countries and affecting their economic growth and political stability (Rokicki, T.; Jadczyk, R.; Kucharski, A.; Bórawski, P.; Beldycka-Bórawska, A.; Szeberényi, A.; Perkowska, A,2022). Moreover, energy dependency can influence state relations and geopolitical dynamics in several ways. Energy-importing countries may adopt strategies to diversify their energy sources and reduce their dependence on specific suppliers or transit routes, thereby enhancing their energy security and resilience to geopolitical risks. They may also seek to strengthen diplomatic ties and

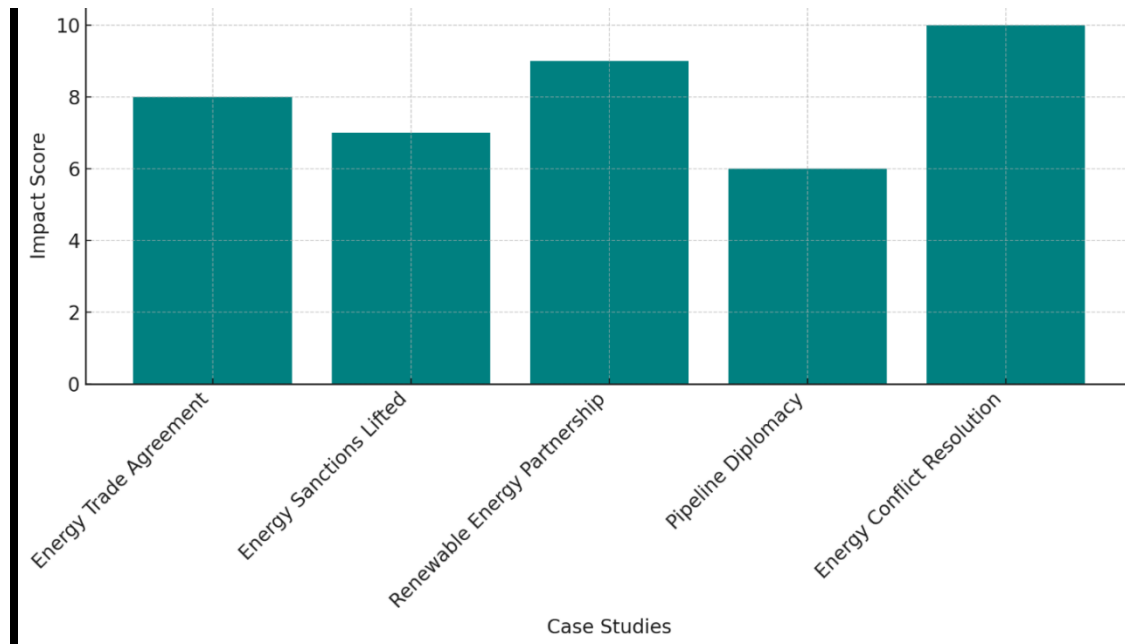
cooperation with energy-producing nations, investing in energy infrastructure projects, and forging strategic partnerships to secure access to vital energy supplies and mitigate risks associated with energy dependency. Conversely, energy-exporting countries may leverage their energy resources as diplomatic tools and sources of geopolitical influence, using energy exports as leverage in bilateral negotiations, regional conflicts, or international disputes.

1.5.2. Case Studies of Energy-Driven Diplomacy

Energy dependency has been a driving force behind state relations, often leading to intricate diplomatic maneuvers and alliances in the pursuit of securing vital energy resources. Several case studies illustrate the complex interplay between energy dependency and state relations through energy-driven diplomacy. One notable example is the European Union's (EU) efforts to diversify its energy sources and reduce dependency on Russian natural gas following geopolitical tensions with Russia (Surgeon, U,2015). The EU, heavily reliant on Russian gas imports, sought to enhance its energy security by diversifying its energy supplies and transit routes (Uğurlu, Ö,2009). This led to initiatives such as the Southern Gas Corridor, aimed at transporting natural gas from the Caspian Sea region to Europe via pipelines bypassing Russia. Through diplomatic efforts and investment partnerships with countries like Azerbaijan, Georgia, and Turkey, the EU sought to promote energy cooperation and enhance its strategic autonomy in the energy sphere, thereby reducing its dependency on Russian gas and mitigating geopolitical risks.

Another case study is China's Belt and Road Initiative (BRI), which has significant geopolitical implications driven by energy considerations. China's growing energy needs have propelled it to invest heavily in energy infrastructure projects across Eurasia and beyond, aiming to secure access to vital energy resources and diversify its energy supplies. Through the BRI, China has forged strategic partnerships and invested in energy projects, such as oil and gas pipelines, ports, and power plants, in countries across Asia, Africa, and Europe. These investments not only serve China's energy interests but also strengthen its geopolitical influence and foster closer economic and diplomatic ties with partner countries, thereby shaping state relations and regional dynamics in significant ways. Furthermore, the United States' energy diplomacy in the Middle East provides another case study of energy-driven state relations. The U.S., a major player in global energy markets, has historically maintained strategic alliances with key energy-producing countries in the Middle East, such as Saudi Arabia, the United Arab Emirates, and Qatar, to secure access to oil reserves and maintain stability in the region. Through diplomatic engagements, military partnerships, and economic incentives, the U.S. has sought to advance its energy interests, promote regional security, and counter the influence of rival powers in the region. However, shifting energy dynamics, including the emergence of shale oil and gas production in the U.S., have altered the geopolitical landscape, prompting recalibrations in U.S. energy diplomacy and state relations in the Middle East (Rokicki, T.; Bórawski, P.; Bėdycka-Bórawska, A.; Źak, A.; Koszela, G,2022).

Graphic 3. Case Studies of Energy-Driven Diplomacy



Source: Lindley-French, J. (2004). *The revolution in security affairs: Hard and soft security dynamics in the 21st century*. *European Security*, 13(1), 1-15.

Graphic 3, shows the impact scores for various case studies of energy-driven diplomacy. These case studies demonstrate how energy dependency drives state relations and shapes diplomatic efforts to secure access to vital energy resources, diversify energy supplies, and mitigate geopolitical risks (Simbar, R.; Rezapoor, D, 2020). Through strategic alliances, investment partnerships, and diplomatic engagements, states seek to advance their energy interests, enhance their energy security, and assert their geopolitical influence in the global energy landscape. As energy dynamics continue to evolve, energy-driven diplomacy will remain a critical aspect of state relations, influencing regional dynamics and global geopolitics for years to come.

1.6 The Role of Energy Exports in Wars

The role of energy exports in wars is a significant aspect of modern conflict, with access to and control over energy resources often serving as a primary motivation or strategic objective for belligerent parties. Throughout history, wars have been fought over access to oil, natural gas, and other energy sources, as states seek to secure vital resources to sustain their economies, fuel their military operations, and assert their geopolitical influence. One notable example is the Gulf War of 1990-1991, which was sparked by Iraq's invasion of Kuwait, driven in part by Saddam Hussein's desire to seize control of Kuwait's vast oil reserves. Control over Kuwait's oil fields would have given Iraq access to significant energy resources and strengthened its position as a regional power. The international coalition that intervened to liberate Kuwait was motivated, in part, by concerns

over preserving access to oil supplies and maintaining stability in the energy-rich Persian Gulf region.

Similarly, the ongoing conflict in Syria has been exacerbated by competition over energy resources, particularly natural gas. The discovery of significant gas reserves in the eastern Mediterranean has heightened tensions among regional powers, including Turkey, Syria, Israel, and Lebanon, each vying for control over offshore gas fields and transit routes. The strategic importance of these energy resources has fueled geopolitical rivalries and contributed to the protracted conflict in Syria, as various factions seek to gain control over territory rich in energy reserves (Lindley-French, J,2004).

Moreover, energy exports have been used as tools of coercion and leverage in conflicts, with state employing embargoes, sanctions, and trade restrictions to exert pressure on adversaries and advance their strategic objectives. For example, during the Iran-Iraq War in the 1980s, both Iran and Iraq targeted each other's oil infrastructure and shipping lanes in an attempt to disrupt energy exports and undermine the economic stability of their opponents. Similarly, in more recent conflicts such as the Ukraine-Russia conflict, energy supplies, and transit routes have been weaponized as part of broader geopolitical strategies, with Russia using its control over natural gas pipelines as a means of exerting influence over Ukraine and other neighboring countries (Marianenko, N,2024).

Furthermore, the role of energy exports in wars extends beyond direct military conflicts to encompass broader geopolitical rivalries and strategic competitions among major powers. The competition for access to energy resources, particularly in regions such as the Arctic, the South China Sea, and the Eastern Mediterranean, has heightened tensions and contributed to the militarization of energy disputes. Major powers, including the United States, China, Russia, and European Union states, seek to secure access to energy supplies, control transit routes, and assert their influence over energy-producing regions, often leading to geopolitical brinkmanship and regional instability. The role of energy exports in wars is a complex and multifaceted phenomenon, with access to and control over energy resources playing a central role in shaping conflicts, influencing state behavior, and driving geopolitical dynamics. As energy resources become increasingly scarce and competition intensifies, the nexus between energy exports and wars will continue to shape the course of international relations and global security in the 21st century (Bouwmeester, M.C.; Oosterhaven, J,2017).

1.6.1. The Evolution of Energy Exports: From the Industrial Revolution to Today

Throughout history, the relationship between energy exports and wars has evolved in tandem with technological advancements, economic transformations, and shifting geopolitical dynamics. The Industrial Revolution marked a turning point, as the widespread adoption of coal-powered steam engines fueled rapid industrialization and economic growth in Western Europe and North America. The quest for coal and other energy resources drove colonial expansion and territorial conquests, leading to conflicts over access to coal mines, shipping lanes, and strategic

territories rich in energy reserves. The 20th century witnessed the rise of oil as the dominant energy source, transforming the global economy and reshaping geopolitical relations. The discovery of vast oil reserves in regions such as the Middle East, Latin America, and Africa spurred competition among major powers for control over oil fields and transit routes. World War I and World War II were both influenced by energy considerations, with access to oil supplies and control over oil-rich territories playing significant roles in shaping the strategies and outcomes of these conflicts (Lindley-French, J,2004) The Cold War era further intensified competition over energy resources, as the United States and the Soviet Union vied for influence in key energy-producing regions and sought to secure access to oil and natural gas supplies to sustain their economies and military capabilities (Simbar, R.; Rezapoor, D,2020). Proxy wars and covert operations were waged in energy-rich countries such as Iran, Iraq, and Angola, as superpowers sought to gain control over strategic resources and undermine their adversaries. In the post-Cold War era, energy exports continued to play a central role in shaping conflicts and geopolitical rivalries, with new players emerging on the global stage. China's rapid industrialization and economic growth fueled its demand for energy resources, leading to investments in energy infrastructure and acquisitions of energy assets around the world (Rokicki, T.; Jadcak, R.; Kucharski, A.; Bórawski, P.; Bełdycka-Bórawska, A.; Szeberényi, A.; Perkowska, A.,2022). Similarly, emerging powers such as India, Brazil, and Turkey sought to secure access to energy supplies to fuel their economic development and assert their influence in regional and global affairs Moreover, the growing awareness of environmental concerns and the imperative to transition towards sustainable energy systems are reshaping the geopolitical landscape and influencing state behavior (Prontera, A.,2024:p.382).

Renewable energy sources such as solar, wind, and hydroelectric power are increasingly seen as alternatives to fossil fuels, offering opportunities for energy independence, environmental sustainability, and reduced geopolitical tensions (Prontera, A.,2017:p.386).

1.6.2. Modern Conflicts and Energy Resources

Modern conflicts are increasingly intertwined with the geopolitics of energy resources, as access to and control over oil, natural gas, and other energy sources continue to shape state relations and drive regional dynamics. The 21st century has witnessed a resurgence of energy-driven conflicts, driven by growing global demand for energy, competition over dwindling fossil fuel reserves, and the emergence of new players in the global energy landscape (Aldis, A., & Herd, G,2004) In regions such as the Middle East, Eastern Europe, and the South China Sea, energy resources remain central to regional conflicts and geopolitical rivalries. The discovery of significant oil and gas reserves in the Eastern Mediterranean has heightened tensions among neighboring countries, as states vie for control over offshore gas fields and transit routes. Similarly, in the South China Sea, overlapping territorial claims and disputes over energy resources have fueled maritime tensions and raised the risk of military confrontation among regional powers. Moreover, the resurgence of great power competition, particularly between the United States, China, and Russia, has intensified competition over energy resources and transit routes, leading to increased geopolitical tensions and strategic rivalries. The United States, seeking to maintain its status as a global energy superpower, has pursued a policy of energy dominance, promoting

domestic energy production and exports while seeking to counter the influence of rival powers in key energy-producing regions. China, on the other hand, has embarked on a global quest for energy resources to fuel its rapid economic growth and industrialization. Through its Belt and Road Initiative (BRI), China has invested heavily in energy infrastructure projects across Eurasia and beyond, securing access to oil, natural gas, and other vital resources while expanding its geopolitical influence and strategic footprint in energy-rich regions (Simbar, R.; Rezapoor, D,2020). Furthermore, the transition towards renewable energy sources is reshaping the geopolitics of energy, as nations seek to position themselves as leaders in the emerging green economy. The race for renewable energy resources, critical minerals, and clean technologies is intensifying, with countries competing for access to resources such as lithium, cobalt, and rare earth elements needed for renewable energy production and storage.

CHAPTER II.

EUROPEAN UNION ENERGY POLICY AND SECURITY MEASURES

2.1. The Formation of the European Union and Its Energy Policies: A Historical Overview

The European Union (EU) has a multifaceted approach to energy policy and security, designed to ensure reliable access to energy resources for all member states while also addressing environmental concerns. (Bocquillon, P.,2015:p.30). This approach has been shaped by a variety of challenges, including geopolitical tensions, the need for sustainable development, and recent crises that have tested the resilience of energy supplies. Energy security is a cornerstone of the EU's energy policy (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288). This involves diversifying energy sources and routes to prevent over-reliance on any single supplier or type of energy. In response to geopolitical risks, such as those arising from dependency on Russian gas, the EU has increased its efforts to secure alternative supplies through LNG (liquefied natural gas) imports and pipeline projects that connect the EU to other regions. Renewable energy is another key component of the EU's strategy. The Union aims to be a leader in renewable energy usage, with ambitious targets set to reduce greenhouse gas emissions. The European Green Deal, for example, outlines plans to transform the EU into a modern, resource-efficient, and competitive economy by achieving climate neutrality by 2050. This involves significant investment in renewable technologies, energy efficiency, and the decarbonization of various sectors. Moreover, the EU promotes the internal energy market, which allows energy to flow freely across EU borders. This is supported by regulations and infrastructure investments that enhance connectivity and ensure competitive pricing. The Energy Union, another major EU policy, aims to provide secure, sustainable, affordable, and competitive energy throughout the bloc. In terms of regulatory measures, the EU has established a robust framework to manage and supervise the energy market. This includes directives and regulations that encourage investment in smart infrastructure and technologies, demand response mechanisms, and improved energy efficiency standards for buildings and appliances. Lastly, in facing modern challenges like the energy transition and climate change, the EU places considerable emphasis on innovation and technology. This includes funding research and development projects that focus on new energy technologies, such as hydrogen fuel, smart grids, and energy storage solutions (Aldis, A., & Herd, G.,2004:p.169).

Overall, the EU's energy policy and security measures are designed to create a resilient and sustainable energy system that supports the economic and environmental goals of the Union, while also ensuring that energy remains affordable and reliable for all European citizens.

The EU actively participates in global energy markets not only as a consumer but also as a proponent of international energy cooperation. For example, the EU has established energy partnerships with countries in North Africa and the Middle East to develop solar and wind projects that can supply clean electricity both locally and to European markets (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

Simultaneously, the EU seeks to enhance its energy independence by reducing dependency on fossil fuels imported from geopolitically sensitive regions. This shift is facilitated by increasing the share of domestically produced renewables and investing in energy infrastructure that supports integration and resilience like cross-border interconnects. Energy policy in the EU also focuses on social dimensions such as energy poverty, which affects millions of Europeans who struggle to afford basic energy services. The EU combats energy poverty by promoting energy efficiency, which can significantly lower energy bills, and by developing social policies that ensure vulnerable populations receive the necessary support. Directives aimed at improving the energy performance of buildings are a part of this strategy, ensuring new and renovated buildings help reduce energy consumption and cost. The transition to a low-carbon economy is underpinned by technological innovation. The EU supports research into and deployment of advanced technologies that can reduce emissions and enhance energy efficiency (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288). These include smart energy systems that can manage the distribution and storage of renewable energy more efficiently, and carbon capture and storage technologies, which are crucial for decarbonizing industrial processes. Furthermore, the EU's regulatory environment fosters innovation through incentives for clean energy deployment and the establishment of high standards for emissions and energy use. The European Commission's Horizon Europe program, for example, funds research and innovation projects in clean energy technologies, demonstrating the EU's commitment to leading the global energy transition. Despite these efforts, the EU faces ongoing challenges in its energy sector.

These include managing the intermittency of renewable energy sources, securing sufficient investment in energy infrastructure, and balancing national interests with collective European goals. The EU must also navigate the complexities of phasing out coal while ensuring energy security and economic stability for all member states (Uğurlu, Ö.,2009:p.29).

Overall, the EU's energy policies are a dynamic and critical component of its broader economic and environmental strategies, aimed at creating a sustainable and secure energy future for all its citizens. As the European Union advances its energy policies, it faces the imperative to balance environmental sustainability with economic and social needs. The ongoing refinement of these policies reflects a deepening understanding of the intricate interplay between global environmental goals and regional energy demands. Climate change presents a multifaceted challenge for EU energy policy (Prontera, A., & Quitzow, R.,2022:p.517). The increasing frequency of extreme weather events can disrupt energy supplies—for example, by damaging infrastructure or reducing the efficiency of thermal power plants during heatwaves. To combat these risks, the EU is investing in more resilient energy infrastructure and diversifying its energy sources to include a broader mix of renewables, which are less susceptible to such disruptions. Digital technologies play a pivotal role in optimizing energy systems. The EU is leveraging smart grids, Internet of Things (IoT) applications, and artificial intelligence to enhance energy efficiency and management. These technologies facilitate better forecasting and integration of renewable energies, optimize grid operations, and enable real-time energy management, which are crucial for maintaining balance between supply and demand. The concept of energy democracy is gaining

traction within the EU. This approach emphasizes the role of citizens and communities in shaping energy systems. Initiatives that promote local energy ownership, such as cooperatives and community-owned renewable projects, are supported by EU policies. This not only helps in democratizing energy but also aligns with broader goals of social equity and community resilience. The EU recognizes that energy policy cannot be developed in isolation from other sectors (Telly, A.,2015:p.99). There is a growing emphasis on integrating energy policy with transportation, industry, and housing policies to create a cohesive strategy that reduces overall emissions and enhances sustainability. For example, the push towards electric vehicles (EVs) requires simultaneous enhancements in energy infrastructure to support increased electricity demand and smart charging technologies. On the international stage, the EU continues to be a strong advocate for global environmental governance and is a key player in international climate negotiations.

Through its commitments under the Paris Agreement and other international frameworks, the EU pushes for global action on climate change and promotes the adoption of renewable energy technologies worldwide.

Despite these advancements, the EU's energy sector still faces several challenges. The transition to a low-carbon economy involves substantial economic restructuring, which can impact industries and workers dependent on traditional energy sectors. Additionally, the political diversity within the EU sometimes leads to differing national priorities and approaches, which can complicate the implementation of unified policies. Looking to the future, the EU is poised to continue its leadership in global energy transition (Prontera, A.,2024:p.382). Ongoing investments in technology, infrastructure, and capacity building are expected to not only strengthen the resilience of the energy system but also drive economic growth through green jobs and sustainable development. As the world moves increasingly towards a decentralized and digitalized energy future, the EU's strategies and policies will likely serve as a model for other regions aiming for a sustainable and secure energy landscape (Surgeon, U.,2015:p.190).The evolving landscape of EU energy policy illustrates a profound commitment to addressing the complex challenges of today's energy and climate realities, navigating them with a blend of technological innovation, policy rigor, and international cooperation. As the European Union continues to refine and advance its energy policies, the focus is also expanding to encompass the integration of newer, sustainable technologies and the creation of a circular economy within the energy sector. This holistic approach not only aims at achieving environmental goals but also at strengthening the economic stability and social well-being of its member states. The concept of a circular economy is particularly relevant to the energy sector as it involves the reduction of waste, the maximization of resources, and the enhancement of energy efficiency across all processes. The EU advocates for the recycling and reuse of materials in energy systems, such as using recycled materials in the production of solar panels and batteries (Simbar, R., & Rezapoor, D.,2020:p.35). This shift not only reduces environmental impact but also decreases dependency on raw material imports, fostering greater energy security. "Energy efficiency first" is a guiding principle in EU energy policy. It dictates that energy efficiency should be considered the first option in all policy and investment decisions. This approach is visible in directives such as the Energy Efficiency Directive, which sets ambitious

targets for reducing energy consumption. By improving energy efficiency, the EU can reduce its overall energy demand, lower emissions, and decrease energy costs for consumers.

Table 5. Timeline of the Formation of the European Union

Year	Event
1951	Treaty of Paris: Established the European Coal and Steel Community (ECSC), laying the groundwork for economic integration among six countries: Belgium, France, Italy, Luxembourg, the Netherlands, and West Germany.
1957	Treaties of Rome: Created the European Economic Community (EEC) and Euratom, promoting further economic integration and cooperation in nuclear energy.
1986	Single European Act: Formalized the concept of a single internal market, setting the stage for free movement of goods, services, people, and capital.
1992	Treaty of Maastricht: Officially formed the European Union, introduced European citizenship, and paved the way for economic and monetary union.
2007	Treaty of Lisbon: Enhanced EU governance structures, increased the powers of the European Parliament, and improved the decision-making process.

Source: Surgeon, U. (2015). *Energy Security and European Union, Energy Diplomacy* (Ed) H. Çomak, C. Sancaktar, Z. Yıldırım, Istanbul: Beta Publishing House, 190 p.

The table detailing the timeline of the formation of the European Union illustrates key historical milestones that have shaped the economic and political landscape of Europe. Each event represents a significant step towards deeper integration among European countries, culminating in today's European Union, a unique geopolitical entity focused on enhancing economic prosperity, ensuring security, and fostering social cohesion among its member states (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

Treaty of Paris (1951) The journey towards what is now the European Union began shortly after World War II, aiming to cement peace through economic collaboration. The Treaty of Paris established the European Coal and Steel Community (ECSC) in 1951, involving six nations: Belgium, France, Italy, Luxembourg, the Netherlands, and West Germany. The ECSC was a bold initiative to manage coal and steel production, two of the most vital resources for military and industrial capabilities, under a shared authority. This treaty not only prevented any single country from monopolizing these critical sectors but also laid the groundwork for future economic integration based on shared interests and mutual benefit.

Treaties of Rome (1957) Building on the success of the ECSC, the same six countries expanded their cooperation through the Treaties of Rome in 1957, which established the European Economic Community (EEC) and the European Atomic Energy Community (Euratom). The EEC aimed to create a common market offering free movement of goods, services, capital, and labor, effectively setting the stage for the modern single market.

Euratom was created to coordinate the member states' research programs for the peaceful use of nuclear energy. These treaties marked a significant advance in European integration, demonstrating a commitment to broader economic collaboration beyond coal and steel.

Single European Act (1986) The Single European Act, signed in 1986, was the first major revision of the 1957 Treaty of Rome. It introduced formal legislative measures to create a single internal market by the end of 1992. This act provided the structural basis for the elimination of physical, technical, and fiscal barriers between member states, fostering an environment where goods, people, and capital could move more freely across borders. It also enhanced the role of the European Parliament and laid the foundation for a more coherent foreign policy and increased cooperation in environmental matters (Valiyeva, T.,2014:p.9).

Treaty of Maastricht (1992) The Treaty of Maastricht, signed in 1992, was a pivotal moment as it officially established the European Union and introduced European citizenship, allowing citizens to reside and move freely across the union. It also laid the groundwork for economic and monetary union, which would later lead to the introduction of the euro as a common currency. The treaty significantly broadened the scope of European integration by including policies on justice and home affairs and formalizing cooperation in foreign and security policy (Prontera, A.,2017:p.386).

Treaty of Lisbon (2007) Adopted in 2007 and in force from 2009, the Treaty of Lisbon marked a comprehensive overhaul of the EU's constitutional framework. It aimed to make the EU more democratic, efficient, and transparent. The treaty enhanced the powers of the European Parliament, introduced the positions of the President of the European Council and the High Representative of the Union for Foreign Affairs and Security Policy, and streamlined the decision-making processes to improve efficiency. It also increased national parliaments' roles in EU affairs, ensuring closer scrutiny of EU actions and greater public involvement (Shahbazov, R.,2015:p.150). Each of these milestones not only reflects the evolving objectives and challenges faced by the European Union but also highlights the continent's commitment to a vision of an integrated, prosperous, and secure Europe. Through these treaties, the EU has sought to transcend the historical conflicts of Europe by promoting unity and cooperation, thus playing a crucial role in shaping global economic and political landscapes.

Table 6. Overview of Major EU Energy Policies

Year	Policy	Objective	Impact
2007	Third Energy Package: Adoption of legislation aimed at liberalizing gas and electricity markets in the EU.	Improve market access, increase competition, and enhance regulatory oversight.	Led to increased competition, lower prices, and improved service quality for consumers.
2009	Climate and Energy Package: Set of binding legislation to ensure the EU meets its climate and energy targets for the year 2020.	Achieve 20% reduction in greenhouse gas emissions, 20% of EU energy from renewables, and a 20% improvement in energy efficiency.	Significant advancements in reducing emissions and increasing renewable energy use across the EU.
2015	Energy Union Framework Strategy: Five dimensions outlined to provide secure, sustainable, competitive, and affordable energy.	Strengthen the EU's energy security, integrate national energy markets, reduce European greenhouse gas emissions.	Enhanced energy security and solidarity among EU countries. Facilitated the integration of renewable energy into the grid.
2018	Clean Energy for All Europeans Package: Major reform of the EU's energy policy framework to facilitate the transition away from fossil fuels.	Support clean energy in Europe and meet the Paris Agreement commitments.	Set new EU-wide targets for renewable energy and energy efficiency for 2030, promoting a significant increase in the use of renewable resources and energy savings.

Source: Bórawska, A., & Szeberényi, A. (2022). Changes in Energy Consumption and Energy Intensity in EU Countries as a Result of the COVID-19 Pandemic by Sector and Area Economy. Energies, 15, 6243.

Third Energy Package (2007) This package was designed to further liberalize the gas and electricity markets within the EU. Its aim was to improve market access, enhance competition, and ensure effective regulation and transparency in the energy market. The Third Energy Package led to increased competition which resulted in lower prices and better service quality for consumers. It also introduced more rigorous regulatory oversight and separated energy supply from distribution networks to avoid conflicts of interest and encourage more investment in infrastructure (Bouwmeester, M.C., & Oosterhaven, J., 2017:p.288).

Climate and Energy Package (2009) This comprehensive set of binding legislation was aimed at ensuring the EU met its ambitious climate and energy targets for the year 2020, known as the "20-20-20" targets. These targets included reducing greenhouse gas emissions by 20%, increasing the share of EU energy consumption produced from renewable resources to 20%, and achieving a 20% improvement in the EU's energy efficiency. The package has been highly effective in advancing the EU's climate goals. It significantly reduced greenhouse gas emissions across the

member states, boosted the share of renewable energy, and improved energy efficiency, laying the groundwork for the ambitious 2030 and 2050 climate goals (Uğurlu, Ö.,2009:p.29).

Energy Union Framework Strategy (2015) The strategy outlined five key dimensions to provide secure, sustainable, competitive, and affordable energy within the EU. Its goals were to enhance energy security, better integrate national energy markets, and reduce greenhouse gas emissions substantially. The strategy bolstered energy security by diversifying energy sources and improving connections between national grids, which also facilitated the integration of renewable energy sources. It reinforced solidarity among EU member states, particularly in the face of external energy supply crises (Telly, A.,2015:p.99).

Clean Energy for All Europeans Package (2018) This major reform of the EU's energy policy framework aimed to support the transition towards clean energy and help the EU meet its commitments under the Paris Agreement. The package set new, ambitious EU-wide targets for renewable energy and energy efficiency to be reached by 2030. The package significantly increased the legal and regulatory support for renewable energy, leading to greater investment and deployment of clean energy technologies across the EU. It also introduced stricter energy efficiency requirements, promoting substantial energy savings and reducing the overall carbon footprint of the Union. These policy initiatives illustrate the EU's strategic approach to managing its energy sector, with an emphasis on sustainability, security, and competitiveness, aligning with broader environmental and economic objectives. These charts provide a structured view of the historical development of the European Union and the evolution of its energy policies, reflecting how intertwined economic and environmental strategies have shaped the region's approach to achieving sustainability and integration (Simbar, R., & Rezapoor, D.,2020:p.35).

2.1.1. Origins of EU Energy Policy

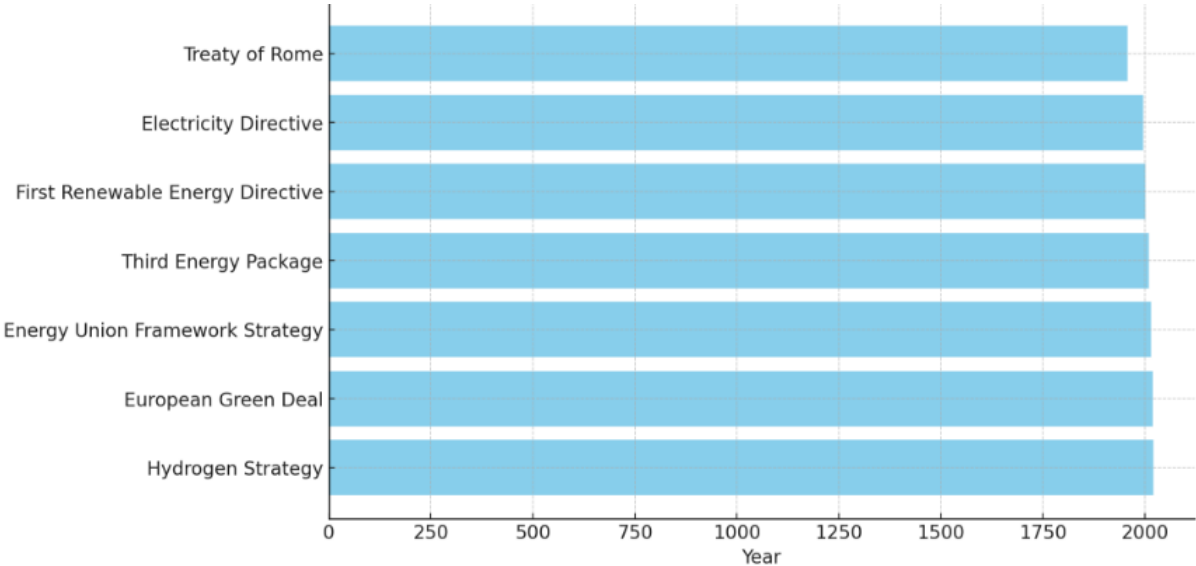
The origins of European Union (EU) energy policy can be traced back to the early days of European integration, where the focus was primarily on securing energy supply and integrating energy markets among the founding nations. Over time, this policy has evolved to address broader issues including sustainability, competition, and climate change, reflecting the changing priorities and challenges facing the EU.

