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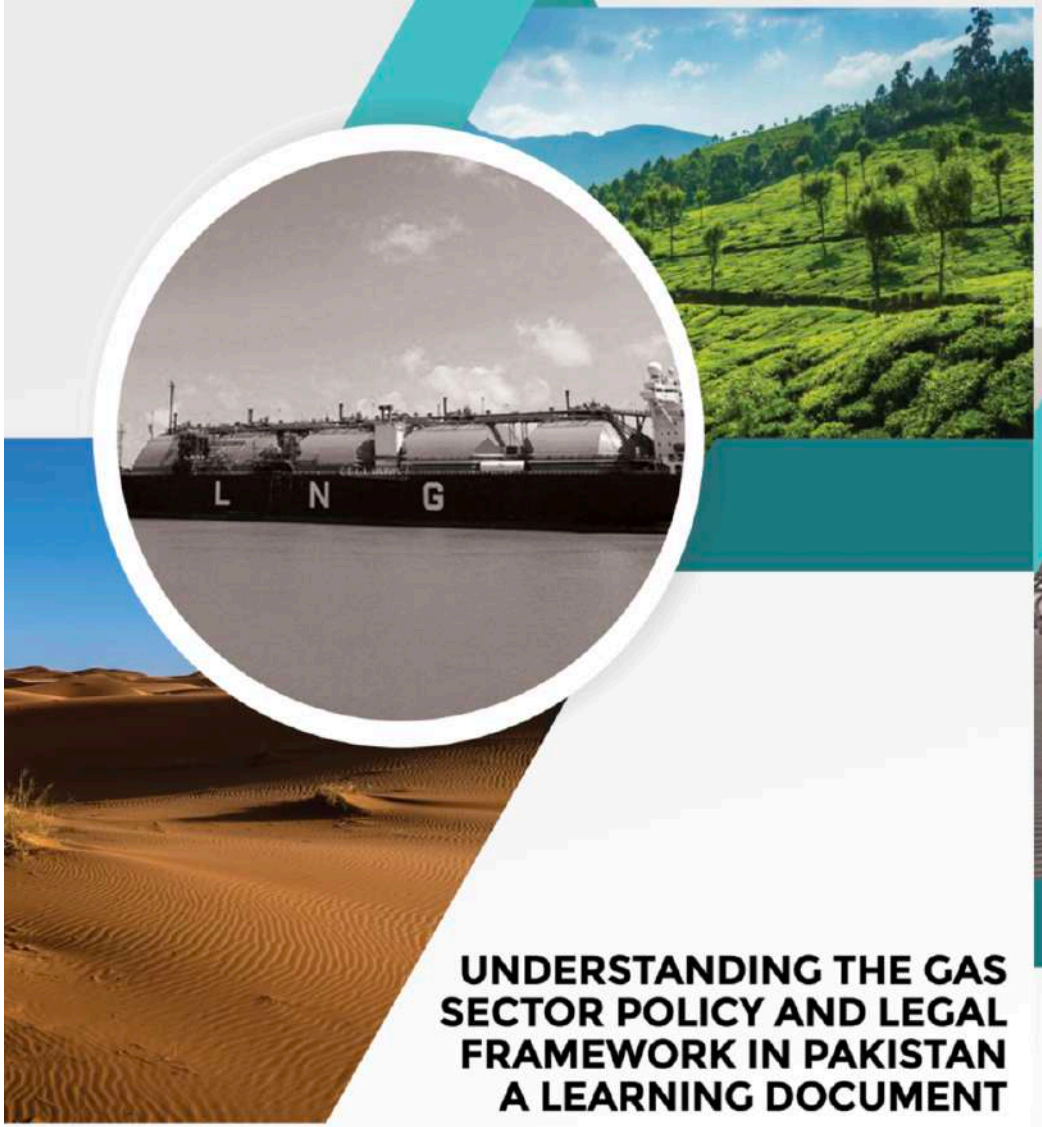

