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The Role of Energy Diplomacy in Securing the National Interests of the Islamic Republic of Iran During the Rouhani Presidency

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ABSTRACT

The present study aims to examine the role of energy diplomacy in securing the national interests of the Islamic Republic of Iran during the presidency of Hassan Rouhani. This research analyzes various dimensions of energy diplomacy, including primary objectives (sustainable energy production and supply, interaction with other countries, and identification of target markets) and secondary objectives (diversification of energy partners, leveraging Iran's geographical position, technological development, and reduction of energy costs). The research methodology is based on correlation analysis, ANOVA statistical tests, and multivariate regression, along with SWOT analysis and the TOPSIS decision-making model. The findings indicate that energy diplomacy, through a strategic and multidimensional approach, has played a significant role in securing national interests and expanding international interactions and market diversification. In addition, challenges such as economic sanctions and weaknesses in energy technology have been identified as major obstacles. Ultimately, the study emphasizes the importance of developing indigenous technologies and enhancing strategic cooperation to ensure the country's future energy security and sustainability.

Keywords: *Energy diplomacy; national interests; primary and secondary objectives; Islamic Republic of Iran; Rouhani presidency*

Introduction

National interest is one of the most fundamental and widely used concepts in contemporary political discourse, particularly in the literature related to states' foreign policy. This concept is composed of two terms—interest and national—each of which carries broad semantic scope, a fact that has contributed to a degree of conceptual ambiguity surrounding national interest. The concept of national interest has been employed since the Peace of Westphalia (1648) and the formation of nation-states, where it may be understood as the primary and enduring objectives of states. From the perspective of political science and within the field of international relations, national interests are regarded as those interests that states, as collective entities and on behalf of their nations, seek to realize in their relations with other countries (1). In this regard, many political scientists emphasize that the pursuit and preservation of national interests constitute an unavoidable option in the arena of international relations, stressing that while states do not have eternal commitments to one another, national interests are enduring. They

further argue that national interest represents a critical lens through which most states perceive the world, identify their adversaries, and secure the allegiance of their citizens (2).

Political theorists, including Hans Morgenthau, argue that in terms of importance, the principal dimensions of national interests can be classified into three categories: vital interests, important interests, and marginal interests. Vital interests are those directly related to the survival of the state and are non-negotiable; important interests are those that states strive to protect through negotiation; and marginal interests are those pursued primarily to enhance bargaining power and may be relinquished if necessary (3). Scholars in political science and international relations further stress that the concept of national interest in foreign policy is fundamentally grounded in the notion of power. Accordingly, the greater a country's capabilities across various dimensions of power, the more effectively it can employ purposeful diplomacy to secure its national interests—whether vital, important, or marginal (4, 5).

In this context, the asymmetric global distribution of energy resources and the steadily increasing demand for energy within the geopolitics of energy have positioned some countries as major exporters and others as major importers. Alongside global competition for dominance over energy and raw material markets, this dynamic has led to transformations in the international political economy and the growing predominance of economic logic in foreign policy, particularly with respect to securing national interests. Consequently, scholars argue that access to energy resources, combined with the rational, strategic, and goal-oriented use of energy diplomacy, plays a decisive role in shaping states' positions within political hegemony and in safeguarding their national interests in the international arena (6, 7). As diplomacy has increasingly shifted from a purely security–political orientation toward an economic–political one, greater emphasis has been placed on coordination between diplomatic and economic institutions. Such coordination, especially through economic power instruments, enhances states' credibility, security, and competitiveness in pursuing national interests, prompting countries to seek new capacities and opportunities to strengthen their economic advantages. Within this framework, energy has emerged as one of the most significant economic assets, occupying a central role in diplomacy and the protection of national interests across multiple dimensions of international relations (8). Accordingly, over recent decades, energy-producing and energy-exporting countries have placed particular importance on the strategic use of energy diplomacy, employing it intelligently to advance their national interests on the global stage (9).

The preservation of national interests is considered one of the most fundamental, overarching, and strategic objectives of all governments worldwide. In political science—and especially in international relations—the concept of national interest and the necessity of safeguarding it occupy a central position in the formulation of foreign policy (10). In each country, national interests are defined in accordance with its geopolitical and historical conditions and are aligned with the society's vital values and core principles. In the Islamic Republic of Iran, since its establishment, attention to national interests has held a prominent place both in theoretical discourse and in practical policymaking at the domestic and foreign levels. This emphasis has been repeatedly underscored by senior officials of the system. Within this context, energy and the strategic use of energy diplomacy in foreign policy constitute one of the most important capacities through which Iran has sought to enhance its regional and international power position and protect its national interests, particularly given that securing energy resources represents one of the foremost challenges facing states today. Consequently, countries that possess, produce, and export energy resources enjoy a distinctive position in the international system (11).

Given these considerations, Iran—holding some of the world's largest energy reserves and ranking among major producers and exporters—has consistently played a significant role in supplying global energy markets. Following

the Islamic Revolution, this role gained added importance due to the growing energy needs of both developed industrialized countries and developing economies. Successive governments of the Islamic Republic have therefore sought, in line with their foreign policy strategies, to utilize energy diplomacy as a key comparative advantage in securing national interests. During the presidency of Hassan Rouhani (2013–2021), the government, over eight years of executive leadership, placed particular emphasis on employing energy diplomacy as one of the core strategic pillars of its foreign policy doctrine. Through engagement, interaction, negotiation, and political bargaining at the international level, energy diplomacy was repeatedly highlighted by the president, the foreign minister, and other senior officials as a principal instrument for advancing Iran's national interests. Nevertheless, the extent to which energy diplomacy contributed to securing the national interests of the Islamic Republic of Iran during the Rouhani presidency, and the degree of success achieved across different dimensions—namely vital and primary objectives, secondary or medium-term objectives, and long-term global objectives—remain insufficiently examined. Accordingly, this study seeks to address the fundamental question of what role energy diplomacy played in securing Iran's national interests during the Rouhani presidency and how effectively the government employed this instrument in achieving its primary and secondary national objectives.