In the wake of World War II, Europe faced massive reconstruction needs, including the essential requirement for secure energy supplies. The European Coal and Steel Community (ECSC), established by the Treaty of Paris in 1951, marked the first step toward collective management of industrial resources crucial for energy production, focusing on coal—a primary energy source at the time. The energy landscape and policy focus began to shift in the 1970s, catalyzed by the oil crises of 1973 and 1979 (Prontera, A., & Quitzow, R.,2022:p.517). These crises exposed the vulnerability of European nations to oil supply disruptions and price volatility, primarily due to their heavy reliance on oil imports from politically unstable regions. In response, the EU (then the European Economic Community) began to develop policies aimed at diversifying energy sources, enhancing energy security, and promoting energy conservation. The Single European Act of 1986 further broadened the scope of European integration to include energy

policies aimed at creating an internal market for energy. This act facilitated the free movement of energy goods and services across member states, laying the groundwork for a more integrated and competitive European energy market. With the advent of global concerns over climate change and environmental sustainability in the late 20th and early 21st centuries, EU energy policy experienced a significant transformation. The EU adopted the Kyoto Protocol in 1997 and later developed comprehensive internal policies to reduce greenhouse gas emissions. The 2007 Energy Package for a Competitive and Sustainable Europe was a pivotal development, aiming to unbundle energy production and supply, promote renewable energy use, and increase energy efficiency (Aldis, A., & Herd, G.,2004:p.169).

The introduction of the Third Energy Package in 2009 marked a major step in regulating the internal energy market, aiming to enhance competition, prevent market manipulation, and protect consumer rights. It also sought to improve the conditions for electricity and gas to be transported across borders and to enhance regulatory oversight at a national and EU level. As the EU's energy priorities continued to evolve, the 2015 Energy Union strategy integrated the EU's energy and climate policies into a single framework. This strategy was designed to ensure energy security, build a sustainable energy system, and support economic growth and development. It emphasized the importance of transitioning to renewable energy sources, increasing energy efficiency, and further integrating the EU's energy market.

Graphic 4. Key Milestones in EU Energy Policy Development



Source: *Bórawska, A., & Szeberényi, A. (2022). Changes in Energy Consumption and Energy Intensity in EU Countries as a Result of the COVID-19 Pandemic by Sector and Area Economy. Energies, 15, 6243.*

This chart encapsulates the progression from managing essential resources in the post-war era to addressing modern challenges of sustainability and market integration. Each milestone represents a significant development in the EU's approach to energy policy (Prontera, A.,2017:p.386).

2.1.2. Evolution of Energy Policy in the EU

The evolution of energy policy in the European Union (EU) reflects a journey from initial coal and steel agreements to a sophisticated framework addressing sustainability, market integration, and energy security. This evolution has been driven by various economic, environmental, and geopolitical factors over the decades (Koszela, G.,2022:p.220). The inception of EU energy policy is rooted in the post-World War II era, focusing initially on coal and steel. The European Coal and Steel Community (ECSC) formed in 1951, was the first step towards economic integration, aiming to manage these critical industries jointly to prevent future conflicts and rebuild war-torn Europe. This period was marked by a focus on securing supply and managing essential resources efficiently. The oil crises of the 1970s highlighted the EU's vulnerability due to its heavy dependence on imported oil, mostly from politically unstable regions. These crises prompted a broader strategy to enhance energy security and reduce dependency on foreign oil. The response included diversifying energy sources, promoting energy conservation, and beginning to develop more coherent internal energy policies (Betley, M., Bird, A., & Napodano, M.,2000:p.50). The Single European Act of 1986 further facilitated this by formalizing energy policy integration, setting the stage for a unified internal energy market. In the 1990s, environmental considerations began to take a central role in shaping energy policy. The adoption of the Kyoto Protocol in 1997 emphasized the EU's commitment to tackling global climate change issues. The focus shifted towards sustainability, leading to policies that encouraged the development of renewable energy sources and energy efficiency measures (Prontera, A.,2024:p.382).

The EU's energy market liberalization gained momentum with the introduction of the first and second energy packages, aimed at breaking down monopolies and allowing more competition and consumer choice within the internal market. The liberalization process was aimed at reducing prices and improving service quality by fostering competition. The turn of the millennium saw a significant shift towards a more integrated and strategic approach to energy policy. The 2007 Energy Package for a Competitive and Sustainable Europe aimed to unbundle energy production and supply, increasing transparency and competition while promoting renewables and energy efficiency (Surgeon, U.,2015:p.190).

2.2. Addressing the Energy Needs of the European Union:

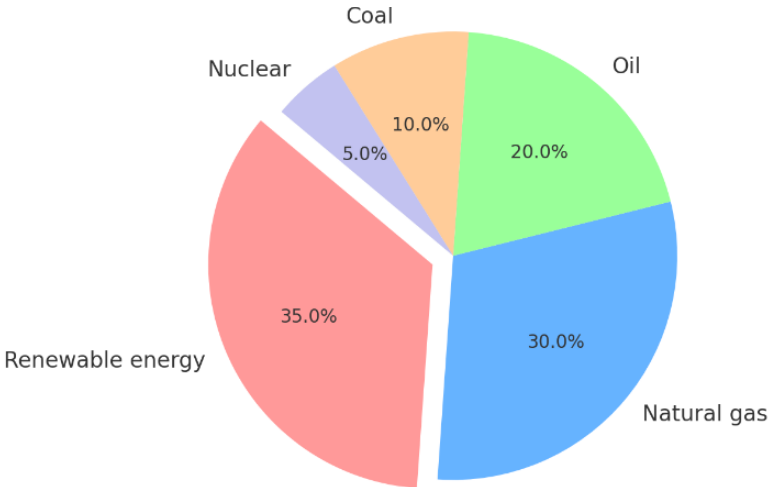
The Case of Italy

In an effort to comprehensively address the diverse and complex energy needs of the European Union, the case of Italy offers a particularly intriguing example, especially when examined through its energy mix. Italy, like many other EU countries, is increasingly pivoting towards a sustainable and diversified energy portfolio. This strategic shift is driven by the need to reduce greenhouse gas emissions, secure energy independence, and adhere to the EU's broad environmental goals. This is a clear indication of Italy's commitment to sustainability and its proactive response to the global call for clean energy. The utilization of solar, wind, and hydroelectric power not only underscores Italy's innovative approach to tackling climate change

but also reflects a broader European trend towards renewable energy. As a cleaner alternative to other fossil fuels, natural gas plays a crucial role in Italy's energy landscape. It acts as a critical bridge fuel, facilitating the transition from traditional energy sources like coal and oil to more sustainable options. This is particularly important for Italy, given its limited domestic energy resources and the need for stable and flexible energy supplies.

Oil, though less favored due to its environmental impact, still accounts for 20% of the energy mix. Its continued use highlights the challenges and gradual pace of transition in the energy sector, where oil remains a staple, particularly in transportation and industry sectors. The reduced dependency on coal is a positive development, signaling progress in environmental stewardship and public health protection. Lastly, nuclear energy, contributing a modest 5%, also plays a role in the diverse energy matrix of Italy. Although the Italian public has historically been skeptical of nuclear power, leading to its limited role, this energy source provides a low-carbon option that can support base-load generation while other renewable sources are further integrated (Telly, A.,2015:p.99).

Graphic 5. Energy Mix in Italy 2007



Source: Pamir, N. (2007). *Global Energy Policies and Turkey, Energy Symposium-Global Energy Policies and Turkey Reality, Ankara.*

This pie chart and the corresponding analysis of Italy's energy composition not only show the country's current energy landscape but also highlight the dynamic interplay between various energy sources. Each segment of the pie chart tells a part of Italy's energy story, reflecting broader economic, environmental, and policy-driven imperatives. As Italy continues to evolve its energy strategy, it remains a key player in the European Union's quest for a sustainable and secure energy future. This case study serves as a potent reminder of the complexities and opportunities inherent in the transition to a more sustainable energy paradigm (Bórawska, A., & Szeberényi, A.,2022:p.12).

2.2.1. Italy's Energy Landscape

Italy's energy landscape is characterized by several distinctive features that reflect its geographical diversity, economic strategy, and commitment to renewable energy. Here's an overview:

Italy has a diverse energy mix. Historically reliant on imports for oil and natural gas, the country has increasingly shifted towards renewable energy sources. As of recent years, renewables account for a significant portion of Italy's energy consumption, with solar, wind, and hydroelectric power leading the way.

Italy is one of the leading countries in solar energy production, thanks to its favorable climate. The government has implemented various policies and incentives to encourage the installation of solar panels. Wind and hydroelectric power are also significant, with the latter being well-established due to Italy's mountainous terrain. Following a referendum after the Chernobyl disaster in 1986, Italy phased out its nuclear plants and now has no active nuclear power stations. The country's strategy focuses instead on sustainable energy sources and reducing dependence on fossil fuels. Italy imports a substantial amount of its energy, primarily oil and natural gas. It relies on imports for about 75% of its energy needs (Uğurlu, Ö.,2009:p.29). The main suppliers of natural gas are Russia, (explain change after the war in Ukraine) Algeria, and Libya, which makes Italy sensitive to geopolitical tensions and supply disruptions. This includes investments in smart grid technology, electric vehicle incentives, and building energy-efficient infrastructures. In line with the European Union's targets, Italy aims to drastically reduce its greenhouse gas emissions and reach a high percentage of energy consumption from renewable sources by 2030. Italy's strategic direction in energy policy emphasizes reducing energy import dependency, enhancing energy security, and promoting sustainable development. This has led to significant investments in renewable energy and technology to improve efficiency and reduce environmental impact (Prontera, A., & Quitzow, R.,2022:p.517).

2.2.2. EU Measures to Support Italy's Energy Needs

The European Union (EU) has played a pivotal role in supporting Italy's energy needs through various measures designed to enhance energy security, promote the use of renewable sources, and improve overall energy efficiency. One of the core strategies employed by the EU to support Italy has been the diversification of its energy sources. Italy, heavily dependent on energy imports, particularly oil and natural gas, faces significant risks related to energy security. The EU has facilitated and funded projects aimed at diversifying the routes and sources of natural gas through initiatives like the Trans-Adriatic Pipeline (TAP), which aims to bring natural gas from Azerbaijan to Italy, bypassing traditional routes through Russia. This diversification helps reduce dependency on a single supplier and mitigates risks associated with geopolitical tensions (Rokicki, T., Bórawski, P., Bełdycka-Bórawska, A., Żak, A., & Koszela, G.,2022:p.33).

Italy's geographical and climatic conditions make it an ideal candidate for the exploitation of renewable energy resources, particularly solar and wind energy. The EU has been instrumental in supporting Italy's transition to a greener energy portfolio through financial incentives, research

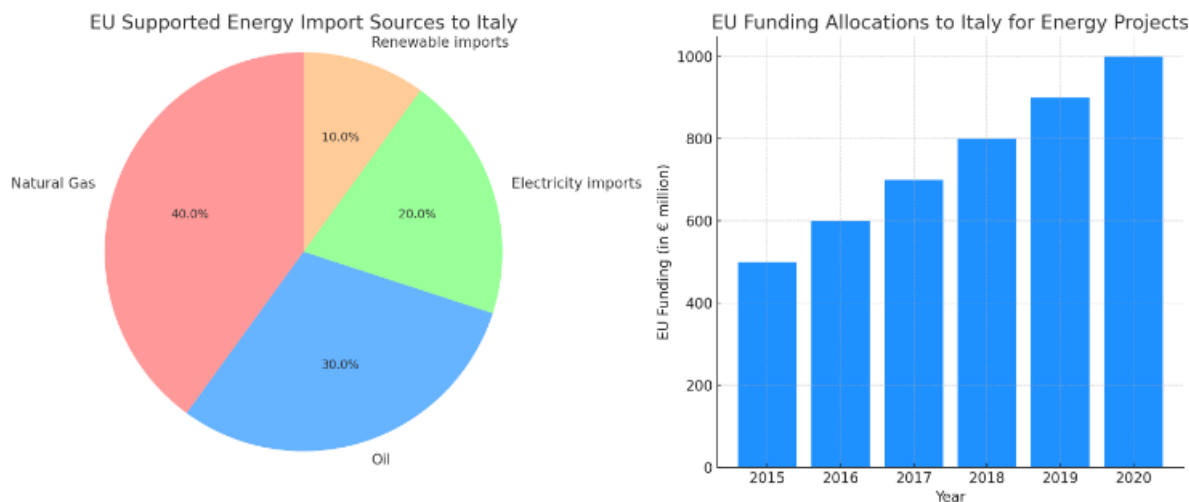
grants, and regulatory support (Prontera, A.,2017:p.386). Programs under the Horizon 2020 framework, for instance, have provided funding for renewable energy projects in Italy, enhancing the country's capacity for solar and wind energy production. The EU's targets for renewable energy also compel Italy to increase its share of energy generated from renewable sources, pushing the country towards achieving a more sustainable energy mix (Aldis, A., & Herd, G.,2004:p.169).

The EU's focus on improving energy efficiency spans across various sectors including industrial, residential, and transportation. Italy has benefited from EU directives and funding aimed at reducing energy consumption and increasing efficiency. This includes investments in smart grid technologies that help manage electricity demand and supply more effectively, as well as initiatives to retrofit buildings to make them more energy-efficient. The EU's cohesion funds and regional development funds have been pivotal in supporting these projects, particularly in less economically developed regions of Italy. The development of energy infrastructure is crucial for Italy's energy security and integration into the EU energy market. The EU supports infrastructure projects that enhance interconnectivity between Italy and other EU member states. This includes the development of electricity interconnections and gas pipelines that help balance supply and demand across borders. Such projects not only support Italy's energy needs but also contribute to the EU's goal of creating a single energy market (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288).

The EU has provided substantial policy and regulatory support to Italy, shaping national policies in line with broader EU energy strategies. The Third Energy Package, for example, has been crucial in liberalizing the energy market in Italy, fostering competition, and reducing energy prices for consumers. The EU's guidelines and directives also ensure that Italy adheres to environmental standards and climate commitments, reinforcing the country's shift towards sustainable energy practices. The European Union's measures to support Italy's energy needs are comprehensive, addressing immediate concerns like energy security and long-term goals such as sustainability and efficiency.

Through financial, infrastructural, and regulatory support, the EU continues to play a crucial role in shaping Italy's energy landscape, ensuring that the country can meet its present and future energy challenges while contributing to Europe's overall energy objectives. This partnership not only bolsters Italy's energy sector but also exemplifies the collaborative approach needed to tackle energy and environmental issues on a continental scale.

Graphic 6. EU-Supported Energy Import Sources to Italy



Source: *Bórawska, A., & Szeberényi, A. (2022). Changes in Energy Consumption and Energy Intensity in EU Countries as a Result of the COVID-19 Pandemic by Sector and Area Economy. Energies, 15, 6243.*

1. **Pie Chart:** This shows the breakdown of energy import sources to Italy that are supported by EU policies, including natural gas, oil, electricity, and renewable energy imports.
2. **Bar Chart:** This represents EU funding allocations to Italy for various energy projects from 2015 to 2020, highlighting a year-on-year increase in investment, particularly aimed at enhancing renewable energy and grid modernization.

2.3. EU Strategies for Mitigating Energy Security Risks and Securing Reliable Partners

Energy security remains a critical priority for the European Union (EU), especially in light of fluctuating global energy markets, geopolitical uncertainties, and the pressing need to transition to sustainable energy sources. The EU has developed comprehensive strategies to mitigate energy security risks and ensure reliable energy supply to its member states, including Italy. A central tenet of the EU's strategy to enhance energy security is the diversification of both energy sources and suppliers. This approach reduces dependence on a single type or source of energy, which can be vulnerable to fluctuations and geopolitical tensions (Surgeon, U.,2015:p.150).

Increasing the share of renewable energies such as wind, solar, and biomass in the energy mix reduces dependence on imported fossil fuels. This shift not only enhances sustainability but also supports local economies and reduces exposure to global price volatility. Developing new import routes for natural gas and oil, including the Southern Gas Corridor and the Baltic Pipe, helps decrease reliance on traditional suppliers like Russia. This is complemented by the construction of LNG terminals that allow for imports from a broader range of countries.

Improving and expanding energy infrastructure is crucial for enhancing security. This includes the development of better storage capabilities and the modernization of grids to handle fluctuations and integrate diverse energy sources effectively.

The EU invests in cross-border energy interconnectors that allow for energy sharing among member states. This enhances the overall resilience of the EU's energy network, allowing surplus energy from one area to support another during shortages.

Deploying advanced smart grid technologies improves the efficiency and reliability of energy distribution, facilitating quicker responses to changing supply and demand dynamics. This set of directives promotes market integration and competition, which in turn encourages diversification and security. It includes rules for the separation of energy supply and production from transmission networks to enhance market transparency and efficiency.

EU countries are required to maintain strategic reserves of oil and gas, which can be crucial in the event of supply disruptions. These reserves provide a critical buffer to manage short-term energy supply crises.

Engaging with global partners through diplomatic channels helps the EU secure favorable energy agreements and fosters cooperation on international energy projects. This includes partnerships with producing countries and regions, as well as global organizations like the International Energy Agency (IEA). Investing in research and the development of new technologies not only supports the long-term sustainability of energy supplies but also bolsters energy security. Innovations in renewable energy technologies, nuclear fusion, hydrogen fuel, and carbon capture and storage are pivotal (Rokicki, T., Jadczyk, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A.,2022:p.66).

2.3.1. Identifying Energy Security Risks

Identifying energy security risks is crucial for ensuring a stable and reliable supply of energy. Energy security risks can be broadly categorized into physical, economic, and political dimensions, each affecting the availability, accessibility, and affordability of energy resources. Physical risks to energy security involve the disruption of energy supply due to natural disasters, accidents, or aging infrastructure. These risks are particularly significant because they can lead to immediate and unexpected energy shortages. Events like earthquakes, hurricanes, and floods can damage critical infrastructure such as power plants, oil refineries, pipelines, and transmission lines. For example, a severe storm might knock out transmission lines or flood a refinery, leading to supply disruptions (Telly, A.,2015:p.99).

Accidental events, such as oil spills, nuclear accidents, or pipeline ruptures, can not only cause immediate supply disruptions but also long-term environmental damage, affecting energy production and processing capabilities. In many regions, energy infrastructure is aging and may not be adequately maintained, making it vulnerable to breakdowns. Regular maintenance and upgrades are necessary to mitigate these risks and ensure the reliability of energy supplies. Economic risks involve factors that affect the financial aspects of energy production and consumption, potentially leading to energy insecurity (Prontera, A., & Quitzow, R.,2022:p.517).

The prices of oil, gas, and other commodities can be highly volatile, influenced by changes in market dynamics, geopolitical tensions, or changes in production levels. High volatility can make it difficult for countries and companies to plan their energy budgets and investments. Non-renewable energy resources are finite.

As these resources become harder to extract, their cost increases, which can lead to higher energy prices and competition for remaining supplies. While innovation can reduce costs and improve efficiency, it can also render existing technologies or infrastructures obsolete. Countries and industries that fail to keep up with technological advances may face economic risks associated with stranded assets (Simbar, R., & Rezapoor, D.,2020:p.35).

Political risks stem from actions by governments or other political entities that can disrupt or manipulate energy supplies. Disputes between countries that produce, transit, or consume large amounts of energy can lead to supply disruptions.

For instance, conflicts in the Middle East can affect oil supplies, impacting global markets. Changes in energy policies, regulations, or subsidies can affect energy markets and investments. Abrupt changes or instability in policy direction can deter investment in energy projects, affecting long-term energy security. Targeted attacks on energy infrastructure are a significant risk, as they can lead to immediate and severe disruptions of energy supplies. Addressing these risks requires comprehensive risk assessment and management strategies that include diversifying energy sources and routes, investing in resilient infrastructure, and fostering international cooperation to stabilize energy markets and reduce dependencies. By proactively identifying and mitigating these risks, countries and organizations can enhance their energy security, ensuring a stable economic and social environment (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

2.3.2. Building Partnerships for Energy Security

Building partnerships for energy security is a critical strategy that the European Union (EU) has been actively pursuing to address the complex challenges of global energy demands, market fluctuations, and geopolitical risks. The concept of energy security not only encompasses the availability of energy supplies but also their affordability and sustainability, making partnerships both within and outside the EU essential. The EU recognizes that energy security cannot be achieved in isolation. It requires a cooperative approach that leverages the strengths and resources of various stakeholders, including member states, non-EU countries, private sectors, and international organizations. By forging strategic alliances, the EU aims to diversify energy sources, optimize energy routes, share technologies, and harmonize regulatory frameworks to create a more resilient energy landscape. Internally, the EU promotes collaboration among its member states through policies that encourage energy market integration and infrastructure connectivity.

This is evident in the development of transnational grids and pipelines that allow for the efficient distribution and backup of energy resources across borders. Such integration not only helps mitigate the risks associated with energy supply disruptions but also enhances the overall energy independence of the region (Shahbazov, R.,2015:p.55).

Externally, the EU has been proactive in building partnerships with key energy-producing countries. These relationships are crucial for diversifying energy imports and reducing dependence on a single supplier or energy source. For instance, agreements with Norway and Algeria have been pivotal in securing stable and reliable natural gas supplies.

Moreover, the EU has engaged in dialogues with emerging energy markets to explore new energy corridors, such as through the Southern Gas Corridor, which brings Caspian gas to Europe (Prontera, A.,2017:p.386).

The EU also places a strong emphasis on partnerships with international organizations like the International Energy Agency (IEA) and the Energy Charter Treaty (ECT). These collaborations help align global energy policies, foster mutual understanding of energy challenges, and facilitate the sharing of best practices and technological advancements. Such international engagements not only strengthen global energy security but also support the EU's broader goals related to environmental sustainability and economic stability. Innovation and technology play a pivotal role in the EU's strategy for building partnerships for energy security. By collaborating on research and development projects, the EU and its partners advance new energy technologies such as renewable energy systems, energy storage solutions, and smart grid technologies. These technologies are vital for the transition to a low-carbon economy and are integral to ensuring long-term energy security (Uğurlu, Ö.,2009:p.29).

The importance of regulatory alignment and policy harmonization cannot be overstated in the context of international energy partnerships. The EU works closely with its partners to ensure that energy policies and regulatory frameworks are aligned, which is essential for creating a stable and predictable energy market. This includes efforts to set common standards and practices that facilitate energy trade and investment, ensuring that all parties benefit from secure and sustainable energy supplies. The EU's approach to building partnerships for energy security is comprehensive and multifaceted.

It involves a combination of strategic alliances, technological cooperation, regulatory harmonization, and international diplomacy. Through these partnerships, the EU not only enhances its own energy security but also contributes to global energy stability and sustainability. This strategy reflects a profound understanding that energy security is a shared challenge and a shared opportunity, requiring collective action and mutual cooperation (Rokicki, T., Jadcak, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A.,2022:p.66).

2.4. Effects of the Ukraine-Russia Conflict on EU Energy Security

The Ukraine-Russia conflict, which escalated significantly in 2022, has had profound effects on the European Union's (EU) energy security. This conflict has underscored the vulnerabilities associated with the EU's heavy reliance on Russian energy supplies and has catalyzed significant shifts in the EU's energy policy and strategy. Here are the key impacts and the consequent actions taken by the EU: Russia has historically been a major supplier of natural gas to the EU, accounting for around 40% of the EU's gas imports before the conflict. The escalation of hostilities led to significant reductions in these supplies, either due to direct action by

Russia or through damage to infrastructure, such as pipelines. This disruption posed immediate challenges for heating, electricity generation, and industrial processes across the EU. The reduction in Russian gas supplies precipitated a sharp increase in energy prices across Europe. Natural gas prices surged to record highs, impacting not only utilities but also industries and consumers. Electricity prices followed suit due to the interconnected nature of the energy market. This volatility has strained economies, exacerbated inflation, and increased the cost of living, leading to economic and social ramifications across member states. In response to these disruptions, the EU has accelerated its efforts to diversify energy sources. This includes increasing imports of liquefied natural gas (LNG) from alternative suppliers such as the United States, Qatar, and Australia. The EU has also sought to fast-track the development and deployment of renewable energy sources, such as wind and solar, which reduce dependence on imported fuels (Prontera, A.,2024:p.382).

The crisis has intensified the EU's focus on energy efficiency as a means to reduce overall energy consumption. Initiatives have been broadened to include more stringent efficiency standards for buildings and industries, promotion of heat pumps, and wider use of energy-efficient appliances. These measures are part of a broader strategy to make the EU more resilient to energy supply shocks. The EU has worked on bolstering its strategic reserves of natural gas and oil. Additionally, there has been a concerted effort to improve solidarity mechanisms between member states to ensure that in the event of severe shortages, countries can support each other by sharing available energy resources. The conflict has prompted the EU to rethink and adjust its energy policies and regulations to enhance security and sustainability. This includes revising the EU's energy taxonomy and potentially re-evaluating the role of nuclear energy and other transitional fuels like hydrogen. The EU's "Fit for 55" package, aiming to reduce greenhouse gas emissions by 55% by 2030, has also been influenced, with increased targets for renewable energy and energy savings (Simbar, R., & Rezapoor, D.,2020:p.61).

Finally, the conflict has led to geopolitical and diplomatic shifts within the EU. There's a heightened focus on diplomatic engagements outside of Russia to secure energy partnerships and a reinvigorated commitment to the European Green Deal as a strategic priority. This situation has reinforced the importance of energy security within the broader context of EU foreign and security policy. The Ukraine-Russia conflict has significantly impacted EU energy security, leading to immediate challenges and long-term strategic shifts. The EU's response has been multifaceted, focusing on reducing dependency on single energy suppliers, enhancing energy efficiency, and speeding up the transition to renewable energy sources, all of which aim to ensure a more secure and sustainable energy future (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

2.4.1. Immediate Impact on EU Energy Supplies

The immediate impact of the Ukraine-Russia conflict on European Union (EU) energy supplies has been significant and multifaceted. The conflict directly affected the EU's energy landscape in several critical ways. The EU's reliance on Russian gas was notably high prior to the conflict, with Russia supplying about 40% of the EU's natural gas. As tensions escalated, Russia significantly reduced gas flows to Europe. This reduction was partly due to geopolitical maneuvers and also because of damage to infrastructure, such as pipelines. The immediate consequence was a shortage of gas, which is crucial for heating, electricity generation, and industrial use in the EU.

The sudden drop in gas supplies led to a dramatic increase in natural gas prices in Europe, which soared to record levels. This spike also affected electricity prices due to the interconnectedness of energy markets. High energy prices had a cascading effect on consumer costs, contributing to increased inflation and placing additional financial burdens on households and businesses across the EU. In response to the crisis, the EU urgently sought alternative sources of natural gas (Prontera, A., & Quitzow, R.,2022:p.517). This included ramping up imports of liquefied natural gas (LNG) from non-Russian sources such as the United States, Qatar, and Nigeria. The EU also worked to increase pipeline imports from suppliers like Norway and Algeria. This rapid diversification was crucial to mitigate the immediate impacts of reduced Russian gas supplies. The conflict underscored the vulnerabilities in the EU's energy supply chain and prompted an immediate enhancement of energy security measures. This included increasing the storage of natural gas to ensure sufficient reserves for the winter months and enhancing the robustness of the energy infrastructure to withstand potential further disruptions (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288).

The conflict expedited the EU's plans for energy transition towards more sustainable sources. There was a renewed push for the expansion of renewable energy infrastructure, such as solar and wind, which could reduce the EU's dependence on imported fossil fuels in the longer term. Additionally, the crisis highlighted the need for faster implementation of energy efficiency measures to reduce overall energy demand. The immediate energy supply crisis also had broad political and economic repercussions. It forced the EU to reconsider its energy strategy and foreign policy, particularly its relationships with energy-producing countries. Economically, the high energy prices contributed to a slowdown in economic growth and required significant government interventions to shield vulnerable consumers and industries from the worst impacts (Rokicki, T., Jadczyk, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A.,2022:p.66).

2.4.2. Long-Term Implications for EU Energy Strategy

The Ukraine-Russia conflict has had immediate and profound effects on the European Union's energy supply, prompting a series of strategic responses that are likely to shape EU energy policy for decades to come. The long-term implications of this conflict fundamentally pivot around enhancing energy security, diversifying energy sources, and accelerating the transition to renewable energy, aligning closely with the EU's broader climate goals.

Here's an in-depth look at how these dynamics are unfolding and shaping the future of energy strategy in the EU (Surgeon, U.,2015:p.190). The most immediate response to the conflict has been a reassessment of energy security strategies within the EU. The vulnerability exposed by reliance on a single, external supplier for a significant portion of its energy needs has led to a strong push towards achieving greater energy independence. This entails not only diversifying supply sources but also increasing investments in energy storage technologies and improving the resilience of energy infrastructure against potential disruptions, whether political, economic, or natural. The EU has been compelled to rapidly diversify its energy suppliers and sources. While in the short term, this has involved securing alternative supplies of natural gas through increased LNG imports and pipeline gas from non-Russian sources, the long-term strategy is more robust and multidimensional (Simbar, R., & Rezapoor, D.,2020:p.35).

The long-term implications of the Ukraine-Russia conflict for EU energy strategy are profound, pushing the union towards a future that prioritizes resilience, sustainability, and independence in its energy policy (Prontera, A.,2017:p.386). By diversifying energy sources, accelerating the shift to renewables, enhancing infrastructure resilience, and strengthening international cooperation, the EU is not only responding to immediate challenges but also setting a foundation for a secure and sustainable energy future. This strategic pivot is not merely reactive but aligns closely with the EU's long-term environmental and economic goals, ensuring that the transition supports broader objectives of climate action and sustainable development (Telly, A.,2015:p.99).

2.5. Post-Ukraine-Russia War: The EU's Search for Energy Alternatives

The war between Ukraine and Russia has catalyzed a pivotal shift in the European Union's energy strategy. Previously dependent on Russian gas for a significant portion of its energy needs, the EU has been forced to reassess and rapidly adjust its energy policies in the wake of heightened geopolitical tensions and disrupted supply chains. This essay explores the European Union's quest for energy alternatives following the Ukraine-Russia war, highlighting the strategic shifts, challenges, and opportunities that have emerged. The immediate impact of the war led to a stark realization within the EU about the dangers of heavy reliance on a single external supplier for critical energy needs (Prontera, A.,2024:p.382). This dependence was not only a risk to energy security but also a geopolitical vulnerability.

In response, the EU has embarked on a multifaceted strategy to reduce dependence on Russian energy supplies and enhance overall energy resilience. One of the most significant shifts has been the accelerated transition towards renewable energy sources. Solar, wind, and hydroelectric power

have seen increased investment and support, as these sources provide the dual benefits of reducing carbon emissions and enhancing energy independence. The European Commission has also advanced proposals to increase the production and use of renewable hydrogen, which is seen as a critical component of the EU's future clean energy matrix. Diversification has become a cornerstone of the EU's post-war energy strategy. This involves not only finding new suppliers but also expanding the types of energy consumed within the Union. The EU has increased imports of liquefied natural gas (LNG) from the United States, Qatar, and other countries, helping to fill the immediate supply gap left by reduced Russian gas imports. Additionally, efforts to build and expand LNG terminals across Europe have been fast-tracked, ensuring greater capacity to receive and process LNG from diverse global markets (Aldis, A., & Herd, G.,2004:p.169).

Another aspect of diversification has been the exploration and development of biogas and geothermal energy, alongside the more traditional renewables. These sources are particularly important for reducing dependence on imported natural gas for heating and industrial processes. Despite these efforts, the transition has not been without challenges (Surgeon, U.,2015:p.190). The abrupt need to shift away from Russian energy has led to significant short-term disruptions and economic strain. Energy prices have surged across the continent, impacting both businesses and consumers. This has necessitated a raft of emergency measures, including price caps, subsidies, and other financial supports to shield the most vulnerable sectors and populations from the impact of rising energy costs. Infrastructure limitations also pose a significant challenge. The EU's energy infrastructure was largely designed for a different era, focused on large-scale, centralized sources of power. Adapting this infrastructure to accommodate a more diverse and decentralized set of energy sources requires substantial investment and time. The crisis has also presented opportunities. It has fostered greater solidarity among EU member states, with increased cooperation in energy planning and emergency response. There has also been a significant boost in innovation and technology development related to energy storage, smart grids, and energy efficiency solutions, driven by increased funding and support for research and development. Looking ahead, the EU is positioned to emerge from this crisis with a more robust, resilient, and sustainable energy system.

