

---

# **OIL AND NATURAL GAS LAWS IN INDIA: A STUDY OF LEGISLATIONS AND REGULATIONS**

---

Chaitanya Singh, L.L.B (Hons.), Jindal Global Law School, Sonapat, Haryana

## **ABSTRACT**

The oil and gas industry, one of India's eight principal sectors, influences other economic decisions. In 2021, India was the third-largest oil consumer. This position the industry well for expansion. The oil and gas industry may be crucial to future economic development. Investing in oil and gas is often profitable for both the firm and the investor. It may be successful in India Given India's growing need for crude oil and its extensive home and commercial use, action will be taken. Future investment prospects in this sector.

In accordance with the government's goal of making it easier to conduct business in India, the Indian government has addressed teething issues in the oil and gas industry. The Indian government altered upstream rules to attract foreign investment (i.e., from NELP to HELP). The dynamic oil and gas industry will generate opportunities for economic expansion.

## Introduction

“The oil and gas sector, one of India's eight major industries, has a significant influence on how other critical sectors of the economy make choices. In 2021, India remained the world's third-largest oil user. As a result, the industry is primed for growth.

“The Government of India, under the Constitution of India, 1950 has the power to legislate in respect of **Oil and Natural Gas**. Legislative powers are conferred on the Government of India under Entry 53, to List I of Schedule VII of the Constitution from an industry perspective, Oil and Natural Gas industry is divided into three major segments:

**Upstream:** Comprises activities pertaining to exploration, recovery and production of O&G. In industry parlance, it is simply called Exploration and Production (“E&P”).”

Upstream O&G business and asset life cycle stages comprises of **5 life cycle stages** which are as follows :

**1)Explore:** Critical information and samples regarding the rocks and fluids (water, gas, and oil) encountered by the well are collected during exploration drilling in order to find out and answer questions such as: Is there any hydrocarbons at that location? How much oil or gas is there in the area that is currently being explored? How deep does the oil or gas exist? Exploration efforts can also be hazardous.

The geographical location – for example, a vulnerable ecology or a remote or difficult terrain. Most importantly, while safety is always a priority, accidents can occur while collecting seismic surveys or drilling wells.”

**2) Appraise:** The appraisal phase occurs after the discovery of oil and gas to reduce the uncertainty or risk of loss on the size and attributes of the oil or gas field. In addition to exploratory wells, additional wells are drilled during appraisal to obtain additional O&G reservoir information and samples. Additional 3D seismic surveys are typically repeated to gain a better image of reservoir producing zones/intervals. These efforts will take years to complete and will cost tens of millions of dollars. More seismic surveys and wells will help petroleum geologists, geophysicists, and reservoir engineers better understand the reservoir. They're trying to figure out if the rock or fluid properties change far away from the discovery well, as well as how much oil or gas is present or might be in the reservoir, as well as the rate

at which oil or gas will flow through the reservoir. The oil or gas field can normally be developed commercially when the appraisal stage is completed successfully.

**3) Develop:** Following a successful evaluation, the development stage begins before full-scale production.

The primary actions (and those involved) are as follows:

- Create a development plan for the oil or gas field, including how many wells will be required to produce the oil or gas (geologists, geophysicists and reservoir engineers)
- Select the best design for the production wells (drilling engineers)
- Identifying which manufacturing facilities are required to process the oil/gas before it is delivered to a refinery or customer (facilities engineers)
- Identifying the most cost-effective oil and gas export route (logistics engineers)

**4) Produce:** This procedure covers everything from well and facility construction to commissioning and fourth-stage production preparation.

Processes such as:

- Operate - Activities related to production operations.
- Construct Wells - for in-fill wells
- Execute Survey - for real-time data collection, testing, and logging
- Develop Concepts - for processing, analysis, and interpretation of existing and new data

**5) Abandon** The scope of this procedure includes post-production disposition of the asset, such as sale or site rehabilitation. The servicing processes at this point in the asset life cycle are:

- Acquire-Divest Asset - whether the asset is sold completely or partially.
- Wells - Shut down operations.

The safe and cost-effective disposal of facilities is referred to as abandonment.

Abandonment objectives – to safely and cost-effectively remove wells and installed facilities in accordance with local laws, international treaties, and business policy.

Key Stages — Using the reservoir model, determine when to stop production based on economic constraints. Safety, costs, timeliness, and environmental concerns are all critical metrics. The ultimate goal is to demolish all dangerous facilities. Onshore/offshore decommissioning in accordance with the North Sea platform re-float for decommissioning paradigm.

