Legal Requirements of Good Energy Governance in Iran's Oil and Gas Contractual Framework

1. Ashkan Pirzadeh: PhD Student, Department of Oil and Gas Law, University of Tehran, Tehran, Iran
2. Ahmad Momeni Rad*: Associate Professor, Department of Public Law, Law and Political Sciences Faculty, Tehran University, Tehran, Iran

***Correspondence: momenirad@ut.ac.ir

Abstract

The governance of energy resources has become a defining issue for resource-rich states, where legal design, institutional performance, and national development objectives intersect. In Iran, oil and gas contracts have gradually evolved from narrow commercial instruments into comprehensive governance mechanisms that structure authority, allocate risks, regulate economic relations, and embed public policy goals into the operational core of the petroleum sector. This article investigates the legal requirements of good energy governance as reflected in Iran's oil and gas contractual framework and evaluates the extent to which contemporary Iranian petroleum contracts embody the principles of transparency, accountability, participation, rule of law, efficiency, sustainability, and national interest protection. Employing a narrative review combined with descriptive legal analysis, the study synthesizes interdisciplinary scholarship on energy governance and petroleum law with an in-depth examination of Iran's contractual evolution, institutional architecture, and regulatory environment. The findings demonstrate that Iran's recent contractual reforms—particularly the development of the Iran Petroleum Contract—reflect a deliberate effort to align contractual design with international governance standards by strengthening disclosure obligations, audit mechanisms, legal stability, environmental safeguards, and structured risk allocation. However, significant governance gaps persist, notably in the areas of public transparency, institutional independence, stakeholder participation, and regulatory coherence. These structural constraints limit the capacity of contractual mechanisms to fully achieve the objectives of good governance in practice. The study concludes that while contractual reform constitutes a critical pillar of energy governance modernization, it cannot substitute for comprehensive institutional and legal reform. Sustainable and effective energy governance in Iran ultimately requires an integrated approach that harmonizes contractual architecture with broader governance structures, regulatory capacity building, and inclusive policy processes.

Keywords: Energy governance; Petroleum contracts; Oil and gas law; Good governance; Iran; Contractual regulation; Institutional reform

Received: 05 August 2025
Revised: 22 December 2025
Accepted: 29 December 2025
Initial Publication 30 December 2025
Final Publication 01 September 2026

Citation: Pirzadeh, A., & Momeni Rad, A. (2026). Legal Requirements of Good Energy Governance in Iran's Oil and Gas Contractual Framework. *Legal Studies in Digital Age,* 5(3), 1-12.

1. Introduction

Energy, and particularly oil and gas, occupies a central and enduring position in Iran's political economy. The modern development of the Iranian state has been profoundly shaped by the discovery, extraction, commercialization, and regulation of hydrocarbons, which for more than a century have constituted the backbone of national revenue, foreign exchange earnings, industrial growth, and geopolitical leverage. Historical analyses of Iran's oil industry demonstrate that petroleum has never functioned merely as an economic commodity but has continuously influenced state formation, patterns of governance, social relations, and Iran's interaction with the global order (Ala & Sorkhabi, 2023). The strategic significance of hydrocarbons is further amplified by Iran's status as one of the world's largest holders of proven oil and gas reserves, positioning the country as a pivotal actor in international energy markets and regional power configurations. At the same time, this structural dependence on energy revenues has exposed Iran to acute vulnerabilities arising from price volatility, geopolitical sanctions, technological constraints, and environmental degradation, generating complex policy challenges that increasingly exceed the capacity of traditional state-centric regulatory approaches.

In this evolving context, the governance of energy resources has undergone a fundamental transformation. Classical models of energy management in Iran were historically grounded in centralized state authority, direct governmental control, and a predominantly administrative conception of regulation. Over time, however, the limitations of this paradigm have become increasingly apparent. Comparative studies of contemporary energy systems illustrate that effective resource management today depends not merely on formal state control but on sophisticated governance arrangements that integrate legal institutions, market mechanisms, contractual frameworks, social accountability, and environmental stewardship (Saidov, 2021). Similar patterns can be observed across multiple jurisdictions, where the governance of hydrocarbons has gradually shifted from rigid command-and-control structures toward multi-layered systems involving public agencies, private actors, communities, transnational institutions, and complex contractual regimes (Gabagambi & Longopa, 2022). Iran's oil and gas sector is no exception to this broader transformation, as the pressures of globalization, technological change, environmental risk, and investment competition increasingly demand adaptive governance models rather than exclusively bureaucratic management.

Within this broader transformation, the concept of "Good Governance" has emerged as a central normative and legal paradigm for evaluating the quality of resource management. Good governance in the energy sector is no longer confined to economic efficiency or technical competence but is now widely understood to encompass transparency, accountability, participation, rule of law, sustainability, and intergenerational equity. Legal scholarship has emphasized that these principles must be embedded not only in public policy and regulatory statutes but also within the operational instruments through which energy activities are actually conducted (Mirhaj, 2024). In international oil and gas practice, contractual frameworks have become one of the most powerful vehicles for translating governance principles into enforceable obligations, shaping the distribution of rights and responsibilities between states, national companies, foreign investors, regulators, and affected communities. This shift reflects a deeper recognition that law, governance, and contracts are inseparable components of contemporary energy systems.

Contracts in the oil and gas sector no longer function merely as commercial arrangements for the exchange of capital, technology, and hydrocarbons. Instead, they operate as hybrid legal instruments that simultaneously perform economic, regulatory, political, and governance functions. Comparative analyses of petroleum contracts across jurisdictions reveal that contractual clauses routinely address issues of transparency, local content development, environmental protection, dispute resolution, fiscal stability, institutional oversight, and public accountability (Baiye & Mundi, 2024). In emerging economies and resource-rich developing states, the contractual architecture of petroleum operations frequently compensates for weaknesses in statutory regulation, serving as a primary mechanism through which governance standards are implemented in practice (Ariyon et al., 2023). Consequently, the quality of contractual design increasingly determines whether energy development promotes sustainable growth, equitable benefit distribution, and institutional stability, or instead reproduces patterns of dependency, opacity, and conflict.

