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20 August 2024

Online at <https://mpra.ub.uni-muenchen.de/121849/>  
MPRA Paper No. 121849, posted 31 Aug 2024 10:32 UTC

# **A Comprehensive Overview and Classification of Upstream Oil and Gas Contracts**

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# **A Comprehensive Overview and Classification of Upstream Oil and Gas Contracts**

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## **Abstract**

This article aims to analyze and characterize the primary legal instruments used in the oil industry, with a particular focus on the contractual models that govern hydrocarbon exploration and production operations. It offers a classification of Joint Ventures, a cooperative mechanism that facilitates the shared allocation of risks and resources among the involved parties. The article also discusses License Agreements and Exploration Rights, which grant specific exploration and production rights, thereby regulating the relationship between the state and oil companies. The study proceeds with an analysis of Concession Agreements, highlighting their unilateral nature and the transfer of exploration rights under conditions specified by the grantor. Additionally, the article examines Production Sharing Contracts (PSCs), emphasizing their role in dividing production between the state and the contracted companies, with particular attention to mechanisms for maintaining economic balance and mitigating risks. The exploration of energy resources, particularly in developing countries, is often governed by complex contracts that are essential in structuring operations and securing financing. This study focuses on categorizing and describing the main contractual formats applicable to the upstream sector, addressing their legal and operational characteristics. By providing a deeper understanding of these contractual structures, the article contributes to the ongoing debate regarding the suitability of different contractual models in various geopolitical and economic contexts.

**Keywords:** contracts; upstream; oil industry; legal; joint venture

## **Introduction**

The oil and gas industry, a dominant force in the global energy sector, relies on a complex network of contracts to manage the high stakes involved in every stage of production, from exploration to delivery. These contracts are essential not only for meeting the global demand for oil and gas but also for defining the intricate relationships between oil and gas companies and host governments. Given the substantial economic and strategic importance of this industry, understanding the legal frameworks governing these contracts is crucial. Classifying these contracts is particularly important due to the segmented nature of the industry, which is typically divided into upstream, midstream, and downstream operations. Each segment involves distinct contractual relationships governed by specific legal principles tailored to address the unique challenges and risks at each stage of the supply chain. In the context of oil and gas exploration, contracts such as risk service agreements are critical, especially when dealing with foreign reserves. These agreements enable companies to develop oilfield assets while navigating the legal and regulatory requirements imposed by host nations. This article seeks to examine the various types of contracts that underpin the oil and gas industry, with a focus on their classification and the legal implications arising from them. By exploring these contractual frameworks, the study seeks to illuminate how they shape the industry's operational landscape and influence broader legal and economic dynamics in global energy markets.

## **Upstream, midstream and downstream**

The oil and natural gas industry can be divided into the following segments: (i) upstream, which encompasses the exploration and production of petroleum and natural gas; (ii) midstream, which pertains to the transportation and processing of these resources; and (iii) downstream, which involves the distribution of petroleum and gas products (LEISTER; CHIAPPIN, 2019, p. 10).

Each of these categories corresponds to a phase in the energy production process from petroleum, namely: the exploration, discovery, and extraction of crude oil (“Upstream”); the transportation and conversion of crude oil into a usable energy product (“Midstream”); and the refining, sale, and distribution to the consumer of the finished energy product (“Downstream”). Each of these categories of activities is subject to distinct business considerations, as they involve different capital requirements, risk levels, and technological

means, among other factors (GALA, 2009, p. 7). Lower crude oil prices negatively impact upstream oil and gas (O&G) companies, as the market price must be sufficiently high for the exploration and production of crude oil to be commercially viable (BLACKRIDGED, 2024). Conversely, downstream O&G companies are adversely affected by high oil prices due to the price-sensitive nature of demand for many petroleum products. Governmental policies can, under certain circumstances, implement price controls that may influence the revenues and, consequently, the profitability of downstream companies (BLACKRIDGED, 2024). The midstream sector processes natural gas, natural gas liquids (NGLs), and sulfur. A critical component of midstream operations includes fractionation plants, which are responsible for separating NGLs from the produced oil and gas stream and further fractionating these processed liquids into various products, such as butane, ethane, propane, and liquefied petroleum gas (LPG) (BLACKRIDGED, 2024). Certain midstream activities overlap with functions typically associated with both upstream and downstream sectors. For instance, the midstream sector may operate natural gas processing plants to purify raw natural gas, remove elemental sulfur, and produce natural gas liquids, which are considered finished end products (BLACKRIDGED, 2024). Companies involved in oil and gas operations often require access to midstream assets. Some independent midstream companies offer services that provide access to these assets, including fluid compressors, fractionating and dehydration tanks, gas storage facilities, LPG (liquefied petroleum gas) and LNG (liquefied natural gas) storage plants, as well as oil pipelines, among others (BLACKRIDGED, 2024). Many developing countries possess substantial energy reserves but lack the technological capabilities and financing necessary to exploit them, thereby requiring foreign investment. It can be empirically asserted that the wealth of a resource-rich country is inversely proportional to its negotiating power (GALA, 2009, p. 14). In other words, the poorer the country, the weaker its negotiating power. This is because the greater a country's need to attract foreign investment, the more favorable the conditions it must offer to multinational oil companies to secure and sustain their interest (GALA, 2009, p. 14). It is important to bear in mind that the international "upstream" industry market is not fully functional, as ordinary investors do not have access to goods and business opportunities in the international operations of the oil sector (GALA, 2009, p. 14).