**“Midstream:** Processes, stores, markets and transports commodities such as crude oil, natural gas, natural gas liquids (liquefied natural gas such as ethane, propane and butane) and sulphur.

**Downstream:** Refers to the refining of crude oil and the selling and distribution of natural gas and products derived from crude oil.”

### **“Oil & Gas Ecosystem Management & Work Flows (Ministerial Infrastructure)**

- MOPNG (Ministry of Petroleum and Natural Gas)
- Ministry Of Coal – DGMS
- Min Of Env & climate
- Human Resource Development Ministry
- Ministry of Labour
- DST
- Ministry Of Finance
- Ministry of Defence”

### **Sedimentary Basins Of India-O&G Prospects**

• India has 26 sedimentary basins covering 3.14 million square kilometres. • The sedimentary basins of India cover 1.79 million square kilometres on land and offshore up to the 200m isobath, and the sedimentary area in deepwater beyond the 200m isobath is estimated to be around 1.35 million square kilometres. As a result, the total area measures 3.14 million square kilometres. According to their current prospectivity, Indian sedimentary basins have been classified into four categories. The classification is based on the prospectivity of the basin.

### ***Categories & Prospects of Indian sedimentary basins and Type of basins Area***

- 1) **“Category 1 ( 7 Basins)** Established commercial production Cambay, Assam Shelf, Mumbai

offshore, Krishna Godavari, Cauvery, Assam Arakan Fold Belt and Rajasthan

- 2) **Category II ( 3 Basins)** Known accumulation of hydrocarbons but no commercial production as yet /Kutch, Mahanadi-NEC & Andaman Nicobar.
- 3) **Category III ( 6 Basins)** Indicated hydrocarbon shows that are considered geologically prospective. Himalayan Foreland, Ganga, Vindhyan, Saurashtra, KeralaKonkan-Lakshadweep & Bengal.
- 4) **Category IV (10 basins)** “Uncertain potential which may be prospective by analogy with similar basins in the world./ Karewa, Spiti-Zanskar, SatpuraSouth RewaDamodar, Narmada, Deccan Syneclise, Bhima-Kaladgi, Cuddapah, Pranhita-Godavari, Bastar, Chhattisgarh Deepwater East & west coast from 400 m water depth to Exclusive Economic Zone.””

*(Data above is from National Data Repository, Directorate General of Hydrocarbons (DGH), Ministry of Petroleum and Natural Gas, Government of India.)<sup>1</sup>*

### **Gas Pricing Mechanism in India & Future Plans**

On October 2020 - “The Cabinet Committee on Economic Affairs (CCEA)” has approved the development of a standard procedure for determining gas market prices across various contractual regimes, implying that the Directorate General of Hydrocarbons (DGH) will propose a standardised e-bidding mechanism for the transparent determination of gas market prices. The effort to attract investors, as well as India's goal of becoming a gas-based economy, will contribute to an increase in domestic gas production of 40 million standard cubic metres per day (mmscmd) from the current 80 mmscmd.

The Indian government has already made plans for the pricing and marketing of gas from blocks awarded under the Discovered Small Field Policy (DSF), Hydrocarbon Exploration and

---

<sup>1</sup> “[https://www.ndrdgh.gov.in/NDR/?page\\_id=603](https://www.ndrdgh.gov.in/NDR/?page_id=603)”

Licensing Policy (HELP), and Coal Bed Methane (CBM) contracts, as well as discoveries from difficult fields such as coal bed methane (CBM). such as deep water, ultra-deep water and high pressure-high temperature areas.<sup>2</sup>

### ***Further Reforms in Gas Pricing Mechanism of India-***

The goal of the policy is to establish a standard procedure for determining the market price of gas to be sold in the market by gas producers in a transparent and competitive process, to allow Affiliates to participate in the bidding process for gas sales, and to allow marketing freedom to certain Field Development Plans (FDPs) where Production Sharing Contracts already provide pricing freedom.

In October 2014, the National Democratic Alliance administration announced a process for granting blocks based on nominations. The algorithm considers the weighted averages of prices in the three major international gas trading hubs: the Henry Hub in the United States, the National Balancing System in the United Kingdom, and the European Gas Trading System.

This is an excellent move that brings India closer to the OMC. It will help manufacturers who are constrained by existing ceilings. Prices will promote exploration and production investment, possibly balancing margins between downstream and upstream enterprises. Given the significant LNG import facilities being developed, a centralised platform may be unnecessary in the future, and we may shift to an open system where gas-to-gas rivalry becomes more dominant. **(From Deloitte)**

It would ensure bidding process consistency across diverse contract regimes and remove ambiguity (ease of doing business ). After February 28, 2019, all authorised gas discoveries and field development plans will enjoy total marketing and price independence.