Iran's contractual regime has evolved in response to these changing conditions. From early concessionary arrangements through service contracts and buy-back models to the more recent Iran Petroleum Contract (IPC), the Iranian state has continually sought to recalibrate the balance between sovereignty, investment attractiveness, technological transfer, and national development objectives (Ala & Sorkhabi, 2023). Each contractual model embodies distinct assumptions about risk allocation, managerial control, regulatory authority, and the role of private actors. At the same time, these models reflect shifting conceptions of governance, as policymakers increasingly recognize that effective energy management requires stable legal frameworks, credible enforcement mechanisms, and alignment with international standards of responsible resource development. Legal analyses of petroleum regimes in other resource-rich states demonstrate that contractual evolution is frequently driven by the imperative to reconcile domestic governance goals with the expectations of international investors and transnational regulatory norms (Salih, 2022).

Despite this growing recognition, significant governance challenges persist within many national petroleum systems, including Iran's. Empirical research from diverse jurisdictions indicates that weaknesses in transparency, institutional coordination, regulatory capacity, and public accountability continue to undermine the effective governance of oil and gas resources (Debski & Ezeani, 2022). In resource-dependent economies, these deficiencies are often compounded by environmental risks, social tensions, and conflicts over revenue allocation and community rights, as illustrated by studies of hydrocarbon exploitation in Nigeria and other producing states (Ite et al., 2024). Such challenges underscore the necessity of integrating governance principles not only at the policy level but within the concrete legal instruments that structure petroleum operations.

In this respect, Iran's oil and gas contractual system occupies a particularly consequential position. Contracts define the practical interface between constitutional principles of resource sovereignty, statutory regulatory frameworks, and the daily realities of exploration, production, transportation, and processing. They allocate risks, prescribe environmental obligations, establish dispute resolution mechanisms, and determine the scope of state oversight. Comparative research highlights that poorly designed contracts can facilitate illicit financial flows, weaken institutional control, and erode public trust in resource governance (Baiye, 2024). Conversely, robust contractual governance can strengthen accountability, enhance regulatory coherence, and promote sustainable development outcomes (Appiah et al., 2023). The centrality of contracts therefore renders them a critical site for assessing the legal requirements of good energy governance in Iran.

Yet, notwithstanding the strategic importance of contractual architecture, the existing legal scholarship on Iran's petroleum regime remains fragmented. While individual studies have examined aspects of Iranian oil industry history (Ala & Sorkhabi, 2023), comparative fiscal policies (Ariyon et al., 2023), contractual stabilization clauses (Baiye & Mundi, 2024), and governance challenges in international petroleum contracting (Mirhaj, 2024), there is a notable absence of an integrated, systematic legal analysis that specifically examines how the principles of good energy governance are reflected, operationalized, or constrained within Iran's oil and gas contracts. Much of the available literature addresses governance either at the level of general policy or through isolated contractual mechanisms, without offering a comprehensive framework for evaluating the overall coherence between governance ideals and Iran's contractual regime.

This gap is particularly consequential given the growing complexity of Iran's energy sector. Environmental concerns related to petroleum development, including pollution, ecosystem degradation, and long-term sustainability risks, are increasingly prominent in global energy governance discourse (Gissi et al., 2022). Studies of environmental governance in upstream operations emphasize the need for legally binding contractual obligations to mitigate environmental harm and ensure responsible resource management (Rayhan et al., 2023). At the same time, questions of institutional authority and regulatory fragmentation, such as the division of competencies between central and local authorities, continue to pose governance challenges in oil and gas administration across multiple jurisdictions (Wulan et al., 2024). These dynamics underscore the urgency of examining whether Iran's contractual system is adequately equipped to embody contemporary standards of good energy governance.

Against this background, the present study seeks to fill the identified research gap by providing a comprehensive narrative review and descriptive legal analysis of the legal requirements of good energy governance within Iran's oil and gas contractual framework. The central objective of the article is to conceptualize oil and gas contracts as governance instruments and to evaluate the extent to which Iran's contractual regime incorporates the core principles of good governance, including transparency, accountability, rule of law, participation, sustainability, and institutional effectiveness. Through systematic examination of relevant legal scholarship, comparative studies, and sector-specific analyses, the article develops an integrated analytical framework for assessing the alignment between governance ideals and contractual practice.

Methodologically, the study adopts a narrative review approach combined with descriptive legal analysis. The narrative review synthesizes interdisciplinary literature on energy governance, petroleum law, and contractual regulation, drawing upon both global and region-specific research. Descriptive legal analysis is employed to examine the structural features of Iran's contractual regime, identifying normative assumptions, institutional arrangements, and legal mechanisms that shape governance outcomes. This combined approach enables the study to capture both the conceptual dimensions of good governance and their concrete legal manifestations within the contractual architecture of Iran's oil and gas sector.

The article proceeds as follows. The next section develops the theoretical and conceptual foundations of good energy governance, situating governance principles within contemporary legal and policy discourse. The third section analyzes the legal architecture of Iran's oil and gas contractual system, tracing its historical evolution and institutional structure. The fourth section constitutes the core analytical contribution of the study, examining the specific legal requirements of good governance as reflected in Iran's contractual framework and evaluating existing gaps and challenges through comparative perspectives. The final section concludes by synthesizing the findings and proposing legal and policy recommendations aimed at strengthening good energy governance in Iran's oil and gas sector.

