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Energy security and Its Role in Shaping Algeria' public policy

الأمن الطاقوي ودوره في تشكيل السياسة العامة للجزائر

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Abstract :

This research aims to analyze the impact of energy security on the public policy of Algeria. Being one of the foremost producers and exporters of oil and natural gas, the need to secure these energy benefits dictates national policies are a necessity. Using several official statistical reports, the study applies a descriptive and analytical approach to address the topic's various aspects.

The country is trying to strengthen its energy policies to fundamentally convert Algeria into an energy power seeking sustainable solutions towards energy security. The energy policies of Algeria reflect the energy strategies undertaken by the state at all political and economic levels.

Keywords: petroleum, natural gas, energy policy, public policy.

المخلص:

تهدف هذه الدراسة إلى تحليل أثر أمن الطاقة على السياسة العامة في الجزائر، وبوصفها واحدة من أبرز الدول المنتجة والمصدرة للنفط والغاز الطبيعي، فإن الحاجة إلى تأمين هذه الموارد الطاقوية تفرض توجيه السياسات الوطنية وفقاً لذلك كضرورة حتمية، ومن خلال الاعتماد على عدد من التقارير الإحصائية الرسمية تعتمد الدراسة منهجاً وصفيًا وتحليليًا لمعالجة مختلف جوانب الموضوع.

وتسعى الجزائر إلى دعم سياساتها الطاقوية من أجل تحويل البلاد إلى قوة طاقوية تعتمد حلولاً مستدامة لتحقيق أمن الطاقة. وتعكس السياسات الطاقوية الجزائرية الاستراتيجيات التي تتبناها الدولة في مختلف المستويات السياسية والاقتصادية.

الكلمات المفتاحية: النفط، الغاز الطبيعي، سياسة الطاقة، السياسة العامة.

1. Introduction:

The modern world economy is based on energy. Natural resources like oil and gas and their respective market are the principal builders of the economy for other countries. In addition, as time goes by, these resources will gain more importance not only from the economic viewpoint but also in the relationships between countries. Countries that have rich energy resources tend to have great strategic power in global geopolitics.

In the recent past, the global energy resources have faced significant pressure, especially against the backdrop of the occurrence of public health crises and geopolitical conflicts that have unleashed significant volatility in oil markets and price fluctuations. Such uncertainties have provided cause for concern to some countries, while simultaneously creating severe economic challenges for others. Thus, making the energy sector robust and stable in

the long term has emerged as a fundamental strategic goal for nations trying to ensure sustainability and resilience to future changes.

Algeria is a prominent energy producer and exporter on the international scene, holding a front rank in the global oil and gas sector due to its huge reserves. Such a privileged status underlines the need to secure energy resources and design efficient public policies. To Algeria, not only is energy security a domestic priority but it is also a driver of its foreign policy, solidifying its status as a major actor on the global geopolitical scene.

1.1 Research Problem:

The objective of this research is to examine sustainable approaches to energy resource management that enable the achievement of energy security, and to assess how such policies subsequently affect

Algeria's public policy. The primary research question guiding this investigation is:

What is the role of energy security in shaping Algeria's public policy?

This central question is supported by several sub-questions:

- What is the current state of Algeria's energy security?
- What are the key energy policies in Algeria?
- To what extent do Algeria's public policies respond to developments in the energy sector?

1.2 Study Objectives:

This study aims to:

- Examine the current state of energy production in Algeria;
- Assess the status of Algeria's energy reserves;
- Evaluate the availability of energy security in Algeria;
- Identify the main energy policies in Algeria;
- Investigate the role of energy security in shaping Algeria's public policy.

1.3 Methodology:

To address the multifaceted aspects of energy security and the public policies pursued in Algeria, this study adopts a descriptive and analytical approach. The primary research question is broken down into essential components to provide comprehensive answers. The study relies on multiple statistical reports as its main data sources.

2. The Concept of Energy Security:

The concept of energy security carries varying meanings depending on the context in which it is used and the differing perspectives surrounding it. This variation largely stems from the diverse energy systems among countries, which give rise to a range of energy-related challenges and security issues.

2.1 Definition of Energy Security:

Energy security refers to "the assurance of a sustainable and reliable energy supply on which the economic and social system can depend without facing risks or threats that could affect the continuity of

supply or the quality of performance" (Breyer & Azzuni, 2018, p. 237). It is also defined as "the guarantee of access to energy in its various forms and the continuity of this access at prices affordable to consumers"¹.