### **Recent Oil and Natural Gas discoveries in India-**

“In 1981 the Government took over OIL and it became a full-fledged ***PSU (Public Sector Unit)***.”

---

<sup>2</sup> “Ministry of Petroleum and Natural Gas, Government of India. (Press release 22 Jul 2019)”

In the year 1982, “**ONGC (Oil and Natural Gas Corporation of India)**” a Maharatna PSU made its biggest gas discovery in Gandhar, Cambay basin Gujarat. By 1986, the KG basin was put on a global map with several substantial discoveries made. By the end of 1986, the 3rd round of international bidding for the exploration block was offered. OIL and ONGC were offered 40% stake in the JV , if the field was found viable. Few foreign companies participated but there was no committed exploration or breakthrough discovery. The foreshore terminal of IOC was commissioned in Madras (Chennai).

In 1989 “**OIL INDIA LTD**”. discovered gas in Tanot (Mata Temple) in Rajasthan, ONGC discovered south Heera in Mumbai offshore in 1989.”

### **“Directorate General of Hydrocarbons, Ministry of Petroleum and Natural Gas, Government of India – Regulatory Functions”**

DGH performs the following tasks:

- To advise the MOPNG on hydrocarbon exploration and production in the country, as well as the strategy for NOCs to explore and exploit O&G reserves in India and abroad.
- To investigate the exploration intentions of companies that have Petroleum Exploration Licences (PELs) awarded under the “Oil Fields Acts of 1948” and 1959. (Development and Regulation)
- Reassess the discovered and estimated hydrocarbon reserves of the running enterprises.
- Advise the government on the sale of E&P Acreage/PEL to corporations for exploration, as well as concerns related to acreage relinquishment by corporations.
- Evaluate the proposed development plans of operating firms for commercial finds of hydrocarbon reserves and advise the government on the adequacy of such plans, as well as predicted exploration rates and other connected matters;
- To concurrently assess and audit the management of petroleum reservoirs by operational firms and advise on any mid-course modifications required to ensure sound reservoir management practises in line with optimal reserve utilisation and petroleum resource conservation;

- Oversee the preservation, upkeep, and storage of data and samples linked to petroleum exploration, drilling, reservoir production, and other associated activities, as well as the creation of data packages for acreage available for sale to enterprises.
- Any other matters relating to it, as well as any other functions delegated by the government from time to time.
- In 2006, the Government of India designated the Director General of Hydrocarbons as the authority or agency to perform the Central Government's authorities and functions as outlined in the Oil Fields Acts of 1948 and 59:

To monitor upstream petroleum operations in India, including coalbed methane and gas hydrates operations, in accordance with the Act and the Rules;

- Obtaining all geoscientific data, reports, and information from the licensee or lessee, as well as retaining and preserving data and samples connected to petroleum exploration, drilling, production, and related operations in a retrievable manner.
- - Exercising the powers of the Central Government under the Petroleum and Natural Gas Rules, 1959, rules 24, 25, 26, 27, and 30; and - Supervising oil and gas output, royalty and other taxes, fees and levies, petroleum costing, and so on.
- **(Source: “Directorate General of Hydrocarbons and Ministry of Petroleum and Natural Gas”<sup>34</sup>)**