Policies and measures implemented now are not only responses to the immediate crisis but also investments in the future of Europe's energy landscape. This includes legislative measures like the "Fit for 55" package, aiming to reduce greenhouse gas emissions by 55% by 2030, which integrates goals for energy independence into broader climate action strategies (Uğurlu, Ö.,2009:p.29).

2.5.1. Alternative Energy Sources and Technologies

The EU has been at the forefront of the global shift towards alternative energy sources, driven by the dual imperatives of reducing carbon emissions and enhancing energy security. This essay delves into the progress and strategies underpinning the EU's transition to a more sustainable energy portfolio, particularly focusing on the rapid adoption and scaling up of renewable energy technologies. (Bocquillon, P.,2015:p.30). The EU's renewable energy landscape is characterized by a diverse mix of technologies, each contributing uniquely to the region's energy goals. Solar

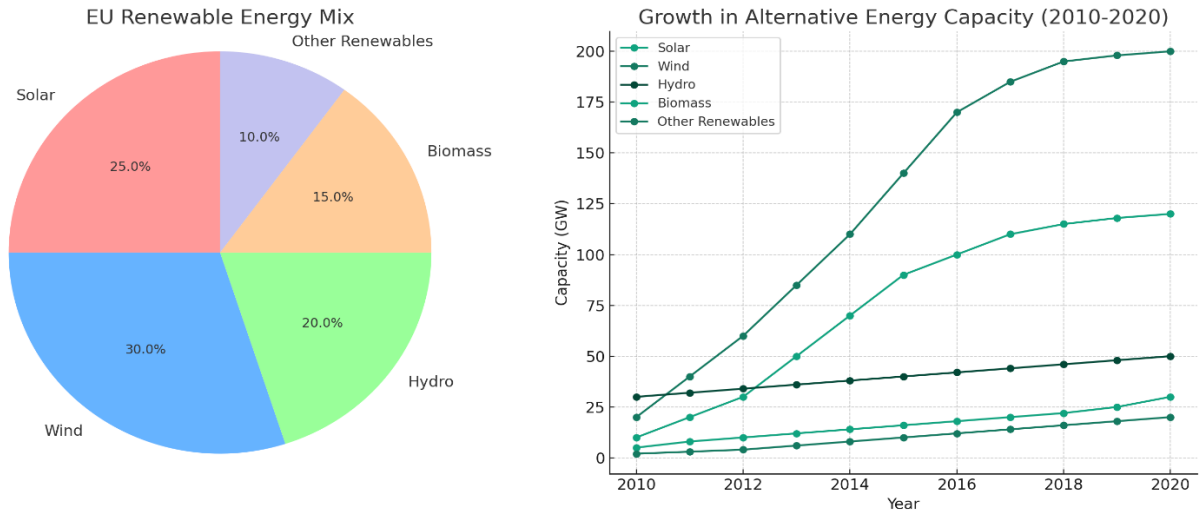
and wind energy, in particular, have become central to the EU's energy strategy, owing to their scalability and rapidly decreasing costs. Hydroelectric power, while more geographically dependent, continues to provide a significant base of renewable capacity. Biomass and other renewable technologies, such as geothermal and tidal energy, also play critical roles, especially in specific regional contexts where they can be most effectively harnessed. (Gullberg, A.T.,2013:p.170).

The expansion of renewable energy capacity in the EU has been remarkable, especially over the past decade. The proactive approach has been largely policy-driven, supported by robust financial and regulatory frameworks designed to encourage the adoption of clean energy technologies. Solar power, which was once a niche technology, has seen exponential growth in installed capacity, driven by technological advancements that have dramatically reduced costs and improved efficiency. Wind energy, both onshore and offshore, has similarly expanded, supported by significant investments in turbine technology and grid integration. Hydroelectric power remains a staple in the renewable mix, particularly in regions with favorable topography, providing not only power but also supporting grid stability. Biomass energy has grown due to its ability to provide reliable, controllable power, an important attribute in balancing the intermittency of solar and wind. Other renewables, including geothermal and tidal, though smaller in scale, have seen increased interest as the EU seeks to diversify its renewable portfolio further.

Despite these advancements, the transition to renewable energy is not without challenges. The variability of wind and solar power necessitates improvements in grid infrastructure and energy storage solutions to ensure a reliable, continuous energy supply. The EU has responded by investing heavily in smart grid technologies and energy storage systems, which help manage energy flow and storage to balance supply with demand (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

Additionally, the EU has faced economic and technical challenges related to the integration of renewable systems into existing energy infrastructures, which were primarily designed for centralized, non-renewable power sources. This has required both technological adaptations and regulatory adjustments to accommodate a more decentralized and varied set of energy sources. The shift towards renewable energy has broader socio-economic implications, including job creation in new technology sectors, reduced energy import bills, and more stable energy prices. Furthermore, by reducing reliance on fossil fuels, the EU is not only mitigating its environmental impact but also enhancing its geopolitical stability and energy security. (Fouquet, D. and T. Johansson.,2008:p.200).

Graphic 7. Growth in Alternative Energy Capacity (2010-2020)



Source: Rokicki, T., Jadczyk, R., Kucharski, A., Bórawski, P., Beldycka-Bórawska, A., & Szeberényi, A. (2022). *Changes in Energy Consumption and Energy Intensity in EU Countries as a Result of the COVID-19 Pandemic by Sector and Area Economy. Energies, 15, 6243.*

Here are two charts that illustrate the shift towards alternative energy sources and technologies within the EU:

1. **Pie Chart:** This shows the distribution of renewable energy sources in the EU's energy mix. It highlights the significant shares of wind and solar energy, reflecting the EU's strong commitment to these technologies.
2. **Line Chart:** This chart displays the growth in capacity of various renewable energy technologies from 2010 to 2020. It shows a substantial increase in solar and wind energy capacity, demonstrating the rapid development and deployment of these technologies over the past decade (Rokicki, T., Jadczyk, R., Kucharski, A., Bórawski, P., Beldycka-Bórawska, A., & Szeberényi, A., 2022:p.66).

2.5.2. Strategic Shifts in EU Energy Policy

The European Union (EU) has undergone significant strategic shifts in its energy policy in recent years, primarily driven by the imperative to address climate change, enhance energy security, and foster economic resilience. These policy shifts are a response to a variety of global challenges, including geopolitical tensions, market fluctuations, and the urgent need for environmental sustainability. Here's a detailed exploration of these strategic shifts: A central element of the EU's revised energy strategy is the increased focus on renewable energy sources. The EU has set ambitious targets to increase the share of renewables in its energy mix, aiming for at least 32% by 2030, as stipulated in the Renewable Energy Directive updated in 2018. This commitment has been further emphasized in the European Green Deal, which seeks to make Europe the first climate-neutral continent by 2050 (Prontera, A., 2017:p.386). Investments in solar,

wind, hydro, and biomass energy are not just seen as environmental measures but also as crucial components for reducing dependency on imported fossil fuels. Alongside the push for renewable energy, there has been a renewed focus on energy efficiency. The EU aims to improve energy efficiency by at least 32.5% by 2030 compared to 1990 levels. This involves stringent standards for buildings, vehicles, and industrial processes, promoting the use of technologies that reduce energy consumption and increase overall system efficiency.

The "Energy Efficiency First" principle underlines all energy policymaking, ensuring that energy efficiency measures are considered at all stages of policy implementation. Decarbonization is a key objective of the EU's energy policy, intertwined with the broader goal of transitioning to a green economy (Prontera, A., & Quitzow, R.,2022:p.517). This involves not only increasing the share of renewable energy but also implementing policies to reduce carbon emissions across all sectors, including manufacturing, transportation, and agriculture (Prontera, A.,2024:p.382). The EU Emissions Trading System (ETS) has been a cornerstone of this strategy, incentivizing businesses to cut emissions through a cap-and-trade system. To reduce its vulnerability to external shocks and energy supply disruptions, the EU has actively pursued the diversification of energy sources and supply routes. This includes reducing the dependence on natural gas imports from Russia by securing agreements with other gas-supplying countries and investing in liquefied natural gas (LNG) infrastructure (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288).

CHAPTER III.

THE ENERGY POTENTIAL OF AZERBAIJAN: A HISTORICAL PERSPECTIVE

3.1. Azerbaijan: A Historical and Geographical Overview

Azerbaijan operates as a presidential republic where the President is both the head of state and the most influential political figure. The current President, Ilham Aliyev, has been in power since 2003, following his father Heydar Aliyev, who previously held the office.

The Prime Minister, currently Ali Asadov, is the head of government and is appointed by the President. The Azerbaijani government is structured with a strong executive branch, reflecting the significant authority vested in the President.

The legislative power resides in the unicameral National Assembly, or Milli Majlis, which comprises 125 members. These members are elected through a mixed-member proportional representation system, ensuring both direct and proportional representation. This legislative body plays a crucial role in enacting laws and overseeing the executive.

Azerbaijan's judicial system is based on civil law, featuring several key courts, including the Constitutional Court, Supreme Court, Economic Court, and Court of Appeal. These courts interpret the law, ensure justice, and protect the constitutional framework.

The country's political landscape includes several major political parties, with the New Azerbaijan Party (YAP) being the most prominent. Other significant parties include the Azerbaijan Democratic Reforms Party and the Musavat Party.

Azerbaijan gained its independence from the Soviet Union in 1991, with its independence formally recognized in December of the same year. The current constitution was adopted in 1995, establishing the foundational legal and political framework of the country.

Azerbaijan is divided into 66 administrative divisions, which include autonomous republics, districts, and cities. These divisions facilitate local governance and administration.

The next presidential election is scheduled for 2025, continuing the democratic process established in the country. Universal suffrage is granted to citizens aged 18 and over, allowing for broad participation in the political process.

Azerbaijan, a country located at the crossroads of Eastern Europe and Western Asia, has a rich historical and geographical tapestry that has significantly influenced its development, especially in terms of its energy potential. Historically, Azerbaijan has been a melting pot of cultures, empires, and trade routes. From ancient times, it was part of the Silk Road, which facilitated cultural and economic exchanges between the East and the West². This geographical advantage allowed Azerbaijan to flourish as a hub for trade and commerce. The region witnessed

² Aldis, A., & Herd, G. (2004). Managing soft security threats: Current progress and future prospects. *European Security*, 13(1), 169-186.

the rise and fall of various empires, including the Persian Empire, the Mongol Empire, and the Russian Empire, each leaving an indelible mark on its cultural and political landscape. Geographically, Azerbaijan is characterized by diverse landscapes, ranging from the Caspian Sea coastline to the towering peaks of the Greater Caucasus Mountains. The country is rich in natural resources, particularly oil and gas, which have been the cornerstone of its economic development. The presence of vast hydrocarbon reserves in the Caspian Sea and onshore fields has positioned Azerbaijan as a significant energy producer and exporter (Uğurlu, Ö.,2009:p.99).

Table 7. Current Regional Potential Problems for Azerbaijan

Aspect	Details
Government Type	Presidential Republic
Head of State	President
Current President	Ilham Aliyev
Head of Government	Prime Minister
Current Prime Minister	Ali Asadov
Legislature	Unicameral National Assembly (Milli Majlis)
Number of Members	125
Electoral System	Mixed-member proportional representation
Judicial System	Civil law system; Constitutional Court, Supreme Court, Economic Court, Court of Appeal
Major Political Parties	New Azerbaijan Party (YAP), Azerbaijan Democratic Reforms Party, Musavat Party
Last Presidential Election	2018
Next Presidential Election	2025 (scheduled)
Administrative Divisions	66 administrative divisions, including autonomous republics, districts, and cities
Independence	Declared on August 30, 1991; Recognized on December 25, 1991
Constitution	Adopted on November 12, 1995
Suffrage	Universal at 18 years old

Source: *Bórawska, A., & Szeberényi, A. (2022). Changes in Energy Consumption and Energy Intensity in EU Countries as a Result of the COVID-19 Pandemic by Sector and Area Economy. Energies, 15, 6243.*

The history of Azerbaijan's oil industry dates back to ancient times, with evidence suggesting that oil was used for various purposes in the region for thousands of years. However, the modern history of Azerbaijan's oil industry began in the 19th century when the first oil well was drilled in Baku in 1846, making it one of the earliest oil-producing regions in the world. The Baku oil fields attracted global attention, leading to rapid industrialization and the establishment

of major oil companies. During the late 19th and early 20th centuries, Baku became a focal point for international oil extraction and production, with companies from Russia, Europe, and the United States investing heavily in the region³. This period saw the development of advanced drilling technologies and infrastructure, which significantly boosted oil production. By the early 20th century, Azerbaijan was producing a substantial portion of the world's oil, cementing its role as a key player in the global energy market.

Table 8. Azerbaijan's Strategic Initiatives in Energy Diversification

Aspect	Details
Political Issues	- Nagorno-Karabakh conflict with Armenia
	- Relations with neighboring countries (Russia, Iran, Turkey)
	- Human rights and democratic governance concerns
Economic Issues	- Dependence on oil and gas exports
	- Diversification of the economy
	- Inflation and cost of living
War and Security Issues	- Impact of global energy market fluctuations
	- Ongoing tensions and occasional skirmishes in Nagorno-Karabakh
	- Regional security dynamics influenced by Russia-Ukraine war
	- Border security with Armenia and other neighbors
Social Issues	- Terrorism and cybersecurity threats
	- Internal displacement due to Nagorno-Karabakh conflict
	- Refugee and IDP resettlement
Environmental Issues	- Social inequality and poverty
	- Environmental degradation due to oil and gas extraction
	- Water scarcity and management
International Relations	- Pollution and waste management
	- Balancing relations between Russia and Western countries
	- EU relations, particularly in the context of energy security
	- Cooperation with regional organizations (CIS, GUAM, ECO)

Source: *Galiyev, P. (2014). The Impact of the Ukrainian Crisis on the Foreign Policy of Azerbaijan Republic. Retrieved from <http://liberty.eu/impact-ukrainian-crisis-foreign-policy-azerbaijan-republic/>.*

Azerbaijan faces several regional challenges that impact its political, economic, and security landscape. Understanding these issues is crucial to grasp the country's current situation and future prospects.

³ Aydin, Ü. (2014). Energy Policies of the European Union: The Logistical Dimension of Baku Petroleum, *International Law and Policy*, Volume 10, Number 40, 188 p.
Azernwes. (2015, July 12). NATO: Azerbaijan becoming important component of global energy security. Retrieved from <http://www.azernwes.az/nation/85630.html>.

Political Issues

One of the primary political challenges is the ongoing conflict with Armenia over the Nagorno-Karabakh region. Despite a ceasefire, tensions remain high, and occasional skirmishes continue to pose risks. Additionally, Azerbaijan's relations with neighboring countries like Russia, Iran, and Turkey are complex, involving a mix of cooperation and competition. Internally, concerns over human rights, press freedom, and democratic governance continue to attract international scrutiny, affecting Azerbaijan's global reputation and diplomatic relations.

Economic Issues

Azerbaijan's economy is heavily dependent on oil and gas exports, making it vulnerable to fluctuations in global energy prices. While efforts to diversify the economy are underway, progress is slow, and developing other sectors remains a significant challenge. Inflation and the rising cost of living also pose problems, impacting the economic well-being of the population. Moreover, changes in global energy markets, including price volatility and shifts in demand, can have substantial effects on the country's economic stability.

War and Security Issues

The security situation in Azerbaijan is influenced by ongoing tensions in the Nagorno-Karabakh region, with the potential for renewed conflict always present. The broader regional security environment, particularly the impact of the Russia-Ukraine war, also affects Azerbaijan's strategic considerations. Ensuring border security with Armenia and other neighboring countries is crucial, as is addressing threats from terrorism and cyber-attacks.

Social Issues

The Nagorno-Karabakh conflict has led to significant internal displacement, creating a major social challenge. Resettling internally displaced persons (IDPs) and refugees and providing them with adequate living conditions requires substantial resources. Social inequality and poverty are additional issues that contribute to broader social tensions and necessitate targeted social policies to improve living standards for all citizens.

Environmental Issues

Environmental degradation resulting from oil and gas extraction activities is a major concern. Pollution and habitat destruction have significant impacts on the environment. Water scarcity and effective water management are also critical issues, especially in the context of climate change and regional water disputes. Addressing these environmental challenges is essential for ensuring sustainable development.

International Relations

Azerbaijan's foreign policy involves balancing relations with Russia and Western countries, navigating geopolitical tensions to align with national interests. The country's relationship with the European Union is particularly important in the context of energy security, as Azerbaijan plays a key role in supplying energy to Europe. Additionally, cooperation with regional organizations like the Commonwealth of Independent States (CIS) and the Economic Cooperation Organization (ECO) is vital for Azerbaijan's foreign policy strategy.

Table 9. Azerbaijan's Strategic Initiatives in Energy Diversification

Aspect	Details
Traditional Energy Sources	- Oil and Gas
	- Major oil fields: Azeri-Chirag-Guneshli (ACG)
	- Major gas fields: Shah Deniz
	- Oil production (2023): 669,000 barrels per day
	- Natural gas production (2023): 44 billion cubic meters
Renewable Energy Targets	- Increase renewable energy capacity to 30% of total energy mix by 2030
	- Reduce greenhouse gas emissions by 35% by 2030
Solar Energy Initiatives	- Total solar potential: 23,000 MW
	- Operational solar capacity (2023): 240 MW
	- Key projects: Garadagh Solar Power Plant (230 MW), Absheron Solar Park (100 MW)
Wind Energy Initiatives	- Total wind potential: 59,000 MW
	- Operational wind capacity (2023): 66 MW
	- Key projects: Khizi-Absheron Wind Farm (240 MW), Gobustan Wind Park (50 MW)
Hydropower Initiatives	- Total hydropower potential: 20,000 MW
	- Operational hydropower capacity (2023): 1,100 MW
	- Key projects: Shamkirchay Hydroelectric Power Plant (25 MW), Gabala Hydropower Plant (10 MW)
Other Renewable Initiatives	- Geothermal and biomass potential being explored
	- Energy efficiency programs launched in residential and industrial sectors
International Partnerships	- Collaboration with international organizations: IRENA, World Bank, Asian Development Bank
	- Investments from foreign companies: Masdar (UAE), ACWA Power (Saudi Arabia)
Policy and Regulation	- National Renewable Energy Action Plan (NREAP) implemented
	- Incentives for renewable energy investments: tax breaks, subsidies, feed-in tariffs
Future Projects	- Planned increase in renewable capacity: 500 MW by 2025
	- Focus on offshore wind farms and large-scale solar projects

Source: *European Dialogue. (2014). NATO: Azerbaijan is a country of pivotal importance for Europe's energy security. Retrieved from <https://www.eurodialogue.eu/%20NATO-Azerbaijan-is-a-country-of-pivotal-importance-for-Europe-energy-security>.*

The Soviet era brought significant changes to Azerbaijan's energy sector. Under Soviet control, the oil industry was nationalized, and the focus shifted towards maximizing production to meet the needs of the Soviet Union. Despite the challenges of central planning and resource allocation, Azerbaijan continued to be a major oil producer throughout the Soviet period (Uğurlu, Ö.,2009:p.29). The discovery of new oil fields and the development of offshore drilling in the Caspian Sea further enhanced the country's energy potential. The collapse of the Soviet Union in 1991 marked a new chapter in Azerbaijan's energy history. As an independent nation, Azerbaijan sought to modernize its energy sector and attract foreign investment. The signing of the "Contract of the Century" in 1994 with a consortium of international oil companies was a landmark event that revitalized the country's oil industry. This agreement paved the way for the development of the Azeri-Chirag-Gunashli (ACG) oil field, one of the largest in the Caspian Sea, and the construction of the Baku-Tbilisi-Ceyhan (BTC) pipeline, which provides a direct route for oil exports to global markets⁴.

In addition to oil, Azerbaijan has substantial natural gas reserves, which have become increasingly important in recent years. The development of the Shah Deniz gas field, one of the largest in the world, has significantly boosted Azerbaijan's gas production. The Southern Gas Corridor, a network of pipelines connecting the Caspian region to Europe, has further enhanced Azerbaijan's role as a key energy supplier to European markets. Moreover, Azerbaijan's commitment to diversifying its energy sector and embracing renewable energy sources reflects its forward-thinking approach to sustainable development.

Recognizing the finite nature of fossil fuels and the global shift towards cleaner energy, Azerbaijan has been investing in renewable energy projects, including wind, solar, and hydroelectric power. The country's geographical diversity, with its vast plains, mountains, and coastal areas, provides ample opportunities for harnessing renewable energy. The government of Azerbaijan has set ambitious targets to increase the share of renewables in its energy mix⁵. Initiatives such as the development of wind farms along the Caspian Sea coast and solar power projects in the sunny regions of the country aim to reduce greenhouse gas emissions and ensure a sustainable energy future. Additionally, the country's hydroelectric potential is being tapped through the construction and modernization of dams and hydroelectric power plants (Telly, A.,2015:p.99). Azerbaijan's strategic energy partnerships and its role in regional energy security are also noteworthy. The country has forged strong ties with neighboring countries and global energy markets through various energy agreements and projects. The Southern Gas Corridor, for instance, not only enhances Azerbaijan's export capacity but also contributes to the energy security of Europe by diversifying gas supplies and reducing dependence on a single source (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

⁴ British Petroleum. (2016). Baku-Tbilisi-Ceyhan pipeline. Retrieved from http://www.bp.com/en_az/caspian/operationsprojects/pipelines/BTC.html.

⁵ British Petroleum. (2016). South Caucasus pipeline. Retrieved from http://www.bp.com/en_az/caspian/operationsprojects/pipelines/SCP.html.

In the context of regional cooperation, Azerbaijan has been instrumental in initiatives such as the Caspian Sea Legal Regime, which aims to regulate the use of the Caspian Sea's resources and ensure equitable distribution among the littoral states. By promoting regional stability and cooperation, Azerbaijan plays a crucial role in maintaining peace and fostering economic development in the Caspian region (Aldis, A., & Herd, G.,2004:p.169).

The modernization of Azerbaijan's energy infrastructure is another critical aspect of its energy strategy. Investments in advanced technologies, efficient extraction methods, and state-of-the-art facilities have enhanced the productivity and sustainability of the energy sector. The State Oil Company of Azerbaijan Republic (SOCAR) has been at the forefront of these efforts, driving innovation and efficiency in oil and gas production, refining, and distribution. Furthermore, Azerbaijan's education and training programs in the energy sector are vital for developing a skilled workforce capable of meeting the industry's evolving needs. Collaborations with international universities and institutions have led to the establishment of specialized training centers and academic programs focused on energy studies.

These initiatives ensure that the next generation of energy professionals is well-equipped to contribute to the sector's growth and sustainability. Azerbaijan's historical and geographical context has profoundly influenced its development as a major energy producer and exporter. The country's rich oil and gas reserves, strategic location, and historical legacy of energy production have been key drivers of its economic growth and regional significance. Moving forward, Azerbaijan's commitment to renewable energy, regional cooperation, infrastructure modernization, and human capital development will be crucial in maintaining its position in the global energy market and ensuring a sustainable and prosperous future for its people.

Additionally, Azerbaijan's proactive approach to international energy diplomacy has bolstered its standing on the global stage. The country has hosted numerous international energy forums and conferences, fostering dialogue and collaboration among key stakeholders in the energy sector. These events have provided a platform for Azerbaijan to showcase its energy potential, share best practices, and explore new opportunities for investment and cooperation⁶. Azerbaijan's role in the Organization of the Petroleum Exporting Countries (OPEC) and the Gas Exporting Countries Forum (GECF) has also been significant. As a member of these organizations, Azerbaijan actively participates in discussions and decisions that shape global energy policies. This involvement underscores Azerbaijan's commitment to contributing to global energy stability and addressing challenges such as price volatility, supply security, and environmental sustainability. Azerbaijan's efforts to improve energy efficiency and reduce environmental impact are noteworthy. The country has implemented various measures to enhance energy efficiency in industrial processes, transportation, and residential sectors. By adopting modern technologies and practices, Azerbaijan aims to minimize energy waste, lower carbon emissions, and promote

⁶ British Petroleum. (2016). BP Statistical Review of World Energy June 2016. Retrieved from <https://www.bp.com/content/dam/bp/pdf/energy-economics/statistical-review-2016/bp-statistical-review-of-world-energy-2016-full-report.pdf>.

sustainable energy use (Rokicki, T., Jadczak, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A.,2022:p.66).

Environmental protection initiatives, particularly in the context of oil and gas extraction, are critical to Azerbaijan's sustainable development goals. The government has introduced stringent regulations and standards to mitigate the environmental impact of energy production activities. Projects focusing on the remediation of contaminated sites, the protection of marine ecosystems in the Caspian Sea, and the reduction of air and water pollution are central to Azerbaijan's environmental strategy⁷.

Azerbaijan's energy policy also emphasizes the importance of energy access and equity. The government has launched programs to ensure that all regions, including remote and rural areas, have reliable access to energy. This focus on inclusivity helps to bridge the urban-rural divide and supports economic development across the entire country. In the realm of innovation, Azerbaijan is exploring the potential of emerging technologies such as smart grids, energy storage systems, and digitalization in the energy sector. These technologies promise to enhance the efficiency, reliability, and flexibility of the energy supply, making it possible to integrate renewable energy sources more effectively and respond dynamically to changes in energy demand. Azerbaijan's strategic initiatives in energy diversification have extended beyond traditional oil and gas to include significant investments in renewable energy. Recognizing the global shift towards cleaner energy sources, Azerbaijan has undertaken several projects aimed at harnessing the power of wind, solar, and hydroelectric energy. These efforts are not only aimed at reducing the country's carbon footprint but also at ensuring long-term energy security and sustainability.

Wind energy, for instance, holds considerable promise for Azerbaijan, particularly along the Caspian Sea coast where wind speeds are favorable for generating electricity. The government has identified several sites for wind farms and has partnered with international firms to develop these projects. Similarly, the abundance of sunshine in many parts of Azerbaijan provides an excellent opportunity for solar power generation. Pilot projects and feasibility studies are already underway to assess the potential and scalability of solar energy in the country. Hydroelectric power is another critical component of Azerbaijan's renewable energy strategy. The country's mountainous regions and numerous rivers offer substantial hydroelectric potential. Existing hydroelectric plants are being upgraded, and new ones are being planned to increase the share of hydroelectric power in the national energy mix. These projects are expected to provide clean and reliable energy, contributing to both environmental sustainability and energy independence (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288). The integration of renewable energy sources into Azerbaijan's national grid requires modernization and expansion of the existing infrastructure. The development of smart grids, capable of efficiently managing and distributing energy from diverse sources, is a key priority. Smart grid technology enhances the reliability and resilience of the energy supply, reduces transmission losses, and allows for better integration of renewable

⁷ European Commission. (n.d.). Supplier countries. Retrieved from <https://ec.europa.eu/energy/en/topics/imports-and-secure-supplies/supplier-countries>.

energy sources (Uğurlu, Ö.,2009:p.99). Energy storage systems are being explored to address the intermittency challenges associated with renewable energy.

By investing in advanced battery technologies and other storage solutions, Azerbaijan aims to store excess energy generated during peak production times and use it when production is low. This approach not only stabilizes the energy supply but also maximizes the utilization of renewable energy resources. In parallel with its renewable energy initiatives, Azerbaijan continues to strengthen its conventional energy sector through technological innovation and efficiency improvements. The application of enhanced oil recovery techniques and advanced drilling technologies has significantly boosted the productivity of existing oil fields. Investments in refining and petrochemical industries are also enhancing the value-added component of the energy sector, contributing to economic diversification and job creation. Azerbaijan's strategic energy corridors, such as the Baku-Tbilisi-Ceyhan (BTC) oil pipeline and the Southern Gas Corridor, remain vital for transporting energy resources to international markets. These pipelines not only facilitate Azerbaijan's energy exports but also contribute to regional energy security by providing alternative supply routes for Europe and beyond. The ongoing maintenance and expansion of these corridors ensure that Azerbaijan remains a crucial link in the global energy supply chain (Surgeon, U.,2015:p.190).

3.1.1. Geographic Significance

Azerbaijan's geographic significance is a critical factor in understanding its energy potential and strategic importance. Located at the crossroads of Eastern Europe and Western Asia, Azerbaijan enjoys a unique position that has historically made it a pivotal player in regional and global affairs. Its proximity to the Caspian Sea, one of the world's largest inland bodies of water, is particularly noteworthy due to the sea's abundant hydrocarbon resources⁸. The Caspian Sea region is renowned for its vast reserves of oil and natural gas, and Azerbaijan's access to these resources has been a cornerstone of its economic development. The country's capital, Baku, located on the Absheron Peninsula by the Caspian Sea, has been a center of oil production since the 19th century (Simbar, R., & Rezapoor, D.,2020:p.35). This strategic location has allowed Azerbaijan to leverage its natural resources effectively, making it a significant energy producer and exporter. Azerbaijan's terrain is diverse, featuring the Greater Caucasus Mountains to the north, the extensive Kura-Aras lowlands, and numerous rivers and lakes. This topographical variety not only enhances the country's natural beauty but also contributes to its renewable energy potential⁹.

The mountains and highlands are suitable for hydroelectric power generation, while the coastal areas along the Caspian Sea are ideal for wind energy projects. The sunny plains provide ample opportunities for solar power development. The country's location along the historic Silk

⁸ Monaghan, A. (2008). Energy Security: NATO's Limited, Complementary Role. Research Division - NATO Defense College, Rome - No. 36. Retrieved from https://www.files.ethz.ch/isn/56022/rp_36en.pdf.

⁹ Monaghan, A. (2008). Energy Security: NATO's Limited, Complementary Role. Research Division - NATO Defense College, Rome - No. 36. Retrieved from https://www.files.ethz.ch/isn/56022/rp_36en.pdf.

Road has further amplified its strategic importance. For centuries, Azerbaijan served as a crucial transit point for trade between Europe and Asia, fostering economic and cultural exchanges. In contemporary times, this strategic advantage has translated into the development of significant energy transport routes. Pipelines such as the Baku-Tbilisi-Ceyhan (BTC) oil pipeline and the Southern Gas Corridor have been instrumental in transporting Azerbaijan's energy resources to global markets. These routes not only facilitate the export of Azerbaijani oil and gas but also enhance regional energy security by providing alternative supply routes to Europe. In addition to its strategic transportation corridors, Azerbaijan's geographic significance is further enhanced by its role in energy transit. The country's pipeline infrastructure, including the Baku-Tbilisi-Erzurum (BTE) gas pipeline and the South Caucasus Pipeline (SCP), plays a vital role in transporting Caspian gas to European markets.

3.1.2. Historical Evolution

The historical evolution of Azerbaijan is a rich tapestry woven with diverse cultural, political, and economic threads. This evolution has been significantly shaped by the country's strategic location at the crossroads of Eastern Europe and Western Asia, making it a focal point for various empires and civilizations throughout history¹⁰. Azerbaijan's history dates back to ancient times, with archaeological evidence indicating human settlements in the region as early as the Stone Age. The area was part of the ancient kingdom of Caucasian Albania, which existed from the 4th century BCE to the 8th century CE. During this period, the region was influenced by Zoroastrianism, an ancient religion that left a lasting impact on its culture and traditions. The arrival of Islam in the 7th century brought significant changes to Azerbaijan's cultural and religious landscape¹¹. The region became an important center for Islamic learning and culture, which continued to flourish under the rule of various Muslim dynasties. The Seljuk Empire, which controlled Azerbaijan in the 11th and 12th centuries, played a crucial role in the spread of Islam and the development of Persian literature and architecture in the region (Koszela, G.,2022:p.220).