Theoretical Foundations of the Study

National Interest:

The term *national interest* was first introduced in Europe and subsequently spread to other parts of the world (12). Political science scholars maintain that national interest in each country is defined in accordance with that country's geopolitical and historical conditions and is aligned with the society's vital values, core principles, and broadly accepted norms (13). From a theoretical standpoint in political science, two major schools of thought have addressed national interest: realism and idealism. Just as definitions of national interest include numerous shared and divergent elements, scholars have also presented substantial points of convergence and disagreement regarding its components, instances, and dimensions (4).

Holsti argues that national interest constitutes a foundational objective, an ultimate criterion, and a general guide for determining and explaining foreign policy. In this view, national interest emerges from a broad understanding of the elements that form the most vital needs of a country. Holsti proposes an analytical framework that organizes three categories of objectives under the rubric of national interest:

1. **Vital and primary objectives**, for which nations are generally prepared to make the greatest sacrifices. These objectives determine the overarching principles and major axes of foreign policy, focusing on safeguarding state existence, self-determination, and ultimately national security. Vital interests and values fall within this category and are typically most closely linked to the preservation of a political entity, since political units cannot pursue other objectives without ensuring their survival. The precise identification of vital interests in a particular country depends on the orientations of its policymakers. Examples include independence, national security, territorial integrity, economic welfare, and the preservation and strengthening of a given way of life. These objectives are immediate and are usually more numerous than other categories.
2. **Secondary or medium-term objectives**, which are time-intensive and take priority after short-term objectives. Examples include regional dominance, promoting values abroad, weakening an opponent, and

expanding economic opportunities overseas. In the national interest framework, these objectives concern intergovernmental relations aimed at advancing public and private purposes, social welfare, economic development, commercial relations, reputation enhancement, and the expansion of influence and dominance through various types of agreements.

3. **Long-term global objectives**, which encompass plans, practices, and conceptions related to the ultimate political or ideological organization of the international system, the rules governing relations within that system, and the role of particular states in it. The distinction between medium-term and long-term objectives is not limited to the time factor inherent in them; it also involves an important difference in scope. When pursuing medium-term objectives, states usually make specific demands of specific states, whereas in pursuing long-term objectives, states' demands are typically global. Long-term objectives relate to rulers' distant ideals, conceptions, and aspirations for creating a new international system or order, global governance, a new political and economic order, and transformative change in human society (5).

Energy Diplomacy:

In political science, diplomacy is defined as the art and practice of leading negotiations among nations in order to reach agreement; it is also used to refer to the customs, protocols, ceremonies, and methods associated with conducting political negotiations. In contemporary usage, diplomacy is likewise described as the knowledge and practice of communication among political leaders and heads of state (14). Political thinkers have proposed various definitions of diplomacy; for example, Watson defines diplomacy as negotiation among political entities that mutually recognize one another's independence. Within this conceptual space, energy diplomacy is viewed as a form of proactive diplomacy that defines a new "game" in meeting actors' security requirements by setting comprehensive energy agendas and formulating global behavioral rules in the energy sector. Accordingly, success in energy diplomacy is understood not as abruptly overturning the "game" through reactive behavior, but rather as creating incentives to sustain it (15).

Hans Morgenthau:

Among theorists of international relations and diplomacy, Hans Morgenthau defines diplomacy as the art of relating the elements of national power, in the most effective manner, to those features of international conditions that are relevant to safeguarding and securing national interests (3). He argues that, historically, diplomacy has progressed from traditional or state-centric diplomacy to unconventional diplomacy, and that following the end of the Cold War it has entered an era of multidimensional diplomacy in which—alongside states and governments—international organizations and institutions play a highly salient role. In this multidimensional or plural diplomacy, diverse instruments of power—such as military, informational, technological, political, and economic power—are decisive in shaping diplomatic relations among states. In articulating the role of economic power in political economy, Morgenthau underscores energy diplomacy and the geopolitical and geostrategic significance of energy for states in today's world, describing it as an instrument of soft power in the international arena (3).

Morgenthau further conceptualizes *energy diplomacy* as a strategic, comprehensive, and effective program that systematizes a country's international interactions in the energy domain and clarifies the overarching framework of agreements. In general, a country's energy diplomacy facilitates opportunities for international engagement aimed at maximizing geopolitical and geoeconomic gains, and it seeks—through reliance on energy instruments—to

reduce international threats. Because energy needs generate enabling conditions for concluding treaties, pacts, and international relations, energy diplomacy functions as a competitive program that can create the conditions for achieving maximum national benefits in energy-based international relations. Morgenthau identifies the following eleven dimensions as core components of energy diplomacy that can be effective in securing national interests in the international arena of foreign policy (3):

1. Planning for sustainable energy production and supply and maintaining continuous presence in the global energy market.
2. Using advanced technology to reduce production and supply costs and to preserve competitive advantage.
3. Constructive and strategic interaction with other energy-producing and energy-supplying countries to maintain market share.
4. Constructive interaction with other producers to strengthen influence in global energy price-setting.
5. Constructive interaction with other producers to determine the portfolio of exported energy carriers.
6. Sustained, continuous, and influential participation in regional and international energy companies, institutions, and organizations in support of supply security and demand security.
7. Strategic identification of stable target energy markets.
8. Determining the type of presence in selected markets and formulating long-term, stable contracts.
9. Studying and analyzing the attractiveness or unattractiveness of participating in treaties or global energy organizations (such as OPEC or the Gas Exporting Countries Forum) and making decisions regarding participation.
10. Maximizing diplomatic and political use of geopolitical position to influence global energy markets.
11. Strategic positioning regarding global commitments in the energy market (3).