2. Theoretical and Conceptual Foundations of Good Energy Governance

The concept of governance has emerged as a central analytical framework for understanding the contemporary organization of energy systems. Unlike the traditional notion of government, which emphasizes hierarchical authority, centralized control, and formal state institutions, governance refers to the broader constellation of actors, rules, processes, and norms through which collective objectives are defined, implemented, and enforced. In the energy sector, this distinction is particularly significant. While governments historically exercised direct control over resource extraction, pricing, and distribution, modern energy systems increasingly depend on complex networks of public agencies, national oil companies, private investors, financial institutions, international organizations, and civil society actors. This shift from government to governance reflects the growing recognition that effective energy management cannot be achieved solely through administrative command but requires coordination across multiple institutional and legal domains (Saidov, 2021). Comparative legal studies of petroleum regimes further demonstrate that governance frameworks integrate both formal legal rules and informal normative expectations, shaping how authority is exercised and how responsibilities are allocated across the energy value chain (Gabagambi & Longopa, 2022).

Within this governance paradigm, the notion of "Good Governance" provides a normative benchmark for evaluating the quality of institutional performance and legal design. Good governance does not prescribe a single institutional model but articulates a set of principles that guide the legitimate and effective exercise of power. In the context of energy systems, these principles are particularly consequential because of the high economic value of resources, the environmental risks associated with extraction and production, and the deep social implications of energy policy. Legal scholarship on international oil and gas contracting emphasizes that governance quality is not determined solely by economic outcomes but by the degree to which decision-making processes are transparent, accountable, inclusive, and legally grounded (Mirhaj, 2024). The adoption of good governance as a guiding framework thus represents a fundamental reorientation of how energy law and policy are conceptualized and assessed.

Transparency occupies a central position within the architecture of good energy governance. It refers to the openness of decision-making processes, the accessibility of information, and the clarity of rules governing energy activities. In the petroleum sector, transparency is essential for reducing corruption risks, enabling public oversight, and fostering investor confidence. Empirical research from resource-rich jurisdictions illustrates that opaque contractual arrangements and undisclosed fiscal terms contribute significantly to illicit financial flows and governance failures (Baiye, 2024). Conversely, transparent disclosure of contractual obligations, revenue streams, and regulatory decisions strengthens institutional legitimacy and improves policy coherence. In comparative analyses of petroleum contracts, transparency requirements increasingly extend beyond mere publication of agreements to encompass continuous reporting obligations, environmental disclosures, and community information mechanisms (Ariyon et al., 2023). These developments demonstrate that transparency is not merely a procedural ideal but a substantive condition for effective energy governance.

Accountability constitutes the complementary pillar of good governance. It concerns the mechanisms through which decision-makers are held responsible for their actions and through which institutional performance is monitored and corrected. In energy systems, accountability operates across multiple levels, including political oversight of energy policy, administrative supervision of regulatory agencies, judicial review of contractual disputes, and public scrutiny of corporate conduct. Studies of petroleum governance in developing economies reveal that weak accountability structures often enable regulatory capture, misallocation of resource revenues, and environmental neglect (Ite et al., 2024). Legal frameworks that embed accountability mechanisms within both regulatory statutes and contractual arrangements play a critical role in aligning the conduct of state institutions and private actors with public interests. This is particularly evident in jurisdictions that incorporate performance obligations, audit requirements, and dispute resolution provisions directly into energy contracts (Baiye & Mundi, 2024).

Participation represents another foundational principle of good energy governance. It reflects the recognition that energy policy decisions have far-reaching social, environmental, and economic consequences and therefore should not be confined to closed administrative processes. Meaningful participation involves the inclusion of affected communities, civil society organizations, local authorities, and other stakeholders in decision-making processes related to resource development. Comparative studies of petroleum governance emphasize that inclusive governance structures enhance social legitimacy, reduce conflict, and improve policy outcomes (Debski & Ezeani, 2022). In the context of oil and gas operations, participatory mechanisms increasingly encompass community consultations, impact assessments, and local content policies designed to ensure that resource development contributes to broader socio-economic development (Elensi et al., 2024). Participation thus serves both democratic and functional objectives within energy governance frameworks.

The rule of law provides the structural foundation upon which the principles of transparency, accountability, and participation rest. It entails the supremacy of law over arbitrary power, the predictability of legal rules, and the equal application of legal standards. In the energy sector, the rule of law is indispensable for ensuring legal certainty, protecting property rights, and enabling long-term investment. Research on international petroleum law highlights that unstable legal environments, inconsistent regulatory practices, and weak enforcement mechanisms undermine both governance quality and investment performance (Salih, 2022). Energy contracts, in particular, rely on the credibility of legal systems to enforce obligations, resolve disputes, and maintain the stability of agreed-upon arrangements. The incorporation of stabilization clauses, arbitration provisions, and governing law clauses reflects the centrality of the rule of law within the contractual governance of energy resources (Alyakin, 2024).

Efficiency and effectiveness constitute essential performance-oriented dimensions of good governance. Efficiency refers to the optimal use of resources, while effectiveness concerns the achievement of policy objectives. In energy governance, these principles are closely linked to institutional capacity, regulatory coherence, and technological competence. Comparative analyses of petroleum regimes demonstrate that fragmented authority, overlapping mandates, and weak coordination among institutions significantly impair regulatory performance (Wulan et al., 2024). Conversely, integrated governance frameworks that align policy goals, regulatory instruments, and contractual mechanisms enhance both efficiency and effectiveness. Energy contracts contribute to this alignment by specifying operational standards, performance benchmarks, and risk allocation mechanisms that structure the behavior of actors throughout the project lifecycle (Appiah et al., 2023). Through these mechanisms, contractual governance becomes a crucial driver of system-wide efficiency.