A legal framework for the exploration and production of oil consists of the set of norms, rules, and principles that regulate activities inherent to the oil industry within a specific location or state (LIMA, 2012, p. 170). The oil industry is currently regarded as the largest

industry in the world, underscoring the significance of the legal regimes that govern this sector. The activities associated with this industry are highly complex and costly. Generally, these activities are divided into two phases: exploration and production. The exploration phase involves investigating the actual presence of oil or gas in a specific area (LIMA, 2012, p. 170). The risk associated with this phase is considerable, especially when the area is not well-known. The costs are also substantial due to the necessary investments, particularly in seismic surveys, analyses, and subsequent drilling. Furthermore, the oil company's profits, in the event of a successful discovery, may be restructured or restricted by the state through governmental participation and legal taxation (LIMA, 2012, p. 170). Both the exploration and production phases are bound by timeframes typically stipulated in the contract. If no deposit is discovered within this period, the oil company is required to return the area to the state where the exploration was conducted. The production phase begins when the oil company declares the commercial viability of the discovered oil or gas deposit, determining that its extraction is profitable (LIMA, 2012, p. 171). The state's coordination of petroleum activities is directly tied to its legal framework, which governs the exploration and production of hydrocarbons, manages relationships with various industry agents, and defines the interaction and involvement between the host state and the oil company (LIMA, 2012, p. 171). This legal framework is contingent upon the state's political and economic structure, including its constitutional and sub-constitutional legal systems, as well as its level of participation in exploration and production activities. Ultimately, the legal framework adopted by a particular oil-producing country reflects its political institutions, the degree of economic openness, and the significance of oil to its economy (LIMA, 2012, p. 171). The oil and gas industry offers various types of contracts that govern the exploration and production of oil and natural gas (FONTES, 2012, p. 3381). The selection of the most suitable contract model for a country depends on several factors, including national sovereignty over subsoil resources, the country's energy consumption needs, the technology available from state entities, the investment resources provided by the state, the qualifications of the national workforce, and the country's petroleum potential (FONTES, 2012, p. 3381). Based on these considerations, the state enacts legislation that facilitates access to reserves and production, ensures contractual stability, and defines the level of attractiveness for private or public investment through specific contractual provisions (FONTES, 2012, p. 3381).

## **Concession agreements**

Concession agreements in the oil and gas industry involve the transfer of exclusive rights to explore and produce hydrocarbons (typically held by the state, possibly represented by a public entity) to one or more domestic or foreign oil (LIMA, 2012, p. 177). These companies undertake exploration and production at their own risk, gaining ownership of the hydrocarbons produced and the freedom to manage them, provided they comply with the contractual obligations and fiscal requirements set by the state (LIMA, 2012, p. 177). Furthermore, due to the strategic significance of these resources, it is often mandated that a portion of production is allocated to satisfy the domestic market needs of the producing country. The state, through a designated authority, is responsible for overseeing and inspecting the concessionaires' operations and determining the appropriate level of government participation (LIMA, 2012, p. 177). This type of contract, established between the holder of hydrocarbon rights and oil companies, has several variations and can be executed through a Licence, Lease, or a standard Concession Contract. The Licence and Lease, which are sometimes employed alongside concessions, should not be conflated with this type of contract, and therefore a brief clarification is necessary. The Licence, primarily used in the North Sea (Norway and Great Britain), is a contractual framework characterized by highly detailed provisions on oil law, making it distinct within the industry while remaining within the state's legal structure (LIMA, 2012, p. 178). This framework allows for extensive state intervention through its regulatory bodies, influencing all decision-making aspects, such as timelines, environmental regulations, workplace safety standards, minimum program specifications, financial obligations of the oil companies, and sometimes even mandating the selection of partners in exploration activities, equipment procurement, and potential facility abandonment (LIMA, 2012, p. 178).