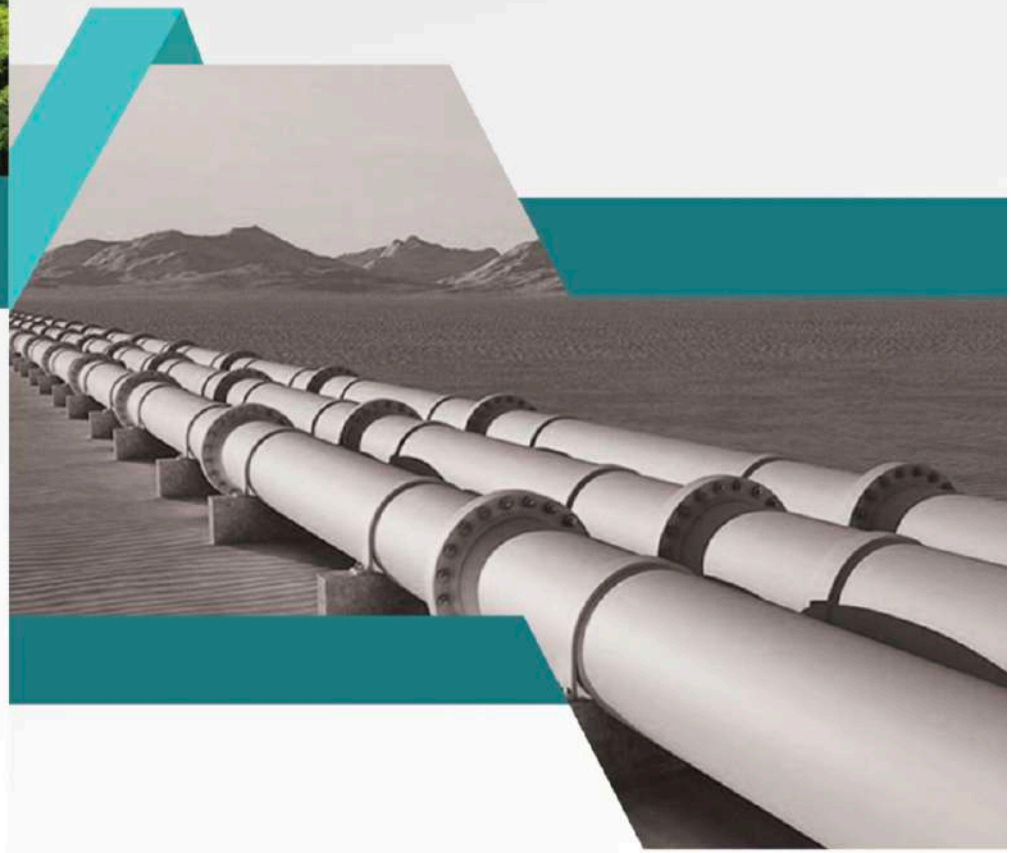

UNDERSTANDING THE GAS SECTOR POLICY AND LEGAL FRAMEWORK IN PAKISTAN
A LEARNING DOCUMENT

The document has been produced by The Knowledge Forum as a part of its programme to promote a narrative on scaling back fossil fuels in Pakistan.

In this regard, The Knowledge Forum appreciates the support of Tara, a regionally-led grant-making initiative to accelerate the energy transformation in Asia.

THE KNOWLEDGE FORUM

The Knowledge Forum is an independent organisation that seeks to produce knowledge-based resources to assist in interventions and advocacy for communities' rights. The initiative is rooted in the ideology that knowledge strengthens and guides the direction of actions aimed at advancing rights and social justice processes.

TKF's knowledge generation is driven by the community agenda, prioritising the inclusion of their voice and participation. Through high quality research and discourse curation, TKF aims to assist in the creation of a more informed perspective on complex themes that have a bearing on communities' access to rights and participation in political, democratic and development processes.

TKF has been founded by a group of human rights practitioners, development professionals, activists and legal experts.