Equity and sustainability introduce a normative dimension that extends beyond immediate economic considerations. Equity concerns the fair distribution of benefits and burdens arising from energy development, both within the present generation and across future generations. Sustainability emphasizes the responsible management of resources to ensure long-term environmental integrity and social welfare. Studies of environmental risks associated with oil and gas infrastructure underscore the necessity of integrating sustainability considerations into governance frameworks (Gissi et al., 2022). Similarly, research on bioremediation and environmental mitigation in petroleum contexts highlights the importance of legally binding obligations for environmental protection and restoration (Rayhan et al., 2023). In this sense, equity and sustainability transform energy governance from a purely economic enterprise into a broader project of social and environmental stewardship.

Energy governance can therefore be understood as a specialized subset of public governance, distinguished by the strategic importance of energy resources, the scale of associated risks, and the complexity of institutional arrangements involved. While general governance principles apply across policy domains, the energy sector exhibits distinctive features that intensify governance challenges, including high capital intensity, long project lifecycles, geopolitical sensitivities, and profound environmental impacts. Legal scholarship emphasizes that these characteristics necessitate tailored governance frameworks that integrate public law, private law, international norms, and contractual regulation into a coherent system (Saidov, 2021). This integration is particularly evident in the global convergence of energy governance standards, as states increasingly adopt similar contractual structures, regulatory practices, and institutional models in response to transnational investment and environmental pressures (Gabagambi & Longopa, 2022).

International models of good energy governance provide valuable reference points for evaluating national systems. Comparative research across Southeast Asia, Africa, and Europe reveals diverse approaches to structuring governance relationships among states, investors, and communities (Ariyon et al., 2023). Despite contextual differences, successful governance models consistently emphasize legal clarity, institutional coordination, stakeholder engagement, and environmental accountability. In emerging economies, governance reforms often focus on strengthening legal frameworks, enhancing regulatory independence, and embedding governance principles directly within petroleum contracts (Mirhaj, 2024). These international experiences illustrate that good energy governance is not a static ideal but an evolving practice shaped by continuous legal and institutional innovation.

The legal implications of governance principles for energy contracts are profound. Contracts function as the operational interface between abstract governance ideals and concrete economic activities. By incorporating transparency requirements, accountability mechanisms, participatory provisions, environmental safeguards, and dispute resolution systems, energy contracts translate governance norms into enforceable legal obligations. Comparative studies of petroleum contracting demonstrate that well-designed contracts can compensate for weaknesses in statutory regulation and significantly improve governance outcomes (Baiye & Mundi, 2024). Conversely, poorly drafted contracts may entrench opacity, limit accountability, and undermine the rule of law. The legal design of energy contracts thus becomes a critical determinant of governance quality.

Finally, law itself operates as the enabling infrastructure of good energy governance. Legal frameworks establish the institutional architecture, define the distribution of authority, and provide the mechanisms through which governance principles are implemented and enforced. In the absence of coherent legal structures, governance norms remain aspirational and ineffective. Research on petroleum law standardization highlights that the convergence of legal practices across jurisdictions reflects a shared recognition of law's central role in facilitating effective energy governance (Saidov, 2021). Through constitutional provisions, statutory regulation, administrative procedures, judicial review, and contractual instruments, law constructs the foundation upon which good energy governance ultimately depends.

3. Legal Architecture of Iran's Oil and Gas Contractual System

The legal architecture of Iran's oil and gas contractual system is rooted in a complex interaction between constitutional principles, statutory regulation, institutional governance, and evolving contractual models. At its foundation lies the constitutional conception of hydrocarbons as a collective national asset, held under state sovereignty and administered in the public interest. This constitutional framework reflects a long-standing commitment to preserving national control over strategic natural resources, a commitment historically shaped by Iran's experience with foreign concessions and external domination in the early development of its oil industry (Ala & Sorkhabi, 2023). The constitutional embedding of resource sovereignty establishes the normative premise that oil and gas activities must align with national development objectives, public welfare, and the protection of long-term economic independence. This foundational principle profoundly influences the design of petroleum contracts, limiting the extent to which ownership rights may be transferred while simultaneously imposing governance responsibilities upon state institutions charged with managing the sector.

Building upon this constitutional foundation, Iran's statutory framework structures the practical governance of petroleum activities through a network of petroleum laws, investment regulations, and administrative instruments. Comparative legal analyses of resource governance systems demonstrate that such statutory regimes serve as the primary vehicle for operationalizing constitutional resource sovereignty and defining the permissible scope of contractual arrangements (Gabagambi & Longopa, 2022). In Iran, petroleum legislation delineates the authority of public institutions, establishes regulatory procedures for exploration and production, and prescribes the general conditions under which domestic and foreign entities may participate in the sector. Investment laws further shape the contractual environment by defining protections for investors, mechanisms for capital repatriation, and conditions for technology transfer. Administrative regulations complement these statutes by providing detailed procedural rules governing licensing, environmental compliance, reporting obligations, and supervisory oversight. Together, these layers of regulation create a dense legal environment in which contracts must operate, reinforcing the hybrid nature of petroleum agreements as instruments that are simultaneously commercial and public in character.

Within this statutory context, Iran's contractual system has undergone significant evolution in response to shifting political, economic, and governance priorities. The earliest contractual model, the concession, reflected the prevailing international practice of the early twentieth century, granting extensive operational control and economic privileges to foreign companies in exchange for royalty payments and limited state oversight. Historical studies of Iran's oil industry highlight that these concessionary arrangements generated profound political tensions and ultimately contributed to the nationalization movement that reshaped Iran's petroleum governance in the mid-twentieth century (Ala & Sorkhabi, 2023). The experience of concessions entrenched a deep skepticism toward extensive private control over hydrocarbons and laid the groundwork for subsequent contractual models designed to preserve state sovereignty while still enabling foreign participation.