## **Production Sharing Contract**

The Production Sharing Contract (PSC) was developed in Indonesia in the early 1960s and remains a model or reference for various oil-producing countries, such as Angola (LIMA, 2012, p. 198). It was initially adopted as a response to the imbalance between Middle Eastern producing countries and oil companies, which was evident in the early Concession Contracts. The PSC fundamentally changed the ownership structure of extracted hydrocarbons, which had previously belonged to the oil companies, by transferring ownership to the state (LIMA, 2012, p. 198). Consequently, instead of receiving royalties as compensation for granting oil

companies the exclusive right to exploit these resources, the state assumes ownership of the extracted hydrocarbons. A portion of these resources is then allocated to the oil company as payment for its operational activities and the risks associated with exploration and production (LIMA, 2012, p. 199). This conceptual framework is universally accepted in legal doctrine, as variations in PSC models do not alter the ownership of hydrocarbons. Under a PSC, the host state primarily contributes the territory to be explored (known as acreage) and grants the oil company the exclusive right to conduct exploration and production activities, without involving any form of lease or transfer of ownership (LIMA, 2012, p. 199). The oil company undertakes exploration at its own risk and expense, and in return, receives a share of the produced hydrocarbons as compensation for assuming this risk. Therefore, if hydrocarbons are not discovered or if the reserves are not commercially viable, the contract terminates without the oil company having any entitlement to recover its costs. Compensation for the oil company occurs only if operations are successful, allowing it to recover the costs and investments incurred during the exploration and development phases through the receipt of a fixed percentage of the production, commonly referred to as "cost oil" (LIMA, 2012, p. 199). The remaining portion of the production, known as "profit oil," is shared between the producing country and the oil company according to the terms established in the contract. It is this division of the production, resulting from the oil company's efforts, that gives the contract its name (LIMA, 2012, p. 199).

### **License Agreements and Exploration Rights**

License agreements grant exclusive rights to their holders, marking the crucial first step from potential to actual production (U.S. ENERGY MEDIA STAFF, 2024). These rights enable companies to conduct geological surveys, drill exploratory wells, and ultimately assess the commercial viability of specific oil or gas fields. The terms of these agreements are meticulously designed to ensure that exploration activities are both environmentally responsible and economically beneficial for all parties involved (U.S. ENERGY MEDIA STAFF, 2024). During the exploratory phase, companies must comply with the stringent conditions set forth in the license agreements. These typically include obligations to fulfill specific work programs, adhere to environmental safeguards, and provide financial guarantees (U.S. ENERGY MEDIA STAFF, 2024). The granting of these rights represents a mutual commitment: the state entrusts a portion of its natural resources to a company capable



of developing them, while the company undertakes a rigorous and responsible exploration of potential hydrocarbon resources.

### **Terms and Obligations in Concession Agreements**

Concession agreements outline the terms and obligations that define the relationship between governments and oil companies (U.S. ENERGY MEDIA STAFF, 2024). These contracts are crucial, as they not only grant exclusive rights to explore and produce hydrocarbons but also clearly specify the responsibilities each party must uphold. For companies, this typically involves significant financial commitments, strict adherence to regulatory standards, and often revenue-sharing with the host government (U.S. ENERGY MEDIA STAFF, 2024). License agreements, which may form part of a broader concession framework, define the specific areas where exploration and production can occur, the duration of these rights, and the operational requirements. These agreements play a vital role in establishing a clear understanding of the risks and rewards shared by both the host country and the oil company. They encapsulate the essence of the partnership, with both parties striving for profitable and sustainable resource development (U.S. ENERGY MEDIA STAFF, 2024).

### **Joint Venture**

A joint venture is globally defined as an association of companies, either permanent or temporary, formed with the purpose of investing in a specific business, without any of the participating companies forfeiting their original legal identity (LIMA, 2012, p. 206). This arrangement does not imply or require a corporate or contractual association of a fixed or determinable duration, whether between public or private, foreign or local entities, aimed at pursuing specific objectives and projects. Unlike a commercial company, a joint venture typically focuses on a single project, and the association is automatically dissolved upon the project's completion. Under this regime, the ownership of hydrocarbons produced is assured to the state through its legislation. In other words, hydrocarbon reserves, whether on the surface or underground and before extraction, are exclusively state-owned (LIMA, 2012, p. 209). Once extracted, the ownership of these hydrocarbons is shared between the state and the oil company, according to the respective percentages held within the joint venture. Nevertheless, the joint venture, which acquires ownership of the extracted hydrocarbons, is responsible for the compensation due for the right to exploration. This process is similar to a concession, where the oil company pays the agreed government shares and taxes to the state

(LIMA, 2012, p. 209). The legal instruments typically established between the producing country and the oil companies under the joint venture regime include the articles of incorporation and other ancillary documents, such as quota and shareholder agreements. This joint venture is formed between the participating oil companies and a state representative entity, usually a National Oil Company, which often acts as the operator of the block. The type of company established depends on the corporate and tax laws of the producing country and is commonly set up as either a public limited company or a private limited company (LIMA, 2012, p. 209). In this type of contract, the exploration and production risks are borne by the joint venture. Profit distribution between the producing country and the oil company is conducted in proportion to each party's shareholding in the joint venture, as stipulated in the contract, in accordance with their respective participation percentages. As with other regimes discussed, in a joint venture, the state is represented by regulatory agencies or ministries responsible for overseeing and regulating the activities carried out by the joint venture (LIMA, 2012, p. 209).