The European Union defines energy security as "the guarantee of a sustainable, stable, and reasonably priced energy supply that meets the needs of the economy and society while minimizing risks arising from overdependence on external suppliers or unsustainable energy sources"².

In 1997, Baldwin proposed a different approach to defining energy security, arguing that the concept must answer three fundamental questions: *For whom? To protect what? From what?*³.

For Whom is Energy Security?

According to Baldwin, understanding energy security begins by identifying the entity to be protected. Traditionally, the focus was primarily on states, especially industrialized and energy-importing countries. However, with economic and political changes, the range of stakeholders has expanded to include both energy-producing and energy-consuming countries, international organizations involved in energy affairs, energy sector institutions, and even ordinary individuals as energy consumers. This broadening reflects a shift from a narrow state-centered view to a comprehensive perspective that considers the diverse actors influencing the energy sector and the needs of the energy system.

• **What Values Does Energy Security Protect?**

Baldwin links energy security to a set of fundamental values that societies strive to protect. Historically, energy security was closely related to political values such as territorial integrity and political independence. Control over oil was seen as a crucial element of national security since states sought to secure oil supplies to avoid pressures or threats from other countries.

Currently, the values associated with energy security have become more diverse. Beyond political values, energy security now encompasses social stability—by preventing disturbances among the population due to energy shortages—economic welfare, by providing affordable energy that supports economic growth, and environmental sustainability, which involves preserving the environment and avoiding its degradation and imbalance.

- **What Threats Does Energy Security Face?**

Baldwin highlights that energy security must involve protecting energy supplies from various potential threats, including geopolitical, environmental, technical, or infrastructure-related risks. This protection ensures the continuity and sustainability of energy supply capable of meeting the needs of societies and economies.

Based on the foregoing, energy security can be understood as the state's capacity to secure the energy supplies necessary for its economic and social needs at all times, through ensuring stable energy production and distribution while safeguarding them from internal and external threats.

5. The Importance of Energy Security:

Energy security is a fundamental pillar for achieving stability across many vital sectors within states. Its importance can be summarized in three main areas ⁴:

Economic Disruptions:

Energy security forms the foundation for a strong and stable economy. Today's economies are heavily dependent on technology, making continuous energy supply essential for the uninterrupted operation of critical sectors. Any disruption in energy supply or delays in the production and distribution of fuel and electricity can result in significant economic losses, operational disruptions, and increased operating costs due to reliance on backup sources. Such disturbances also negatively affect market stability. The energy crisis in

California during 2000–2001 exemplifies this, where frequent short power outages caused millions of dollars in losses to companies and disrupted supply chains. Here's a more natural and humanized revision of your provided text segment, keeping the academic tone and flow smooth. Therefore, policies that prioritize investment in sustainable energy infrastructure and the development of renewable energy sources serve as effective means to promote economic stability and foster sustainable development—particularly in economies driven by innovation and growth.

Public Health and Safety:

Energy security is a top priority in safeguarding public health and community safety. It is crucial to have a secure and stable energy supply to facilitate proper delivery of healthcare services, particularly hospitals and healthcare facilities that depend significantly on energy to run biomedical devices. It also guarantees the correct storage of temperature-sensitive medication and provides lighting, heating, and water supply during times of crises. Any interruption or irregularity in the power supply can compromise these essential services, directly impacting patient care and outcomes.

Furthermore, energy shortages or supply outages can force individuals to turn to unsafe substitutes, including poorly serviced fuel generators, firewood, or charcoal, to use for cooking and heating purposes. Such a practice raises the risk of household incidents, such as incidences of fires and carbon monoxide poisoning. Furthermore, burning the substitutes in poorly ventilated spaces raises both indoor and outdoor air pollution levels, which can have long-term negative health effects on the general population.

Hence, energy security is not only economic; rather, it is an essential requirement for safeguarding personal welfare and providing a better standard of life.

Possible Environmental Consequences of Disruptions in Energy Security:

Disruptions to a country's energy security carry severe environmental impacts that question the integrity and health of environments. Oil spillage from tankers or via offshore drilling can result in extensive coastal and marine ecosystems contamination. Additionally, energy shortages can lead to increased use of dirtier and less efficient power plants, which will, in turn, increase greenhouse gases and accelerate climate change.