The transition from concessions to service contracts marked a decisive shift in Iran's contractual philosophy. Under service contract arrangements, foreign contractors are engaged to perform specific technical services for exploration and production without acquiring ownership interests in the hydrocarbons. Comparative analyses of petroleum fiscal regimes indicate that service contracts are often adopted by resource-rich states seeking to maintain maximal control over their resources while minimizing political and economic risks associated with foreign ownership (Ariyon et al., 2023). In Iran, service contracts reinforced the primacy of the state and national oil company in decision-making processes, with contractors compensated through predetermined fees rather than profit-sharing mechanisms. While this model strengthened sovereign control, it also limited incentives for long-term investment and technological innovation, revealing tensions between governance objectives and economic efficiency.

The introduction of buy-back contracts represented an effort to reconcile these competing priorities. Under the buy-back model, foreign companies finance and execute upstream projects and are subsequently repaid through a portion of production over a fixed period. This structure preserves state ownership of hydrocarbons while offering investors a predictable return on investment. Legal analyses of similar arrangements in other jurisdictions emphasize that buy-back contracts attempt to balance sovereignty concerns with the need for foreign capital and expertise (Salih, 2022). In practice, however, Iran's buy-back system faced criticism for its rigid financial terms, limited flexibility, and insufficient alignment of incentives between the state and contractors. These shortcomings contributed to calls for reform and the eventual development of the Iran Petroleum Contract (IPC) as a more sophisticated contractual framework.

The IPC represents the most recent stage in the evolution of Iran's petroleum contractual regime and reflects a deliberate effort to incorporate contemporary governance principles into contractual design. Drawing upon international best practices, the IPC introduces longer contract durations, more flexible financial arrangements, and enhanced mechanisms for risk-sharing and technology transfer. Comparative research on international oil and gas contracting suggests that such reforms are essential for attracting investment while maintaining effective regulatory control (Mirhaj, 2024). The IPC seeks to integrate governance considerations directly into contractual provisions, addressing issues such as transparency, accountability, environmental protection, and dispute resolution. In doing so, it embodies the broader transformation of contracts from purely commercial instruments into central components of energy governance systems.

The institutional architecture supporting Iran's contractual system is anchored by the Ministry of Petroleum, the National Iranian Oil Company (NIOC), and a network of regulatory and supervisory bodies. The Ministry of Petroleum serves as the principal policymaking authority, responsible for strategic planning, regulatory oversight, and the coordination of national energy objectives. NIOC operates as the state's primary commercial agent in the sector, engaging directly in exploration, production, and contractual negotiations with foreign partners. Comparative institutional studies of petroleum governance emphasize that the distribution of authority between ministries, national oil companies, and regulators profoundly shapes governance outcomes (Gabagambi & Longopa, 2022). In Iran, the close relationship between policymaking and operational functions within the petroleum sector reflects historical governance patterns but also raises important questions regarding regulatory independence and institutional accountability.

Within this institutional framework, contractual governance mechanisms play a decisive role in structuring the behavior of actors and mediating the interaction between public authority and private enterprise. Decision-making authority in Iran's petroleum contracts is carefully calibrated to preserve state control over strategic aspects of resource development while granting contractors sufficient autonomy to execute technical operations effectively. Risk allocation provisions distribute geological, financial, and operational risks between the parties, reflecting both sovereignty considerations and market realities. Comparative analyses of petroleum contracts highlight that equitable risk-sharing is essential for maintaining stable investment relationships and promoting efficient project execution (Appiah et al., 2023). Supervision mechanisms, including reporting obligations, performance audits, and compliance reviews, ensure that contractual activities align with regulatory requirements and policy objectives. Dispute resolution clauses, often incorporating international arbitration mechanisms, provide legal certainty and reinforce the rule of law within the contractual system (Alyakin, 2024).

The interaction between public law and private contractual ordering constitutes one of the most distinctive features of Iran's petroleum governance architecture. Energy contracts operate within a dense web of public law constraints derived from constitutional mandates, statutory regulation, and administrative oversight. At the same time, they function as private law instruments that structure commercial relationships and allocate economic rights and obligations. Legal scholarship on international energy law emphasizes that this hybrid character is a defining attribute of modern petroleum contracts, blurring the traditional boundaries between public and private law (Saidov, 2021). In Iran's context, this hybridity is particularly pronounced, as contractual autonomy is consistently circumscribed by public interest considerations and sovereign prerogatives.

This complex legal architecture underscores the centrality of contracts as governance instruments within Iran's oil and gas sector. Through their integration with constitutional principles, statutory regulation, institutional structures, and governance mechanisms, petroleum contracts shape not only commercial outcomes but also broader patterns of resource management, regulatory performance, and public accountability. Comparative experiences from other resource-rich jurisdictions demonstrate that the effectiveness of such contractual systems ultimately depends on their coherence with overarching governance frameworks and their capacity to adapt to evolving economic, environmental, and social challenges (Debski & Ezeani, 2022). In this sense, Iran's oil and gas contractual regime embodies both the opportunities and the constraints inherent in the contemporary governance of strategic natural resources.

4. Legal Requirements of Good Governance within Iran's Oil and Gas Contracts

The degree to which Iran's oil and gas contracts embody the principles of good governance constitutes the central analytical concern of this study. Petroleum contracts in Iran do not merely allocate economic rights and technical responsibilities; they operate as governance instruments that structure institutional behavior, channel political authority, and mediate the relationship between the state, private investors, and society. Comparative research on international petroleum contracting demonstrates that contractual design is among the most decisive factors in determining whether energy development reinforces accountability, sustainability, and public trust or perpetuates opacity, inefficiency, and institutional fragility (Mirhaj, 2024). In the Iranian context, the integration of governance principles into contractual frameworks has evolved incrementally, producing a mixed landscape of progressive legal innovations and persistent structural shortcomings.