In this study, the theoretical framework for the research variables draws on Holsti's theory for the variable of national interest and on Morgenthau's theory for the variable of energy diplomacy. Regarding national interest, Holsti argues that national interest is a foundational objective, an ultimate indicator, and a general guide for determining and explaining foreign policy, and that it reflects an overall understanding of the elements constituting a country's most vital needs. He organizes national interests into three categories of objectives: (1) vital and primary objectives related to safeguarding existence, self-determination, and national security; (2) secondary or medium-term objectives related to intergovernmental relations, welfare, development, commerce, reputation, influence, and dominance through agreements; and (3) long-term global objectives concerning the desired political or ideological organization of the international system and the state's role within it (5).

With respect to energy diplomacy, the eleven dimensions identified above are treated as the core components through which energy diplomacy may contribute to securing national interests in the international arena. This perspective highlights the role of energy diplomacy in foreign policy and international relations as a key mechanism for advancing national interests, and it emphasizes that energy diplomacy has become a major source of soft power that shapes states' regional and global standing, their influence, and their bargaining capacity in international relations in pursuit of national interests across different levels, including vital, important, and marginal interests (3).

Research Background

The study by Karimi et al. (2021), entitled *"Redefining Iran's Energy Diplomacy Policy in Natural Gas for the 2041 Horizon: Necessity or Choice?"*, argues that one of the most important areas of discussion and decision-making in

energy diplomacy concerns the purchase, sale, exchange, and transit of various energy carriers with the aim of enhancing international political security (16). Among different energy carriers, natural gas—due to the high level of interdependence it creates—constitutes the main focus of their analysis. The authors note that Iran's gas diplomacy has thus far primarily concentrated on exports; however, an exclusive export-oriented approach no longer serves Iran's national interests for three main reasons. Consequently, Iran's gas diplomacy policy faces both an opportunity and a threat, and export-centered strategies will not secure national interests in the coming years. Redefining this policy is therefore not a matter of choice but an undeniable necessity, with the study's minimum recommendation being the adoption of a combined strategy of simultaneous gas and electricity exports and imports.

The findings of Roshan Zamir and Reyhani Asadabadi (2019), in a study entitled *"The Position of National Interests in Foreign Policy from the Perspective of the Qur'an,"* aimed to examine and analyze theories and schools of thought related to national interest from a Qur'anic perspective (17). Their results indicate that Islam does not reject material interests, but rather recognizes the pursuit of such interests as a rational endeavor. What is rejected from the Qur'anic perspective is the confinement of interest solely to material gains and their pursuit by any possible means. While the Qur'an does not grant intrinsic legitimacy to nationality or ethnicity as understood in contemporary terms and rejects superiority-seeking based on such criteria, it nonetheless accepts the existence of nations as diverse peoples as an undeniable reality and considers distinctions based on nationality and tribe necessary for identification. From this viewpoint, taking national interests into account in a country's foreign policy and in political, economic, cultural, and other forms of interaction with other states is not problematic, nor does it imply encroachment upon others' interests or disregard for their rights.

In another study, Tarighi and Taheri (2018), in *"Energy Diplomacy in Iran's Strategic Foreign Policy Documents,"* emphasize that the formulation and consolidation of energy diplomacy as a fundamental component of macro-level foreign policy is an unavoidable necessity for a country such as Iran, which possesses vast energy reserves and the capacity to produce various strategic forms of energy (18). They argue that by shaping Iran's strategic behavior in international relations, energy diplomacy can and should focus on increasing Iran's share of the global economic market, while also providing a foundation for domestic economic development and facilitating regional and international cooperation. Any diplomatic capacity-building aimed at expanding trade exchanges and enhancing Iran's economic capabilities not only increases national revenues and accelerates economic development, but also helps overcome regional and transregional threats and address geopolitical constraints.

In this context, the study by Wijaya and Kresnawan (2021), published by the ASEAN Energy Center, emphasizes the vital role of energy diplomacy in developing renewable energy infrastructure in Southeast Asian countries (19). They argue that international interactions and the establishment of multilateral cooperation lead to increased foreign investment, improved access to advanced technologies, and the sustainable provision of national interests. This research conceptualizes energy diplomacy as a bridge between domestic economic objectives and international commitments.

Similarly, Ahmed (2025), in an article published in *Modern Diplomacy*, provides an in-depth analysis of the interaction between oil and gas reserves and states' foreign policies (6). He contends that energy-rich countries leverage their resources in negotiations related to security, investment, and climate policymaking, concluding that energy diplomacy is one of the most important geopolitical tools for safeguarding national interests in the highly tense international environment of the twenty-first century.

In an analytical note, La Camera (2025), Director-General of the International Renewable Energy Agency (IRENA), argues that the intelligent management of the energy transition toward clean sources not only contributes to environmental sustainability but also reshapes countries' geopolitical positions (20). He maintains that states capable of aligning their foreign policies with the energy transition will be better positioned to secure their national interests amid global transformation.