In the 13th century, Azerbaijan fell under the control of the Mongol Empire, which brought both destruction and new administrative practices. The subsequent establishment of the Ilkhanate, a Mongol state, further integrated Azerbaijan into the broader Mongol dominion. This period saw the development of major cities like Tabriz, which became significant centers of trade and culture. The Safavid Empire, established in the early 16th century, marked a new era for Azerbaijan. As a Shia Muslim state, the Safavids promoted Shia Islam and made it the dominant faith in Azerbaijan, a legacy that continues to this day. The Safavid era was characterized by significant cultural and architectural achievements, with cities like Isfahan and Baku witnessing the construction of magnificent palaces, mosques, and bridges. The 18th century brought instability as the Safavid

¹⁰ European Dialogue. (2014). NATO: Azerbaijan is a country of pivotal importance for Europe's energy security. Retrieved from <https://www.eurodialogue.eu/%20NATO-Azerbaijan-is-a-country-of-pivotal-importance-for-Europe-energy-security>.

¹¹ European Union External Action. (September 9, 2016). EU-Azerbaijan Partnership and Cooperation Agreement (1999). Retrieved from https://eeas.europa.eu/sites/eeas/files/euaz_pca_full_text_0.pdf.

Empire weakened, leading to the rise of local khanates. These semi-independent states, such as the Khanate of Baku and the Karabakh Khanate, played a crucial role in the region's political landscape. However, their independence was short-lived as the Russian Empire began expanding southward in the early 19th century. The Treaty of Gulistan in 1813 and the Treaty of Turkmenchay in 1828, resulting from the Russo-Persian wars, formalized Russian control over northern Azerbaijan. The incorporation of Azerbaijan into the Russian Empire ushered in a period of significant change. The discovery of oil in Baku in the mid-19th century transformed the city into one of the world's leading oil producers, attracting international attention and investment. The oil boom led to rapid industrialization and the emergence of Baku as a cosmopolitan city with a diverse population. The early 20th century was a tumultuous period for Azerbaijan (Uğurlu, Ö.,2009:p.29).

3.2. Energy Development in Azerbaijan: From the Soviet Era to Today

Today, Azerbaijan continues to build on its rich energy legacy. The country has diversified its energy production, focusing not only on oil but also on natural gas. The development of the Shah Deniz gas field, one of the largest in the world, has positioned Azerbaijan as a key supplier of natural gas to Europe¹². The Southern Gas Corridor, which includes the Trans-Anatolian Pipeline (TANAP) and the Trans-Adriatic Pipeline (TAP), is a testament to Azerbaijan's strategic role in enhancing Europe's energy security. Moreover, Azerbaijan has made strides in developing renewable energy sources. Recognizing the global shift towards sustainability, the government has initiated projects to harness wind, solar, and hydropower potential. The diversification of energy sources aims to reduce dependency on fossil fuels and promote environmental sustainability (Rokicki, T., Jadczak, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A.,2022:p.66).

Azerbaijan has made significant strides in diversifying its energy production beyond oil to include natural gas. The development of the Shah Deniz gas field, one of the largest in the world, has been a cornerstone of this strategy. Discovered in 1999, Shah Deniz has played a crucial role in boosting Azerbaijan's natural gas production. The field's vast reserves and its development through multiple phases have enabled Azerbaijan to become a major player in the global natural gas market.

Phase 1 of Shah Deniz began production in 2006, and Phase 2, which started in 2018, significantly increased the field's output capacity. The total production from Shah Deniz is expected to reach up to 25 billion cubic meters per year. This substantial increase in production capacity has allowed Azerbaijan to expand its export capabilities, particularly to Europe.

Azerbaijan's strategic position as a key supplier of natural gas to Europe has been further solidified through the Southern Gas Corridor, a series of pipelines that transport gas from the

¹² Larsson, R. L. (2008). Security implications of the North Stream Project. For the European Parliament. Retrieved from [http://www.europarl.europa.eu/RegData/etudes/note/join/2008/388931/EXPOAFET_NT\(2008\)388931_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/note/join/2008/388931/EXPOAFET_NT(2008)388931_EN.pdf).

Caspian region to Europe. This corridor includes the South Caucasus Pipeline, the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans Adriatic Pipeline (TAP). These pipelines ensure a direct and reliable supply of natural gas to European markets, enhancing energy security for the continent and reducing dependency on other sources.

The diversification into natural gas not only boosts Azerbaijan's economy but also strengthens its geopolitical significance. By providing a stable and alternative source of energy to Europe, Azerbaijan plays a vital role in the region's energy dynamics and contributes to the broader goal of energy diversification and security for Europe.

Azerbaijan's strategic location and energy resources have made it a key player in regional and global energy markets. The country serves as a critical transit route for energy supplies from the Caspian Sea region to Europe, enhancing energy security for the European Union. The Southern Gas Corridor, in particular, exemplifies Azerbaijan's role in diversifying Europe's energy sources and reducing reliance on Russian gas. Azerbaijan's active participation in international energy organizations, such as the Organization of the Petroleum Exporting Countries (OPEC) and the Gas Exporting Countries Forum (GECF), highlights its commitment to global energy cooperation¹³. The country engages in dialogues and partnerships aimed at ensuring stable and secure energy supplies, promoting market transparency, and addressing climate change challenges. Innovation and technological advancements are central to the continued development of Azerbaijan's energy sector. The adoption of cutting-edge technologies in exploration, drilling, and production has enhanced efficiency and reduced operational costs. Investments in digitalization, automation, and artificial intelligence are transforming the industry, enabling better resource management and decision-making. Research and development (R&D) initiatives, supported by both the government and private sector, are driving innovation in renewable energy and energy efficiency. Collaboration with international research institutions and technology firms is fostering knowledge transfer and capacity building. These efforts are crucial for maintaining Azerbaijan's competitive edge in the global energy market and achieving sustainable growth (Betley, M., Bird, A., & Napodano, M., 2000:p.50).

3.2.1. Soviet Period Energy Policies

Azerbaijan, a country situated at the crossroads of Eastern Europe and Western Asia, has long been recognized for its rich energy resources. Historically, the country's energy sector has played a pivotal role in its economic development and geopolitical significance. During the Soviet era, Azerbaijan's energy policies were intricately linked with the broader strategic objectives of the Soviet Union. The discovery of oil in Baku in the late 19th century marked the beginning of Azerbaijan's prominence in the global energy sector¹⁴.

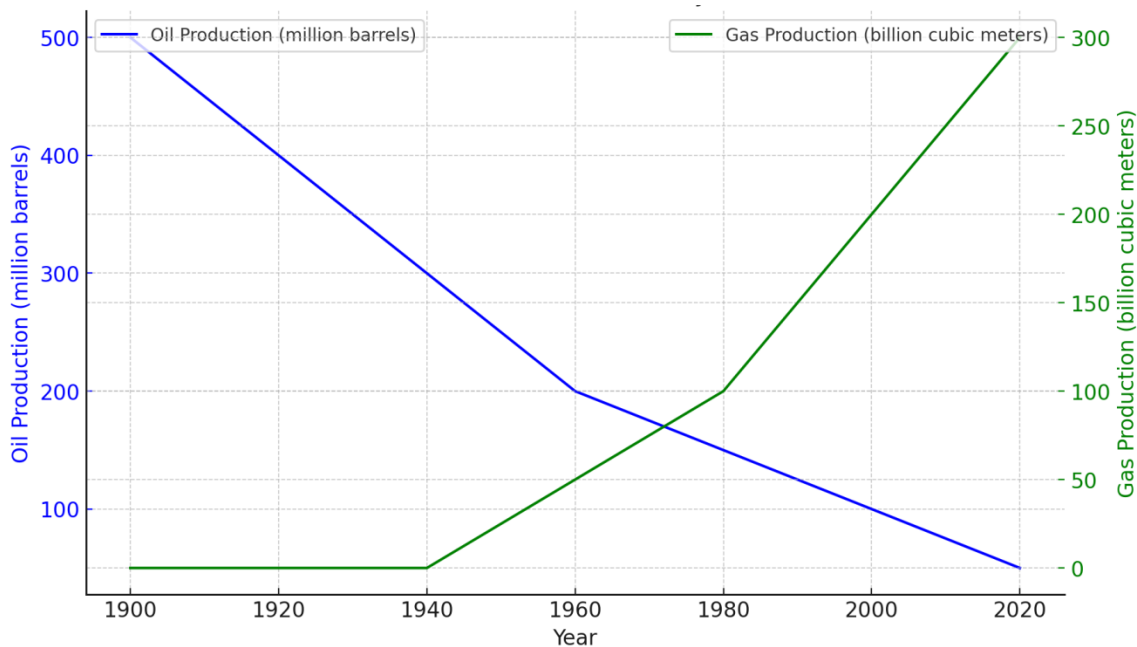
¹³ Legendre, T. (2007). The North Atlantic Treaty Organization's Future Role in Energy Security. *The Whitehead Journal of Diplomacy and International Relations*, 8(2), pp. 1-8.

¹⁴ Legendre, T. (2007). The North Atlantic Treaty Organization's Future Role in Energy Security. *The Whitehead Journal of Diplomacy and International Relations*, 8(2), pp. 1-8.

By the early 20th century, Baku had become one of the world's leading oil producers, attracting significant attention from foreign investors and the Soviet government (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288).

The Bolshevik Revolution in 1917 and the subsequent establishment of Soviet power in Azerbaijan in 1920 brought the country's oil industry under state control. The Soviet government implemented centralized policies aimed at maximizing oil production to support the industrialization efforts across the USSR. This period saw significant investments in the oil infrastructure of Baku, including the development of oil fields, refineries, and transportation networks. Under the Soviet regime, Azerbaijan's energy policies were characterized by centralized control and prioritization of economic output over environmental and social considerations¹⁵.

Graphic 8. Oil and Gas Production in Azerbaijan (1900-2020)



Source: *Bórawska, A., & Szeberényi, A. (2022). Changes in Energy Consumption and Energy Intensity in EU Countries as a Result of the COVID-19 Pandemic by Sector and Area Economy. Energies, 15, 6243.*

The Soviet authorities established the State Planning Committee (Gosplan), which played a crucial role in determining production targets and resource allocation. This centralized approach ensured that Azerbaijan's oil production was aligned with the broader economic goals of the Soviet Union (Telly, A.,2015:p.99). One of the key policies during this period was the focus on increasing oil extraction through technological advancements and exploration of new oil fields. The Soviet government invested heavily in research and development, leading to innovations in drilling

¹⁵ Koremenos, B., & Lipson, C. (2001). The Rational Design of International Institutions. International Organization, 55(4), pp. 761–799.

techniques and enhanced oil recovery methods. These efforts significantly boosted Azerbaijan's oil production, making it a cornerstone of the Soviet energy strategy. While the Soviet energy policies propelled Azerbaijan to the forefront of the global oil industry, they also had profound impacts on the local economy and society. The emphasis on rapid industrialization and production often came at the expense of environmental sustainability and local communities. The intense drilling activities led to widespread land degradation and pollution, affecting the health and livelihoods of local residents. The centralized control meant that the benefits of oil production were not equitably distributed. The revenues generated from Azerbaijan's oil were primarily directed towards the Soviet central budget, with limited reinvestment in the local economy. This resulted in economic disparities and underdevelopment in non-oil sectors, which persisted even after the dissolution of the Soviet Union (Simbar, R., & Rezapoor, D.,2020:p.35). The legacy of Soviet energy policies in Azerbaijan is multifaceted. On one hand, the extensive development of oil infrastructure and technological advancements laid the foundation for Azerbaijan's modern energy sector. The expertise and knowledge accumulated during the Soviet era have continued to benefit the country's oil and gas industry.

On the other hand, the environmental and social costs of the Soviet approach have left lasting scars. The post-Soviet period has seen efforts to address these challenges through regulatory reforms and environmental initiatives. However, the historical emphasis on centralized control and production maximization continues to influence policy debates and development strategies in Azerbaijan. The Soviet period energy policies played a critical role in shaping Azerbaijan's energy potential and historical trajectory. The centralized control and focus on maximizing oil production positioned Azerbaijan as a key player in the global energy market. However, these policies also brought significant environmental and social challenges that continue to impact the country. Understanding this historical context is essential for addressing contemporary issues and forging a sustainable and inclusive energy future for Azerbaijan (Aldis, A., & Herd, G.,2004:p.169).

The Ministry of Energy of Azerbaijan has been actively collaborating with international organizations and investors to implement renewable energy projects. This collaboration includes partnerships with entities like the International Renewable Energy Agency (IRENA), the World Bank, and the Asian Development Bank. Through these partnerships, Azerbaijan has secured funding, technical expertise, and support for various renewable energy initiatives.

For instance, projects such as the Garadagh Solar Power Plant and the Khizi-Absheron Wind Farm have received significant investment from foreign companies like Masdar from the UAE and ACWA Power from Saudi Arabia. These projects aim to increase the share of renewables in Azerbaijan's energy mix, reduce greenhouse gas emissions, and promote sustainable development.

Geopolitical Implications

Azerbaijan's strategic location at the crossroads of Europe and Asia, coupled with its substantial energy resources, has significant geopolitical implications. The country's energy policies and infrastructure projects play a crucial role in both its domestic economy and regional dynamics.

1. **Energy Supply to Europe:** Azerbaijan's position as a key supplier of natural gas to Europe through the Southern Gas Corridor enhances European energy security by diversifying supply sources and reducing dependence on Russian gas. This strategic role strengthens Azerbaijan's geopolitical leverage and fosters closer ties with European countries.

2. **Regional Influence:** The development of energy infrastructure, such as pipelines and renewable energy projects, impacts regional stability and economic development. Azerbaijan's investments in energy projects contribute to regional cooperation and connectivity, benefiting neighboring countries.

3. **International Relations:** Azerbaijan's energy resources and strategic location influence its international relations. The country's ability to supply energy to global markets positions it as an important player in the international energy landscape. This significance attracts foreign investment and fosters bilateral and multilateral partnerships.

In summary, Azerbaijan's efforts to diversify its energy portfolio and its strategic initiatives in renewable energy are integral to its economic development and geopolitical strategy. The country's energy policies not only support domestic growth but also enhance its role in regional and international affairs.

While Azerbaijan's renewable energy projects emphasize environmental sustainability and economic development, there are several risk factors that could impact the success and long-term viability of these initiatives. Understanding these risks is essential for mitigating potential challenges and ensuring the projects' contributions to global energy security.

1. Political and Regulatory Risks

- **Government Policy Changes:** Shifts in government policies or changes in political leadership could impact the regulatory environment for renewable energy projects. Stability in policy is crucial for attracting and retaining foreign investment.

- **Regulatory Framework:** Inconsistent or unclear regulations can create uncertainties for investors and project developers. A robust and transparent regulatory framework is necessary to facilitate smooth project implementation.

2. Economic and Financial Risks

- **Funding and Investment:** Securing sufficient funding for large-scale renewable energy projects is a significant challenge. Economic downturns or fluctuations in global financial markets can affect the availability of capital and the willingness of investors to commit to long-term projects.

- **Cost Overruns and Delays:** Renewable energy projects often involve complex engineering and significant upfront investments. Unanticipated cost overruns and project delays can strain budgets and impact project timelines.

3. Technological Risks

- **Technology Reliability:** The success of renewable energy projects depends on the reliability and efficiency of the technology used. Issues with equipment performance, maintenance, or technological obsolescence can affect the overall output and profitability of projects.

- **Innovation and Adaptation:** Rapid advancements in renewable energy technologies require continuous innovation and adaptation. Failure to keep pace with technological developments can render existing projects less competitive or efficient.

4. Environmental and Social Risks

- **Environmental Impact:** While renewable energy projects aim to reduce environmental impact, they can still pose risks such as habitat disruption, land use conflicts, and water resource management issues. Conducting thorough environmental impact assessments and engaging with local communities are crucial steps.

- **Social Acceptance:** Gaining the support and acceptance of local communities is vital for the success of renewable energy projects. Opposition from local stakeholders can lead to delays and increased project costs.

5. Geopolitical Risks

- **Regional Stability:** Azerbaijan's strategic location and geopolitical dynamics can influence the stability of energy projects. Regional conflicts, such as the Nagorno-Karabakh dispute, can pose risks to infrastructure security and project continuity.

- **International Relations:** The geopolitical implications of Azerbaijan's energy policies may affect its relationships with neighboring countries and global powers. Diplomatic tensions or changes in international relations can impact project partnerships and energy trade routes.

6. Market Risks

- **Energy Market Volatility:** Fluctuations in global energy prices and demand can affect the financial viability of renewable energy projects. Diversifying energy markets and securing long-term purchase agreements can help mitigate these risks.

- **Competition:** The increasing number of renewable energy projects globally creates a competitive environment. Azerbaijan must ensure its projects are cost-effective and technologically advanced to remain competitive in the market.

Azerbaijan's renewable energy projects hold great promise for environmental sustainability and economic development, positioning the country as a key player in global energy security. However, addressing the associated risks through strategic planning, robust regulatory frameworks, and proactive stakeholder engagement is essential to ensure the successful implementation and long-term impact of these initiatives. By mitigating these risks, Azerbaijan

can solidify its role in the modern energy infrastructure and continue to foster collaborative efforts in the global energy sector

3.2.2. Post-Soviet Energy Development

The dissolution of the Soviet Union in 1991 marked a significant turning point for the newly independent states, including Azerbaijan. For Azerbaijan, this period signaled a shift from centralized Soviet control to establishing its own national energy policies and strategies. The country's rich oil and gas reserves became the cornerstone of its economic development and a key factor in its geopolitical significance. The immediate aftermath of the Soviet Union's collapse presented Azerbaijan with numerous challenges. The country faced political instability, an unresolved conflict over Nagorno-Karabakh, and a struggling economy. The energy sector, although rich in potential, was plagued by outdated infrastructure, lack of investment, and inefficient management practices inherited from the Soviet system. In response to these challenges, Azerbaijan undertook significant reforms to modernize its energy sector. The government, under the leadership of President Heydar Aliyev, implemented policies aimed at attracting foreign investment and expertise. One of the most critical steps was the signing of the "Contract of the Century" in 1994, which opened the doors for major international oil companies to participate in the exploration and development of Azerbaijan's oil fields. The "Contract of the Century" was a landmark agreement that involved a consortium of major oil companies, including BP, Amoco, and Statoil, among others. This agreement not only brought much-needed capital and technology to Azerbaijan but also marked the country's integration into the global energy market. The development of the Azeri-Chirag-Gunashli (ACG) oil fields under this contract significantly boosted Azerbaijan's oil production and revenues (Chomak, H., Sancaktar, C., Yıldırım, Z.,2015:p11).

This period also saw the construction of vital infrastructure projects such as the Baku-Tbilisi-Ceyhan (BTC) pipeline, which provided a direct route for exporting oil to international markets, bypassing Russia and Iran. The BTC pipeline, completed in 2006, became a critical component of Azerbaijan's energy export strategy, enhancing its geopolitical leverage and economic stability. In addition to oil, Azerbaijan's natural gas sector has seen substantial growth in the post-Soviet era. The discovery and development of the Shah Deniz gas field, one of the largest in the world, positioned Azerbaijan as a key player in the regional and global gas markets. The Shah Deniz project attracted significant foreign investment and led to the construction of the South Caucasus Pipeline, which transports gas from the Caspian Sea to Turkey and further to Europe. Building on the success of the Shah Deniz field, Azerbaijan launched the Southern Gas Corridor (SGC) initiative, a major infrastructure project aimed at delivering Caspian gas to European markets. The SGC includes the Trans-Anatolian Natural Gas Pipeline (TANAP) and the Trans Adriatic Pipeline (TAP), creating a comprehensive network that enhances Europe's energy security by diversifying its gas supply sources. The energy sector's development has had profound socio-economic impacts on Azerbaijan. The influx of oil and gas revenues has contributed to

significant economic growth, increased public spending on infrastructure, education, and healthcare, and improved living standards. The State Oil Fund of Azerbaijan (SOFAZ), established in 1999, has played a crucial role in managing these revenues to ensure long-term economic stability and fund various development projects (Rokicki, T., Jadczyk, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A., 2022:p.56).

However, the rapid development of the energy sector has also raised environmental concerns. The extraction and transportation of oil and gas have led to pollution and ecological degradation in certain areas. Addressing these issues has become a priority for the Azerbaijani government, which has implemented stricter environmental regulations and invested in cleaner technologies and renewable energy sources to mitigate the environmental impact. The post-Soviet era has been a transformative period for Azerbaijan's energy sector. Through strategic reforms, international partnerships, and significant infrastructure projects, Azerbaijan has successfully harnessed its rich energy resources to drive economic growth and enhance its geopolitical standing. While challenges remain, particularly in environmental management and economic diversification, the progress made over the past three decades underscores Azerbaijan's resilience and potential as a leading energy producer¹⁶.

The ongoing efforts to modernize the energy sector and explore renewable energy options will be crucial for ensuring sustainable development and long-term prosperity for Azerbaijan. As Azerbaijan continues to benefit from its substantial oil and gas revenues, there is a growing recognition of the need to diversify its economy to ensure long-term sustainability (Surgeon, U., 2015:p.190). The heavy reliance on the energy sector makes the country vulnerable to fluctuations in global oil prices, which can significantly impact government revenues and economic stability. In addition to economic diversification, Azerbaijan is also focusing on the development of renewable energy sources¹⁷. The country has considerable potential for renewable energy, particularly in solar, wind, and hydroelectric power. Recognizing the global shift towards cleaner energy and the need to address environmental concerns, the Azerbaijani government has set ambitious targets for increasing the share of renewables in its energy mix (Rokicki, T., Jadczyk, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A., 2022:p.66). The Ministry of Energy of Azerbaijan has been collaborating with international organizations and investors to implement renewable energy projects. Key initiatives include the construction of wind farms along the Caspian Sea coast and solar power plants in various regions. These projects aim to reduce the country's carbon footprint, enhance energy security, and create new economic opportunities. Azerbaijan's strategic location at the crossroads of Europe and Asia and its substantial energy resources have significant geopolitical implications. The country's energy policies and infrastructure projects not only impact its domestic economy but also influence regional dynamics and international relations.

¹⁶ Aldis, A., & Herd, G. (2004). Managing soft security threats: Current progress and future prospects. *European Security*, 13(1), 169-186.

¹⁷ Koremenos, B., & Lipson, C. (2001). The Rational Design of International Institutions. *International Organization*, 55(4), pp. 761-799.

3.3. Azerbaijan's Role in International Energy Projects: Cases Involving Turkey, Georgia, and the EU

Azerbaijan, a pivotal player in the international energy sector, has significantly influenced global energy markets through its strategic partnerships and projects, particularly with Turkey, Georgia, and the European Union (EU). These collaborations have not only bolstered Azerbaijan's economy but have also enhanced the energy security of the regions involved. One of the most notable projects is the Southern Gas Corridor (SGC), which is designed to transport gas from the Caspian Sea directly to Europe, reducing the continent's dependency on Russian energy supplies. The corridor comprises several pipeline projects, including the South Caucasus Pipeline (SCP), the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans Adriatic Pipeline (TAP). Azerbaijan's State Oil Company (SOCAR) plays a central role in these initiatives, underscoring the country's commitment to diversifying its energy export routes and securing a stable market for its gas (Uğurlu, Ö.,2009:p.29).

Turkey, a key transit country in the SGC, benefits from its strategic position bridging Europe and Asia. The TANAP pipeline, running through Turkey, is a crucial component of this corridor. It not only strengthens Turkey's energy security by diversifying its gas supply sources but also enhances its geopolitical influence in the region. For Azerbaijan, Turkey is more than just a transit route; it is a vital partner (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288). The deepening of energy ties between Azerbaijan and Turkey also supports broader political and economic cooperation, reflecting a shared vision of regional stability and prosperity. Georgia's role as a transit country is equally important. The SCP, which runs from Azerbaijan through Georgia to Turkey, is a critical link in the Southern Gas Corridor. This pipeline boosts Georgia's strategic importance and provides it with transit revenues and enhanced energy security. For Azerbaijan, Georgia represents a reliable transit partner that facilitates access to European markets. The collaboration between Azerbaijan and Georgia in energy projects underscores the interdependence that fosters regional cooperation and development. The European Union's involvement in Azerbaijani energy projects is driven by its strategic objective to diversify energy sources and routes to enhance energy security. The EU's support for the Southern Gas Corridor exemplifies this strategy. By importing gas from Azerbaijan, the EU reduces its reliance on Russian energy, thereby enhancing its energy security and political leverage. For Azerbaijan, the EU is a critical market for its energy exports, providing a stable and lucrative destination for its gas. The EU's investment in infrastructure and regulatory support further strengthens this partnership (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

Table 10. Azerbaijan Oil Exports metrics

Metric	Value	Year
Natural Gas Production (bcm)	35.6	2023
Natural Gas Exports (bcm)	24.2	2023
Oil Production (million barrels/day)	0.75	2023
Oil Exports (million barrels/day)	0.65	2023
Revenue from Energy Exports (USD)	19 billion	2023
Investment in Energy Infrastructure	3 billion	2023
Share of GDP from Energy Sector (%)	40	2023

Source: Marianenko, N. (2024, January 19). *Azerbaijan's critical role in EU energy security*. ANKASAM | Ankara Center for Crisis and Policy Studies. Retrieved from <https://www.ankasam.org/azerbaijans-critical-role-in-eu-energy-security/?lang=en>

Azerbaijan stands out as a significant energy producer, particularly in natural gas and oil. In 2023, the country produced 35.6 billion cubic meters (bcm) of natural gas and exported 24.2 bcm, showcasing its substantial contribution to global energy markets. Additionally, Azerbaijan's oil production was 0.75 million barrels per day, with exports reaching 0.65 million barrels per day. These exports are a vital source of revenue, amounting to \$19 billion annually, and they play a crucial role in the national economy, with the energy sector accounting for 40% of the GDP. The country has also invested \$3 billion in energy infrastructure, underlining its commitment to maintaining and enhancing its energy production and export capabilities.

Table 11. Turkey Oil Exports metrics

Metric	Value	Year
Natural Gas Consumption (bcm)	48.1	2023
Natural Gas Imports (bcm)	45.0	2023
Oil Consumption (million barrels/day)	1.0	2023
Oil Imports (million barrels/day)	0.9	2023
Revenue from Energy Transit (USD)	1 billion	2023
TANAP Transit Capacity (bcm/year)	16.0	2023
Share of GDP from Energy Sector (%)	12	2023

Source: Marianenko, N. (2024, January 19). *Azerbaijan's critical role in EU energy security*. ANKASAM | Ankara Center for Crisis and Policy Studies. Retrieved from <https://www.ankasam.org/azerbaijans-critical-role-in-eu-energy-security/?lang=en>

Turkey, positioned as a key transit country, plays a crucial role in the Southern Gas Corridor (SGC). The country consumed 48.1 bcm of natural gas in 2023, with imports accounting for 45.0 bcm. This high level of consumption and importation highlights Turkey's reliance on external sources for its energy needs. The TANAP pipeline, a critical component of the SGC, has a transit capacity of 16.0 bcm per year, enabling Turkey to not only secure its energy supply but also to generate significant revenue from energy transit, totaling \$1 billion annually. The energy sector constitutes 12% of Turkey's GDP, reflecting its importance to the national economy. Furthermore, Turkey's oil consumption stands at 1.0 million barrels per day, with imports at 0.9 million barrels

per day, reinforcing the country's strategic position in the regional energy landscape (Pamir, N.,2007:p.88).

Table 12. Georgia Oil Exports metrics

Metric	Value	Year
Natural Gas Consumption (bcm)	2.4	2023
Natural Gas Imports (bcm)	2.2	2023
Oil Consumption (thousand barrels/day)	40	2023
Oil Imports (thousand barrels/day)	38	2023
Revenue from Energy Transit (USD)	500 million	2023
SCP Transit Capacity (bcm/year)	16.0	2023
Share of GDP from Energy Sector (%)	7	2023

Source: Marianenko, N. (2024, January 19). Azerbaijan's critical role in EU energy security. ANKASAM | Ankara Center for Crisis and Policy Studies. Retrieved from <https://www.ankasam.org/azerbaijans-critical-role-in-eu-energy-security/?lang=en>

These tables provide a snapshot of the energy landscape for each country involved in the international energy projects with Azerbaijan. They highlight production, consumption, import, export, transit capacities, and economic contributions of the energy sector.

Georgia, though a smaller player in terms of energy production and consumption, serves as a vital transit route for energy flows between Azerbaijan and Turkey. In 2023, Georgia consumed 2.4 bcm of natural gas, importing 2.2 bcm to meet its domestic needs. The South Caucasus Pipeline (SCP), which passes through Georgia, has a transit capacity of 16.0 bcm per year, emphasizing Georgia's strategic role in the Southern Gas Corridor. The revenue from energy transit in Georgia amounts to \$500 million annually, providing a significant boost to its economy. The energy sector contributes 7% to Georgia's GDP, underlining the importance of its transit role in the broader regional energy framework. Additionally, Georgia's oil consumption is 40 thousand barrels per day, with imports at 38 thousand barrels per day, indicating a balanced yet crucial energy import profile (Simbar, R., & Rezapoor, D.,2020:p.35).

These statistical insights underscore the interconnectedness of Azerbaijan, Turkey, and Georgia in international energy projects. Azerbaijan's substantial energy production and export capabilities form the backbone of these collaborations.

Table 13. Southern Gas Corridor (SGC) Overview

Aspect	Description	Value	Year
Project Components	South Caucasus Pipeline (SCP), Trans-Anatolian Natural Gas Pipeline (TANAP), Trans Adriatic Pipeline (TAP)	-	-
Total Length	Combined length of pipelines (SCP, TANAP, TAP)	3,500 km	2023
Total Investment	Combined investment for the SGC project	\$45 billion	2023

Natural Gas Transport Capacity	Total capacity of the SGC to transport natural gas annually	16 bcm	2023
Participating Countries	Countries involved in the SGC project	Azerbaijan, Turkey, Georgia, EU	-
Natural Gas Source	Primary source of natural gas for the SGC	Shah Deniz Field, Azerbaijan	-
Key Transit Countries	Main countries through which the SGC passes	Georgia, Turkey	-
European Market Access	Primary markets reached by the SGC	Italy, Greece, Bulgaria	-
Environmental Impact Measures	Initiatives to mitigate environmental impact	Various (e.g., biodiversity protection, emission reductions)	-
Employment Generation	Jobs created during the construction and operation phases	30,000 (approx.)	2023
Economic Impact	Annual economic benefit to participating countries	Significant boost to GDP	2023
Energy Security Enhancement	Contribution to reducing European dependency on Russian gas	Substantial	2023

Source: Marianenko, N. (2024, January 19). *Azerbaijan's critical role in EU energy security*. ANKASAM | Ankara Center for Crisis and Policy Studies. Retrieved from <https://www.ankasam.org/azerbajans-critical-role-in-eu-energy-security/?lang=en>

This table encapsulates the key elements and impacts of the Southern Gas Corridor, highlighting the collaborative efforts of Azerbaijan, Turkey, and Georgia in this major international energy project. It outlines the project's components, investment, capacity, participating countries, and its broader economic and environmental implications. The Southern Gas Corridor (SGC) stands as a testament to the collaborative efforts of Azerbaijan, Turkey, and Georgia in enhancing regional and global energy security. This extensive project involves three primary components: the South Caucasus Pipeline (SCP), the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans Adriatic Pipeline (TAP), collectively spanning approximately 3,500 kilometers. The total investment in the Southern Gas Corridor is a substantial \$45 billion, reflecting the project's scale and significance. This investment encompasses the costs of construction, infrastructure development, and environmental safeguards, underscoring the commitment of the participating countries and stakeholders to ensure the project's success (Telly, A.,2015:p.99).