Transparency and disclosure requirements form the first pillar of governance within Iran's petroleum contracts. Contract formation procedures have become increasingly formalized, with greater emphasis on standardized bidding processes, defined negotiation frameworks, and documented approval mechanisms. These developments reflect the broader recognition that opaque contracting practices undermine institutional legitimacy and create fertile ground for corruption and illicit financial flows, as extensively documented in comparative studies of petroleum sectors in developing economies (Baiye, 2024). Iranian contracts increasingly incorporate provisions mandating the disclosure of technical data, production volumes, and financial flows, aligning with international transparency norms observed in comparative fiscal regimes (Ariyon et al., 2023). However, access to information remains uneven in practice, as confidentiality provisions and national security considerations continue to limit public visibility into contractual terms. Research on energy governance indicates that such partial transparency weakens public oversight and constrains the capacity of civil society and legislative bodies to evaluate resource management decisions (Debski & Ezeani, 2022). Thus, while contractual frameworks in Iran exhibit formal commitments to disclosure, the depth and consistency of transparency remain subject to significant constraints.

Accountability and oversight mechanisms constitute the second major governance dimension embedded within Iran's petroleum contracts. Regulatory supervision is exercised through a combination of ministerial oversight, national oil company monitoring, and specialized regulatory bodies responsible for technical compliance and financial auditing. Comparative institutional analyses emphasize that effective oversight requires both formal authority and operational independence (Gabagambi & Longopa, 2022). Iranian contracts increasingly integrate audit obligations, performance benchmarks, and compliance reporting requirements, reflecting international best practices in contractual governance (Baiye & Mundi, 2024). Parliamentary review mechanisms provide an additional layer of accountability, particularly with respect to major strategic agreements, while judicial oversight ensures the enforceability of contractual rights and obligations. Yet, empirical studies of petroleum governance in resource-dependent economies reveal that the effectiveness of such mechanisms often depends on institutional capacity and political will rather than solely on formal legal design (Ite et al., 2024). In Iran, overlapping institutional mandates and centralized decision-making structures can dilute accountability by diffusing responsibility across multiple authorities.

Participation and stakeholder inclusion represent a more contested dimension of governance within Iran's contractual framework. The social and environmental impacts of oil and gas projects generate significant externalities for local communities and regional economies, making participatory governance mechanisms essential for sustainable development. Comparative research on petroleum governance underscores the importance of community engagement, local content policies, and multi-stakeholder consultation processes in enhancing social legitimacy and conflict prevention (Elensi et al., 2024). Iranian contracts increasingly reference local development obligations, workforce localization, and environmental impact mitigation, reflecting global trends toward inclusive governance. Nevertheless, formal channels for public participation in contract formation and oversight remain limited. Administrative decision-making processes largely operate within closed institutional circuits, constraining the meaningful involvement of civil society and affected populations. This structural limitation mirrors broader patterns observed in centralized governance systems, where participation is often constrained by political and administrative traditions (Wulan et al., 2024). As a result, the participatory dimension of good governance within Iran's petroleum contracts remains underdeveloped.

The principle of the rule of law and legal certainty constitutes a cornerstone of contractual governance. Stability clauses, governing law provisions, and dispute settlement mechanisms serve to create predictable legal environments essential for long-term investment in capital-intensive energy projects. Comparative analyses of petroleum contracts emphasize that legal predictability significantly influences investor confidence and project sustainability (Alyakin, 2024). Iran's contractual frameworks, particularly under the IPC model, incorporate stabilization mechanisms designed to protect investors from adverse regulatory changes while preserving the state's sovereign right to legislate in the public interest. Arbitration clauses provide neutral dispute resolution forums, reinforcing the enforceability of contractual commitments and mitigating political risk. However, legal certainty is not determined solely by contractual text; it also depends on the consistency of regulatory practice and judicial interpretation. Research on international energy law highlights that fragmented legal authority and inconsistent enforcement undermine the practical effectiveness of formal legal safeguards (Saidov, 2021). In Iran, evolving regulatory policies and geopolitical pressures introduce elements of uncertainty that contractual mechanisms alone cannot fully resolve.

Efficiency, sustainability, and national interest protection constitute interrelated governance objectives embedded within Iran's petroleum contracts. Efficient resource management is pursued through contractual provisions that regulate project timelines, technological standards, and cost recovery mechanisms. Comparative fiscal studies indicate that such provisions significantly influence production performance and investment efficiency (Appiah et al., 2023). Sustainability considerations are increasingly integrated through environmental safeguards, pollution control requirements, and remediation obligations, reflecting the growing prominence of environmental governance in global petroleum practice (Gissi et al., 2022). Iranian contracts include environmental protection clauses and require compliance with national and international environmental standards, acknowledging the ecological risks associated with hydrocarbon development. Intergenerational equity, although less explicitly articulated, underpins resource conservation policies and revenue management frameworks designed to preserve long-term national welfare. Studies of environmental and socio-economic impacts of petroleum exploitation highlight that the absence of robust sustainability mechanisms leads to long-term governance failures and social instability (Rayhan et al., 2023). While Iran's contractual regime increasingly incorporates sustainability language, the translation of these commitments into enforceable outcomes remains uneven.