According to a 2023 report by the German Institute for International and Security Affairs, the European Union's post-crisis reassessment of its energy diplomacy strategies following the Russia–Ukraine war highlights how dependence on external energy sources can threaten national security (21). The report emphasizes that the European Union seeks to preserve its national interests and energy security by strengthening diplomatic relations with exporters of clean energy.

Finally, Li et al. (2021) demonstrate that geopolitical tensions exert a significant impact on energy trade patterns in emerging economies (22). Through statistical analysis, they find that political stability and the strength of energy diplomacy are key factors in attracting trading partners and ensuring energy security. This study underscores that, in order to protect their interests, states must employ energy diplomacy as an integral component of foreign policy.

Research Methodology

Statistical Population and Sample Size

The statistical population of this study consists of all intellectual and technical elites and experts of the country within the Ministry of Foreign Affairs, including directors and deputy directors of the ministry, Iranian ambassadors serving in various countries during the presidency of Mr. Rouhani, as well as experts, scholars, and researchers employed and active at the Center for Political and International Studies of the Ministry of Foreign Affairs. Based on information collected from the provincial representation of the Ministry of Foreign Affairs in Kerman Province, the total number of individuals in this population was 387. Data were collected from all members through a census method; therefore, in this study, the sample size is equal to the size of the statistical population.

Research Method and Data Analysis Instruments

In this study, national interests were measured using a researcher-developed National Interests Questionnaire. This questionnaire was designed based on Holsti's theory and assessed national interests across the dimensions of (1) vital and primary objectives and (2) secondary or medium-term objectives. To measure energy diplomacy, a researcher-developed Energy Diplomacy Questionnaire was employed. This instrument was designed based on Hans Morgenthau's theory and measured energy diplomacy across eleven dimensions, including planning for sustainable energy production and supply and continuous presence in the global energy market; use of advanced technologies to reduce production and supply costs and maintain competitive advantage; constructive interaction with other energy-producing and supplying countries to preserve market share; constructive interaction with other producers to enhance influence in global energy pricing; constructive interaction to determine the portfolio of exported energy carriers; sustained and effective participation in regional and international energy companies, institutions, and organizations to ensure supply and demand security; strategic identification of stable target energy markets; determination of the form of presence in identified markets and formulation of long-term and stable contracts; analysis of the attractiveness or unattractiveness of participation in treaties or global energy organizations

(such as OPEC or the Gas Exporting Countries Forum) and decision-making regarding participation; maximum diplomatic and political use of geopolitical position to influence global energy markets; and strategic positioning with respect to global energy market commitments. These dimensions were measured using a Likert scale.

In the subsequent stage, an exploratory mixed-methods approach was used to assess and prioritize the strengths, weaknesses, opportunities, and threats associated with the Rouhani administration's use of energy diplomacy in securing national interests. Then, by applying the TOPSIS method and the SWOT model and constructing the SWOT matrix, the most important strengths, weaknesses, opportunities, and threats were identified from among the factors and criteria extracted from the questionnaires. In addition, strategies and approaches (competitive, diversification, revisionary, and defensive) facing the Islamic Republic of Iran in utilizing energy diplomacy to secure national interests were identified and explained. Ultimately, a scientific and strategic model was proposed in this regard.

For statistical analysis and description of the collected data, descriptive statistics methods such as frequency and percentage tables, means, and graphical representations were used. Moreover, in analyzing the research questions and hypotheses, inferential statistical methods—including Spearman and Pearson correlation tests, multivariate regression analysis, factor analysis, the TOPSIS method, and the SWOT model with construction of the SWOT matrix—were applied. These methods were used to identify and explain the most significant strengths, weaknesses, opportunities, and threats of the Rouhani administration in employing energy diplomacy to secure national interests, as well as to identify and elaborate the competitive, diversification, revisionary, and defensive strategies available to the Islamic Republic of Iran in this domain, taking into account the position of national interests and presenting a scientific and strategic model. All computational procedures were carried out using computer software, including NVivo Plus 12, SPSS 28, and TOPSIS Solver.

Research Findings

Out of a total of 387 respondents, 293 individuals (75.7%) were male and 94 individuals (24.3%) were female. This indicates that the majority of the statistical population consisted of men, which is consistent with the prevailing managerial structure of the Ministry of Foreign Affairs. The age group of 41 to 50 years accounted for the largest proportion, with 148 respondents (38.2%). This was followed by the 51 to 60 age group with 115 respondents (29.7%), the 31 to 40 age group with 96 respondents (24.8%), and those over 60 years of age with 28 respondents (7.2%). These figures indicate that the majority of respondents possessed substantial field and managerial experience.

Regarding years of service, the highest frequency belonged to the group with 20 to 30 years of work experience, comprising 149 individuals (38.5%). Those with 10 to 20 years of experience numbered 104 (26.9%), those with less than 10 years of experience numbered 72 (18.6%), and those with more than 30 years of experience numbered 62 (16%). These statistics demonstrate that the statistical population consisted largely of highly experienced individuals in the fields of foreign policy and energy. Among the respondents, 235 individuals (60.7%) held doctoral degrees, while 152 individuals (39.3%) held master's degrees, indicating a high level of academic qualification and specialized expertise in diplomacy, foreign policy, and energy-related fields. In terms of organizational position, 107 respondents (27.6%) were directors and deputy directors of the Ministry of Foreign Affairs, 93 respondents (24%) were serving ambassadors of the Islamic Republic of Iran, and 187 respondents (48.3%) were experts and

researchers at the Center for Political and International Studies. The balanced composition of these three groups provided strategic, executive, and analytical perspectives for examining the research topic.