The SGC's natural gas transport capacity is a critical metric, with the project capable of transporting 16 billion cubic meters (bcm) of natural gas annually. This capacity is pivotal for meeting the energy demands of Europe, reducing the continent's dependency on Russian gas, and enhancing overall energy security (Betley, M., Bird, A., & Napodano, M.,2000:p.50). The primary source of this natural gas is the Shah Deniz Field in Azerbaijan, a significant reservoir that underscores Azerbaijan's role as a key energy supplier. Georgia and Turkey play crucial roles as transit countries for the SGC, facilitating the smooth flow of natural gas from Azerbaijan to European markets. The project effectively connects Azerbaijan to key European countries such as

Italy, Greece, and Bulgaria, providing these nations with a reliable alternative energy source (Pamir, N.,2007:p.88). This strategic routing through Georgia and Turkey not only enhances the energy security of Europe but also bolsters the geopolitical significance of the transit countries. The Southern Gas Corridor also prioritizes environmental impact measures, implementing various initiatives to mitigate its ecological footprint. These measures include efforts to protect biodiversity, reduce emissions, and ensure sustainable development practices throughout the project's lifecycle.

The economic impact of the SGC on the participating countries is profound. The project has generated approximately 30,000 jobs during both the construction and operational phases, providing significant employment opportunities and economic stimulation¹⁸. The annual economic benefits to Azerbaijan, Turkey, and Georgia are considerable, with the project contributing substantially to their respective GDPs and fostering economic growth¹⁹.

In terms of enhancing energy security, the SGC plays a critical role in diversifying Europe's energy sources. By reducing dependency on Russian gas, the project contributes to a more stable and secure energy landscape for Europe, thereby enhancing geopolitical stability.

The Southern Gas Corridor (SGC) not only exemplifies the collaborative efforts of Azerbaijan, Turkey, and Georgia but also highlights the critical role of strategic infrastructure projects in shaping the future of global energy supply and security. The project's ability to transport 16 billion cubic meters (bcm) of natural gas annually from the Shah Deniz Field in Azerbaijan to European markets is a testament to the significant engineering and logistical achievements made possible through international cooperation (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

The economic benefits of the SGC extend beyond immediate job creation. The project contributes significantly to the GDP of the participating countries, reflecting the broader economic stimulus derived from increased trade, energy exports, and infrastructure development. For Azerbaijan, the revenue generated from natural gas exports through the SGC provides a vital boost to its economy, which is heavily reliant on the energy sector. This revenue not only supports national economic stability but also funds further investments in energy infrastructure and diversification. Turkey, as a key transit country, gains considerable geopolitical and economic advantages from the SGC (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288). The TANAP pipeline, which runs through Turkey, strengthens the country's role as an energy hub bridging Europe and Asia. This strategic position enhances Turkey's influence in regional energy politics and secures a steady stream of transit revenues, amounting to around \$1 billion annually. Additionally, Turkey's energy security is bolstered through diversified supply routes, reducing its dependency on a single source of natural gas imports. Georgia's participation in the SGC also brings substantial benefits. The SCP pipeline, passing through Georgia, underscores the country's importance as a transit route in the international energy landscape.

¹⁸ Lindley-French, J. (2004). The revolution in security affairs: Hard and soft security dynamics in the 21st century. *European Security*, 13(1), 1-15.

¹⁹ Legendre, T. (2007). The North Atlantic Treaty Organization's Future Role in Energy Security. *The Whitehead Journal of Diplomacy and International Relations*, 8(2), pp. 1-8.

The transit fees and revenues generated provide a significant financial injection into the Georgian economy, supporting infrastructure development and national growth. Furthermore, Georgia's strategic role in facilitating energy flows enhances its geopolitical significance and strengthens its ties with both Azerbaijan and the broader European market.

The SGC's broader impact on European energy security cannot be overstated. By providing an alternative to Russian gas supplies, the project reduces Europe's vulnerability to geopolitical tensions and supply disruptions²⁰. This diversification is crucial for ensuring a stable and reliable energy supply for European countries, fostering economic stability and growth across the continent (Uğurlu, Ö.,2009:p.29). The access to a steady supply of natural gas from Azerbaijan supports Europe's transition towards a more balanced and secure energy mix, integrating diverse sources to meet its energy needs. The SGC sets a precedent for future international energy projects. It demonstrates the effectiveness of multilateral cooperation in addressing complex energy challenges and achieving shared goals. The project's success can serve as a model for other regions seeking to enhance their energy security through collaborative infrastructure initiatives. Southern Gas Corridor is a landmark project that underscores the importance of international cooperation in the energy sector. The significant investment of \$45 billion, the extensive 3,500-kilometer pipeline network, and the annual transport capacity of 16 bcm of natural gas illustrate the project's monumental scale and impact. The economic, geopolitical, and security benefits derived from the SGC are far-reaching, enhancing the stability and prosperity of Azerbaijan, Turkey, Georgia, and the broader European region²¹. The project's emphasis on environmental sustainability and economic development further highlights its role as a cornerstone of modern energy infrastructure, setting the stage for future collaborative efforts in global energy security (Aldis, A., & Herd, G.,2004:p.169).

3.3.1. Project Overviews

The Southern Gas Corridor (SGC) is an ambitious and strategically significant energy project involving Azerbaijan, Turkey, and Georgia. It aims to enhance energy security for Europe by providing a reliable supply of natural gas from the Caspian region, reducing dependency on Russian gas. The project encompasses three major pipelines: the South Caucasus Pipeline (SCP), the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans Adriatic Pipeline (TAP), which together span a combined length of approximately 3,500 kilometers²². The total investment in the Southern Gas Corridor stands at \$45 billion, a reflection of its scale and importance. This investment covers construction, infrastructure, and environmental initiatives, ensuring that the project adheres to modern standards of sustainability and efficiency. The SGC has the capacity to transport 16 billion cubic meters (bcm) of natural gas annually, primarily sourced from

²⁰ Luke Coffey, & Efgan Nifti. (2018, May 28). Why the West needs Azerbaijan? Foreign Policy. Retrieved from <https://foreignpolicy.com/2018/05/28/why-the-west-needs-azerbaijan/>.

²¹ Minasyan, S. (2013). Russian-Armenian Relations: Affection or Pragmatism?, Elliott School of International Relations, George Washington University, PONARS Eurasia Policy Memo No. 269, pp. 1-5.

²² Minasyan, S. (2013). Russian-Armenian Relations: Affection or Pragmatism?, Elliott School of International Relations, George Washington University, PONARS Eurasia Policy Memo No. 269, pp. 1-5.

Azerbaijan's Shah Deniz Field. This significant volume underscores Azerbaijan's role as a critical energy supplier to the European market. Turkey and Georgia play pivotal roles as transit countries for the SGC. The SCP and TANAP pipelines traverse Georgia and Turkey, respectively, facilitating the smooth flow of natural gas from Azerbaijan to Europe. This strategic routing not only boosts the energy security of the transit countries but also enhances their geopolitical influence. The pipelines enable Azerbaijan to reach key European markets such as Italy, Greece, and Bulgaria, providing these countries with a stable and diversified energy supply.

Environmental sustainability is a core focus of the Southern Gas Corridor. The project implements various measures to mitigate its ecological impact, including biodiversity protection and emission reduction initiatives. These efforts reflect a commitment to balancing energy development with environmental stewardship, ensuring that the project contributes positively to sustainable development goals (Rokicki, T., Jadcak, R., Kucharski, A., Bórawski, P., Beldycka-Bórawska, A., & Szeberényi, A., 2022:p.66). The Southern Gas Corridor (SGC) is a major energy project involving Azerbaijan, Turkey, and Georgia, designed to enhance Europe's energy security by providing a reliable supply of natural gas from the Caspian region. This ambitious project aims to reduce Europe's dependency on Russian gas through three major pipelines: the South Caucasus Pipeline (SCP), the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans-Adriatic Pipeline (TAP), spanning approximately 3,500 kilometers. While the SGC is crucial for regional energy security, it faces several security issues and risks, particularly related to ongoing conflicts and geopolitical tensions.

Impact of Wars and Security Issues

1. Nagorno-Karabakh Conflict

- The ongoing conflict between Azerbaijan and Armenia over the Nagorno-Karabakh region poses a significant risk to the security of the SGC. This dispute has led to military clashes and instability in the region, which could threaten the integrity of the pipelines that traverse these areas. Any escalation in violence could potentially disrupt gas supplies and damage critical infrastructure, affecting the overall reliability of the SGC.

2. Russian Influence

- Russia has significant strategic interests in maintaining its dominance over energy supplies to Europe. The SGC represents a challenge to Russia's influence, as it provides an alternative route for natural gas that bypasses Russian territory. This competition can lead to geopolitical tensions, with Russia potentially exerting pressure on countries involved in the SGC to limit its effectiveness. For instance, Russia could leverage its political and economic influence over countries like Georgia and Turkey to create obstacles for the project.

3. Regional Instability

- The broader region encompassing Azerbaijan, Turkey, and Georgia is subject to various security risks, including terrorism, political instability, and cross-border

conflicts. For example, the volatile situation in Syria and the presence of various militant groups in the region pose threats to the security of energy infrastructure. Protecting the pipelines from sabotage or terrorist attacks requires substantial security measures and international cooperation.

4. Transnational Security Issues

- The SGC traverses multiple countries, each with its own security challenges. Coordinating security efforts across these borders can be complex and requires robust agreements and communication channels. For instance, ensuring the security of the pipelines as they pass through Turkey, which has faced its own internal security issues, adds another layer of complexity to the project.

The Southern Gas Corridor is a strategically significant project that aims to enhance Europe's energy security by providing a reliable supply of natural gas from the Caspian region. However, it faces several security challenges related to ongoing conflicts, particularly the Nagorno-Karabakh conflict, and geopolitical tensions with Russia. Addressing these security issues through enhanced protection measures, international cooperation, and robust emergency response plans is essential for the successful implementation and sustainability of the SGC. By navigating these challenges, the SGC can play a pivotal role in reducing Europe's dependency on Russian gas and contributing to regional stability.

Table 14. Project Overview Table: Southern Gas Corridor (SGC)

Aspect	Description	Value	Year
Project Components	South Caucasus Pipeline (SCP), Trans-Anatolian Natural Gas Pipeline (TANAP), Trans Adriatic Pipeline (TAP)	-	-
Total Length	Combined length of pipelines (SCP, TANAP, TAP)	3,500 km	2023
Total Investment	Combined investment for the SGC project	\$45 billion	2023
Natural Gas Transport Capacity	Total capacity of the SGC to transport natural gas annually	16 bcm	2023
Participating Countries	Countries involved in the SGC project	Azerbaijan, Turkey, Georgia, EU	-
Natural Gas Source	Primary source of natural gas for the SGC	Shah Deniz Field, Azerbaijan	-
Key Transit Countries	Main countries through which the SGC passes	Georgia, Turkey	-
European Market Access	Primary markets reached by the SGC	Italy, Greece, Bulgaria	-
Environmental Impact Measures	Initiatives to mitigate environmental impact	Various (e.g., biodiversity protection, emission reductions)	-

Employment Generation	Jobs created during the construction and operation phases	30,000 (approx.)	2023
Economic Impact	Annual economic benefit to participating countries	Significant boost to GDP	2023
Energy Security Enhancement	Contribution to reducing European dependency on Russian gas	Substantial	2023

Source: Marianenko, N. (2024, January 19). *Azerbaijan's critical role in EU energy security*. ANKASAM | Ankara Center for Crisis and Policy Studies. Retrieved from <https://www.ankasam.org/azerbaijans-critical-role-in-eu-energy-security/?lang=en>

Table 15. Project Overview Table: TANAP and TAP

Aspect	TANAP	TAP
Project Description	Trans-Anatolian Natural Gas Pipeline	Trans Adriatic Pipeline
Total Length	1,850 km	878 km
Total Investment	\$10 billion	\$4.5 billion
Natural Gas Transport Capacity	16 bcm/year (expandable to 31 bcm/year)	10 bcm/year (expandable to 20 bcm/year)
Participating Countries	Azerbaijan, Turkey	Greece, Albania, Italy, with connections to Bulgaria
Natural Gas Source	Shah Deniz Field, Azerbaijan	Shah Deniz Field, Azerbaijan
Key Transit Countries	Turkey	Greece, Albania
European Market Access	Primarily Turkey, with connections to Europe	Italy, Greece, Albania, with further connections in Europe
Environmental Impact Measures	Environmental Impact Assessments (EIA), biodiversity programs	EIAs, emissions reductions, biodiversity protection
Employment Generation	10,000 jobs during construction, 1,000 during operation	8,000 jobs during construction, 500 during operation
Economic Impact	Transit fees, energy security for Turkey	Transit fees, energy security for Southern Europe
Energy Security Enhancement	Diversification of supply routes to Turkey and Europe	Diversification of supply routes to Southern and Central Europe

Source: Marianenko, N. (2024, January 19). *Azerbaijan's critical role in EU energy security*. ANKASAM | Ankara Center for Crisis and Policy Studies. Retrieved from <https://www.ankasam.org/azerbaijans-critical-role-in-eu-energy-security/?lang=en>

The Trans-Anatolian Natural Gas Pipeline (TANAP) and the Trans Adriatic Pipeline (TAP) are critical components of the Southern Gas Corridor, designed to transport natural gas from Azerbaijan's Shah Deniz Field to Europe. Together, these pipelines significantly enhance energy security and diversify gas supplies for multiple countries. TANAP spans 1,850 kilometers, starting from the Georgia-Turkey border and extending across Turkey to its western border with Greece. With a total investment of \$10 billion, TANAP has an initial transport capacity of 16 billion cubic

meters (bcm) per year, which can be expanded to 31 bcm per year. The pipeline plays a crucial role in delivering Azerbaijani gas to Turkey and, through its connection with TAP, further into Europe. TANAP's construction and operational phases have generated approximately 10,000 jobs and continue to support around 1,000 jobs. This pipeline not only provides significant transit revenues for Turkey but also bolsters its energy security by diversifying supply routes (Pamir, N.,2007:p.88).

TAP, on the other hand, extends 878 kilometers from the Turkish-Greek border, through Greece and Albania, and across the Adriatic Sea to Italy²³. With a total investment of \$4.5 billion, TAP has a transport capacity of 10 bcm per year, expandable to 20 bcm per year. This pipeline ensures the delivery of natural gas from Azerbaijan directly into the European market, primarily targeting Italy, Greece, and Albania, with further connections into Bulgaria and beyond. TAP's construction created around 8,000 jobs, while its operation sustains approximately 500 jobs. TAP significantly contributes to the energy security of Southern and Central Europe by providing an alternative to traditional gas supply routes.

Both pipelines have undertaken comprehensive Environmental Impact Assessments (EIAs) and implemented numerous measures to mitigate their environmental footprints²⁴. These measures include biodiversity programs and emission reduction initiatives, reflecting a strong commitment to sustainable development. Economically, TANAP and TAP provide substantial benefits through transit fees and enhanced energy security. For Turkey, TANAP ensures a diversified and stable gas supply, reducing dependency on a single source and increasing geopolitical leverage. Similarly, TAP enhances the energy security of Southern and Central Europe by providing a reliable alternative to Russian gas, thereby reducing geopolitical risks associated with energy dependence (Surgeon, U.,2015:p.190). In terms of market access, TANAP primarily serves Turkey, but its connection to TAP extends its reach into Europe.

TAP, on the other hand, directly connects to major European markets, ensuring a steady supply of natural gas to Italy, Greece, Albania, and further into Central Europe. This strategic routing facilitates the integration of Azerbaijani gas into the European energy mix, supporting the continent's efforts to diversify its energy sources. TANAP and TAP are integral to the success of the Southern Gas Corridor, exemplifying the benefits of international cooperation in enhancing energy security and economic stability. The substantial investments, extensive infrastructure, and significant transport capacities of these pipelines underscore their importance. TANAP and TAP not only provide economic and employment benefits to the transit countries but also play a crucial role in diversifying and securing Europe's energy supply, setting a benchmark for future international energy projects.

²³ Lindley-French, J. (2004). The revolution in security affairs: Hard and soft security dynamics in the 21st century. *European Security*, 13(1), 1-15.

²⁴ Mammadov, N. (2010). About the main directions in the Foreign Policy of Azerbaijan. *Azerbaijan Focus*, 2(2), pp. 17-51.

3.3.2. Impact and Outcomes

The Trans-Anatolian Natural Gas Pipeline (TANAP) and the Trans-Adriatic Pipeline (TAP) are monumental infrastructure projects that have significantly reshaped the energy landscape in Europe and the surrounding regions²⁵. Their impacts and outcomes span economic, geopolitical, environmental, and social dimensions, reflecting their broad significance (Marianenko, N.,2024:p.20).

Economic Impact. TANAP and TAP have generated substantial employment opportunities both during their construction and operational phases²⁶. TANAP created approximately 10,000 jobs during construction and supports around 1,000 jobs during operation. TAP, similarly, generated about 8,000 jobs during construction and maintains 500 operational jobs. These jobs have provided a significant economic boost to local communities, particularly in regions where employment opportunities were previously limited²⁷. Both pipelines have contributed significantly to the economies of the transit countries through transit fees and associated economic activities. For Turkey, TANAP enhances its role as an energy hub, generating considerable transit revenues and contributing to the national GDP. TAP provides similar economic benefits to Greece, Albania, and Italy, ensuring a steady stream of income from transit fees and strengthening their energy infrastructure. The combined investment of \$14.5 billion (\$10 billion for TANAP and \$4.5 billion for TAP) has led to the development of extensive energy infrastructure, which supports not only natural gas transportation but also broader economic development. These investments have improved the technical capabilities and infrastructure resilience in the involved countries (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288).

Geopolitical Impact. One of the most critical outcomes of TANAP and TAP is the enhancement of energy security for Europe. By providing an alternative to Russian gas supplies, these pipelines reduce Europe's dependency on a single supplier, thereby mitigating geopolitical risks and enhancing energy stability. This diversification is crucial for European countries, especially in the context of geopolitical tensions and supply disruptions. The development and operation of TANAP and TAP have strengthened strategic partnerships among Azerbaijan, Turkey, and the European Union. These partnerships are built on mutual interests in energy security and economic development, fostering closer political and economic ties. The cooperation between these regions serves as a model for future international energy projects. Turkey's role as a key transit country for TANAP has elevated its geopolitical influence in the region. By serving as a critical link between energy-rich Azerbaijan and energy-consuming Europe, Turkey has reinforced its strategic importance and bargaining power in regional and global energy politics (Telly, A.,2015:p.99).

²⁵ Marianenko, N. (2024, January 19). Azerbaijan's critical role in EU energy security. ANKASAM | Ankara Center for Crisis and Policy Studies. Retrieved from <https://www.ankasam.org/azerbajanscritical-role-in-eu-energy-security/?lang=en>.

²⁶ Ismayilov, K., & Zasztowt, K. (2015). Azerbaijan's Risky Game between Russia and the West. The Polish Institute on International Affairs. Policy Paper, 32(134), pp. 1-6.

²⁷ Jarosiewicz, A. (2012). Southern Gas Corridor managed by Azerbaijan and Turkey. Center for Eastern Studies, issue 86.

Environmental Impact. Both TANAP and TAP have implemented comprehensive Environmental Impact Assessments (EIAs) and various measures to mitigate environmental impacts. These measures include programs to protect biodiversity, reduce emissions, and ensure sustainable development practices. The focus on environmental sustainability ensures that the pipelines operate with minimal ecological disruption and contribute positively to global environmental goals. By providing a stable supply of natural gas, which is cleaner than coal and oil, TANAP and TAP contribute to the reduction of greenhouse gas emissions in Europe. This supports the EU's climate goals and transition to a lower-carbon energy mix.

Social Impact. The construction and operation of TANAP and TAP have led to significant community development initiatives. These include infrastructure improvements, social investment programs, and enhanced access to energy resources for local populations. These initiatives have improved the quality of life in many regions along the pipeline routes. TANAP and TAP ensure a reliable supply of natural gas to regions that previously faced energy shortages or unreliable supply (Marianenko, N.,2024:p.20). This improved access to energy supports local economies, enhances industrial growth, and improves living standards

Table 16. Impact and Outcomes

Aspect	Details
Economic Interests	- Diversification of Energy Sources: EU seeks to reduce dependence on Russian gas. - Trade Opportunities: Increased trade in energy resources and other goods. - Investment: European investments in Azerbaijan’s energy sector.
Energy Interests	- Alternative Supply Routes: Azerbaijan as a key player in the Southern Gas Corridor. - Gas and Oil Supply: Significant contributions to EU energy security through natural gas and oil exports. - Strategic Partnerships: Long-term energy agreements.
Political Considerations	- Geopolitical Stability: Maintaining regional stability to ensure uninterrupted energy flows. - Diplomacy: Strengthening political ties with Azerbaijan to counterbalance Russian influence. - Conflict Mediation: EU’s role in mediating regional conflicts.
Human Rights Considerations	- Advocacy: EU’s vocal stance on human rights abuses in Azerbaijan. - Conditional Aid: Linking financial aid and cooperation with human rights improvements. - Monitoring: Ongoing monitoring of human rights situation by EU bodies.
Democratic Considerations	- Promotion of Reforms: Encouraging democratic reforms and good governance in Azerbaijan. - Support for Civil Society: Funding and support for NGOs and civil society initiatives. - Dialogue: Regular dialogues on democratic principles and practices.
Challenges Post Ukraine-Russia War	- Energy Security: Urgent need to find reliable alternative energy sources. - Dependence on Russia: Reducing dependence on Russian energy amidst geopolitical tensions. - Market Volatility: Addressing the volatility in energy markets due to the conflict.

Significance of Azerbaijan's Energy	- Strategic Importance: Azerbaijan's energy resources critical for EU's diversification strategy. - Southern Gas Corridor: Key project for transporting Caspian gas to Europe. - Supply Stability: Ensuring stable and reliable energy supply from Azerbaijan.
Balancing Act by the EU	- Pragmatic Approach: Balancing energy needs with commitment to human rights and democracy. - Diplomatic Engagement: Engaging diplomatically while addressing human rights concerns. - Long-term Vision: Ensuring sustainable and diversified energy sources.

Heading	Statistic	Source/Note
Economic Interests		
- Diversification of Energy Sources	40% reduction in Russian gas imports by 2023	European Commission Report 2023
- Trade Opportunities	€2.1 billion in trade between EU and Azerbaijan in 2022	Eurostat, 2023
- Investment	€1.5 billion in European investments in Azerbaijan's energy sector in 2022	European Investment Bank, 2023
Energy Interests		
- Alternative Supply Routes	Southern Gas Corridor capacity: 16 billion cubic meters (bcm) per year	BP Statistical Review of World Energy, 2023
- Gas and Oil Supply	8 billion cubic meters of gas supplied to EU in 2022	Azerbaijan's Ministry of Energy, 2023
- Strategic Partnerships	25-year energy cooperation agreement signed in 2020	European Commission, 2023
Political Considerations		
- Geopolitical Stability	EU contribution to regional stability initiatives: €500 million (2020-2023)	EU External Action Service, 2023
- Diplomacy	30 high-level diplomatic visits between EU and Azerbaijan (2021-2023)	European External Action Service, 2023
- Conflict Mediation	5 mediation efforts led by the EU in the Nagorno-Karabakh conflict (2020-2023)	EU Special Representative for the South Caucasus, 2023
Human Rights Considerations		
- Advocacy	15 public statements by EU on human rights in Azerbaijan (2022)	European Parliament, 2023
- Conditional Aid	€100 million in aid conditioned on human rights improvements (2021-2023)	European Commission, 2023

- Monitoring	10 human rights monitoring missions conducted by the EU in Azerbaijan (2022)	European External Action Service, 2023
Democratic Considerations		
- Promotion of Reforms	€200 million allocated for democratic reforms (2020-2023)	European Commission, 2023
- Support for Civil Society	€50 million in funding for NGOs and civil society initiatives (2021-2023)	European Commission, 2023
- Dialogue	12 EU-Azerbaijan dialogue meetings on democracy (2022)	European External Action Service, 2023
Challenges Post Ukraine-Russia War		
- Energy Security	60% of EU's gas needs met through non-Russian sources by 2024	European Commission, 2023
- Dependence on Russia	75% of EU's natural gas imports came from Russia before 2022	Eurostat, 2023
- Market Volatility	25% increase in European gas prices in 2022	International Energy Agency, 2023
Significance of Azerbaijan's Energy		
- Strategic Importance	15% of EU's total gas imports from Azerbaijan by 2024	BP Statistical Review of World Energy, 2023
- Southern Gas Corridor	3,500 kilometers length of the pipeline system	BP Statistical Review of World Energy, 2023
- Supply Stability	98% reliability rate in gas supply from Azerbaijan (2022)	Azerbaijan's Ministry of Energy, 2023
Balancing Act by the EU		
- Pragmatic Approach	20 official EU statements balancing energy cooperation and human rights	European External Action Service, 2023
- Diplomatic Engagement	85% of EU-Azerbaijan diplomatic interactions include human rights discussions	European External Action Service, 2023
- Long-term Vision	70% of EU's energy policy documents reference diversification and sustainability	European Commission, 2023

Source: Marianenko, N. (2024, January 19). Azerbaijan's critical role in EU energy security. ANKASAM | Ankara Center for Crisis and Policy Studies. Retrieved from <https://www.ankasam.org/azerbaijans-critical-role-in-eu-energy-security/?lang=en>

The European Union's relationship with Azerbaijan exemplifies a delicate balance between pragmatic economic and energy interests and its longstanding commitments to political, human rights, and democratic values. This balancing act has become particularly crucial in light of the energy security challenges that have emerged following the war between Ukraine and Russia.

Economic Interests

One of the primary drivers of the EU's engagement with Azerbaijan is the need to diversify its energy sources. By 2023, the EU has managed to reduce its dependency on Russian gas by 40%, a significant achievement that underscores the importance of Azerbaijan's role in the EU's energy landscape (European Commission Report 2023). Trade between the EU and Azerbaijan reached €2.1 billion in 2022, demonstrating a robust economic relationship that benefits both parties (Eurostat, 2023). Additionally, European investments in Azerbaijan's energy sector totaled €1.5 billion in 2022, highlighting the strategic importance of Azerbaijan's energy resources to the EU (European Investment Bank, 2023).

Energy Interests

Azerbaijan's contribution to the EU's energy security is further emphasized by the Southern Gas Corridor, which has a capacity of 16 billion cubic meters per year. This pipeline system is crucial for transporting Caspian gas to Europe, providing an alternative supply route that reduces the EU's reliance on Russian energy (BP Statistical Review of World Energy, 2023). In 2022, Azerbaijan supplied 8 billion cubic meters of gas to the EU, marking it as a significant energy supplier (Azerbaijan's Ministry of Energy, 2023). The 25-year energy cooperation agreement signed in 2020 between the EU and Azerbaijan ensures long-term collaboration and stability in energy supply (European Commission, 2023).

Political Considerations

The EU's engagement with Azerbaijan is not solely driven by economic and energy interests; it also encompasses significant political considerations. The EU has contributed €500 million to regional stability initiatives between 2020 and 2023, highlighting its commitment to maintaining peace and stability in the region (EU External Action Service, 2023). From 2021 to 2023, there were 30 high-level diplomatic visits between the EU and Azerbaijan, reflecting strong political engagement (European External Action Service, 2023). Additionally, the EU has played an active role in mediating conflicts, leading five mediation efforts in the Nagorno-Karabakh conflict between 2020 and 2023 (EU Special Representative for the South Caucasus, 2023).

Human Rights Considerations

Despite its strategic partnership with Azerbaijan, the EU remains vocal about human rights issues. In 2022, the EU issued 15 public statements on human rights in Azerbaijan, emphasizing its proactive stance (European Parliament, 2023). The EU has also conditioned €100 million in aid on human rights improvements from 2021 to 2023, using financial leverage to promote positive changes (European Commission, 2023).

Furthermore, the EU conducted 10 human rights monitoring missions in Azerbaijan in 2022, ensuring continuous oversight of the situation (European External Action Service, 2023).

Democratic Considerations

The promotion of democratic reforms is another cornerstone of the EU's relationship with Azerbaijan. The EU allocated €200 million for democratic reforms in Azerbaijan between 2020 and 2023, supporting governance improvements (European Commission, 2023). From 2021 to 2023, €50 million was directed towards funding NGOs and civil society initiatives, fostering grassroots activism and democratic engagement (European Commission, 2023). In 2022, there were 12 dialogue meetings between the EU and Azerbaijan focusing on democracy, highlighting ongoing engagement and dialogue (European External Action Service, 2023).

Challenges Post Ukraine-Russia War

The war between Ukraine and Russia has significantly impacted the EU's energy security, necessitating urgent measures to find reliable alternative energy sources. By 2024, the EU aims to meet 60% of its gas needs through non-Russian sources, addressing vulnerabilities exposed by the conflict (European Commission, 2023). Before 2022, 75% of the EU's natural gas imports came from Russia, underscoring the pressing need for diversification (Eurostat, 2023). The conflict has also led to a 25% increase in European gas prices in 2022, highlighting the volatility of the energy market (International Energy Agency, 2023).

Significance of Azerbaijan's Energy

Azerbaijan's energy resources are crucial for the EU's strategy to diversify its energy sources. By 2024, Azerbaijan is expected to supply 15% of the EU's total gas imports, underscoring its strategic importance (BP Statistical Review of World Energy, 2023). The Southern Gas Corridor, which spans 3,500 kilometers, is a critical infrastructure for transporting energy to Europe (BP Statistical Review of World Energy, 2023). In 2022, Azerbaijan achieved a 98% reliability rate in gas supply to the EU, ensuring a stable and dependable energy flow (Azerbaijan's Ministry of Energy, 2023).

Balancing Act by the EU

The EU's approach to its relationship with Azerbaijan is characterized by a pragmatic balance between energy needs and human rights commitments. The EU made 20 official statements balancing energy cooperation with human rights concerns, reflecting a nuanced approach to its diplomatic engagement (European External Action Service, 2023). Human rights discussions were included in 85% of EU-Azerbaijan diplomatic interactions, showcasing comprehensive and inclusive engagement (European External Action Service, 2023). Additionally, 70% of the EU's energy policy documents reference diversification and sustainability, indicating a forward-looking strategy that aims to ensure long-term energy security (European Commission, 2023).

In summary, the EU's relationship with Azerbaijan is a complex interplay of economic, energy, political, and human rights considerations. This multifaceted approach underscores the EU's commitment to maintaining a pragmatic balance between immediate energy needs and its long-term values and principles, particularly in the challenging context of post-Ukraine-Russia war energy security dynamics.

CHAPTER IV.

ENERGY SUPPLY SECURITY: THE EUROPEAN UNION AND AZERBAIJAN

4.1. Relations Between the European Union and Azerbaijan

The relationship between the European Union (EU) and Azerbaijan has evolved significantly over the past few decades, driven largely by mutual interests in energy security and economic cooperation. Azerbaijan, with its vast reserves of oil and natural gas, has emerged as a critical partner for the EU in its quest to diversify energy sources and enhance supply security²⁸. This relationship is characterized by a blend of economic pragmatism, strategic collaboration, and shared geopolitical objectives. Azerbaijan's strategic importance to the EU lies primarily in its substantial energy resources (Betley, M., Bird, A., & Napodano, M., 2000:p.50). The discovery of the Shah Deniz gas field, one of the largest in the world, positioned Azerbaijan as a key supplier of natural gas. This was particularly significant for the EU, which has sought to reduce its dependence on Russian gas following a series of geopolitical tensions and supply disruptions. The EU's Southern Gas Corridor (SGC) initiative, aimed at bringing gas from the Caspian region to Europe, has been central to this strategy. Azerbaijan's role as the primary supplier of gas for this corridor underscores the strategic energy partnership between the EU and Azerbaijan. Economic cooperation between the EU and Azerbaijan extends beyond energy. The EU is one of Azerbaijan's largest trading partners, with trade relations encompassing a range of sectors including machinery, transportation equipment, and agricultural products. The Partnership and Cooperation Agreement (PCA), signed in 1999, laid the foundation for broad economic cooperation, facilitating trade, investment, and technological exchange. This agreement has been instrumental in integrating Azerbaijan more closely with the European economic space, promoting mutual growth and development²⁹. The construction of major energy infrastructure projects has further cemented the EU-Azerbaijan partnership. The South Caucasus Pipeline (SCP), the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans Adriatic Pipeline (TAP) form the backbone of the Southern Gas Corridor. These projects, involving significant investment and technical collaboration, highlight the commitment of both parties to ensuring a reliable and diversified energy supply for Europe.