The rush to seek alternative sources of energy in times of crisis can also lead to unsustainable exploitation of natural resources like deforestation and unrestricted mining, which displace ecological balance and annihilate biodiversity.

Thus, it is crucial to ensure energy stability in order not to face such environmental issues. By ensuring stable and sustainable energy sources and guarding them, the dependency on environmentally harmful energy sources is reduced, thereby safeguarding the environment and conserving natural resources for future generations.

6. The Current State of Energy Security in Algeria

To evaluate Algeria's energy security situation, a careful analysis of the energy production potential and availability of reserves in the country must be made. Enhanced production capacity greatly contributes to energy security.

6.1 Energy Generation in Algeria:

Algeria's economy is heavily reliant on revenues generated from natural gas and oil due to its natural abundance and geographical strategic positioning. Consequently, the energy sector is one of Algeria's most significant strategic sectors, rendering Algeria a leading regional and global energy provider.

- **Oil Production Capacity in Algeria:**

Algeria is a key player in the oil industry, being one of the top producers in the African region and Arab world. As a founding member of the Organization of the Petroleum Exporting Countries (OPEC), Algeria wields significant influence in

determining production limits that will steady the global oil market. As such, an informed assessment of Algeria's oil production capacity is essential to any in-depth examination of its broader energy sector.

Table 1: Evolution of Algeria's Crude Oil Production (2019–2023)

Unit: Thousand barrels per day

Year	Production Volume (Thousand Barrels/Day)
2019	1,023
2020	899
2021	911
2022	1,020
2023	973

Source: Prepared by the author based on OPEC (2023, p.17)

Table 1 illustrates the variations in Algeria's crude oil production from 2019 to 2023. The production hit a low in 2020, when it fell to 899 thousand barrels per day. The reduction was primarily caused by the OPEC+ production cut in response to the COVID-19 crisis that had escalated into a global crisis. These steps were taken to counteract the sharp fall in global demand and stabilize the oil price.

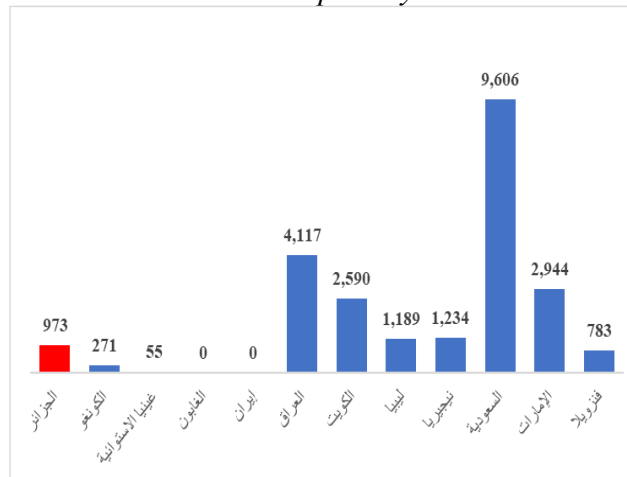
As a committed member of OPEC, Algeria respected the collectively agreed production cut, in line with the organization's strategy to limit the oil surplus and maintain market balance. Oil production gradually regained ground in 2021-2022 to 1,020 thousand barrels per day. The rebound followed the easing of restrictions in the second half of 2021, despite the fact that a production ceiling remained in place to moderate market fluctuations.

However, in 2023, the production declined again, decreasing to 973 thousand barrels per day. The decline was indicative of lower worldwide demand as a result of an economic downturn and increased geopolitical uncertainty. In keeping with this, Algeria realigned its strategic priority to the growth of the natural gas segment, thereby

influencing the rates of oil production in that particular year.

In order to better perceive Algeria's oil production capacity, it is helpful to compare its production to that of other oil-supplying countries and thereby position Algeria's role and weight in the international oil market:

Figure 1: Oil Production by Major Oil-Producing Countries in 2019
Unit: Thousand barrels per day



Source: Prepared by the author based on OPEC (2023, p.17)