A comparative assessment of Iran's contractual governance framework against international best practices reveals both convergence and divergence. Global trends in petroleum governance emphasize integrated transparency regimes, independent regulatory institutions, participatory decision-making, and rigorous environmental oversight (Mirhaj, 2024). Iran's adoption of the IPC model reflects significant alignment with these trends, particularly in the areas of risk-sharing, legal stability, and investment facilitation. However, persistent governance challenges—such as limited public disclosure, centralized institutional authority, and constrained stakeholder participation—differentiate Iran's system from more decentralized and participatory governance models observed in other jurisdictions (Gabagambi & Longopa, 2022). Comparative research across Southeast Asia and Africa demonstrates that successful governance reforms often require not only contractual redesign but also deep institutional transformation (Ariyon et al., 2023). Iran's experience thus illustrates the limits of contractual reform in the absence of broader governance restructuring.

Structural challenges and legal gaps continue to impede the full realization of good governance within Iran's petroleum contracts. Fragmentation of authority among governmental bodies, overlapping regulatory mandates, and ambiguous jurisdictional boundaries create institutional inefficiencies and weaken accountability mechanisms (Wulan et al., 2024). Political intervention in strategic energy decisions further complicates governance, introducing uncertainties that contractual safeguards cannot entirely mitigate. Institutional weaknesses, including capacity constraints and limited regulatory independence, undermine the effectiveness of oversight and enforcement. The absence of comprehensive transparency norms at the statutory level constrains the ability of contractual disclosure provisions to achieve their intended impact (Baiye, 2024). These structural limitations reflect broader challenges inherent in resource-dependent governance systems, where political economy dynamics often shape legal outcomes (Movahedi-Lankarani, 2024).

Taken together, this analysis demonstrates that while Iran's oil and gas contracts increasingly incorporate the formal elements of good governance, significant gaps remain between normative aspirations and practical implementation. Contracts have evolved into sophisticated governance instruments that embed transparency, accountability, legal certainty, and sustainability principles. Yet, the effectiveness of these mechanisms is ultimately contingent upon the coherence of the broader institutional environment within which they operate. Without complementary reforms in regulatory capacity, institutional independence, and participatory governance, contractual innovations alone cannot fully deliver the promise of good energy governance.

5. Conclusion

The governance of oil and gas resources in Iran stands at a critical juncture where legal design, institutional performance, and national development objectives converge. This study has demonstrated that petroleum contracts in Iran have evolved far beyond their traditional commercial function and now operate as central instruments of governance that structure authority, regulate economic relations, and mediate the interaction between the state, investors, and society. The analysis reveals that the transformation of Iran's contractual regime—culminating in the adoption of the Iran Petroleum Contract—reflects a growing recognition that effective energy management requires not only technical expertise and capital investment but also coherent governance frameworks grounded in law, accountability, and sustainability.

At the conceptual level, the transition from state-centered control toward governance-oriented models has redefined the role of law and contracts in the energy sector. Governance is no longer conceived merely as the exercise of governmental authority but as a complex process of coordination among institutions, markets, and social actors. In this framework, petroleum contracts emerge as pivotal legal mechanisms that translate abstract governance principles into enforceable obligations. They define rights and responsibilities, allocate risks, establish oversight mechanisms, and embed national priorities into the operational fabric of the energy industry. This expanded function of contracts underscores their strategic importance for achieving long-term economic stability, political legitimacy, and social trust in the management of hydrocarbon resources.

The examination of Iran's legal architecture reveals that constitutional principles of national ownership and sovereignty continue to provide the normative foundation of the petroleum sector, shaping statutory regulation and constraining the permissible scope of contractual arrangements. Over time, however, Iran's contractual models have adapted to changing economic realities and governance expectations. The evolution from concessions to service contracts, buy-back arrangements, and ultimately the IPC reflects a continuous effort to reconcile sovereignty concerns with the demands of investment competitiveness, technological modernization, and regulatory effectiveness. This adaptive trajectory demonstrates that contractual reform is both a legal and a political process, responsive to shifting domestic priorities and external pressures.

The core analytical findings of this study indicate that Iran's oil and gas contracts increasingly incorporate the formal components of good governance, including transparency, accountability, legal certainty, efficiency, sustainability, and protection of the national interest. Provisions related to disclosure, reporting, auditing, environmental safeguards, dispute resolution, and risk-sharing illustrate a conscious attempt to align contractual design with contemporary governance standards. These developments represent significant progress compared to earlier contractual frameworks and signal an institutional learning process within Iran's energy governance system.

Nevertheless, the analysis also reveals persistent structural challenges and legal gaps that limit the effectiveness of these contractual innovations. Transparency remains constrained by confidentiality practices and limited public access to contractual information. Accountability mechanisms are weakened by overlapping institutional mandates, centralized decision-making, and insufficient regulatory independence. Participatory governance remains underdeveloped, with limited formal channels for stakeholder engagement in contract formation and oversight. Legal certainty, while strengthened through contractual safeguards, continues to be influenced by broader regulatory and political dynamics that introduce elements of unpredictability. Sustainability commitments, although increasingly present in contractual language, face obstacles in implementation due to institutional capacity limitations and enforcement challenges.

These findings highlight a fundamental insight: contracts alone cannot deliver good energy governance in the absence of coherent institutional reform. While contractual architecture is a powerful governance tool, its effectiveness is contingent upon the surrounding legal and administrative environment. Good governance in the energy sector ultimately depends on the alignment of constitutional principles, statutory frameworks, institutional capacities, regulatory practices, and societal expectations. Without this systemic coherence, even the most sophisticated contractual designs risk becoming symbolic instruments with limited practical impact.