### **Upstream oil and gas contracts**

In the context of oil and gas development, upstream operations refer to the process and mechanisms for the exploration and production of oil and gas (KARIMI; OSHIONEBO, 2020, p. 91). Upstream operations require “various forms of data and management information, production accounting, well logs and other technical devices.” Upstream oil and gas operations are conducted based on various contractual frameworks, including concessions (licences and leases); production sharing agreements (also known as production sharing contracts); joint venture agreements; joint operating agreements; service contracts; and Farm-out Agreements. The nature and forms of oil and gas agreements may differ according to local laws and regulations as well as the parties' preferences (KARIMI; OSHIONEBO, 2020, p. 91). For example, in the United States and Canada, most oil and gas agreements are in the form of leases. Elsewhere, oil and gas agreements are mainly concession agreements, production sharing agreements, joint operating agreements, or service contracts (KARIMI; OSHIONEBO, 2020, p. 92). The International Nature of Upstream Oil and Gas Contracts Upstream oil and gas contracts are often international contracts. The oil and gas projects constituting the subject-matter of these contracts are not necessarily located in the same country where the project proponents are located. The international nature of oil and gas contracts is more apparent in developing countries where ownership of oil and gas resources

is vested in the government in trust for the citizens of these countries (KARIMI; OSHIONEBO, 2020, p. 92). In South Africa, for example, “mineral and petroleum resources are the common heritage of all the people of South Africa and the State is the custodian thereof for the benefit of all South Africans.” As the sole owner and custodian of all oil and gas resources within its territory, only the government of developing countries can grant the right to explore and produce oil and gas. (KARIMI; OSHIONEBO, 2020, p. 92). Thus, oil and gas contracts in developing countries manifest in the form of investorstate contracts. This unique relationship between host developing countries and oil and gas companies needs special consideration in the process of choosing the appropriate governing laws. In fact, given the heavy dependence on oil and gas revenues by developing countries, upstream oil and gas contracts are considered a national treasure from the perspective of the host developing countries. Hence, host countries desire that oil and gas projects in their jurisdictions be governed by their domestic laws. However, the domestic laws of host countries might not be the most desirable for other parties involved in upstream oil and gas contracts who are often foreign investors (KARIMI; OSHIONEBO, 2020, p. 92).

## **Conclusion**

In conclusion, a deep understanding of the various models of upstream oil contracts is essential for stakeholders in the oil and gas industry, given the sector's complexity and dynamic nature. These contracts play a pivotal role in determining the allocation of resources, risks, and rewards between host governments and oil companies. Mastery of different contractual models empowers parties to select the most suitable framework that aligns with their strategic objectives, economic conditions, and legal requirements. Moreover, familiarity with diverse contract types enhances the effectiveness of negotiations, risk management, and adaptation to shifting market conditions. In an era marked by volatile oil prices, technological advancements, and evolving regulatory landscapes, the ability to navigate and apply various contract models is a critical factor for success in the upstream oil sector. Consequently, both governments and private enterprises must invest in a comprehensive understanding of these contracts to optimize operations and ensure mutually beneficial outcomes.

## References

Blackridge Research. (2024, January 8). Upstream, midstream, and downstream explained | Oil & gas.

Fontes, G. A. (2012). Uma análise dos contratos de exploração de petróleo concessão e produção e partilha diante do cenário petrolífero brasileiro pré-sal. *Revista do Instituto do Direito Brasileiro*, 1(6), 3371-3388

Gala, F. B. (2009). A tipicidade das formas contratuais atípicas no comércio internacional do petróleo. *O Direito IV*, 141, 1001-1028.

Leister, C., & Chiappin, J. R. N. (2019). Segurança Energética e Regimes Jurídicos Regulatórios no Segmento de E&P do Setor de Hidrocarbonetos. *Economic Analysis of law Review*

Lima, Â. M. D. (2012). *Lex petrolea: Um estudo comparativo da "Lei do Petróleo" em Países de Língua Oficial Portuguesa: Brasil, Angola, São Tomé e Príncipe, Timor, Moçambique e Portugal* (Master's thesis). Universidades Lusíada.

Karimi, S. A., & Oshionebo, E. (2020). Depechage in the context of international upstream oil and gas contracts. *Asper Review of International Business and Trade Law*, 20(1).

U.S. Energy Media Staff. (2024, July 20). Contracting in the oil and gas industry – An in-depth guide. *Oilman Magazine*.