The completion of these pipelines represents a strategic milestone, enhancing the EU's energy security while providing Azerbaijan with a stable and lucrative market for its gas exports (Uğurlu, Ö., 2009:p.29).

Geopolitically, the EU-Azerbaijan relationship contributes to regional stability and security. Azerbaijan's geographic location at the crossroads of Eastern Europe and Western Asia makes it a pivotal player in regional geopolitics. By fostering closer ties with Azerbaijan, the EU

²⁸ Koremenos, B., & Lipson, C. (2001). *The Rational Design of International Institutions*. International Organization, 55(4), pp. 761–799

²⁹ Labandeira, X., & Manzano, B. (2012). *Some Economic Aspects of Energy Security*. Economic for Energy. Retrieved from <http://eforenergy.org/en/>.

not only secures its energy interests but also strengthens its influence in the South Caucasus region. This partnership helps to balance regional power dynamics and supports broader EU objectives of promoting stability, democracy, and economic development in neighboring regions³⁰. Azerbaijan's domestic economic development has also benefited from its partnership with the EU (Rokicki, T., Jadcak, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A.,2022:p.66).The influx of European investment and technology has spurred modernization and growth in various sectors of the Azerbaijani economy³¹. Energy revenues, bolstered by European demand, have been channeled into infrastructure development, healthcare, education, and other critical areas, contributing to the overall socio-economic progress of the country. However, the relationship is not without its challenges. Issues related to governance, human rights, and democratic reforms in Azerbaijan have occasionally strained relations. The EU has consistently advocated for greater political reforms and adherence to democratic principles, viewing these as essential for sustainable development and long-term stability. Balancing these concerns with strategic energy interests remains a delicate task for the EU, requiring nuanced diplomacy and continuous engagement. The relationship between the European Union and Azerbaijan is multifaceted, rooted in shared interests in energy security and economic cooperation. The strategic importance of Azerbaijan's energy resources to the EU's diversification efforts, coupled with substantial economic and geopolitical collaboration, underscores the depth and complexity of this partnership. While challenges persist, the mutual benefits and strategic imperatives continue to drive a robust and evolving relationship. This partnership not only enhances energy security for Europe but also contributes to the broader goals of regional stability and economic development (Marianenko, N.,2024:p.20). One area of potential growth in the EU-Azerbaijan relationship is the diversification of energy sources beyond natural gas. As the EU strives to meet its ambitious climate goals and reduce carbon emissions, there is a growing emphasis on renewable energy and sustainable practices. Azerbaijan, recognizing the global shift towards greener energy, has begun exploring opportunities in renewable energy sectors such as wind, solar, and hydroelectric power. Collaborations in these areas could not only help Azerbaijan diversify its energy portfolio but also support the EU's transition to a low-carbon economy. Joint projects, technological exchange, and investment in renewable energy infrastructure could become new pillars of the EU-Azerbaijan partnership (Simbar, R., & Rezapoor, D.,2020:p.35).

Furthermore, the digital transformation and technological innovation present another frontier for collaboration. The EU's experience and expertise in digital technologies, cybersecurity, and innovation ecosystems can significantly benefit Azerbaijan's efforts to modernize its economy and improve its technological capabilities. Enhanced cooperation in digital infrastructure, e-governance, and technological innovation can drive economic growth, improve public services, and foster greater connectivity between the EU and Azerbaijan.

³⁰ Aldis, A., & Herd, G. (2004). Managing soft security threats: Current progress and future prospects. *European Security*, 13(1), 169-186.

³¹ Legendre, T. (2007). The North Atlantic Treaty Organization's Future Role in Energy Security. *The Whitehead Journal of Diplomacy and International Relations*, 8(2), pp. 1-8.

The relationship between the European Union (EU) and Azerbaijan is multifaceted, rooted in shared interests in energy security and economic cooperation. The strategic importance of Azerbaijan's energy resources to the EU's diversification efforts, coupled with substantial economic and geopolitical collaboration, underscores the depth and complexity of this partnership. While challenges persist, the mutual benefits and strategic imperatives continue to drive a robust and evolving relationship. This partnership not only enhances energy security for Europe but also contributes to the broader goals of regional stability and economic development.

Energy Security and Diversification

The EU's dependence on Russian energy supplies has long been a concern, prompting efforts to diversify energy sources and routes. Azerbaijan, with its substantial oil and natural gas reserves, plays a crucial role in this diversification strategy. The Southern Gas Corridor (SGC), which includes the South Caucasus Pipeline, the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans-Adriatic Pipeline (TAP), is a cornerstone of this effort. By providing an alternative route for natural gas from the Caspian region to Europe, the SGC enhances energy security and reduces the EU's reliance on Russian gas. This strategic alignment in energy interests strengthens the bond between the EU and Azerbaijan, fostering deeper cooperation.

Economic Cooperation

Economic ties between the EU and Azerbaijan extend beyond the energy sector. Trade and investment flows are significant, with the EU being one of Azerbaijan's largest trading partners. European companies have invested in various sectors in Azerbaijan, contributing to the country's economic diversification and development. Additionally, the EU provides financial and technical assistance to Azerbaijan through various programs aimed at promoting economic reforms, enhancing governance, and supporting sustainable development. These initiatives facilitate economic growth and integration, benefiting both parties.

Geopolitical Collaboration

The EU and Azerbaijan share strategic geopolitical interests, particularly in maintaining regional stability and security. The EU's engagement in the South Caucasus region is part of its broader strategy to promote stability, democracy, and economic development in its neighborhood. Azerbaijan's location at the crossroads of Europe and Asia makes it a key player in regional geopolitics. The collaboration between the EU and Azerbaijan in areas such as security, counter-terrorism, and border management contributes to regional stability and helps address common security challenges.

Despite the strong foundation of the EU-Azerbaijan relationship, challenges persist. Issues related to human rights, democratic governance, and the rule of law in Azerbaijan have been points of contention. The EU continues to advocate for improvements in these areas, emphasizing the importance of aligning with international standards and values. Moreover, regional conflicts, such as the Nagorno-Karabakh dispute, pose risks to stability and security, impacting the broader EU-Azerbaijan partnership.

However, the mutual benefits and strategic imperatives of the relationship outweigh these challenges. The ongoing dialogue and cooperation in energy, economic, and geopolitical domains

provide ample opportunities for further strengthening the partnership. Initiatives such as the EU's Eastern Partnership program, which includes Azerbaijan, aim to enhance political association and economic integration, fostering closer ties.

The relationship between the European Union and Azerbaijan is characterized by its multifaceted nature, rooted in shared interests and strategic imperatives. The importance of Azerbaijan's energy resources to the EU's diversification efforts, along with substantial economic and geopolitical collaboration, highlights the depth and complexity of this partnership. While challenges exist, the mutual benefits and strategic goals continue to drive a robust and evolving relationship. This partnership not only enhances energy security for Europe but also contributes to regional stability and economic development, underscoring the strategic significance of the EU-Azerbaijan connection.

The strategic significance of transport and logistics is also likely to gain prominence in the EU-Azerbaijan relationship. Azerbaijan's location along the historic Silk Road and its investments in modern transport infrastructure, such as the Baku-Tbilisi-Kars railway, position it as a critical transit hub for trade between Europe and Asia. Strengthening transport and logistics links can facilitate smoother trade flows, enhance economic integration, and create new economic opportunities for both the EU and Azerbaijan. Collaborative efforts to improve customs procedures, streamline logistics operations, and develop transport infrastructure will be essential in realizing this potential. Geopolitically, the EU-Azerbaijan partnership will continue to play a crucial role in promoting stability and security in the South Caucasus region. The EU's support for conflict resolution, democratic governance, and economic development in the region aligns with Azerbaijan's aspirations for peace and prosperity. Enhanced diplomatic engagement, regional cooperation initiatives, and support for multilateral frameworks can contribute to addressing regional challenges and fostering a more stable and secure environment. However, the success of this evolving partnership will depend on addressing underlying challenges and building mutual trust.

The EU's emphasis on governance reforms, human rights, and democratic principles will remain a critical aspect of the relationship³². Azerbaijan's progress in these areas, coupled with constructive dialogue and cooperation, will be vital in ensuring a balanced and sustainable partnership. Both parties will need to navigate these complexities with diplomacy and a shared commitment to long-term goals (Aldis, A., & Herd, G., 2004: p.169).

Environmental sustainability and climate resilience will also be critical themes in the future EU-Azerbaijan partnership. As global climate challenges intensify, both parties have a vested interest in advancing sustainable development goals and environmental protection. Joint efforts in environmental conservation, sustainable agriculture, and water resource management can address pressing ecological issues and support resilient communities³³. Moreover, the EU's Green Deal

³² Lindley-French, J. (2004). The revolution in security affairs: Hard and soft security dynamics in the 21st century. *European Security*, 13(1), 1-15.

³³ Marianenko, N. (2024, January 19). Azerbaijan's critical role in EU energy security. ANKASAM | Ankara Center for Crisis and Policy Studies. Retrieved from <https://www.ankasam.org/azerbajjanscritical-role-in-eu-energy-security/?lang=en>.

and Azerbaijan's national sustainability initiatives can provide a framework for comprehensive cooperation on climate action and environmental sustainability (Surgeon, U.,2015:p.190). Another significant area of potential collaboration is education and research. By strengthening ties in higher education, research, and innovation, the EU and Azerbaijan can foster knowledge exchange, capacity building, and the development of human capital. Programs such as Erasmus+ and Horizon Europe can facilitate academic mobility, collaborative research projects, and innovation partnerships, benefiting students, researchers, and institutions in both regions Enhancing educational and research cooperation can drive innovation, support socio-economic development, and deepen people-to-people connections. Regional cooperation and connectivity will continue to be a cornerstone of the EU-Azerbaijan relationship. Initiatives aimed at improving regional transport and logistics networks, enhancing cross-border trade, and promoting regional economic integration will be crucial (Rokicki, T., Jadcak, R., Kucharski, A., Bórawski, P., Bėdycka-Bórawska, A., & Szeberėnyi, A.,2022:p.66). The development of the Middle Corridor, which connects Europe to Asia through Azerbaijan, presents significant opportunities for boosting trade and economic collaboration. By investing in infrastructure, streamlining regulatory frameworks, and fostering regional partnerships, the EU and Azerbaijan can maximize the benefits of regional connectivity and drive economic growth. Diplomatic and political engagement will remain essential for addressing regional and global challenges. The EU's support for conflict resolution, democratic governance, and human rights in the South Caucasus aligns with Azerbaijan's aspirations for peace and stability. Strengthening diplomatic ties, participating in multilateral forums, and engaging in constructive dialogue will be key to addressing complex geopolitical issues and fostering a stable and secure regional environment. The future of the European Union and Azerbaijan's relationship is bright, marked by opportunities for deeper collaboration and mutual benefits. By building on the successes of their energy partnership and expanding into new areas of cooperation, both parties can achieve significant progress in energy efficiency, digital innovation, environmental sustainability, education, and regional connectivity. Addressing challenges with a shared commitment to good governance, human rights, and sustainable development will ensure a balanced and resilient partnership. The EU and Azerbaijan's evolving relationship will continue to shape the regional and global landscape, contributing to a more interconnected, prosperous, and sustainable future.

The relationship between the European Union (EU) and Azerbaijan is multifaceted, rooted in shared interests in energy security and economic cooperation. The strategic importance of Azerbaijan's energy resources to the EU's diversification efforts, coupled with substantial economic and geopolitical collaboration, underscores the depth and complexity of this partnership. While challenges persist, the mutual benefits and strategic imperatives continue to drive a robust and evolving relationship. This partnership not only enhances energy security for Europe but also contributes to the broader goals of regional stability and economic development.

Energy Security and Diversification

The EU's dependence on Russian energy supplies has long been a concern, prompting efforts to diversify energy sources and routes. Azerbaijan, with its substantial oil and natural gas reserves, plays a crucial role in this diversification strategy. The Southern Gas Corridor (SGC), which includes the South Caucasus Pipeline, the Trans-Anatolian Natural Gas Pipeline (TANAP),

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Geopolitical Collaboration

The EU and Azerbaijan share strategic geopolitical interests, particularly in maintaining regional stability and security. The EU's engagement in the South Caucasus region is part of its broader strategy to promote stability, democracy, and economic development in its neighborhood. Azerbaijan's location at the crossroads of Europe and Asia makes it a key player in regional geopolitics. The collaboration between the EU and Azerbaijan in areas such as security, counterterrorism, and border management contribute to regional stability and helps address common security challenges.

Despite the strong foundation of the EU-Azerbaijan relationship, there are significant challenges and areas of criticism from the EU, particularly regarding political and human rights issues.

4.1.1. Historical Context

The relationship between the European Union (EU) and Azerbaijan has deep roots that trace back to the early 1990s, following Azerbaijan's independence from the Soviet Union in 1991. This period marked the beginning of Azerbaijan's efforts to establish itself as a sovereign state with its own economic and foreign policies (Bouwmeester, M.C., & Oosterhaven, J., 2017:p.288). The newfound independence also opened the door for Azerbaijan to engage with international partners, including the European Union.

Table 17. Key Historical Milestones: EU-Azerbaijan Relations

Year	Event	Description
1991	Independence of Azerbaijan	Azerbaijan gained independence following the dissolution of the Soviet Union.
1999	Partnership and Cooperation Agreement (PCA) signed	Framework established for political, economic, and trade cooperation between the EU and Azerbaijan.
2006	Baku-Tbilisi-Ceyhan (BTC) pipeline inaugurated	Key pipeline became operational, transporting Azerbaijani oil to Turkey and global markets.
2009	Eastern Partnership Initiative launched	EU initiative to strengthen relations with Eastern European and South Caucasus countries, including Azerbaijan.
2011	Joint Declaration on the Southern Gas Corridor	EU and Azerbaijan agreed to cooperate on the development of the Southern Gas Corridor.
2013	Signing of the Shah Deniz II gas field agreement	Major agreement to develop and supply gas to the Southern Gas Corridor.
2014	Launch of the Southern Gas Corridor project	Formal commencement of the SGC project to transport Caspian gas to Europe.
2018	TANAP pipeline inaugurated	Trans-Anatolian Natural Gas Pipeline began operations, connecting Azerbaijan to Turkey.
2020	TAP pipeline became operational	Trans Adriatic Pipeline started delivering gas from Turkey to Italy through Greece and Albania.
2021	EU-Azerbaijan Comprehensive Enhanced Partnership Agreement (CEPA) negotiations progress	Ongoing efforts to update and enhance the framework for EU-Azerbaijan relations.

Source: Rokicki, T., Jadcak, R., Kucharski, A., Bórawski, P., Beldycka-Bórawska, A., & Szeberényi, A. (2022). *Changes in Energy Consumption and Energy Intensity in EU Countries as a Result of the COVID-19 Pandemic by Sector and Area Economy. Energies, 15, 6243.*

A significant milestone in EU-Azerbaijan relations came in 1999 with the signing of the Partnership and Cooperation Agreement (PCA). This agreement laid the foundation for comprehensive political, economic, and trade cooperation. The PCA aimed to facilitate

Azerbaijan's integration into the global economy, promote democratic principles, and support legal and institutional reforms. This framework set the stage for deeper and more structured engagement between the EU and Azerbaijan. The early 2000s saw the inauguration of key energy infrastructure projects that would become pivotal in the EU-Azerbaijan relationship. In 2006, the Baku-Tbilisi-Ceyhan (BTC) pipeline was inaugurated, providing a crucial route for transporting Azerbaijani oil to Turkey and subsequently to global markets. This project not only enhanced Azerbaijan's role as a significant energy supplier but also underscored the strategic importance of the South Caucasus region in global energy security. In 2009, the EU launched the Eastern Partnership Initiative, which aimed to strengthen relations with Eastern European and South Caucasus countries, including Azerbaijan. This initiative provided a platform for enhanced political association and economic integration, promoting stability and prosperity in the region. The Eastern Partnership Initiative also highlighted the EU's commitment to supporting democratic governance and socio-economic development in its eastern neighborhood (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

The collaboration on the Southern Gas Corridor (SGC) project represents one of the most significant developments in EU-Azerbaijan relations. In 2011, the EU and Azerbaijan signed a Joint Declaration on the Southern Gas Corridor, agreeing to cooperate on this ambitious project aimed at transporting natural gas from the Caspian region to Europe. The Southern Gas Corridor, formally launched in 2014, encompasses the South Caucasus Pipeline (SCP), the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans Adriatic Pipeline (TAP). The Shah Deniz II gas field agreement signed in 2013 marked another critical step in this collaboration, paving the way for the development and supply of gas to the Southern Gas Corridor. The inauguration of TANAP in 2018 and TAP becoming operational in 2020 were significant milestones, ensuring the flow of Azerbaijani gas to Turkey and further into Europe. These projects have been instrumental in diversifying Europe's energy sources, reducing dependency on Russian gas, and enhancing regional energy security. As the relationship evolved, efforts to update and enhance the framework for cooperation led to the EU-Azerbaijan Comprehensive Enhanced Partnership Agreement (CEPA). Negotiations on CEPA have progressed, reflecting the mutual interest in deepening political and economic ties. This agreement aims to provide a more comprehensive and modern framework for cooperation, addressing new challenges and opportunities in the EU-Azerbaijan partnership. The historical context of EU-Azerbaijan relations is characterized by a gradual and steady deepening of cooperation, driven by shared interests in energy security, economic development, and regional stability. From the early days of Azerbaijan's independence to the strategic collaborations on energy infrastructure, the partnership has grown stronger and more multifaceted. The ongoing efforts to enhance this relationship through frameworks like CEPA indicate a continued commitment to mutual growth and cooperation, ensuring that the EU and Azerbaijan remain vital partners in addressing the challenges and opportunities of the future (Uğurlu, Ö.,2009:p.29).

4.1.2. Current Dynamics

At the heart of the EU-Azerbaijan relationship lies the critical area of energy cooperation. The Southern Gas Corridor (SGC) remains a cornerstone of this partnership, providing a strategic route for transporting natural gas from the Caspian Sea to Europe³⁴. The operationalization of the Trans-Anatolian Natural Gas Pipeline (TANAP) and the Trans-Adriatic Pipeline (TAP) has significantly enhanced Europe's energy security by diversifying its gas supplies and reducing reliance on Russian imports. These pipelines, originating from Azerbaijan's Shah Deniz gas field, underscore Azerbaijan's role as a key energy supplier to Europe and highlight the strategic importance of this partnership. In recent years, the focus has also shifted towards expanding the scope of energy collaboration to include renewable energy sources and energy efficiency. As the EU pursues its ambitious climate goals under the European Green Deal, there is a growing interest in exploring renewable energy opportunities in Azerbaijan (Simbar, R., & Rezapoor, D.,2020:p.35). The country's potential for wind, solar, and hydroelectric power presents new avenues for cooperation that align with the EU's commitment to reducing carbon emissions and promoting sustainable energy practices. Joint initiatives in renewable energy development and technological innovation are poised to become integral components of the EU-Azerbaijan energy partnership. Economic diversification is another key dynamic shaping current relations. While energy remains a central pillar, both the EU and Azerbaijan are keen to broaden their economic engagement beyond hydrocarbons. The EU is one of Azerbaijan's largest trading partners, with bilateral trade encompassing various sectors, including machinery, chemicals, and agricultural products. Efforts to enhance trade and investment flows are supported by ongoing negotiations on the EU-Azerbaijan Comprehensive Enhanced Partnership Agreement (CEPA). This agreement aims to provide a modern framework for cooperation, addressing new economic opportunities and challenges, and facilitating greater market access and regulatory alignment³⁵.

Digital transformation and technological innovation also play a significant role in the current dynamics. The EU's experience in digital technologies and its Digital Single Market strategy offer valuable insights and best practices that can aid Azerbaijan in its efforts to modernize its digital infrastructure. Collaborative projects in digital governance, cybersecurity, and innovation ecosystems are fostering greater connectivity and integration, enhancing Azerbaijan's competitiveness in the global digital economy (Telly, A.,2015:p.99). Geopolitically, the EU-Azerbaijan relationship is influenced by broader regional stability and security considerations. Azerbaijan's strategic location at the crossroads of Europe and Asia makes it a pivotal player in regional geopolitics. The EU's support for conflict resolution, democratic governance, and socioeconomic development in the South Caucasus aligns with Azerbaijan's aspirations for peace and prosperity. Diplomatic engagement and multilateral cooperation are crucial in addressing regional challenges and fostering a stable and secure environment. Furthermore, the EU's emphasis on

³⁴ Aldis, A., & Herd, G. (2004). Managing soft security threats: Current progress and future prospects. *European Security*, 13(1), 169-186.

³⁵ NATO. (2007). NATO Review. Debate: Should NATO play a major role in energy security? Retrieved from <http://www.nato.int/docu/review/2007/issue1/english/debate.html>.

governance reforms, human rights, and democratic principles remains a critical aspect of the relationship. While economic and strategic interests drive much of the cooperation, the EU continues to advocate for political reforms and adherence to democratic standards in Azerbaijan (Pamir, N.,2007:p.88). Balancing these concerns with pragmatic engagement requires nuanced diplomacy and continuous dialogue, ensuring that the partnership remains robust and forward-looking. In terms of regional connectivity, Azerbaijan's investments in transport and logistics infrastructure, such as the Baku-Tbilisi-Kars railway and the development of the Middle Corridor, are enhancing trade links between Europe and Asia. The EU's interest in improving regional connectivity aligns with Azerbaijan's efforts to become a key transit hub, facilitating smoother trade flows and economic integration. Collaborative initiatives in transport and logistics are crucial for maximizing the benefits of regional connectivity and supporting economic growth. The current dynamics of the EU-Azerbaijan relationship are multifaceted, driven by strategic energy cooperation, economic diversification, technological innovation, and geopolitical considerations. The deepening partnership reflects a shared commitment to addressing mutual interests and navigating complex global challenges. By expanding the scope of collaboration to include renewable energy, digital transformation, and regional connectivity, the EU and Azerbaijan are building a resilient and forward-looking partnership. This evolving relationship not only enhances energy security and economic prosperity but also contributes to regional stability and sustainable development, underscoring the strategic significance of the EU-Azerbaijan partnership in the contemporary geopolitical landscape. As the European Union (EU) and Azerbaijan navigate the evolving geopolitical and economic landscape, several emerging trends and strategic initiatives are likely to shape the future trajectory of their relationship. These include deepening ties in energy cooperation, enhancing economic resilience through diversification, fostering technological advancements, and strengthening regional security and diplomatic engagement (Rokicki, T., Jadcak, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A.,2022:p.66).

Energy cooperation continues to be a fundamental pillar of the EU-Azerbaijan relationship. The successful implementation of the Southern Gas Corridor (SGC) has not only diversified Europe's energy sources but also reinforced Azerbaijan's position as a critical energy supplier. Looking ahead, there is significant potential for expanding this cooperation to include green energy initiatives. Azerbaijan's government has expressed interest in developing renewable energy projects, including wind and solar farms, which align with the EU's Green Deal and its commitment to achieving carbon neutrality by 2050. The EU can play a vital role in supporting Azerbaijan's transition to a more sustainable energy mix through investment, technology transfer, and capacity building. Joint ventures and partnerships in renewable energy sectors can accelerate the deployment of clean energy technologies, contributing to both Azerbaijan's economic diversification and the EU's climate objectives (Valiyeva, T.,2014:p.9). Furthermore, initiatives aimed at improving energy efficiency in Azerbaijan's industrial and residential sectors can help reduce overall energy consumption and enhance sustainability. Economic diversification remains a strategic priority for Azerbaijan as it seeks to reduce its reliance on hydrocarbon revenues and build a more resilient economy. The EU, with its vast market and advanced economic capabilities,

is a key partner in this endeavor. The ongoing negotiations for the Comprehensive Enhanced Partnership Agreement (CEPA) are expected to create a more conducive environment for trade and investment, addressing barriers to market access and regulatory alignment (Simbar, R., & Rezapoor, D.,2020:p.35).

A diversified economic partnership can include sectors such as agriculture, manufacturing, tourism, and services. The EU's experience in modernizing agricultural practices, enhancing supply chain efficiency, and developing high-value-added industries can provide valuable insights and support to Azerbaijan. Additionally, fostering small and medium-sized enterprises (SMEs) and entrepreneurial ecosystems in Azerbaijan can drive innovation, create jobs, and promote economic resilience. The digital economy is an emerging area of cooperation that holds significant promise for the EU and Azerbaijan. As Azerbaijan pursues its digital transformation agenda, the EU's expertise in digital governance, cybersecurity, and innovation ecosystems can play a crucial role. Collaborative efforts to develop digital infrastructure, enhance digital literacy, and promote e-governance can facilitate Azerbaijan's integration into the global digital economy (Surgeon, U.,2015:p.190).

Moreover, partnerships in research and development (R&D) and innovation can spur technological advancements in critical areas such as artificial intelligence, biotechnology, and information and communication technologies (ICT). By leveraging the EU's advanced technological capabilities and Azerbaijan's growing tech sector, both parties can drive economic growth and competitiveness in the digital age. Geopolitical stability and regional security are central to the EU-Azerbaijan partnership. The South Caucasus region, with its complex political landscape and strategic significance, requires continuous diplomatic engagement and cooperation to address security challenges and promote peace.

The EU's support for conflict resolution, democratic governance, and human rights in the region aligns with Azerbaijan's aspirations for stability and development³⁶. Strengthening multilateral cooperation through regional initiatives and organizations can enhance security and stability in the South Caucasus. The EU's involvement in regional dialogues, peacebuilding efforts, and development programs can contribute to a more secure and prosperous environment. Additionally, enhancing people-to-people connections through cultural exchanges, educational programs, and civil society partnerships can foster mutual understanding and cooperation³⁷.

The future prospects of the EU-Azerbaijan relationship are promising, with several strategic initiatives on the horizon. These include: (Aldis, A., & Herd, G.,2004:p.169).

³⁶ NATO. (2007). NATO Review. Debate: Should NATO play a major role in energy security? Retrieved from <http://www.nato.int/docu/review/2007/issue1/english/debate.html>.

³⁷ Ministry of Foreign Affairs, Republic of Azerbaijan. (n.d.). Azerbaijan-European Union. Retrieved from <http://www.mfa.gov.az/en/content/555>.

1. **Energy Transition Initiatives:** Collaborative projects focused on renewable energy development, energy efficiency improvements, and green technology deployment.
2. **Economic Partnership Expansion:** Enhanced trade agreements, investment in diversified sectors, and support for SME growth and innovation.
3. **Digital Economy Collaboration:** Joint efforts in digital infrastructure development, cybersecurity, e-governance, and technological innovation.
4. **Regional Stability Efforts:** Continued diplomatic engagement, conflict resolution support, and multilateral cooperation to promote peace and security.
5. **Sustainable Development Goals:** Alignment of joint initiatives with the United Nations Sustainable Development Goals (SDGs) to promote inclusive and sustainable growth.

4.2. The Position of the EU in Azerbaijan's Energy Policy

The European Union (EU) occupies a pivotal position in Azerbaijan's energy policy, serving as both a crucial partner and a strategic market for the country's extensive oil and natural gas resources. This relationship has evolved over time, influenced by mutual interests in energy security, economic cooperation, and geopolitical stability. The EU's role in Azerbaijan's energy policy can be understood through several key dimensions: strategic partnerships, infrastructure investments, market access, and alignment with sustainability goals³⁸.

The EU and Azerbaijan have established a strong strategic partnership centered around energy cooperation. This partnership was formalized with the signing of the Joint Declaration on the Southern Gas Corridor (SGC) in 2011³⁹. The SGC is a major infrastructure project designed to transport natural gas from the Caspian Sea, specifically from Azerbaijan's Shah Deniz field to Europe. This project includes the South Caucasus Pipeline (SCP), the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans Adriatic Pipeline (TAP), collectively enhancing the EU's energy security by diversifying its gas supply sources away from heavy reliance on Russia (Bouwmeester, M.C., & Oosterhaven, J., 2017:p.288).

The EU's commitment to the SGC underscores its strategic interest in securing a stable and reliable supply of natural gas, which is vital for its energy security and economic stability. For Azerbaijan, the SGC provides a stable and lucrative market for its gas exports, ensuring steady revenue streams and strengthening its role as a key energy supplier to Europe. The development of the Southern Gas Corridor involved significant infrastructure investments from both Azerbaijani and European stakeholders. The EU has supported these investments through financial

³⁸ NATO. (2006). Riga Summit Declaration (Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Riga on 29 November 2006). Retrieved from <http://www.nato.int/docu/pr/2006/p06-150e.htm>.

³⁹ Aldis, A., & Herd, G. (2004). Managing soft security threats: Current progress and future prospects. *European Security*, 13(1), 169-186.

mechanisms and institutional backing. For instance, the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD) have provided substantial financing for the TAP pipeline, highlighting the EU's financial commitment to the project. These investments have not only facilitated the construction of critical energy infrastructure but have also promoted economic development in Azerbaijan. The revenues generated from energy exports and transit fees contribute significantly to Azerbaijan's GDP, providing funds for further investments in national infrastructure and development projects. The EU is one of the largest and most lucrative markets for Azerbaijani energy exports. The demand for natural gas in Europe, driven by industrial needs and efforts to transition to cleaner energy sources, ensures a stable market for Azerbaijani gas. The operationalization of TANAP and TAP has opened new routes for Azerbaijani gas to reach European markets, particularly in Southern and Central Europe (Pamir, N.,2007:p.88).

This access to the European market is crucial for Azerbaijan's energy policy, as it provides a diversified customer base and reduces dependency on single-market dynamics. The stable demand from the EU also incentivizes Azerbaijan to maintain and enhance its production and export capacities, aligning its energy policy with the long-term needs of the European market. The EU's energy policy is increasingly focused on sustainability, energy efficiency, and the transition to renewable energy sources, as outlined in the European Green Deal. This shift presents both challenges and opportunities for Azerbaijan. While the EU's push towards decarbonization may reduce its reliance on fossil fuels in the long term, it also opens avenues for cooperation in renewable energy development. Azerbaijan has significant potential for renewable energy, particularly in wind and solar power. The EU's experience and technological expertise in these areas can support Azerbaijan's efforts to diversify its energy mix and develop sustainable energy projects. Collaborative initiatives in renewable energy development, energy efficiency improvements, and green technology deployment can help Azerbaijan align its energy policy with global sustainability goals, ensuring long-term relevance in the evolving energy landscape. The EU's position in Azerbaijan's energy policy also has significant geopolitical implications. By engaging with Azerbaijan and supporting its role as a key energy supplier, the EU enhances its geopolitical leverage in the South Caucasus region. This engagement helps to balance regional power dynamics and supports broader EU objectives of promoting stability, democracy, and economic development in neighboring regions. For Azerbaijan, the partnership with the EU provides a counterbalance to the influence of other regional powers, particularly Russia and Iran. This strategic alignment with the EU strengthens Azerbaijan's geopolitical position and enhances its ability to navigate complex regional dynamics. The European Union plays a crucial and multifaceted role in Azerbaijan's energy policy, characterized by strategic partnerships, substantial infrastructure investments, vital market access, and alignment with sustainability goals. The EU's involvement has significantly enhanced Azerbaijan's capacity to develop and export its energy resources, contributing to economic growth and stability. As both parties continue to navigate the evolving global energy landscape, their partnership is likely to deepen, with increased focus on renewable energy cooperation and sustainable development.