Based on the data presented in the table below, the correlation between energy diplomacy and the national interests of the Islamic Republic of Iran during the presidency of Hassan Rouhani is relatively high. The correlation coefficient between “energy diplomacy and primary objectives” and “national interests” is 0.763, with a significance level of 0.000. This strong coefficient indicates that a focus on the primary objectives of energy diplomacy—such as sustainable energy production and supply, constructive engagement with major global economic powers, and identification of target markets—has had a direct impact on the realization of overarching national interests. In practice, the Rouhani administration, by taking advantage of the conditions created after the nuclear agreement (JCPOA), was able to facilitate renewed engagement with international oil companies and increase energy exports, thereby strengthening the country’s economic and political power at both regional and transregional levels.

The relationship between “energy diplomacy and secondary objectives” and “national interests” is also significant and relatively strong, with a correlation coefficient of 0.692 and a significance level of 0.001. Secondary objectives, such as diplomatic utilization of Iran’s geographical position, technological advancement, and cost reduction, were pursued during the Rouhani administration through the expansion of technical cooperation with advanced countries and the strengthening of domestic capacities. These measures, alongside the development of renewable energy programs, contributed to the formation of more sustainable foundations for national energy security. Although the impact of these objectives was not as pronounced as that of the primary objectives, they nevertheless played an effective role in consolidating Iran’s position as an active energy actor in the region.

On the other hand, the high correlation between the primary and secondary objectives of energy diplomacy (0.715 with a significance level of 0.003) indicates that these two categories of objectives are not in conflict with one another but rather function as complementary elements within the government’s strategic orientation. The Rouhani administration’s policies, by simultaneously considering both types of objectives, sought to establish strategic relations with global partners while also enhancing domestic infrastructural and technical capacities in the energy sector. This internal coherence in energy diplomacy is regarded as one of the factors contributing to the government’s success in advancing its economic, political, and security objectives.

Table 1. Correlation Analysis Between Energy Diplomacy and National Interests (Primary and Secondary Objectives)

Variables	National Interests	Energy Diplomacy and Primary Objectives	Energy Diplomacy and Secondary Objectives
National Interests	Correlation Coefficient	1	0.763**
	Significance Level (Sig.)		0.000
Energy Diplomacy and Primary Objectives	Correlation Coefficient	0.763**	1
	Significance Level (Sig.)	0.000	
Energy Diplomacy and Secondary Objectives	Correlation Coefficient	0.692**	0.715**
	Significance Level (Sig.)	0.001	0.003

The table below presents the results of the ANOVA test conducted to examine the significance of the regression model with the independent variables “energy diplomacy and primary objectives” and “energy diplomacy and

secondary objectives." The value of the F statistic is 22.037, and its significance level (Sig.) is 0.000. These results indicate that the overall regression model is statistically significant in explaining variations in "securing national interests." In other words, the combination of the two components of energy diplomacy, as predictors, has a substantial effect on the dependent variable. In this model, the regression sum of squares is 5,657.193, which represents the portion of variance in national interests explained by the two components of energy diplomacy. The residual (error) sum of squares is 17,370.903, indicating the amount of variation in national interests explained by other factors outside the model. The total sum of squares is 23,028.097, reflecting the total observed variation in the dependent variable. The presence of this significant model suggests that the energy diplomacy policies of the Rouhani administration played an important and influential role in securing national interests, both in the domain of primary objectives—such as sustainable development of energy resources and engagement with international markets—and in secondary objectives, including technological advancement and utilization of geographical position. Since the significance level of the model is less than 0.05, it can be stated with confidence that these variables are validated as important predictors within the framework of the country's foreign and energy policy.

Table 2. ANOVA Test Among Research Variables

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	5657.193	3	1885.731	22.037	.000
Residual	17370.903	203	85.571		
Total	23028.097	206			

The table below presents the results of the multivariate regression analysis examining the effect of different dimensions of energy diplomacy on predicting the "securing of national interests" of the Islamic Republic of Iran during the presidency of Hassan Rouhani. In this model, the independent variables are "energy diplomacy and primary objectives" and "energy diplomacy and secondary objectives," while the dependent variable is "securing national interests."

In the regression coefficient (B) section, it is observed that "energy diplomacy and primary objectives," with a coefficient of 0.632, and "energy diplomacy and secondary objectives," with a coefficient of 0.612, both have positive and statistically significant effects on securing national interests. In other words, a one-unit increase in each of these dimensions of energy diplomacy leads to an increase of 0.632 and 0.612 units, respectively, in the national interests index, with these effects confirmed at a very high level of significance (0.000). In terms of the standardized coefficient (Beta), energy diplomacy and secondary objectives, with a value of 0.328, have a stronger relative effect on national interests compared to primary objectives, which have a value of 0.295. This finding indicates that the secondary objectives of energy diplomacy—such as leveraging geographical position, technological advancement, and cost reduction—played a more prominent role in advancing national interests, although primary objectives also remained highly important.

In addition, the value of the constant is 20.617, representing the predicted value of national interests when the independent variables are zero. Although this value is not statistically significant on its own (significance level of 0.104), it is important as the intercept of the regression model. These results indicate that the Rouhani administration was able to secure national interests effectively by simultaneously employing energy diplomacy strategies in both primary and secondary objective domains. Special attention to secondary objectives reflects an emphasis on developing domestic capacities and optimizing the use of natural resources and modern energy technologies, which complemented direct diplomatic actions in international markets.