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ABBREVIATIONS

BCFD	Billion Cubic Feet Per Day
CNG	Compressed Natural Gas
CREA	Centre for Research on Energy and Clean Air
DG	Director General
DGPC	Directorate General of Petroleum Concessions
ECC	Economic Coordination Committee
EETL	Engro Elengy Terminal Limited
ETPL	Energas Terminal (Pvt.) Limited
FO	Furnace Oil
FSRU	Floating Storage Regasification Unit
GEIP	Global Energy Infrastructure Pakistan Limited & Global Energy Infrastructure Limited
GHPL	Government Holdings (Private) Limited
GOP	Government of Pakistan
GSP	Geological Survey of Pakistan
HDIP	The Hydrocarbon Development Institute of Pakistan
HSD	High Speed Diesel
HSEM	Health, Safety and Environmental Management
KM	Kilometer
LNG	Liquified Natural Gas
LPG	Liquified Petroleum Gas
LSC	Large-Scale Company
MMCFD	Million cubic feet per day
MPNR	Ministry of Petroleum and Natural Resources
MTPA	Million Tons Per Annum
OGRA	Oil and Gas Regulatory Authority
PCA	Petroleum Concession Agreement
PGPCL	The Pakistan GasPort Consortium Limited
PIDC	Pakistan industrial Development Corporation
PIPS	Pakistan Petroleum Information Service
PLL	Pakistan LNG Limited
PQA	Port Qasim Authority
PSA	Production Sharing Agreement
PSO	Pakistan State Oil
PSX	Pakistan Stock Exchange
RLNG	Regasified Liquified Natural Gas
ROW	Right of Way
SNGPL	Sui Northern Gas Pipelines Limited
SNGPL	Sui Northern Gas Pipelines Limited
SSGC	The Sui Southern Gas Company
SSGC	Sui Southern Gas Company
TAPI	Turkmenistan Afghanistan Pakistan India Pipeline
TEPL	Tabeer Energy (Pvt.) Limited

1.INTRODUCTION

With a proven 19 trillion cubic feet (tcf) of gas reserves, and consumption of up to 1,453,519 one million cubic feet (mmcf) in 2018-19, Pakistan has just 12 years of gas reserves left for the current consumption levels.

A non-renewable hydrocarbon, gas as a source of energy for heating, cooking, and electricity generation, plays an important role in Pakistan's energy matrix.

A major portion, or 53% of gas produced, is used up by the power sector with the rest consumed by household (21%), industry (17%) and fertilizer (16%) sectors. Pakistan consumes 7,652 cubic feet of natural gas per capita every year (based on the 2017 population of 207,906,209 people), or 21 cubic feet per capita per day.

However, Pakistan produces around four billion cubic feet per day (bcfd) of natural gas against an unconstrained demand of over six bcfd.

To meet the shortfall, the Government of Pakistan (GoP) started importing liquefied natural gas (LNG) six years ago. It has also planned several regional gas projects in anticipation of future needs.

While the gas sector in Pakistan involves different stakeholders and institutions, it is guided and regulated at multiple levels by policies and laws. Its legal regime has been growing in response to the emerging needs. In fact, currently, the drafting of LNG Terminal and Storage Access Rules, 2021, is underway.

Despite gas being an important fossil fuel, data and literature to understand this fossil fuel remains elusive.

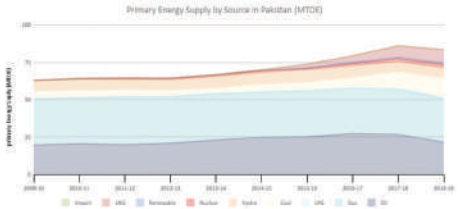
The present paper is an attempt to compile and describe, and in the process, understand, the constitutional, legal, policy and regulatory framework around gas production and supply in Pakistan.

Based primarily on desk review, clarity was sought from legal experts. It is hoped the paper will prove useful for policy practitioners, researchers, non-governmental organizations (NGOs), campaigners and other actors at this crucial time of both power and gas shortages.