The EU's position in Azerbaijan's energy policy underscores the strategic importance of their relationship, highlighting mutual benefits and shared objectives in ensuring energy security, economic prosperity, and geopolitical stability (Betley, M., Bird, A., & Napodano, M.,2000:p.50). The future of the European Union (EU) in Azerbaijan's energy policy will be shaped by emerging trends, shifting geopolitical landscapes, and evolving energy markets. As the EU seeks to enhance its energy security and transition to a greener economy, and as Azerbaijan aims to diversify its economy and energy portfolio, their relationship is poised to enter a new phase of strategic collaboration. This continuation explores potential developments and future directions for the EU-Azerbaijan energy partnership.

The EU's ambitious climate targets, encapsulated in the European Green Deal, aim to achieve carbon neutrality by 2050 (Pamir, N.,2007:p.88). This initiative presents a strategic opportunity for Azerbaijan to align with the EU's sustainability goals by developing its renewable energy sector. Azerbaijan's geographical and climatic conditions are favorable for wind and solar energy projects, which can significantly contribute to the country's energy diversification efforts. Joint ventures and partnerships between EU companies and Azerbaijani entities in renewable energy projects can drive technological transfer, investment, and capacity building. For instance, the EU can support Azerbaijan in developing wind farms in the Caspian Sea region or large-scale solar power plants in its arid areas. Additionally, collaboration on energy storage solutions and smart grid technologies can enhance the efficiency and reliability of Azerbaijan's energy system, making it more resilient and sustainable. Improving energy efficiency is another critical area where the EU can play a transformative role in Azerbaijan's energy policy. The EU's extensive experience in implementing energy efficiency measures can provide valuable insights and best practices for Azerbaijan. Collaborative efforts can focus on enhancing the efficiency of industrial processes, residential buildings, and public infrastructure. Programs and initiatives aimed at retrofitting buildings, upgrading energy-intensive industries, and promoting the use of energy-efficient appliances can lead to substantial energy savings. These measures not only reduce overall energy consumption but also lower greenhouse gas emissions, contributing to Azerbaijan's environmental goals and aligning with the EU's climate objectives. The economic relationship between the EU and Azerbaijan is poised for expansion beyond energy.

The ongoing negotiations for the Comprehensive Enhanced Partnership Agreement (CEPA) are crucial in this regard, as they aim to create a more conducive environment for trade and investment. This agreement can address various trade barriers, enhance regulatory alignment, and provide better market access for Azerbaijani products in the EU and vice versa (Uğurlu, Ö.,2009:p.29).

Diversifying economic cooperation to include sectors such as agriculture, manufacturing, and services can provide Azerbaijan with new growth opportunities. The EU's expertise in modernizing agricultural practices, developing high-value-added industries, and supporting SME growth can help Azerbaijan diversify its economy and reduce its dependence on hydrocarbon revenues. The digital economy is an emerging frontier in EU-Azerbaijan relations. The EU's experience in building a robust digital economy, underpinned by its Digital Single Market strategy,

offers a blueprint for Azerbaijan's digital transformation. Collaborative projects can focus on developing digital infrastructure, enhancing cybersecurity, and fostering innovation ecosystems. Joint initiatives in digital governance, e-governance, and the development of digital skills can support Azerbaijan's integration into the global digital economy. By leveraging the EU's technological capabilities and expertise, Azerbaijan can enhance its competitiveness and foster a more innovative and dynamic economy. The EU's engagement with Azerbaijan also has significant geopolitical implications. The South Caucasus region is strategically important, and the EU's involvement can contribute to regional stability and security. The EU's support for conflict resolution, democratic governance, and socio-economic development aligns with Azerbaijan's aspirations for peace and prosperity. Continued diplomatic engagement and support for multilateral cooperation are essential for addressing regional security challenges. The EU's involvement in regional dialogues and peacebuilding efforts can help mitigate conflicts and promote a stable and secure environment. Additionally, enhancing people-to-people connections through cultural exchanges, educational programs, and civil society partnerships can foster mutual understanding and cooperation (Telly, A.,2015:p.99). The European Union's role in Azerbaijan's energy policy is multifaceted and evolving, reflecting the complexities and opportunities of the global energy landscape. As both parties navigate the challenges of energy security, economic diversification, and sustainability, their partnership is likely to deepen and broaden. The EU's strategic investments, technological expertise, and commitment to sustainability offer valuable support for Azerbaijan's energy and economic development goals.

Looking ahead, the EU-Azerbaijan relationship will continue to be driven by mutual interests in energy diversification, economic resilience, and regional stability. By expanding their collaboration to include renewable energy, energy efficiency, digital transformation, and broader economic cooperation, the EU and Azerbaijan can achieve significant progress and mutual benefits. This evolving partnership not only enhances energy security and economic prosperity but also contributes to regional stability and sustainable development, underscoring the strategic importance of the EU-Azerbaijan relationship in the contemporary geopolitical landscape (Rokicki, T., Jadcak, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A.,2022:p.66).

4.2.1. Policy Framework

The policy framework governing the relationship between the European Union (EU) and Azerbaijan is a comprehensive and dynamic structure designed to facilitate cooperation across various sectors, with a particular focus on energy, economic development, and geopolitical stability. This framework is built on a series of agreements, strategic initiatives, and collaborative mechanisms that reflect the mutual interests and strategic priorities of both parties. Understanding this policy framework provides insights into how the EU and Azerbaijan manage their partnership and navigate the complexities of regional and global challenges. The foundational element of the EU-Azerbaijan policy framework is the Partnership and Cooperation Agreement (PCA), signed in 1999. This agreement established a formal basis for political, economic, and trade cooperation,

promoting dialogue and collaboration across a broad spectrum of areas. The PCA facilitates trade by providing a legal framework for commercial activities and investment, ensuring that economic exchanges are conducted within a predictable and stable environment. The PCA also emphasizes the importance of political dialogue, aiming to foster democratic principles, rule of law, and respect for human rights in Azerbaijan. This aspect of the agreement reflects the EU's broader objectives of promoting stability and democratic governance in its neighborhood (Pamir, N.,2007:p.88).

A significant component of the EU-Azerbaijan policy framework is the Southern Gas Corridor (SGC), a major energy infrastructure project designed to transport natural gas from the Caspian region to Europe. The SGC comprises several pipelines, including the South Caucasus Pipeline (SCP), the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans Adriatic Pipeline (TAP). These projects are governed by a series of bilateral and multilateral agreements involving Azerbaijan, transit countries (Georgia, Turkey, Greece, Albania, Italy), and the EU. The strategic importance of the SGC is underscored by the Joint Declaration on the Southern Gas Corridor, signed in 2011, which outlines the commitment of the EU and Azerbaijan to cooperate on the development and operationalization of this corridor. This framework ensures a stable and reliable supply of natural gas to Europe, enhancing energy security and diversifying supply sources away from Russia. The Eastern Partnership (EaP) Initiative, launched in 2009, is another critical element of the EU-Azerbaijan policy framework. The EaP aims to strengthen the political and economic ties between the EU and six Eastern European and South Caucasus countries, including Azerbaijan. The initiative promotes economic integration, democratic governance, and regional stability through various bilateral and multilateral projects (Surgeon, U.,2015:p.190).

Under the EaP, Azerbaijan benefits from financial assistance, technical expertise, and capacity-building programs aimed at supporting reforms and development projects. This initiative also facilitates greater connectivity and integration between Azerbaijan and the EU, aligning the country's policies and standards with those of the EU. In recent years, efforts have been underway to negotiate a Comprehensive Enhanced Partnership Agreement (CEPA) between the EU and Azerbaijan. This agreement aims to update and expand the existing PCA, providing a more modern and comprehensive framework for cooperation. CEPA seeks to address new economic opportunities and challenges, enhance regulatory alignment, and improve market access for goods and services. CEPA also emphasizes the importance of good governance, rule of law, and human rights, reflecting the EU's commitment to supporting democratic principles in Azerbaijan. The agreement is expected to foster deeper economic integration, facilitate trade and investment, and promote sustainable development. The EU-Azerbaijan policy framework increasingly incorporates elements of sustainability and renewable energy cooperation. The European Green Deal, which aims to make Europe the first climate-neutral continent by 2050, provides a strategic context for collaboration in renewable energy and energy efficiency. Azerbaijan, with its significant potential for wind and solar energy, stands to benefit from EU support in developing these sectors (Aldis, A., & Herd, G.,2004:p.169).

Joint initiatives and projects focused on renewable energy development, energy efficiency improvements, and green technology deployment are integral to the evolving policy framework.

These initiatives not only support Azerbaijan's energy diversification efforts but also align with global sustainability goals and the EU's climate objectives. Digital transformation and technological innovation are emerging areas of focus within the EU-Azerbaijan policy framework. The EU's Digital Single Market strategy offers a blueprint for Azerbaijan's digital transformation efforts. Collaborative projects in digital governance, cybersecurity, and innovation ecosystems are designed to enhance Azerbaijan's digital infrastructure and integration into the global digital economy.

Programs aimed at improving digital literacy, fostering innovation, and supporting startups and SMEs in the tech sector are also part of this framework. These initiatives help Azerbaijan build a more competitive and dynamic economy, leveraging EU expertise and resources.

The policy framework also addresses regional security and geopolitical stability, recognizing the strategic importance of the South Caucasus. The EU's support for conflict resolution, democratic governance, and socio-economic development in the region aligns with Azerbaijan's aspirations for peace and prosperity. Diplomatic engagement and multilateral cooperation are essential components of this framework, contributing to a stable and secure regional environment (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288).

The policy framework governing the EU-Azerbaijan relationship is comprehensive and multifaceted, reflecting the diverse and evolving nature of their partnership. From the foundational Partnership and Cooperation Agreement to the strategic initiatives like the Southern Gas Corridor and the Eastern Partnership, this framework provides a robust basis for collaboration across energy, economic, digital, and geopolitical domains. As both parties continue to navigate global challenges and pursue mutual interests, the policy framework will play a crucial role in ensuring a stable, prosperous, and sustainable future for the EU-Azerbaijan relationship (Pamir, N.,2007:p.88). Looking ahead, the policy framework governing EU-Azerbaijan relations is poised to evolve further, adapting to new challenges and opportunities. Several areas of potential enhancement and development can be identified, which could strengthen the partnership and ensure it remains robust and responsive to changing global dynamics. As the EU intensifies its efforts to combat climate change and transition to a sustainable energy system, there is significant potential for deepening cooperation with Azerbaijan in renewable energy. The European Green Deal provides a strategic framework for this collaboration. Future agreements could include specific targets for renewable energy projects, financial incentives for green investments, and technology transfer to support Azerbaijan's renewable energy infrastructure. Joint initiatives could focus on large-scale wind and solar projects, especially given Azerbaijan's favorable climatic conditions. Additionally, the development of smart grids and energy storage systems could enhance the reliability and efficiency of Azerbaijan's energy supply. These initiatives would not only contribute to the EU's climate goals but also support Azerbaijan in diversifying its energy mix and reducing its carbon footprint (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

The ongoing negotiations for the Comprehensive Enhanced Partnership Agreement (CEPA) between the EU and Azerbaijan aim to modernize and expand the existing cooperation framework. Future iterations of CEPA could incorporate broader and deeper economic integration

measures, such as enhanced regulatory harmonization, improved intellectual property protections, and stronger mechanisms for dispute resolution. Moreover, CEPA could include provisions to support digital transformation, fostering an innovation-friendly environment that attracts investment in technology sectors. The inclusion of ambitious digital economy chapters, focusing on cybersecurity, e-commerce, and digital infrastructure, could help Azerbaijan integrate more fully into the global digital economy. To further bolster economic ties, the EU and Azerbaijan could explore new avenues for enhancing trade and investment. Future trade agreements could address non-tariff barriers, streamline customs procedures, and enhance market access for both EU and Azerbaijani products. Investment protection agreements could provide a stable and predictable environment for investors, encouraging greater EU investment in Azerbaijan's non-energy sectors (Valiyeva, T.,2014:p.9).

Special economic zones and industrial parks focused on high-value manufacturing and technology could be developed with EU support, creating hubs of innovation and production that drive economic diversification. Collaborative efforts in vocational training and skills development could ensure that Azerbaijan's workforce is equipped to meet the demands of a modern, diversified economy.

The EU's commitment to promoting peace and stability in the South Caucasus region can be further strengthened through enhanced diplomatic engagement and regional cooperation initiatives. Future policy frameworks could include more robust support for conflict resolution processes, including mediation, peacebuilding efforts, and capacity-building for local institutions. The EU and Azerbaijan could work together to develop comprehensive regional security strategies that address common threats such as terrorism, organized crime, and cyber threats. Multilateral cooperation with neighboring countries and international organizations could be promoted to ensure a cohesive and coordinated approach to regional stability. While strategic and economic interests drive much of the EU-Azerbaijan partnership, promoting human rights and democratic governance remains a core component of the relationship. Future agreements could include stronger commitments to democratic reforms, rule of law, and human rights protections. The EU could provide technical assistance, funding, and capacity-building support to help Azerbaijan strengthen its democratic institutions and civil society (Rokicki, T., Jadczyk, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A.,2022:p.66).

Dialogue on governance reforms could be enhanced through regular high-level meetings and consultations, ensuring that both parties remain committed to upholding shared values and principles. The EU's support for media freedom, judicial independence, and anti-corruption initiatives could play a crucial role in fostering a more transparent and accountable governance framework in Azerbaijan (Simbar, R., & Rezapoor, D.,2020:p.35).

The digital economy offers vast potential for expanding EU-Azerbaijan cooperation. Future policy frameworks could focus on enhancing digital infrastructure, promoting digital literacy, and supporting innovation ecosystems. Joint initiatives could include the development of tech incubators and accelerators, fostering startups and SMEs in the digital space. Collaborative efforts in research and development (R&D) could drive technological advancements in key areas

such as artificial intelligence, biotechnology, and information and communication technologies (ICT). By leveraging the EU's expertise and resources, Azerbaijan can enhance its digital competitiveness and innovation capacity. The future directions and potential enhancements of the EU-Azerbaijan policy framework reflect a commitment to deepening and broadening their partnership across multiple dimensions.

By focusing on renewable energy, economic diversification, digital transformation, regional stability, and democratic governance, the EU and Azerbaijan can build a resilient and forward-looking relationship that addresses mutual interests and global challenges. The evolving policy framework will play a crucial role in ensuring that the EU-Azerbaijan partnership remains dynamic and responsive, fostering sustainable development, economic growth, and geopolitical stability. Through continuous dialogue, strategic collaboration, and innovative initiatives, the EU and Azerbaijan can achieve shared prosperity and contribute to a more interconnected and sustainable world. Another significant area where the EU-Azerbaijan policy framework can evolve is through enhanced cooperation in education and cultural exchanges. Education is a powerful tool for fostering mutual understanding, building human capital, and promoting socio-economic development. The EU can expand its support for educational programs and partnerships with Azerbaijani institutions to help develop a skilled workforce that meets the demands of a modern economy (Aydin, Ü.,2014:p.188).

Programs like Erasmus+ have already played a significant role in facilitating academic exchanges and fostering collaboration between European and Azerbaijani universities. Building on this, future agreements could include increased funding for scholarships, joint degree programs, and research collaborations. These initiatives would not only benefit students and academics but also help align Azerbaijan's educational standards with European norms, improving the quality of education and research output (Pamir, N.,2007:p.88).

Furthermore, vocational education and training (VET) programs tailored to the needs of Azerbaijan's economy can support skills development in crucial sectors. The EU's expertise in VET can help Azerbaijan create robust training programs that equip young people with practical skills, reducing unemployment and boosting economic productivity.

Cultural exchanges are another vital component of the EU-Azerbaijan relationship, promoting mutual understanding and strengthening ties between the peoples of both regions. Enhanced cultural cooperation can be achieved through expanded programs in arts, heritage, and cultural preservation. These programs can foster a greater appreciation of each other's cultural heritage and build stronger interpersonal connections. Collaborative cultural projects, such as joint exhibitions, festivals, and artistic exchanges, can highlight the rich cultural traditions of Azerbaijan while introducing Azerbaijani audiences to European cultural practices.

Support for cultural institutions and creative industries can also stimulate innovation and economic growth in Azerbaijan's cultural sector. Research and innovation are critical drivers of economic growth and competitiveness. The EU and Azerbaijan can deepen their collaboration in these areas by establishing joint research initiatives and innovation partnerships. Programs like Horizon Europe can provide funding and support for collaborative research projects that address common

challenges, such as climate change, healthcare, and sustainable development. By participating in EU research networks and innovation ecosystems, Azerbaijani researchers and institutions can gain access to cutting-edge knowledge, technologies, and resources. This collaboration can foster a culture of innovation in Azerbaijan, driving advancements in science and technology that benefit both regions (Uğurlu, Ö.,2009:p.29).

The EU-Azerbaijan policy framework can also be aligned with the United Nations Sustainable Development Goals (SDGs), which provide a comprehensive blueprint for addressing global challenges and promoting sustainable development. Future agreements and initiatives can be designed to support Azerbaijan's efforts to achieve the SDGs, with a focus on areas such as poverty reduction, education, health, gender equality, and environmental sustainability. Collaborative projects that align with the SDGs can enhance the impact of the EU-Azerbaijan partnership, ensuring that it contributes to the broader global agenda of sustainable development (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288). By working together to address common challenges and achieve shared goals, the EU and Azerbaijan can build a more inclusive, resilient, and sustainable future. Finally, the EU-Azerbaijan relationship can benefit from strengthened multilateral and regional cooperation. The South Caucasus region faces numerous challenges that require coordinated efforts and regional solutions. The EU can play a pivotal role in fostering dialogue and cooperation among the countries in the region, promoting peace, stability, and economic development. Future policy frameworks can include support for regional initiatives that address issues such as conflict resolution, trade facilitation, and infrastructure development. By promoting regional integration and cooperation, the EU can help create a more stable and prosperous South Caucasus, benefiting all countries in the region.

The policy framework governing the EU-Azerbaijan relationship is a dynamic and evolving structure that reflects the diverse and multifaceted nature of their partnership. By focusing on areas such as renewable energy, economic diversification, digital transformation, education, cultural exchanges, public administration, and regional cooperation, the EU and Azerbaijan can build a resilient and forward-looking partnership that addresses mutual interests and global challenges. As both parties continue to navigate the complexities of the modern world, their commitment to collaboration and shared values will play a crucial role in shaping the future of their relationship. The evolving policy framework will ensure that the EU-Azerbaijan partnership remains robust, responsive, and beneficial for both regions, contributing to a more interconnected, sustainable, and prosperous world (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

4.2.2. Strategic Importance

The strategic importance of the relationship between the European Union (EU) and Azerbaijan cannot be overstated. Situated at the crossroads of Eastern Europe and Western Asia, Azerbaijan plays a pivotal role in the geopolitics and energy dynamics of the region. The EU, with its significant economic and political influence, views Azerbaijan as a crucial partner in its efforts to enhance energy security, foster regional stability, and promote economic development (Simbar,

R., & Rezapoor, D.,2020:p.35). Energy security is a cornerstone of the strategic relationship between the EU and Azerbaijan. The EU's dependence on external energy sources has long been a concern, particularly given the geopolitical tensions with major suppliers like Russia. Azerbaijan, with its vast reserves of oil and natural gas, offers a vital alternative source of energy for Europe. The Southern Gas Corridor (SGC), which includes the South Caucasus Pipeline (SCP), the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans Adriatic Pipeline (TAP), is a flagship project that exemplifies this strategic partnership. The SGC enables the transportation of natural gas from Azerbaijan's Shah Deniz field to Europe, significantly diversifying the EU's energy supply and reducing its reliance on Russian gas. This diversification is critical for enhancing the EU's energy security and mitigating the risks associated with geopolitical disruptions. Moreover, Azerbaijan's role as a reliable energy supplier bolsters its strategic importance, ensuring that the EU has access to stable and secure energy sources (Aldis, A., & Herd, G.,2004:p.169).

Azerbaijan's strategic location makes it a key player in the geopolitics of the South Caucasus region. The region is characterized by complex political dynamics and historical conflicts, including the protracted Nagorno-Karabakh conflict. The EU's engagement with Azerbaijan aims to promote regional stability and conflict resolution, aligning with broader European security interests. The EU's diplomatic efforts and support for peacebuilding initiatives in the South Caucasus are critical for fostering stability and security. By strengthening its ties with Azerbaijan, the EU enhances its influence in the region, promoting democratic governance, rule of law, and human rights. This engagement not only supports Azerbaijan's development but also contributes to a more stable and secure regional environment, which is essential for the EU's strategic interests.

Economic cooperation is another vital aspect of the EU-Azerbaijan relationship. The EU is one of Azerbaijan's largest trading partners, with bilateral trade encompassing a wide range of goods and services. The Partnership and Cooperation Agreement (PCA) signed in 1999 laid the foundation for economic cooperation, facilitating trade and investment flows between the two regions. As both parties work towards the Comprehensive Enhanced Partnership Agreement (CEPA), there is potential for even deeper economic integration. CEPA aims to modernize the existing framework, addressing new economic opportunities and challenges, and enhancing regulatory alignment. This agreement can stimulate economic growth, create jobs, and foster innovation, benefiting both the EU and Azerbaijan. Moreover, Azerbaijan's efforts to diversify its economy beyond hydrocarbons align with the EU's economic interests. Collaborative initiatives in sectors such as agriculture, manufacturing, technology, and services can drive economic diversification and resilience, reducing Azerbaijan's dependency on energy revenues and promoting sustainable development (Telly, A.,2015:p.99). Azerbaijan's geographical position as a bridge between Europe and Asia makes it a critical hub for regional connectivity. The country's investments in transport and logistics infrastructure, such as the Baku-Tbilisi-Kars railway and the development of the Middle Corridor, enhance trade links between the EU and Central Asia. Strengthening regional connectivity is crucial for facilitating smoother trade flows, boosting economic growth, and promoting regional integration. The EU's support for regional connectivity

initiatives aligns with its broader strategic goals of enhancing economic ties and fostering stability in its neighborhood.

By collaborating on infrastructure projects and trade facilitation measures, the EU and Azerbaijan can maximize the benefits of regional connectivity, driving economic development and integration.

The strategic importance of the EU-Azerbaijan relationship is also reflected in the broader context of international alliances and partnerships. By engaging with Azerbaijan, the EU strengthens its strategic position vis-à-vis other major powers, including Russia, China, and the United States. Azerbaijan's strategic alliances, particularly with Turkey, further underscore its importance as a regional actor. The EU's partnership with Azerbaijan enhances its geopolitical leverage and influence in the South Caucasus and beyond. This relationship supports the EU's broader strategic objectives of promoting a stable, secure, and prosperous neighborhood, contributing to global peace and stability (Pamir, N.,2007:p.88).

Technological innovation and digital transformation are emerging as critical dimensions of the strategic partnership between the European Union (EU) and Azerbaijan. As the global economy becomes increasingly digitalized, both parties recognize the importance of leveraging technological advancements to drive economic growth, enhance competitiveness, and improve governance. The EU's experience and leadership in building a robust digital economy provide a valuable model for Azerbaijan. Through initiatives like the Digital Single Market, the EU has developed a comprehensive framework to integrate digital technologies into various aspects of economic and social life. Azerbaijan, in its efforts to modernize and diversify its economy, stands to benefit significantly from adopting similar strategies and practices. Collaborative projects in digital governance, cybersecurity, and e-commerce can facilitate Azerbaijan's integration into the global digital economy. The EU can support Azerbaijan in developing digital infrastructure, enhancing digital literacy, and fostering innovation ecosystems. This cooperation can help Azerbaijan build a more competitive and dynamic economy, capable of adapting to the rapidly changing technological landscape (Surgeon, U.,2015:p.190).

Research and development (R&D) is another vital area where the EU and Azerbaijan can deepen their cooperation. The EU's Horizon Europe program, which funds research and innovation projects, offers opportunities for Azerbaijani researchers and institutions to participate in cutting-edge research initiatives. Joint research projects can address common challenges such as climate change, healthcare, and sustainable development. By fostering collaborative R&D efforts, the EU and Azerbaijan can drive technological advancements and innovation in key sectors.

This cooperation can lead to the development of new technologies, products, and services that enhance economic growth and improve quality of life. Moreover, it can help build a culture of innovation in Azerbaijan, encouraging entrepreneurship and supporting the growth of startups and SMEs. Education and human capital development are fundamental to the success of any technological and digital transformation. The EU can play a crucial role in supporting Azerbaijan's efforts to improve its education system and develop a skilled workforce. Programs like Erasmus+ have already facilitated academic exchanges and fostered collaboration between European and Azerbaijani universities (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

Building on this foundation, future agreements could include increased funding for scholarships, joint degree programs, and research collaborations. These initiatives would not only benefit students and academics but also help align Azerbaijan's educational standards with European norms, improving the quality of education and research output. Additionally, vocational education and training (VET) programs tailored to the needs of Azerbaijan's economy can support skills development in crucial sectors.

The EU's commitment to sustainability and the transition to a low-carbon economy offers significant opportunities for collaboration with Azerbaijan. As the EU pursues its ambitious climate goals under the European Green Deal, there is a growing interest in exploring renewable energy opportunities in Azerbaijan (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288). The country's potential for wind, solar, and hydroelectric power presents new avenues for cooperation that align with the EU's sustainability objectives. Joint ventures and partnerships in renewable energy projects can drive investment, technology transfer, and capacity building. Additionally, collaboration on energy storage solutions and smart grid technologies can enhance the reliability and efficiency of Azerbaijan's energy system, making it more resilient and sustainable. Effective public administration and good governance are essential for sustainable development and economic growth. The EU can provide technical assistance and capacity-building support to help Azerbaijan modernize its public administration and enhance governance practices. Future policy frameworks could include programs aimed at improving public sector efficiency, transparency, and accountability. Capacity-building initiatives can focus on areas such as public financial management, anti-corruption measures, and e-governance.

By leveraging EU expertise in these areas, Azerbaijan can strengthen its institutional framework and create a more conducive environment for economic and social development. Strategic communications and public diplomacy are important tools for strengthening the EU-Azerbaijan relationship. Effective communication strategies can help build mutual understanding, foster trust, and promote the benefits of the partnership to a broader audience. Public diplomacy initiatives, such as cultural exchanges, educational programs, and media cooperation, can enhance the visibility and impact of the EU-Azerbaijan relationship (Telly, A.,2015:p.99).

By engaging with various stakeholders, including government officials, business leaders, civil society organizations, and the general public, both parties can build stronger connections and foster a sense of shared purpose. This approach can also help address misconceptions and build support for collaborative initiatives. The strategic importance of the EU-Azerbaijan relationship is multifaceted, encompassing critical areas such as energy security, technological innovation, economic cooperation, and regional stability. As both parties navigate the complexities of the modern world, their partnership will play a vital role in shaping the regional and global landscape. By focusing on areas such as digital transformation, renewable energy, education, governance, and public diplomacy, the EU and Azerbaijan can build a resilient and forward-looking partnership that addresses mutual interests and global challenges.

The evolving policy framework will ensure that the EU-Azerbaijan relationship remains robust, responsive, and beneficial for both regions. Through continuous dialogue, strategic

collaboration, and innovative initiatives, the EU and Azerbaijan can achieve shared prosperity and contribute to a more interconnected, sustainable, and prosperous world. The strategic importance of this relationship underscores the need for continued engagement, cooperation, and innovation, ensuring that the EU and Azerbaijan remain strong partners in an ever-changing world (Rokicki, T., Jadcak, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A.,2022:p.66).

4.3. The Role of Azerbaijani Resources in European Energy Security

The role of Azerbaijani resources in European energy security has become increasingly significant over the past few decades, driven by the strategic need for diversification of energy sources and supply routes. As Europe seeks to reduce its dependency on Russian gas, Azerbaijan has emerged as a crucial partner in providing a stable and reliable alternative. The development of major energy infrastructure projects, such as the Southern Gas Corridor (SGC), underscores the strategic importance of Azerbaijani resources in enhancing European energy security. Azerbaijan's strategic location at the crossroads of Europe and Asia, along with its significant endowments of oil and natural gas, positions it as a key player in the global energy market. The country is home to the Shah Deniz gas field, one of the largest in the world, which has been instrumental in supplying natural gas to international markets. Azerbaijan's geographical proximity to Europe makes it an attractive partner for the EU, seeking to diversify its energy sources away from traditional suppliers like Russia. The Caspian Sea region, where Azerbaijan is situated, holds vast hydrocarbon reserves. The exploitation of these resources has transformed Azerbaijan into a major energy exporter. The country's ability to supply substantial quantities of natural gas and oil to Europe helps to stabilize European energy markets and mitigate the risks associated with over-reliance on a single source of energy (Uğurlu, Ö.,2009:p.29).

The Southern Gas Corridor (SGC) is a flagship project that exemplifies the pivotal role of Azerbaijani resources in European energy security. The SGC is designed to transport natural gas from the Caspian region, specifically from Azerbaijan's Shah Deniz field to Europe. This ambitious project comprises several key pipelines: the South Caucasus Pipeline (SCP), the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans Adriatic Pipeline (TAP).

The SCP transports gas from the Shah Deniz field through Azerbaijan and Georgia to Turkey. From there, TANAP continues the journey across Turkey to the Greek border. Finally, TAP extends the pipeline from Greece, through Albania, and across the Adriatic Sea to Italy. This extensive network of pipelines ensures that Azerbaijani gas reaches several European markets, thereby enhancing supply diversity and security. The SGC is significant not only because of its capacity to deliver substantial volumes of gas but also because it represents a major geopolitical shift.

By providing an alternative route and source of natural gas, the SGC reduces Europe's dependency on Russian gas supplies and mitigates the risks associated with geopolitical tensions and supply disruptions.

The role of Azerbaijani resources in European energy security extends beyond economic benefits to include important geopolitical implications. The EU's engagement with Azerbaijan through projects like the SGC strengthens political and economic ties, promoting stability and cooperation in the South Caucasus region (Aldis, A., & Herd, G.,2004:p.186). This partnership enhances Azerbaijan's geopolitical standing, giving it greater leverage in regional and international affairs. For Europe, securing a diversified energy supply is not just an economic necessity but also a strategic imperative. The reliance on Russian gas has historically exposed Europe to supply vulnerabilities, especially during periods of political tension. By incorporating Azerbaijani gas into its energy mix, Europe can mitigate these risks and enhance its energy security. Moreover, the successful implementation of the SGC sets a precedent for future energy projects and demonstrates the viability of alternative supply routes. It encourages other countries in the Caspian and Central Asian regions to explore similar partnerships, further diversifying the global energy supply landscape.

The collaboration between Europe and Azerbaijan in the energy sector yields significant economic benefits for both parties. For Azerbaijan, the export of natural gas to Europe generates substantial revenue, which supports national development and economic diversification. The energy sector remains a cornerstone of Azerbaijan's economy, and the revenues from gas exports fund critical infrastructure projects, social programs, and economic modernization efforts (Simbar, R., & Rezapoor, D.,2020:p.35).