The implications of this study extend beyond Iran's petroleum sector. They underscore the broader lesson that energy governance is inherently interdisciplinary and multi-dimensional, requiring continuous integration of legal, economic, political, and social considerations. For Iran, strengthening good energy governance demands a holistic reform strategy that reinforces institutional independence, enhances regulatory capacity, expands transparency norms, and fosters meaningful stakeholder participation. Such reforms would not only improve the performance of the oil and gas sector but also contribute to broader objectives of sustainable development, economic resilience, and social stability.

In conclusion, Iran's oil and gas contractual system has undergone significant transformation and now exhibits many of the formal attributes of good energy governance. Yet the journey from normative aspiration to effective implementation remains incomplete. The future success of Iran's energy governance will depend on its ability to bridge the gap between contractual design and institutional practice, ensuring that the governance principles embedded in its petroleum contracts are fully realized in the lived realities of resource management.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

Acknowledgments

Authors thank all who helped us through this study.

Conflict of Interest

The authors report no conflict of interest.

Funding/Financial Support

According to the authors, this article has no financial support.

References

Ala, M., & Sorkhabi, R. (2023). The Modern Oil Industry in Iran: A Historical Perspective and Review. *Journal of Petroleum Geology*, *47*(1), 101-119. https://doi.org/10.1111/jpg.12852

Alyakin, D. S. (2024). Performance of Obligations Stemming From a Contract on Oil Processing Under Russian Law. *ВМУ.11 = LLJ*, *65*(2, 2024), 100-113. https://doi.org/10.55959/msu0130-0113-11-65-2-6

Appiah, M. K., Odei, S. A., & Kumi-Amoah, G. (2023). Modelling the Determinants of SME's Investment Intention in the Ghanaian Energy Sector: The Role of Local Content Policy. *International Journal of Energy Sector Management*, *18*(1), 94-118. https://doi.org/10.1108/ijesm-05-2022-0003

Ariyon, M., Sukendi, S., Putra, R. M., Kausarian, H., & Santika, B. (2023). Comparison of Oil and Gas Fiscal Policies in Southeast Asian Countries: Indonesia, Malaysia and Brunei Darussalam. *Bio Web of Conferences*, *70*, 06007. https://doi.org/10.1051/bioconf/20237006007

Baiye, E. G. (2024). A Legal Examination of Stabilization Clauses in Petroleum Contracts in Cameroon. *Leg. Res. Anal.*, *2*(1). https://doi.org/10.69971/hr2qsp86

Baiye, E. G., & Mundi, F. D. (2024). Illicit Financial Flows and the Petroleum Sector in Cameroon: Hitches and Policy Considerations. *Law and Economy*, *3*(7), 1-20. https://doi.org/10.56397/le.2024.07.01

Debski, J., & Ezeani, E. (2022). Corporate Social Responsibility Under the Petroleum Industry Act 2021: Achieving Environmental Sustainability Through Multi-Stakeholder Partnership. *African Journal of Engineering and Environment Research*, *3*(1). https://doi.org/10.37703/ajoeer.org.ng/q1-2022/01

Elensi, E. A., Ibok, E. E., & Atakpa, O. E. (2024). Petroleum Local Content Policy and Employment Generation in the Niger Delta Region of Nigeria. *Aksujacog*, *1*(1), 316-328. https://doi.org/10.61090/aksujacog.2024.056

Gabagambi, L. C., & Longopa, E. E. (2022). Analysis of the Legal and Institutional Frameworks Regulating Oil and Gas Resources in Tanzania. *Journal of Law and Legal Reform*, *3*(3). https://doi.org/10.15294/jllr.v3i3.58625

Gissi, F., Koppel, D. J., Boyd, A., Kho, F., Hellfeld, R. v., Higgins, S., Apte, S. C., & Cresswell, T. (2022). A Review of the Potential Risks Associated With Mercury in Subsea Oil and Gas Pipelines in Australia. *Environmental Chemistry*, *19*(4), 210-227. https://doi.org/10.1071/en22048

Ite, A. E., Ite, I. A., Edem, E. C., & Okon, J. E. (2024). Nigeria's Oil and Gas Exploration and Production: Socioeconomic Implications, Environmental Impacts, and Mitigation Strategies. *Socio Economy and Policy Studies*, *4*(2), 100-114. https://doi.org/10.26480/seps.02.2024.100.114

Mirhaj, J. (2024). Good Governance and Legal Challenges in Drafting International Oil and Gas Contracts. *Jecjl*, *2*(4), 332-351. https://doi.org/10.61838/jecj.2.4.19

Movahedi-Lankarani, C. (2024). Precarious Petroleum. *Comparative Studies of South Asia Africa and the Middle East*, *44*(1), 3-17. https://doi.org/10.1215/1089201x-11141519

Rayhan, A., Ramadhan, M. U. C., & Tigor Boris Yudha Prakasa, S. (2023). Bioremediation in Upstream Oil and Gas Enterprises: Indonesian Environmental Law Perspectives. *Unifikasi Jurnal Ilmu Hukum*, *10*(02), 116-123. https://doi.org/10.25134/unifikasi.v10i02.752

Saidov, D. (2021). The Standardization of Oil and Gas Law: Transnational Layers of Governance. 349-376. https://doi.org/10.1093/oxfordhb/9780197547410.013.16

Salih, R. S. (2022). The Profit Petroleum-Sharing Arrangement: Legal Complications of Profit Petroleum-Sharing Provisions of the Kurdistan Region Production Sharing Contracts. *The Journal of World Energy Law & Business*. https://doi.org/10.1093/jwelb/jwab029

Wulan, D. N., Rusydi, Munir, A., & Rifaldi, A. T. (2024). Limitation of Authority Between Central and Local Governments in the Oil and Gas Business. *Widya Pranata Hukum Jurnal Kajian Dan Penelitian Hukum*, *6*(1), 1-15. https://doi.org/10.37631/widyapranata.v6i1.1315