Table 3. Multivariate Regression Analysis Results for Predicting National Interests Based on Energy Diplomacy Dimensions

Model	B	Std. Error	Beta	t	Sig.
(Constant)	20.617	12.621		1.634	.104
Energy diplomacy and primary objectives	.632	.131	.295	4.834	.000
Energy diplomacy and secondary objectives	.612	.171	.328	3.584	.000

The table below presents the results of the confirmatory factor analysis for the dimensions of energy diplomacy, categorized by type of objective (primary objectives and secondary objectives). This table reports the factor loadings of each dimension and the proportion of variance explained, reflecting the importance and strength of each component in shaping the overall structure of energy diplomacy.

Within the primary objectives, three key dimensions are identified: “sustainable energy production and supply,” with a factor loading of 0.81 and explained variance of 17.2%; “interaction with other countries,” with a loading of 0.79 and variance of 15.8%; and “identification of target markets,” with a loading of 0.76 and variance of 13.5%. These figures indicate that the most important pillar of the Rouhani administration’s energy diplomacy was its focus on the sustainability of energy supply and the establishment of active and extensive engagement with international actors. Policymaking in these areas contributed to consolidating Iran’s position as a reliable energy supplier and facilitated the expansion of economic and political relations.

Within the secondary objectives, three dimensions are identified: “diversification of energy partners,” with a factor loading of 0.72 and explained variance of 11%; “utilization of Iran’s geographical position,” with a loading of 0.74 and variance of 12.7%; and “technological development and reduction of energy costs,” with a loading of 0.69 and variance of 9.8%. These dimensions reflect the government’s efforts to strengthen domestic capacities, reduce dependence on limited resources, and strategically leverage Iran’s geopolitical position. Diversifying partners and developing advanced technologies, particularly under conditions of sanctions and international constraints, helped the government reduce economic vulnerabilities while maintaining strategic flexibility. Overall, these findings indicate that energy diplomacy under the Rouhani administration had a two-layered strategic structure: at the primary level, focusing on consolidating and expanding energy markets and strengthening international relations; and at the secondary level, enhancing infrastructure, technology, and diversification of energy partners to ensure long-term sustainability and security. Simultaneous attention to both dimensions reflects the government’s comprehensive approach to addressing global energy challenges and sanction-related pressures. Figure 1 illustrates the confirmatory factor analysis ranking of energy diplomacy dimensions.

Table 4. Confirmatory Factor Analysis of Energy Diplomacy Dimensions

Type of Objective	Energy Diplomacy Dimension	Factor Loading	Explained Variance (%)
Primary objectives	Sustainable energy production and supply	0.81	17.20%
	Interaction with other countries	0.79	15.80%
	Identification of target markets	0.76	13.50%
Secondary objectives	Diversification of energy partners	0.72	11.00%
	Utilization of Iran’s geographical position	0.74	12.70%
	Technological development and reduction of energy costs	0.69	9.80%