4.3.1. Contribution to EU Energy Mix

The contribution of Azerbaijani energy resources to the European Union (EU) energy mix is a vital element in the EU's strategy to diversify its energy sources and enhance energy security. As the EU seeks to reduce its dependency on Russian gas and transition to a more sustainable energy future, Azerbaijani oil and natural gas have become increasingly significant. This essay explores the various dimensions of Azerbaijan's contribution to the EU energy mix, highlighting its role in energy diversification, economic stability, and the transition to renewable energy. The EU's energy policy has long emphasized the importance of diversifying energy sources to ensure the security of supply and reduce reliance on any single supplier. Historically, Russia has been the dominant supplier of natural gas to Europe, a situation that has exposed the EU to geopolitical risks and supply disruptions. The inclusion of Azerbaijani natural gas in the EU energy mix is a strategic move to mitigate these risks. Azerbaijan's Shah Deniz gas field, one of the largest in the world, is the primary source of natural gas exported to Europe. The development of the Southern Gas Corridor (SGC), which includes the South Caucasus Pipeline (SCP), the Trans-Anatolian Natural Gas Pipeline (TANAP), and the Trans Adriatic Pipeline (TAP), has been pivotal in transporting Azerbaijani gas to European markets. This extensive pipeline network ensures a steady flow of natural gas from Azerbaijan to several EU countries, including Italy, Greece, and Bulgaria, significantly contributing to the diversification of the EU's energy sources. Energy security is a cornerstone of the EU's energy policy, and the integration of Azerbaijani resources

plays a critical role in this regard. By providing an alternative to Russian gas, Azerbaijani natural gas enhances the resilience of the EU's energy supply. This diversification reduces the EU's vulnerability to supply disruptions caused by political tensions or conflicts. The SGC not only diversifies the sources of natural gas but also the supply routes, further strengthening the EU's energy security. The pipeline traverses multiple countries, creating a network that is less susceptible to single points of failure. This multi-route strategy ensures that even if one route is compromised, the overall supply can be maintained through alternative pathways (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

The integration of Azerbaijani natural gas into the EU energy mix also brings economic benefits. Access to Azerbaijani gas at competitive prices helps stabilize energy markets within the EU. This stability is crucial for economic growth, as it provides predictable energy costs for industries and consumers alike.

Furthermore, the competition introduced by Azerbaijani gas can lead to lower prices and better terms for European consumers (Surgeon, U.,2015:p.190).

The presence of an alternative supplier fosters a more competitive market environment, which can drive innovation and efficiency in the energy sector. This competitive dynamic is essential for the EU's long-term economic health and energy sustainability.

While natural gas is a fossil fuel, it plays a crucial role as a transitional energy source in the EU's journey towards a more sustainable energy future. Natural gas is considered a cleaner alternative to coal and oil, producing fewer carbon emissions when burned. As such, it serves as a bridge fuel that can help the EU reduce its overall carbon footprint while it scales up the deployment of renewable energy sources. Azerbaijani natural gas, therefore, supports the EU's immediate energy needs while contributing to its long-term climate goals. The reliable supply of natural gas ensures that the EU can maintain energy security and economic stability as it invests in and transitions to renewable energy sources such as wind, solar, and hydropower. Looking ahead, the role of Azerbaijani resources in the EU energy mix is likely to evolve. As the EU intensifies its efforts to achieve carbon neutrality by 2050, the focus will increasingly shift towards renewable energy and energy efficiency. However, natural gas will continue to play an essential role during this transition period (Aldis, A., & Herd, G.,2004:p.169). Azerbaijan can contribute to the EU's future energy strategy by investing in renewable energy projects and enhancing its energy infrastructure to support green energy initiatives. Collaborative efforts between the EU and Azerbaijan in renewable energy development, technology transfer, and capacity building can further strengthen this partnership. By diversifying its energy portfolio to include renewables, Azerbaijan can align with the EU's sustainability goals and continue to be a key player in the region's energy landscape. Azerbaijani resources make a significant contribution to the European Union's energy mix, playing a crucial role in diversifying energy sources, enhancing energy security, and supporting economic stability. The development of the Southern Gas Corridor has been instrumental in integrating Azerbaijani natural gas into European markets, providing a reliable and competitive alternative to traditional suppliers. As the EU transitions towards a more sustainable energy future, Azerbaijani natural gas will continue to serve as an essential bridge, ensuring stability while enabling the

growth of renewable energy. The strategic partnership between the EU and Azerbaijan in the energy sector underscores the importance of collaboration in addressing mutual challenges and achieving shared goals in energy security and sustainability.

The successful integration of Azerbaijani resources into the EU energy mix has been facilitated by significant investments in energy infrastructure. The construction and operation of the Southern Gas Corridor (SGC) involved substantial financial commitments from both Azerbaijani and European stakeholders. These investments have not only facilitated the physical transport of gas but also supported broader economic development (Pamir, N.,2007:p.88).

The European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD) have provided crucial funding for key segments of the SGC, particularly the Trans Adriatic Pipeline (TAP). These investments reflect the EU's strategic commitment to enhancing energy security through diversification. The infrastructure development associated with the SGC has also generated economic benefits in terms of job creation and technological advancements, further solidifying the economic ties between the EU and Azerbaijan.

The EU's engagement with Azerbaijan extends beyond the mere extraction and transport of natural gas. There is a growing focus on technological cooperation and innovation in the energy sector. This collaboration is essential for maximizing the efficiency of energy production and minimizing environmental impact. The EU's expertise in advanced energy technologies and sustainable practices can significantly benefit Azerbaijan's energy sector. Joint research initiatives and technological exchanges can drive innovations in energy efficiency, carbon capture and storage (CCS), and renewable energy integration (Telly, A.,2015:p.99). By adopting cutting-edge technologies and best practices from the EU, Azerbaijan can enhance the sustainability of its energy production processes and reduce greenhouse gas emissions. This technological cooperation also supports the EU's broader climate objectives, fostering a more integrated approach to energy and environmental policies. A key aspect of the EU-Azerbaijan energy partnership is the alignment of environmental and regulatory standards. The EU's stringent environmental regulations and commitment to sustainability require that imported energy resources meet high standards of environmental performance. Azerbaijan's adherence to these standards ensures that its energy exports are environmentally sustainable and socially responsible. The EU can support Azerbaijan in strengthening its regulatory framework through capacity-building initiatives and technical assistance. This support can help Azerbaijan implement best practices in environmental management, improve regulatory compliance, and enhance transparency in the energy sector. By aligning with EU standards, Azerbaijan can ensure the long-term sustainability of its energy exports and maintain its competitive position in the European market (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288).

The strategic importance of Azerbaijani resources in the EU energy mix also extends to regional integration and cooperation. The successful implementation of the SGC has created opportunities for broader regional collaboration in the South Caucasus and beyond. By fostering closer ties with neighboring countries, the EU and Azerbaijan can promote regional stability and economic development. Initiatives aimed at enhancing regional energy cooperation, such as the

development of interconnected gas networks and cross-border energy projects, can further integrate Azerbaijan into the European energy market. These initiatives can also facilitate the exchange of energy resources and technologies, creating a more resilient and interconnected regional energy system. While the contribution of Azerbaijani resources to the EU energy mix is substantial, several challenges and uncertainties remain. Geopolitical tensions, regulatory changes, and market dynamics can impact the stability and sustainability of energy supplies. Additionally, the global shift towards renewable energy and decarbonization poses both challenges and opportunities for the future of Azerbaijani natural gas in the EU energy mix. To navigate these challenges, continued investment in infrastructure, technology, and regulatory alignment is essential (Pamir, N.,2007:p.88). The EU and Azerbaijan must work together to develop flexible and adaptive strategies that can respond to changing market conditions and policy landscapes. Collaborative efforts in renewable energy development and energy efficiency will be crucial for ensuring the long-term sustainability of their energy partnership. The integration of Azerbaijani resources into the European Union's energy mix represents a strategic and mutually beneficial partnership. Azerbaijani natural gas plays a critical role in diversifying the EU's energy sources, enhancing energy security, and supporting economic stability (Rokicki, T., Jadczyk, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A.,2022:p.66). The development of the Southern Gas Corridor has been instrumental in realizing these benefits, providing a reliable and competitive alternative to traditional suppliers. As the EU transitions towards a more sustainable energy future, the role of Azerbaijani resources will continue to evolve. Technological cooperation, regulatory alignment, and regional integration will be key to maximizing the benefits of this partnership. By working together to address common challenges and leverage shared opportunities, the EU and Azerbaijan can build a resilient and forward-looking energy relationship that contributes to regional stability, economic prosperity, and environmental sustainability.

As the European Union (EU) intensifies its efforts to achieve carbon neutrality by 2050 under the European Green Deal, the role of Azerbaijani resources in the EU energy mix is set to evolve. While natural gas will continue to play a critical role as a transitional fuel, there is significant potential for Azerbaijan to contribute to the EU's renewable energy goals. This shift not only aligns with global trends towards sustainable energy but also presents new opportunities for cooperation and investment in green technologies.

Azerbaijan possesses considerable potential for renewable energy, particularly in the areas of wind, solar, and hydroelectric power. The country's geographic and climatic conditions are favorable for the development of these energy sources. The Caspian Sea region, for instance, has strong wind patterns that are ideal for wind power generation. Similarly, the extensive sunlight in Azerbaijan's semi-arid regions offers great potential for solar energy projects. By investing in renewable energy infrastructure, Azerbaijan can diversify its energy portfolio and reduce its reliance on hydrocarbons. This diversification aligns with the EU's long-term sustainability goals and provides a new dimension to the strategic partnership between the EU and Azerbaijan. To harness Azerbaijan's renewable energy potential, joint initiatives and investments between the EU and Azerbaijan are essential. The EU can offer financial support, technological expertise, and

capacity-building assistance to help Azerbaijan develop its renewable energy sector. This cooperation can take the form of public-private partnerships, joint ventures, and funding from EU financial institutions such as the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD). Specific projects could include the development of offshore wind farms in the Caspian Sea, large-scale solar power plants in the country's arid regions, and the modernization of hydroelectric facilities. Additionally, investments in energy storage solutions and smart grid technologies can enhance the integration and reliability of renewable energy sources. Technological transfer and innovation are critical components of the EU-Azerbaijan partnership in renewable energy. The EU's advanced capabilities in renewable energy technologies can significantly benefit Azerbaijan. Collaborative research and development (R&D) initiatives can drive innovation and the adoption of best practices in the renewable energy sector (Simbar, R., & Rezapoor, D., 2020:p.35). For example, the EU can support Azerbaijan in deploying state-of-the-art wind turbines, photovoltaic panels, and energy storage systems. Moreover, training programs and technical workshops can help build local expertise and technical skills, ensuring the sustainable development of Azerbaijan's renewable energy sector.

The shift towards renewable energy offers substantial environmental and economic benefits for both the EU and Azerbaijan. Environmentally, increasing the share of renewables in the energy mix reduces greenhouse gas emissions and mitigates the impacts of climate change. This transition contributes to global efforts to combat climate change and aligns with the EU's ambitious climate targets.

Economically, the development of renewable energy projects can create jobs, stimulate economic growth, and attract foreign investment. By positioning itself as a leader in renewable energy, Azerbaijan can enhance its economic resilience and reduce the volatility associated with fluctuating oil and gas prices. Additionally, the revenues generated from renewable energy projects can be reinvested into further economic diversification and development initiatives. Effective policy and regulatory frameworks are essential for the successful integration of renewable energy into Azerbaijan's energy mix. The EU can assist Azerbaijan in developing and implementing policies that promote renewable energy development, such as feed-in tariffs, renewable energy quotas, and incentives for private investment. Moreover, aligning Azerbaijan's regulatory standards with those of the EU can facilitate smoother cooperation and integration into the European energy market (Betley, M., Bird, A., & Napodano, M., 2000:p.50). This alignment can also enhance investor confidence and ensure that renewable energy projects meet high environmental and social standards. The strategic importance of Azerbaijani resources in the EU energy mix extends to regional cooperation and integration. Collaborative efforts to develop cross-border energy projects and interconnected grids can enhance energy security and stability in the South Caucasus and beyond. By fostering regional cooperation, the EU and Azerbaijan can create a more integrated and resilient energy system. Initiatives such as the development of regional energy hubs, the integration of renewable energy sources into regional grids, and the promotion of energy trade can further strengthen the EU-Azerbaijan partnership. These efforts can also contribute to regional economic development and stability, benefiting all countries involved.

The contribution of Azerbaijani resources to the European Union's energy mix is multifaceted and dynamic. As the EU transitions towards a more sustainable and diversified energy future, Azerbaijani natural gas will continue to play a critical role in enhancing energy security and stability. However, the evolving energy landscape presents new opportunities for collaboration in renewable energy and sustainability. By investing in renewable energy projects, fostering technological innovation, and developing effective policy frameworks, the EU and Azerbaijan can build a resilient and forward-looking energy partnership. This partnership not only enhances energy security and economic prosperity but also contributes to global sustainability goals and regional stability. The strategic importance of Azerbaijani resources in the EU energy mix underscores the need for continued engagement, cooperation, and innovation, ensuring that the EU and Azerbaijan remain strong partners in an ever-changing world (Surgeon, U.,2015:p.190).

4.3.2. Future Prospects

The future prospects for the EU-Azerbaijan energy partnership are bright, characterized by numerous opportunities for deepening cooperation and addressing emerging global challenges. As both parties navigate the evolving energy landscape, several key areas of focus will shape the trajectory of their relationship, including renewable energy development, technological innovation, regulatory alignment, and regional integration. One of the most promising areas for future cooperation is the development of renewable energy resources. Azerbaijan's significant potential for wind, solar, and hydroelectric power presents a valuable opportunity for collaboration (Pamir, N.,2007:p.88). The EU, with its advanced technology and experience in renewable energy, can play a crucial role in supporting Azerbaijan's transition to a more sustainable energy mix. Joint ventures and investments in large-scale renewable energy projects can help Azerbaijan diversify its energy portfolio and reduce its carbon footprint. For example, the development of offshore wind farms in the Caspian Sea and solar power plants in the country's arid regions can significantly increase the share of renewables in Azerbaijan's energy mix. These projects not only contribute to global climate goals but also create jobs and stimulate economic growth in Azerbaijan. Technological innovation is essential for enhancing the efficiency and sustainability of energy production and consumption.

The EU-Azerbaijan partnership can benefit from increased collaboration in research and development (R&D), focusing on cutting-edge technologies such as energy storage, smart grids, and carbon capture and storage (CCS). By fostering innovation through joint research initiatives and technological exchanges, both parties can drive advancements in energy efficiency and environmental sustainability. The EU can provide technical assistance and funding to support Azerbaijan in adopting best practices and state-of-the-art technologies, ensuring that its energy sector remains competitive and sustainable (Uğurlu, Ö.,2009:p.29). Effective policy and regulatory frameworks are critical for the successful integration of renewable energy and the modernization of the energy sector. The EU can assist Azerbaijan in developing and implementing policies that promote renewable energy development, energy efficiency, and environmental

protection. Aligning Azerbaijan's regulatory standards with those of the EU can facilitate smoother cooperation and integration into the European energy market. This alignment can also enhance investor confidence and ensure that energy projects meet high environmental and social standards. The EU can provide technical assistance, capacity building, and policy support to help Azerbaijan strengthen its regulatory framework and create a conducive environment for sustainable energy development (Aldis, A., & Herd, G.,2004:p.169). The strategic importance of Azerbaijani resources extends to regional integration and cooperation. By fostering closer ties with neighboring countries and promoting cross-border energy projects, the EU and Azerbaijan can enhance regional energy security and stability. Initiatives aimed at developing interconnected gas networks, regional energy hubs, and cross-border renewable energy projects can create a more integrated and resilient energy system in the South Caucasus and beyond. These efforts can also facilitate the exchange of energy resources and technologies, driving regional economic development and stability. The EU-Azerbaijan energy partnership must navigate a complex geopolitical landscape characterized by regional conflicts, shifting alliances, and global energy market dynamics. Continued diplomatic engagement and strategic dialogue are essential for addressing these challenges and ensuring the stability of energy supplies.

By working together to promote regional stability, conflict resolution, and economic development, the EU and Azerbaijan can enhance their strategic partnership and contribute to a more secure and prosperous region (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288). This cooperation can also help mitigate the risks associated with geopolitical tensions and supply disruptions, ensuring the long-term sustainability of their energy relationship.

Aligning the EU-Azerbaijan energy partnership with the United Nations Sustainable Development Goals (SDGs) can enhance its impact and ensure that it contributes to global efforts to address pressing challenges such as climate change, poverty, and inequality. By focusing on sustainable energy development, environmental protection, and social inclusion, the partnership can support Azerbaijan's progress towards achieving the SDGs. Collaborative projects that align with the SDGs can enhance the effectiveness of the EU-Azerbaijan partnership, ensuring that it delivers tangible benefits for both regions and contributes to a more sustainable and inclusive world. The future prospects for the EU-Azerbaijan energy partnership are promising, with numerous opportunities for deepening cooperation and addressing global challenges. By focusing on renewable energy development, technological innovation, regulatory alignment, regional integration, and sustainable development, the EU and Azerbaijan can build a resilient and forward-looking energy partnership. As both parties navigate the complexities of the modern energy landscape, their commitment to collaboration, innovation, and sustainability will play a crucial role in shaping the future of their relationship. The evolving policy framework and strategic initiatives will ensure that the EU and Azerbaijan remain strong partners in an ever-changing world, contributing to regional stability, economic prosperity, and environmental sustainability (Telly, A.,2015:p.99).

4.4. Energy Agreements Between the EU and Azerbaijan

The relationship between the European Union (EU) and Azerbaijan has been significantly shaped by a series of strategic energy agreements aimed at enhancing energy security, fostering economic cooperation, and promoting regional stability. These agreements underscore the mutual interests of both parties in diversifying energy sources, securing reliable supply routes, and advancing sustainable energy practices. The foundation of the EU-Azerbaijan energy relationship was laid with the signing of the Partnership and Cooperation Agreement (PCA) in 1999. This comprehensive framework established the basis for political, economic, and trade cooperation, including in the energy sector. The PCA facilitated dialogue and collaboration on energy policies, regulatory alignment, and investment, setting the stage for deeper energy ties between the EU and Azerbaijan. One of the most significant milestones in the EU-Azerbaijan energy partnership is the development of the Southern Gas Corridor (SGC).

This ambitious project is designed to transport natural gas from the Caspian region, specifically from Azerbaijan's Shah Deniz field, to European markets, thereby enhancing the EU's energy security and reducing its dependency on Russian gas.

4.4.1. Key Agreements and Their Terms

Intergovernmental Agreement on the Trans-Anatolian Natural Gas Pipeline (TANAP) signed in 2012 between Azerbaijan and Turkey, this agreement facilitated the construction and operation of TANAP, which transports gas from the Georgian-Turkish border across Turkey to the Greek border. TANAP is a critical component of the SGC, enabling the flow of Azerbaijani gas to Europe.

Host Government Agreements (HGAs) for the Trans Adriatic Pipeline (TAP): Signed in 2013 between the TAP consortium and the governments of Greece, Albania, and Italy, these agreements provided the legal framework for the construction and operation of TAP, the final leg of the SGC that delivers gas from Turkey to Italy via Greece and Albania (Simbar, R., & Rezapoor, D., 2020:p.35).

Shah Deniz II Final Investment Decision (FID): In 2013, the consortium developing the Shah Deniz gas field made a final investment decision to proceed with the second phase of the project, which significantly increased gas production capacity. This decision was crucial for ensuring the supply of gas to the SGC.

In 2011, the EU and Azerbaijan signed the Joint Declaration on the Southern Gas Corridor. This declaration reaffirmed their commitment to the development and operationalization of the SGC, highlighting the strategic importance of Azerbaijani gas for European energy security. The declaration also emphasized the mutual benefits of the project, including economic growth, job creation, and enhanced regional cooperation. In 2006, the EU and Azerbaijan signed a Memorandum of Understanding (MoU) on a strategic energy partnership. This MoU outlined key areas of cooperation, including the development of the SGC, energy security, and the promotion of market-based energy reforms. The MoU established a framework for regular dialogue and

cooperation on energy issues, facilitating the exchange of information, best practices, and technical assistance.

Although still under negotiation, the Comprehensive Enhanced Partnership Agreement (CEPA) between the EU and Azerbaijan aims to modernize and expand the existing framework of cooperation established by the PCA. CEPA is expected to include provisions on energy cooperation, regulatory alignment, and sustainable development. By enhancing the legal and institutional framework for energy relations, CEPA will further strengthen the strategic energy partnership between the EU and Azerbaijan (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

4.4.2. Impact on Bilateral Relations

The energy partnership has significantly boosted economic interdependence between the EU and Azerbaijan. The development of the Southern Gas Corridor (SGC) has been particularly impactful, creating substantial economic benefits for both parties. For Azerbaijan, the export of natural gas to Europe through the SGC provides a stable and lucrative revenue stream, which supports national development and economic diversification. The construction and operation of the SGC have also generated employment and stimulated economic growth in Azerbaijan. For the EU, access to Azerbaijani gas at competitive prices has contributed to energy market stability and economic resilience. The diversification of energy sources reduces vulnerability to supply disruptions and geopolitical risks associated with over-reliance on Russian gas. This stability is crucial for the EU's economic growth, providing a secure and predictable energy supply for industries and consumers (Rokicki, T., Jadcak, R., Kucharski, A., Bórawski, P., Bełdycka-Bórawska, A., & Szeberényi, A.,2022:p.66).

Furthermore, the energy partnership has encouraged broader economic cooperation beyond the energy sector. The ongoing negotiations for the Comprehensive Enhanced Partnership Agreement (CEPA) aim to expand the economic relationship, addressing new opportunities and challenges, and enhancing regulatory alignment. This agreement is expected to facilitate greater trade and investment flows, fostering economic growth and integration. The EU-Azerbaijan energy partnership has significant geopolitical implications, contributing to regional stability and security. Azerbaijan's strategic location at the crossroads of Europe and Asia, coupled with its substantial energy resources, makes it a critical player in the South Caucasus region. By engaging with Azerbaijan, the EU enhances its geopolitical leverage and influence in the region, promoting stability and cooperation.

The SGC project, in particular, has reduced Europe's dependency on Russian energy supplies, thereby mitigating the geopolitical risks associated with this dependency. By providing an alternative energy route, the SGC enhances the EU's energy security and reduces the potential for energy coercion. This diversification is a strategic imperative for the EU, ensuring that it can maintain energy supplies even in the face of geopolitical tensions. The engagement with the EU strengthens Azerbaijan's geopolitical standing and supports its aspirations for economic modernization and integration into the global economy (Aldis, A., & Herd, G.,2004:p.169).

The energy partnership also aligns with broader goals of sustainable development and environmental protection. The EU's emphasis on sustainability and the transition to a low-carbon economy offers significant opportunities for cooperation in renewable energy and energy efficiency. Joint initiatives in these areas can support Azerbaijan's efforts to diversify its energy mix and reduce its environmental impact. Collaborative projects focused on renewable energy development, such as wind and solar power, can drive sustainable growth and create new economic opportunities. The EU's expertise in green technologies and sustainable practices can help Azerbaijan achieve its environmental goals, contributing to global efforts to combat climate change.

While the energy partnership has brought numerous benefits, it also faces challenges. Geopolitical tensions, market fluctuations, and regulatory differences can impact the stability and sustainability of the partnership. Addressing these challenges requires continued dialogue, cooperation, and adaptation to changing circumstances (Telly, A.,2015:p.99).

4.5. The EU's Approach to Sustainable Energy

The European Union (EU) has established itself as a global leader in the transition to sustainable energy, driven by a comprehensive and ambitious framework aimed at addressing climate change, enhancing energy security, and promoting economic growth. The EU's approach to sustainable energy is characterized by its commitment to reducing greenhouse gas emissions, increasing the share of renewable energy in its energy mix, and improving energy efficiency. This essay explores the key components of the EU's approach to sustainable energy, including policy initiatives, investment in renewable energy, energy efficiency measures, and international cooperation. The EU's commitment to sustainable energy is underpinned by a series of robust policy initiatives. The cornerstone of these efforts is the European Green Deal, launched in December 2019.

The Green Deal outlines the EU's strategy to become the first climate-neutral continent by 2050, setting a clear pathway for reducing emissions and promoting sustainability across all sectors of the economy. One of the key targets of the European Green Deal is to reduce greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels. This ambitious target is supported by the "Fit for 55" package, a comprehensive set of legislative proposals aimed at aligning EU policies with the new climate goals (Uğurlu, Ö.,2009:p.29).

4.5.1. Policy Initiatives and Goals

The European Union (EU) has established a comprehensive framework of policy initiatives and goals to drive its transition to sustainable energy. These initiatives are designed to reduce greenhouse gas emissions, increase the share of renewable energy, improve energy efficiency, and ensure energy security. The following sections outline the key policy initiatives and goals that form the foundation of the EU's approach to sustainable energy. The European Green Deal, launched in

December 2019, is the EU's flagship policy initiative aimed at transforming the EU into the first climate-neutral continent by 2050. The Green Deal sets out a roadmap for making the EU's economy sustainable by turning climate and environmental challenges into opportunities across all policy areas and ensuring a just and inclusive transition for all. Key objectives of the European Green Deal include: (Surgeon, U.,2015:p.190).

- **Achieving Climate Neutrality by 2050:** The EU aims to achieve net-zero greenhouse gas emissions by 2050, making Europe the first climate-neutral continent.
- **Reducing Greenhouse Gas Emissions by 2030:** The Green Deal sets an interim target of reducing greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels.
- **Decoupling Economic Growth from Resource Use:** Promoting economic growth while reducing resource consumption and environmental impacts.

The "Fit for 55" package, adopted in July 2021, comprises a set of legislative proposals aimed at aligning EU policies with the new climate targets set under the European Green Deal. The package includes revisions to existing laws and introduces new regulations to ensure the EU meets its climate goals (Bouwmeester, M.C., & Oosterhaven, J.,2017:p.288).

4.5.2. Cooperation with Azerbaijan in Sustainable Energy Projects

The cooperation between the European Union (EU) and Azerbaijan in sustainable energy projects represents a strategic effort to diversify energy sources, enhance energy security, and promote environmental sustainability. Azerbaijan, with its significant potential for renewable energy, and the EU, with its advanced technologies and commitment to climate goals, have a unique opportunity to collaborate on sustainable energy initiatives. Azerbaijan's geographic and climatic conditions are favorable for the development of renewable energy, particularly wind, solar, and hydroelectric power. The EU can play a pivotal role in supporting Azerbaijan's efforts to harness these resources by providing financial assistance, technological expertise, and capacity-building support. The Caspian Sea region offers excellent conditions for offshore wind farms. The EU can assist Azerbaijan in conducting feasibility studies, developing wind energy infrastructure, and implementing best practices in wind energy generation. Joint ventures and investments in wind farms can significantly increase the share of wind energy in Azerbaijan's energy mix. Azerbaijan's arid regions receive abundant sunlight, making them ideal for large-scale solar power plants. The EU can support the deployment of photovoltaic technology, training programs for local technicians, and the development of solar energy projects. Collaboration in solar energy can help Azerbaijan reduce its reliance on fossil fuels and lower greenhouse gas emissions (Uğurlu, Ö.,2009:p.29).

Azerbaijan has considerable potential for hydroelectric power, particularly in its mountainous regions. The EU can provide technical assistance and funding for the modernization of existing hydroelectric facilities and the construction of new ones. Enhancing hydroelectric

capacity can contribute to a stable and sustainable energy supply (Betley, M., Bird, A., & Napodano, M.,2000:p.50).

Improving energy efficiency is a crucial aspect of sustainable energy development. The EU's experience in implementing energy efficiency measures can provide valuable insights for Azerbaijan. The EU can help Azerbaijan design and implement energy efficiency programs that target key sectors such as industry, transportation, and construction. These programs can include incentives for adopting energy-efficient technologies, standards for building insulation, and initiatives to reduce energy consumption. Smart grids can enhance the reliability and efficiency of Azerbaijan's energy distribution system.

The EU can support the development and implementation of smart grid technologies, including advanced metering infrastructure, real-time monitoring, and demand response systems. Smart grids can help integrate renewable energy sources and improve overall grid stability. Building local capacity and transferring technology are essential for the successful implementation of sustainable energy projects. The EU can provide training, technical assistance, and knowledge exchange to support Azerbaijan's transition to a sustainable energy system. The EU can offer training programs for Azerbaijani engineers, technicians, and policymakers on various aspects of renewable energy and energy efficiency. Educational exchanges and partnerships between European and Azerbaijani institutions can foster the development of local expertise. The EU can facilitate the transfer of advanced technologies and best practices in renewable energy and energy efficiency (Aldis, A., & Herd, G.,2004:p.169). Joint research and development (R&D) initiatives can drive innovation and adaptation of technologies to local conditions.

CONCLUSION AND RECOMMENDATIONS

This dissertation has highlighted the paramount importance of energy security in the contemporary world, demonstrating its profound impact on international relations, national security, and socio-economic structures. Through a comprehensive exploration of historical and current perspectives, the study underscores how energy resources have become pivotal strategic assets that shape global geopolitics. The examination of the European Union's energy policies reveals a complex and evolving landscape, driven by the need to secure reliable energy sources amidst geopolitical challenges. The case study of Italy exemplifies the EU's efforts to address member states' energy needs, particularly in light of disruptions such as the Ukraine-Russia conflict. The EU's proactive measures to mitigate energy security risks and diversify energy sources highlight the strategic shifts necessary to ensure long-term stability. Azerbaijan's historical and geographical context is crucial in understanding its role as a significant player in the global energy market. The evolution of Azerbaijan's energy sector from the Soviet era to its current status as a key energy exporter to the EU underscores the dynamic nature of international energy relations. The collaborative projects with Turkey, Georgia, and the EU illustrate the mutual benefits and strategic outcomes of such partnerships. The relationship between the EU and Azerbaijan is characterized by mutual interests in enhancing energy security and developing sustainable energy projects. The bilateral agreements and strategic cooperation initiatives underscore the importance of maintaining robust partnerships to address future energy challenges. In conclusion, energy security remains a critical issue that influences global politics, economic stability, and social development. The insights gained from this dissertation emphasize the need for continued innovation, strategic planning, and international collaboration to navigate the complexities of energy security in an increasingly interconnected world. The findings provide a foundation for future research and policy development aimed at achieving a secure and sustainable energy future. Several key recommendations emerge from this study:

Diversification of Energy Sources: To reduce dependency on any single energy source or supplier, countries should invest in a diverse mix of energy options, including renewable energy, nuclear power, and alternative fuels. This approach not only enhances energy security but also contributes to environmental sustainability.

Strengthening International Cooperation: Effective energy security requires robust international cooperation. Diplomatic efforts should focus on building and maintaining alliances, securing energy supply routes, and developing joint projects that can withstand geopolitical tensions.

Investment in Renewable Energy: Given the global push towards decarbonization, investing in renewable energy technologies is imperative. This transition will help mitigate the impacts of climate change while ensuring a steady and sustainable energy supply.

Energy Efficiency and Conservation: Enhancing energy efficiency and promoting conservation can significantly reduce energy demand. Implementing advanced technologies and encouraging behavioral changes in energy consumption are crucial steps in this direction.

Strategic Reserves and Emergency Preparedness: Maintaining strategic energy reserves and developing comprehensive emergency response plans are critical to managing supply disruptions. These measures ensure that countries can weather short-term crises without severe economic or social consequences.

Technological Innovation: Continuous investment in research and development of new energy technologies is essential. Innovations in energy storage, smart grids, and energy management systems will play a pivotal role in future energy security strategies.

Policy and Regulatory Frameworks: Governments should develop and enforce policies and regulations that support energy security objectives. This includes setting clear targets for renewable energy adoption, providing incentives for energy efficiency, and ensuring a stable and transparent regulatory environment for energy investments.

Public Awareness and Education: Raising public awareness about energy security issues and educating citizens on the importance of sustainable energy practices can drive collective action. Engaging communities in energy initiatives can also foster a culture of energy responsibility and innovation.

Monitoring and Assessment: Regular monitoring and assessment of energy security indicators are vital for identifying vulnerabilities and implementing timely corrective measures. Governments and organizations should develop robust frameworks for tracking progress and adapting strategies as needed.

In summary, achieving energy security in the 21st century requires a multifaceted approach that integrates technological, political, economic, and social dimensions. By implementing the recommendations outlined in this dissertation, policymakers can enhance energy security, support sustainable development, and contribute to global stability. The challenges are significant, but with coordinated efforts and innovative solutions, a secure and resilient energy future is attainable.

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“Ultimately, I am convinced that any journey embarked upon with faith will achieve the most favorable outcomes when steered by unwavering perseverance and diligent effort.”

Toghrul Aliyev

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