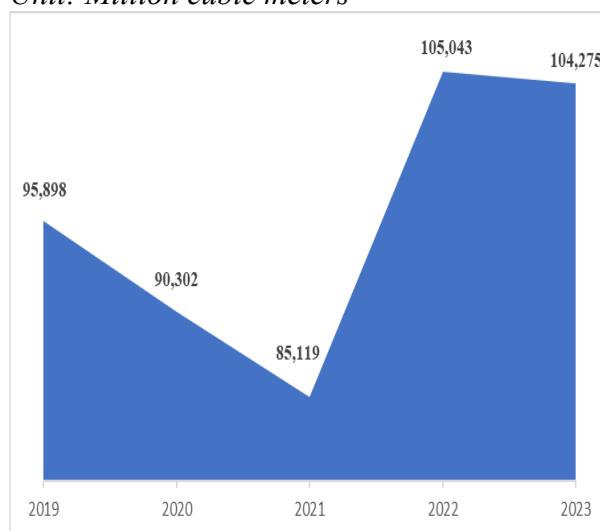
Figure 1 shows that Algeria's crude oil production of 973 thousand barrels per day reflects a moderate production capacity. While it surpasses countries such as Congo and Equatorial Guinea, it remains far behind major producers like Saudi Arabia (9,606 thousand barrels per day) and Iraq (4,117 thousand barrels per day). Consequently, Algeria is not in a strong position to influence the market or respond to oil crises with the same effectiveness as larger producers. Its moderate production capacity makes Algeria highly dependent on the stability of international markets and oil prices to ensure its energy security.

Despite this, Algeria's crude oil production is sufficient to meet domestic demand and generate an export surplus, underscoring its importance as a regional oil-producing country.

- **Marketed Natural Gas Production in Algeria:** Algeria's marketed natural gas production is influenced by changes in domestic consumption on one hand and

commitments to internal and external contractual obligations on the other ⁵. Domestic and international demand directly control production volumes, which can have a direct impact on Algeria's energy security.

Figure 2: Evolution of Algeria's Marketed Natural Gas Production (2011–2019)
Unit: Million cubic meters



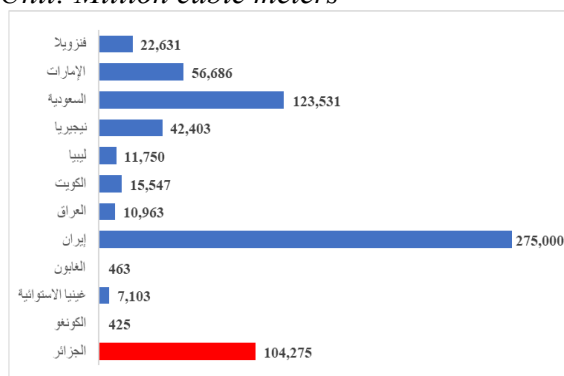
Source: Prepared by the author based on OPEC, Annual Statistical Bulletin 2024 (2024)

Figure 2 above illustrates the development of Algeria's marketed natural gas production between 2019 and 2023. The figure shows a slight decline during the first three years of the study period, primarily due to the impact of the COVID-19 pandemic and associated market fluctuations at that time. However, Algeria was able to recover to high production levels over the subsequent two years, reaching 104 million cubic meters in 2023. This recovery reflects the resurgence of the natural gas sector in Algeria after the pandemic and the country's focus on its development.

This production stability strengthens Algeria's position in terms of energy security and helps ensure local energy supplies without relying on external parties. It also enhances Algeria's active political and economic role at the international level.

To further illustrate Algeria's standing, it is useful to compare its marketed natural gas production with that of other producing countries during the same period:

Figure 3: Natural Gas Production by Country in 2019 2023
Unit: Million cubic meters



Source: Prepared by the author based on Statista (2017)

Figure 3 shows that Algeria's marketed natural gas production places it among the largest producers, especially when compared to countries such as Congo (425 million cubic feet) and Equatorial Guinea (7,103 million cubic feet). This confirms Algeria's strong regional and international position in gas production.

However, when compared to major producers like Iran (275,00 million cubic feet) and Saudi Arabia (123,531 million cubic feet), Algeria still needs to increase investments in the natural gas sector to boost its production, especially given the intensifying global competition for markets.

While current production levels support Algeria's energy security in the short term, long-term challenges remain due to its limited production relative to major producers. Thus, to ensure sustainable energy security, Algeria must improve production efficiency and diversify its energy sources, particularly in light of ongoing economic and political changes on the global stage.