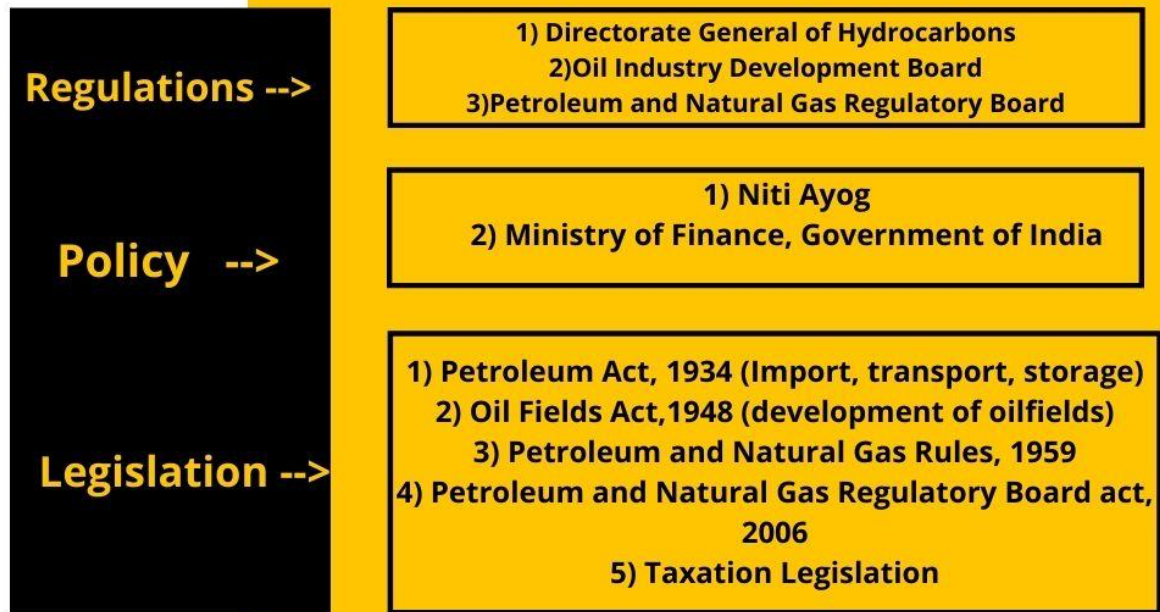
---

<sup>34</sup> <https://dghindia.gov.in>”



**Oil and Natural Gas Legislations and Regulations in India-**

**Regulatory and Legal Framework in India (ONG)\_\_\_\_\_**



(Above is Graphical Representation of Legal Framework binding Oil and Natural Gas activities in India.)

**Petroleum Act 1934 [as amended up to 1986]<sup>4</sup>**

This Act governs petroleum imports into India, transfers within India, storage, production, refining, and blending, as well as midstream activities. An act to codify and revise the rules controlling the import, transit, storage, production, refining, mixing, and recycling of petroleum and other flammable substances. The "flashing-point" of a petroleum is defined as the lowest temperature at which it forms a vapour that produces a transient flash when ignited. Section 3: Import, transit, and storage of petroleum Section 4 contains rules for the import,

<sup>4</sup>[https://legislative.gov.in/sites/default/files/A1934-30\\_0.pdf](https://legislative.gov.in/sites/default/files/A1934-30_0.pdf)

transit, and storage of petroleum. Section 5 discusses petroleum production, refining, and blending.

### **THE OILFIELDS (REGULATION & DEVELOPMENT) ACT, 1948<sup>5</sup>**

“An Act which regulates oilfields and for the development of mineral oil resources. Whereas it is expedient in the public interest to provide for the regulation of oilfields and for the development of mineral oil resources; This act establishes the foundation for the Government of India's licencing and leasing of petroleum and gas blocks, giving it broad powers to enact laws governing the basic regulation of oilfields and the exploitation of mineral oil resources.

The Oilfields Act, along with the Petroleum Rules, oversees the issuance of Production Exploration Licences and mining leases. The *sec 3 (e) of the Oil Field Act, 1948* defines “Oilfield means any area where any operation for the purpose of obtaining natural gas and petroleum, crude oil, refined oil, partially refined oil and any of the products of petroleum in a liquid or solid state, is to be or is being carried on.””

### **PETROLEUM & NATURAL GAS RULES 1959<sup>6</sup>**

Together with *the Petroleum Act of 1934*, these rules offer a framework for granting exploration permits and mining leases, as well as regulating the sale and distribution of petroleum and petroleum products.

#### **KEY DEFINITIONS IN P&NG RULES 1959:**

**Section 3 (a)** A borehole is an oil or gas well: (aa) The term "Continental Shelf" refers to the seabed and subsoil or submarine areas adjacent to India's coast, including its islands, but outside of its territorial waters, to a depth of 200 metres, or beyond that limit to the extent that the depth of the superjacent water allows for the exploitation of the areas' natural resources.

**Section 3(b)** "Crude oil" refers to petroleum in its natural state, before it has been refined or otherwise processed, but before it has been removed of water and foreign compounds.

---

<sup>5</sup> “[https://www.indiacode.nic.in/handle/123456789/1397?sam\\_handle=123456789/1362](https://www.indiacode.nic.in/handle/123456789/1397?sam_handle=123456789/1362)”

<sup>6</sup> “<https://dghindia.gov.in/assets/downloads/12.pdf>”

**Section 3(c)** "Drilling" or "boring" refers to the mechanical perforation of the earth's surface crust (whether the hole created by the perforation is vertical, inclined, or horizontal) and all operations to prevent the sides of the hole from collapsing or being filled with extraneous materials, including water;

**Section 3(d)** "Fields" means the general area which is underlaid, or appears to be underlaid, by at least one pool and shall include the underground reservoir or reservoirs containing petroleum or natural gas or both;

### **The Petroleum and Natural Gas Regulatory Board Act, 2006<sup>7</sup>:**

According to the Petroleum and Natural Gas Regulatory Board Act of 2006, the Petroleum and Natural Gas Regulatory Board was established to supervise the refining, processing, storage, transportation, distribution, marketing, and sale of petroleum, petroleum products, and natural gas. (With the exception of crude oil and natural gas output).