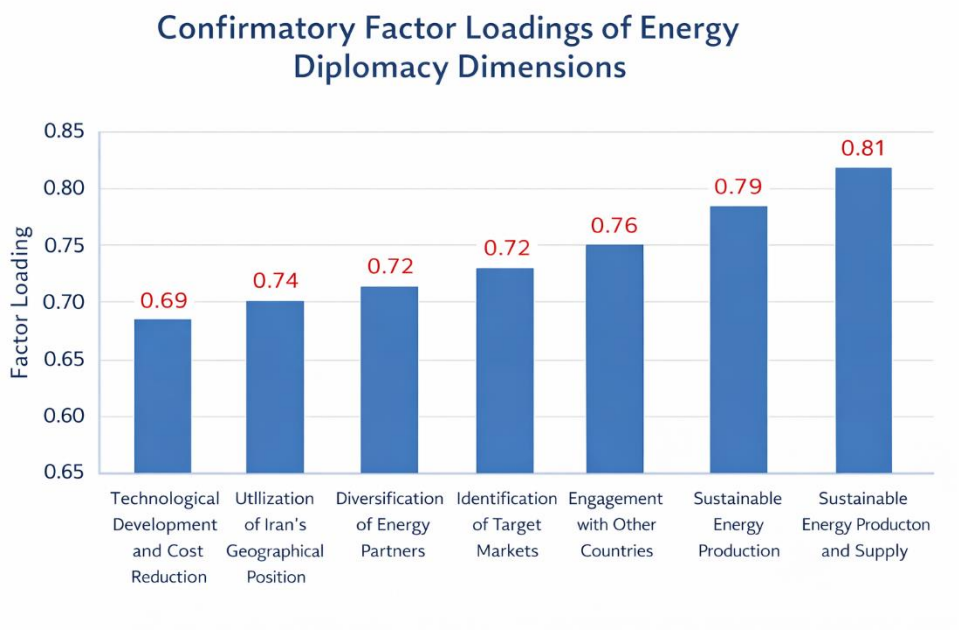

Figure 1. Confirmatory Factor Analysis Ranking of Energy Diplomacy Dimensions

The table below presents the results of the SWOT analysis, which evaluated internal factors (strengths and weaknesses) and external factors (opportunities and threats) in the context of Iran's energy diplomacy. This analysis was developed based on the assessments of expert specialists, and the mean score of each indicator reflects its level of importance and influence in the trajectory of the Rouhani administration's energy diplomacy. In the strengths category, "Iran's geopolitical position," with a mean score of 4.45, stands out as the most prominent factor. This strategic position places Iran at the intersection of major global energy routes and provides substantial diplomatic and economic leverage. In addition, "vast oil and gas reserves," with a score of 4.22, represent another key strength, positioning the country among the world's largest energy producers and providing a significant instrument of power and influence in international relations. In contrast, within the weaknesses category, "international sanctions," with the highest score of 4.56, are identified as a major and restrictive challenge. Sanctions have effectively limited Iran's access to global markets, advanced technologies, and foreign investment, thereby complicating the environment for energy diplomacy. Moreover, "weakness in energy technology," with a score of 4.18, indicates an urgent need to upgrade knowledge and adopt modern technologies in the energy industry to counter external constraints and improve efficiency. In the opportunities category, "cooperation with the East, especially China and Russia," with a score of 4.12, is recognized as an important source for advancing energy diplomacy and countering Western pressure. Such cooperation has improved technology transfer, investment prospects, and the marketing of Iranian energy, thereby helping strengthen the country's international standing. Finally, in the threats category, "instability in the global market," with a score of 4.43, is identified as a key factor affecting Iran's energy diplomacy. Fluctuations in oil and gas prices and changes in energy policies in consumer countries have created uncertain and variable conditions for planning and advancing energy policy. Overall, this SWOT analysis shows that the Rouhani administration's energy diplomacy was pursued under complex and challenging conditions: despite substantial domestic advantages such as a strategic geopolitical position and abundant natural resources, constraints arising from sanctions and inadequate technology—alongside opportunities for cooperation with new Eastern partners and

threats from global market instability—collectively played influential roles in shaping the country's energy and diplomatic policies. Figure 2 illustrates the SWOT analysis ranking based on experts' perspectives.

Table 5. SWOT Analysis Results Based on Experts' Perspectives

Internal and External Factors	Indicator	Mean Score
Strengths	Iran's geopolitical position	4.45
	Vast oil and gas reserves	4.22
Weaknesses	International sanctions	4.56
	Weakness in energy technology	4.18
Opportunities	Cooperation with the East (China/Russia)	4.12
Threats	Global market instability	4.43

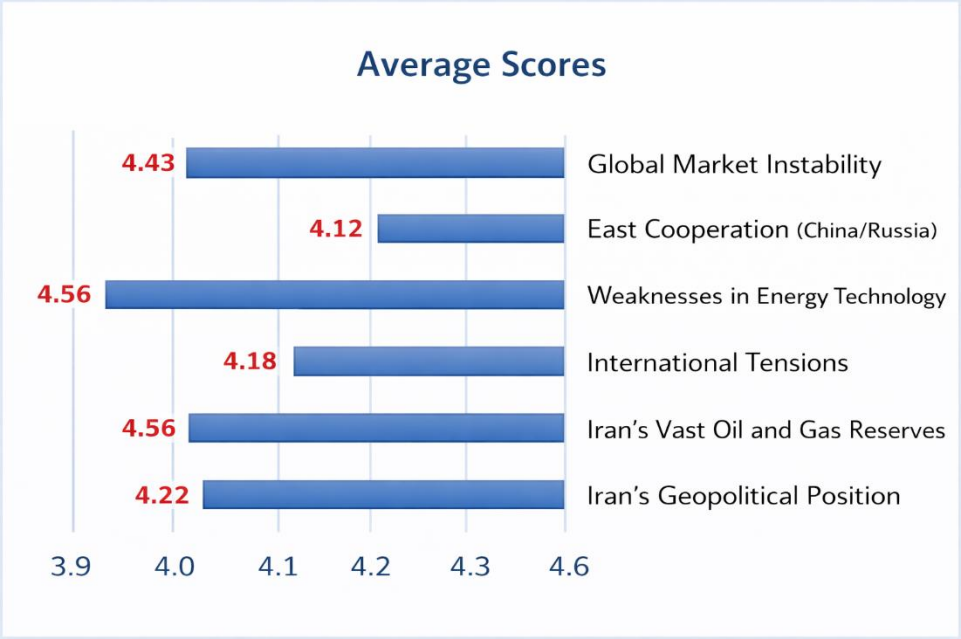

Figure 2. SWOT Analysis Ranking Based on Experts' Perspectives

The TOPSIS model results for prioritizing the energy diplomacy strategies of the Islamic Republic of Iran during the Rouhani presidency are presented in the table below. Based on the criteria of the positive and negative ideal distances, this model calculates the relative closeness of each strategy and determines their ranking. The "competitive" strategy, which emphasizes expanding interactions with Eastern countries—particularly China and Russia—achieved the highest relative closeness (0.684), with a positive ideal distance of 0.30 and a negative ideal distance of 0.65, and ranked first. This indicates the high importance and priority of this strategy under sanctions and international constraints, as engagement with Eastern partners functioned as a key approach for reducing dependence on Western markets and countering sanctions. The "market diversification" strategy ranked second, with a relative closeness of 0.624, representing the second most important option in energy policymaking. This strategy aims to reduce risks associated with reliance on a limited number of markets by expanding and diversifying energy export destinations and increasing resilience to global market fluctuations.

The "defensive" strategy, focused on reducing vulnerability to sanctions, ranked third with a relative closeness of 0.548. This indicates the importance of mechanisms such as developing domestic capacities, strengthening infrastructure, and adopting resilience-oriented policies to cope with external pressures. The "revisionary" strategy, which refers to developing domestic technologies and increasing self-sufficiency, ranked fourth with a relative closeness of 0.516 and was considered less important than the other strategies. This suggests that during the period under review, the primary focus of energy diplomacy was more on external engagement and sanctions

management than on large-scale investment in indigenous technologies. Overall, the TOPSIS analysis shows that policymakers during the Rouhani presidency prioritized expanding international cooperation with an Eastern محور, diversifying markets, and reducing the impacts of sanctions, while domestic technology development—though important—was assigned lower priority. This ordering of priorities reflects Iran's complex political-economic conditions during that period and the effort to safeguard national interests through energy diplomacy in a challenging international environment. Figure 3 illustrates the prioritization of strategies based on the TOPSIS model.