• 6.3 Renewable Energy Production in Algeria:

Algeria's renewable energy sector has witnessed significant development in recent years, driven by the government's effective strategy to diversify energy sources and reduce dependence on depletable resources. Algeria boasts one of the highest solar irradiation levels worldwide, with approximately 2000 hours of annual sunlight across the entire national territory, reaching

up to 3900 hours in the high plateaus and Sahara regions. The annual solar energy received on a horizontal surface of 1 m² is estimated at about 3 kW/m² in the north and exceeds 5,6 kW/m² in the southern regions⁶ (National Investment Promotion Agency, 2024).

Algeria aims to launch major projects to increase its renewable energy output, which remains relatively low compared to conventional sources such as oil and natural gas.

Table 2: Development of Renewable Energy Capacity in Algeria (2019–2023)
Unit: Megawatts (MW)

Year	Solar Energy	Wind Energy	Total Renewable Capacity
2019	–	–	–
2020	451	10	461
2021	452	10	462
2022	835	16	851
2023	835	16	851

Source: Prepared by the author based on IRENA (2022) and IEA (2024)

Table 2 shows the growth of Algeria's renewable energy capacity during 2019–2023. No data was recorded for 2019 as Algeria was in the early stages of its renewable energy development project. The country began utilizing renewable energy in 2020 with a total capacity of 461 MW, comprising 451 MW of solar and 10 MW of wind energy. A slight increase occurred in 2021, mainly due to the expansion of solar energy. The last two years of the study period witnessed a significant leap, with solar energy production reaching 835 MW and wind energy 16 MW, totaling 851 MW.

This increase reflects the substantial scale of renewable energy projects in Algeria and marks an important step toward strengthening Algeria's energy security by supporting sustainable energy and diversifying energy sources.

7. Algeria's Energy Reserves:

Algeria possesses large and diverse energy reserves, positioning it strategically

both regionally and internationally. These reserves are summarized in the following table:

Table 1: Algeria's Energy Reserves in 2019

Resource	Proven Reserves
Crude Oil	1.72 billion barrels
Natural Gas	4,727 billion cubic meters
Shale Gas	22 trillion cubic meters

Source: Prepared by the author based on OPEC, Annual Statistical Bulletin (2024)

Table 1 highlights Algeria's vast energy reserves as of 2023, with substantial proven reserves of crude oil (12.2 billion barrels) and natural gas (4,504 billion cubic meters). These reserves ensure a sustainable coverage of the domestic market, particularly amid rising demand for fuel and electricity. Furthermore, these reserves enhance Algeria's ability to confront energy crises, guarantee energy availability for future generations, and reduce its vulnerability to external shocks resulting from fluctuations in the international market.

Regarding shale gas, estimated at 20 trillion cubic meters, it represents a non-conventional energy source and forms the backbone of Algeria's national energy sector. It is exploited to meet domestic demand and is also exported to global markets, especially Europe, in various forms including liquefied natural gas and pipeline gas.

In addition to these reserves, there are renewable energy sources, such as solar and wind power, which cannot be stored like conventional energy sources due to their reliance on natural elements that are difficult to control. However, these energies can be stored using various technologies. Therefore, Algeria is working to develop a comprehensive renewable energy program to meet national energy needs, with a total capacity reaching 22,000 MW, distributed across the following sectors ⁷:

Table 2: Renewable Energy Development Program Capacity in Algeria

Sector	Capacity (MW)
Photovoltaic Solar Energy	13,575
Concentrated Solar Power Project	5,010
Cogeneration	2,000
Wind Energy	400
Biomass	1,000
Geothermal Energy	15

Source: Prepared by the author based on National Investment Promotion Agency (2017)

Table 2 shows that Algeria's renewable energy development program aims to achieve sustainable energy stability. Algeria seeks to capitalize on its significant solar potential, especially in desert regions that enjoy high solar irradiation throughout the year, by converting it into photovoltaic energy with a capacity of approximately 13,575 MW. The concentrated solar power project is allocated a capacity of 5,010 MW to enhance Algeria's ability to store solar energy for later use in meeting energy demands.

Algeria has invested in cogeneration to improve energy efficiency by utilizing multiple energy sources within a single facility, with an installed capacity of 2,000 MW, which supports the sustainability of electricity production. Wind energy is allocated 400 MW, reflecting Algeria's commitment to diversifying its energy sources. Biomass-generated energy accounts for 1,000 MW, representing a significant step toward converting waste into energy. Geothermal energy remains limited at 15 MW.