### **NELP**

The NELP was established in 1997-98 by the Government of India and the "Directorate General of Hydrocarbons" ("DGH") as the nodal body to provide a level playing field for both public and private sector firms engaged in hydrocarbon exploration and production. The NELP facilitates the distribution of exploration blocks, encouraging E&P investment. Countries compete in an auction. Despite the NELP regime's early success, NELP 8&9 have been chastised for failing to attract widespread participation from major multinational oil and gas corporations, and the Indian government has been working to modify the model since 2009.

HELP has taken over the role of NELP.

### **HELP** "*(Hydrogen Exploration and Licensing Policy)*"

HELP was created to increase domestic oil and gas output by stimulating exploration in sedimentary basins. It features a standard licencing framework for conventional and non-conventional hydrocarbons, an open acreage licencing policy, a revenue sharing mechanism, and marketing and pricing freedom (subject to certain limits).

---

<sup>7</sup> "<https://legislative.gov.in/sites/default/files/A2006-19.pdf>"

**Taxation Legislations:**

“Non-resident businesses pay 43.26 percent tax on net taxable income, while resident businesses pay 34.61 percent (rates listed above are the maximum effective rates inclusive of relevant surcharge and education cess and secondary and higher education cess). Non-residents who supply plant, machinery, facilities, or services in connection with mineral oil prospecting or extraction are subject to a presumptive tax regime in which taxable earnings are presumed to be 10% of gross revenues (plus surcharge and education cess). Any money declared, distributed, or paid in the form of dividends by a company is now liable to a DDT of 15% on a gross basis. In addition, the law contains various deeming clauses. the ITA to combat tax evasion by closely held corporations that distribute accumulated profits to shareholders in the form of loans or advances rather than dividends in order to avoid paying DDT.”

**OLAP & Revenue Sharing Model**

“The government has replaced the current profit-sharing method, which had previously been criticised by the Comptroller and Auditor General, with a revenue-sharing model with operators for oil and gas block exploration and development. The plan includes new regulations for auctioning exploration blocks, as well as pricing and marketing independence for natural gas generated from blocks granted under the new regime. The OLAP and Revenue Sharing Model advocated for a policy that would allow operators to investigate all types of oil and gas resources, such as coal-bed methane, shale gas and oil, tight gas, and gas hydrates.

The MOPNG has released an open acreage licencing programme (OALP) that allows corporations to bid on exploration blocks of their choosing. The NELP has been phased out in favour of the new licencing scheme. Now Upstream regulators will use their own geological data to verify company indications of interest and carve out blocks. After that, all interested parties will be asked to submit offers. The new guidelines, which are intended at making it "easier to do business," are a step in that direction. Companies obtain blocks by quoting the greatest minimum work programme and recovering investments before sharing profits with the government under the present cost-recovery scheme (PSC Regime). Companies must designate how much revenue they will share with the government at various phases of production under the revenue sharing model and in various price scenarios. Many corporations have complained

that the present tariff is too low to fund exploration and production expenditures, prompting the government's move. Oil majors such as Exxon Mobil, Chevron, and Royal Dutch Shell have opted out of India's exploration-block auctions due to price controls.”

### **Oil Mines Regulations 2017<sup>8</sup>**

This legislation specifies requirements for upstream oil and gas facilities, primarily in terms of safety and training. Furthermore, it mandates that all oil and gas production facilities be equipped with a flare line. It also specifies the flare stack height, anchoring equipment for the flare line, and the provision of a remote ignition system.

### **Conclusion**

“The oil and gas industry has been regarded as **a crucial driver of future economic growth**. From a business and financial standpoint, O&G investment is profitable from a financial standpoint. It has **promising** possibilities in India Given the situation, India's rising crude oil demand and its wide applicability in both domestic and industrial settings It is certain that there will be activity.

The Indian government has recently redesigned the upstream regulatory environment with the goal of attracting foreign investment (i.e., from NELP to HELP), and this is also true in keeping with the government's goal of making it easier to do business in India while The Indian government has resolved teething problems, issues in the oil and gas industry. The O&G sector's landscape promises to be dynamic, providing room for commercial organisations to expand.”

---

<sup>8</sup> “<https://labour.gov.in/whatsnew/oil-mines-regulations-2017>”