Table 6. TOPSIS Model Results for Strategy Prioritization

Strategy	Positive Ideal Distance (+)	Negative Ideal Distance (−)	Relative Closeness (Ci)	Rank
Competitive strategy (increasing engagement with the East)	0.30	0.65	0.684	1
Market diversification strategy	0.35	0.58	0.624	2
Defensive strategy (reducing vulnerability to sanctions)	0.42	0.51	0.548	3
Revisionary strategy (domestic technology development)	0.45	0.48	0.516	4

Figure 3. Strategy Prioritization Based on the TOPSIS Model

Energy diplomacy during the Rouhani presidency played a prominent and decisive role as a key instrument in securing the national interests of the Islamic Republic of Iran. Given the constraints and pressures arising from international sanctions and the instability of global energy markets, this period required a balanced and strategic approach that could both ensure sustainable domestic energy provision and strengthen the country's position in the international arena. By leveraging Iran's exceptional geopolitical capacities, vast oil and gas reserves, and diplomatic capabilities, the Rouhani administration was able to steer energy diplomacy policies in a way that both increased interactions with key partners—particularly Eastern countries such as China and Russia—and placed market diversification in the energy sector on the policy agenda.

A comprehensive and systematic examination of the dimensions of the Islamic Republic of Iran's energy diplomacy during the presidency of Hassan Rouhani, based on the analytical data presented, provides a clear picture of the complex and multidimensional nature of this strategic domain. Correlation analysis indicates that energy diplomacy, through its primary and secondary objectives, played a highly effective role in securing national interests, as evidenced by strong and significant relationships among these variables. In other words, energy

diplomacy policies functioned as an efficient tool for realizing national interests, both at the level of overarching objectives and across their detailed dimensions. The confirmatory factor analysis of energy diplomacy dimensions further showed that, within Iran's energy diplomacy structure, primary objectives—including sustainable energy production and supply, interaction with other countries, and the identification of target markets—constitute key axes. In contrast, secondary objectives such as diversification of energy partners, utilization of geographical position, and development of domestic technologies played complementary and strategic roles in strengthening energy diplomacy. This distinction between primary and secondary objectives reflects the Rouhani administration's comprehensive view of energy, emphasizing not only the provision of sustainable resources but also the enhancement of international standing and the reduction of vulnerability.

The SWOT analysis derived from expert perspectives clearly indicates that Iran's energy diplomacy during this period operated in a distinctive context. Despite prominent strengths such as a superior geopolitical position and abundant oil and gas reserves, constraints including international sanctions and weaknesses in energy technologies functioned as serious challenges. At the same time, strategic opportunities such as cooperation with Eastern countries and threats such as global market instability created a variable and complex environmental setting for energy-related decision-making. The TOPSIS model and strategy ranking indicate that the Rouhani administration primarily focused on expanding relations and interactions with Eastern partners as a competitive and pivotal strategy. Subsequently, diversifying export markets and adopting defensive measures to reduce the effects of sanctions were prioritized, and finally, domestic technology development was identified as important but relatively less emphasized than other strategies. This hierarchy of priorities reflects the administration's pragmatic and adaptive strategy for confronting external constraints and safeguarding national interests through active energy diplomacy.

Conclusion

The findings of this study indicate that energy diplomacy during this period functioned not only as an instrument for ensuring national energy security, but also as a key component of Iran's foreign policy aimed at achieving the country's broader economic and political development objectives. Effective policymaking based on sustainable energy production and supply, the expansion of international interactions, and the precise identification of target markets contributed to strengthening Iran's position on the global stage. Moreover, attention to technological capacities and efforts to reduce energy costs reflect the government's strategic perspective on developing indigenous technologies and enhancing self-reliance in this domain, although this area still requires further development and reinforcement.

At the same time, challenges arising from sanctions and technological constraints constituted serious weaknesses confronting Iran's energy diplomacy. The Rouhani administration sought to mitigate these vulnerabilities by adopting strategies such as strategic cooperation with Eastern partners and the implementation of defensive measures. These interactions and the diversification of markets were among the key factors that contributed significantly to maintaining stability and continuity in securing national interests. In addition, the intelligent utilization of Iran's geopolitical position as a bridge between East and West provided a unique opportunity for the country to increase its weight and influence under complex international conditions.

Overall, it can be concluded that the energy diplomacy approach during the Rouhani presidency represented a relatively successful example of adaptive and strategic policymaking in the fields of energy and international

relations. By maintaining a balance between leveraging domestic capacities and effectively managing external challenges, this approach outlined a relatively sustainable path for securing national interests. Nevertheless, in future periods, in light of emerging global developments and fluctuating pressures, greater emphasis should be placed on advancing modern technologies and enhancing national energy independence. Such efforts would not only preserve the achievements attained, but also improve the country's resilience and capacity to withstand future threats. Accordingly, the experiences and outcomes of this period can serve as valuable guidance for policymakers and analysts in the fields of energy and diplomacy, enabling them to design and implement future policies with greater precision, scientific rigor, and realism, thereby ensuring the security and national interests of the Islamic Republic of Iran in the global arena.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

All ethical principles were adheried in conducting and writing this article.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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