8. Public Policies on Energy Security in Algeria:

Given the critical importance of energy security and in response to national and international economic and social transformations, Algeria has adopted diverse energy policies since its independence. These policies can be outlined through the following phases:

8.1 Energy Policies Between Independence and Nationalization (1962–1971):

During the period between independence and the nationalization process, Algeria focused on strengthening its energy security by regaining control over its national resources and restructuring its economy to reduce dependence on foreign companies and, consequently, external reliance. The first step was expanding the authority of Sonatrach in 1966 from a national company responsible for extraction, transport, and marketing to becoming the cornerstone of national energy policies. This was followed by the nationalization of the oil sector, initiated by the late President Houari Boumediene in 1971, which granted the country control over 51% of foreign companies' oil activities ⁸.

8.2 Policies to Achieve Economic Balance and Source Diversification (1970–1980):

Between 1970 and 1980, Algeria attempted to adopt policies aimed at economic balance by diversifying the national economy and not relying solely on hydrocarbon revenues. In the First Four-Year Plan (1969–1974), large investments (19%) were allocated to hydrocarbons, decreasing to 11% in the Second Four-Year Plan (1979–1984), reflecting government efforts to diversify the economy and expand other sectors such as industry, technology, and agriculture ⁹.

8.3 Structural Reforms and Transition to a Market Economy (1980–2000):

During this period, Algeria implemented a series of economic reforms aimed at shifting from a state-controlled economy to a free market. The reforms included privatizing some state-owned companies, liberalizing prices, and reducing government subsidies. To secure the energy sector amidst efforts to attract foreign investment and companies, Algeria enacted the Hydrocarbon Law in 1986 and worked to increase oil reserves by developing existing fields and expanding extraction activities ¹⁰.

8.4 Energy Policies in the New Millennium:

Since the early 2000s, Algeria has adopted a series of energy policies aimed at enhancing energy security, ensuring sustainability in this strategic sector, and overcoming growing challenges. In 2001, Algeria passed a new hydrocarbon law to modernize the sector and enhance its attractiveness to foreign investors, improving the energy sector's efficiency and access to advanced production technologies. In 2005, amendments were made to this law to strengthen Sonatrach's role, ensuring state control over resources while increasing operational efficiency and international partnerships, balancing national sovereignty with operational effectiveness.

In 2010, renewable energy projects were launched to reduce dependence on depletable traditional energy sources by producing solar and wind energy. In 2011, a national energy security plan was introduced focusing on strengthening energy infrastructure to meet increasing domestic demand, improve efficiency, and reduce power outages. The plan's main objective is to ensure sustainable energy availability to support local economic growth.

Recognizing the importance of unconventional energies, Algeria began exploring and developing shale gas in 2013 to expand its energy resource base and increase production. This approach was approved by parliament in 2015 ¹¹. Subsequently, in 2015, Algeria launched an ambitious solar energy program targeting a production capacity of 4,500 MW by 2030 ¹².

These efforts coincided with a strategic shift in natural gas exports in 2016, aiming to expand markets towards Asia and diversify beyond the European market. In 2019, Algeria began studying the possibility of nuclear power generation, introducing a new energy resource that would further strengthen national energy security (Algerian Press Agency, 2019).

Algeria has also seen notable development by signing new agreements with African and European countries in 2021 to enhance its export infrastructure and launched several initiatives aimed at

producing green hydrogen in 2023 to meet future clean energy demand ¹³.

All these strategies reflect Algeria's commitment to preserving its energy resources, achieving energy security, reducing economic and geopolitical challenges, and ensuring sustainable energy for the country.

9. The Contribution of Energy Security to Shaping Algeria's Public Policy:

Given the significant importance of energy security for Algeria, many of the country's public policies are formulated with the objective of achieving this goal. The role of energy security in shaping Algeria's public policy can be illustrated through the following elements:

9.1 The Role of Energy Security in Shaping the Country's Economic Policy:

Energy security plays a fundamental role in guiding Algeria's economic policies, as the country relies primarily on oil exports for its revenues. Table 5 below shows that oil exports accounted for a substantial share of the country's total exports, ranging between 90% and 94% during the period 2019–2023, confirming the near-total dependence on the energy sector.

Table 5: Volume of Oil Exports in Algeria (2019–2023)

Year	Oil Exports (Million USD)	Percentage of Total Exports (%)
2019	33,244	94.14
2020	21,495	92.25
2021	30,800	90.59
2022	34,360	90.42
2023	37,800	90.00

Source: Prepared by the author based on reports from the Bank of Algeria, available at <https://www.bankalgeria.dz>

This heavy reliance on the energy sector makes energy security an economic priority. Consequently, Algeria's public policies are directed towards enhancing the sustainability of energy resources through investment in exploration, production, and technology, with a focus on diversifying energy sources, such as solar energy, to

reduce dependence on fossil fuels. Energy security also influences export and pricing policies to align with national revenue interests and strengthen Algeria's position in global markets.

Additionally, Algeria's energy supply agreements with foreign countries play a pivotal role in attracting foreign investment and developing infrastructure, supporting economic growth and protecting the country from volatility arising from geopolitical or economic crises.

9.2 The Role of Energy Security in Shaping the Country's Foreign Policy:

Energy security plays a significant role in shaping Algeria's foreign policies and its interactions with other countries. As one of the world's largest producers and exporters of natural gas—with proven reserves estimated at 4,727 billion cubic meters according to the *OPEC Annual Statistical Bulletin 2024*—Algeria leverages its energy resources as a political tool. This positions the country as a key geopolitical player in the region.

This role has become especially pronounced in recent years, particularly following the outbreak of the Russian-Ukrainian war, which heightened Algeria's importance as a natural gas supplier to Europe. In response, Algeria signed a \$7 billion agreement with Italy as part of its strategy to deepen relations with Mediterranean countries and the European Union, compensating for the shortfall in Russian gas supplies (APS, 2022).

Energy security also plays a pivotal role in Algeria's foreign relations with Morocco. When Algeria severed diplomatic ties with Morocco in 2022 due to political disputes, energy security became a central issue. Algeria halted the flow of gas to Morocco via the Maghreb-Europe pipeline, a move that directly impacted Morocco's economy. This episode clearly

Similarly, energy security played a crucial role in Algeria's approach toward Spain in 2022 amid political disagreements. This led Algeria to announce a reassessment

of its energy relations with Spain and delay the signing of new gas supply contracts.

Overall, it can be concluded that Algeria leverages its status as a major energy producer to influence its foreign policy, particularly when political interests intersect with economic considerations.

6. Conclusion:

This study has aimed to highlight the significance of energy security and its current state in Algeria, as well as to clarify its influence on the country's public policies. It is clear that Algeria, as one of the world's leading energy powers, is actively working to safeguard its energy resources and strategically utilize them as instruments of influence in both economic and political spheres.

The key findings of this study can be summarized as follows:

- Algeria possesses a moderate crude oil production capacity, which is lower than that of major oil-producing countries;
- Algeria's natural gas production capacity ranks it among the world's largest producers, strengthening its short-term energy security, though long-term challenges may arise;
- To enhance its energy security, Algeria is expanding renewable energy projects to achieve sustainability and seek non-depletable energy sources;
- Since independence, Algeria has implemented diverse energy policies reflecting its commitment to preserving its energy resources, achieving energy security, mitigating economic and geopolitical challenges, and ensuring energy sustainability;
- The Algerian economy heavily depends on oil exports, making energy security a strategic priority in economic policies. Algeria focuses on sustaining energy resources and diversifying energy sources to bolster its global market position and support economic growth;

Energy security plays a crucial role in shaping Algeria's foreign policy. As a major natural gas exporter, Algeria uses this strategic resource to influence its

international relations. This is clearly exemplified by its agreement with Italy, designed to compensate for the reduction in Russian gas imports following the outbreak of the war in Ukraine. Similarly, Algeria's energy resources have been central to its political stance toward Morocco and Spain, where control over energy supply has served as a tool for exerting political influence.

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⁹ Bakhouch, 2023, p. 102

¹⁰ Meghrabi, 2023, p. 445

¹¹ Ayoussef, 2019, p. 72

¹² Ministry of Energy, Mines and Renewable Energies, 2015

¹³ Algerian Press Agency, 2023

¹ Bouhdeed & Bouhedna, 2022, p. 292.

² European Commission, n.d., p. 01.

³ Cherp & Jewell, 2014, pp. 417–418.

⁴ Brown, Rewey, & Gagliano, 2003, pp. 08–12

⁵ Ziane, 2024, p. 81

⁶ National Investment Promotion Agency, 2024