2. ENERGY PORTFOLIO OF PAKISTAN

2.1.ENERGY MIX

Pakistan, which had a fairly diverse energy portfolio depending largely on oil followed by gas, has undergone a change in recent years. A report by the Centre for Research on Energy and Clean Air (CREA) found that a look at the energy mix in 2013-14 showed gas at 46.3% to be the most used fuel, followed by oil taking up 34.4%, hydro 11.4%, coal 5.4%, nuclear 1.8% and liquefied petroleum gas (LPG) 0.5%, respectively, with the remaining 0.1% supplied by imported power. However, in the last five years, there has been another shift in the energy mix. In 2019-20, while gas still had a bigger share, there was a dip in its supply with the share decreasing to 35% for gas, 26% for oil, 8% for hydro, 15% for coal, 3.5% for nuclear and 1% for liquefied petroleum gas. In addition, LNG and renewable energy had 11% and 1% share respectively.[2]



Source: Centre for Research on Energy and Clean Air 2021

2.2. ENERGY AND GAS IN PAKISTAN

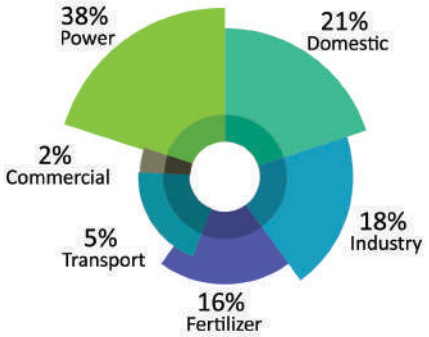
The total natural gas supply in 2019 stood at approximately 4,397 Million Cubic Feet per day (mmcfd) with local production contributing 3,416 mmcfd natural gas and LNG imports being 981 mmcfd. [3]

Still, gas consumption occupies the largest share in primary energy supply in Pakistan. The power sector's share in the consumption is around 38% in 2018-19 followed by household consumption at 21%, industry taking up 18% and fertilizer 16%.

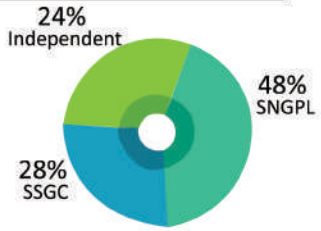
In terms of the indigenous natural gas production, against an unconstrained demand of over six BFCD, 48% is supplied by Sui Northern Gas Pipelines Limited (SNGPL), 28% by Sui Southern Gas Company (SSGC) and 24% by independent power producers (IPPs). To meet the shortfall, the GoP has initiated import of LNG.

The gas is supplied by an extensive gas network with over 12,971 kilometres (kms) transmission, 139,827 kms of distribution and 37,058 kms of services pipelines to cater to the need of more than 9.6 million consumers across Pakistan.

GAS CONSUMPTION PER SECTOR 2019



GAS MARKET SHARE 2019



Source: DG Gas cited by Petroleum Division 2020

2.2.1. LPG

In addition to the indigenous natural gas, Liquefied Petroleum Gas is another source of gas supply in Pakistan. This emerging sector is regulated by the Oil and Gas Regulatory Authority (OGRA) which is empowered under the OGRA Ordinance 2002 and LPG (Production & Distribution) Rules, 2001 with effect from 2003.

There are 11 LPG producers and 200 LPG marketing companies operating in the country having more than 7,000 authorized distributors. Around 76% of the LPG consumed is met by local production in Pakistan, whereas the rest is imported.

Refineries, gas fields and imports are the three main sources of LPG supply in the country. It is gradually becoming a popular domestic fuel for people living in far-flung areas where natural gas infrastructure does not exist. Currently, the LPG accounts for just 1.2% of the primary energy supply in the country. This low share of LPG in the total energy mix is mainly due to supply constraints and the higher price of LPG compared to natural gas and wood.

2.2.2. RLNG AND PIPELINE PROJECTS

The country's depleting natural gas reserves are forcing a shift of fuel from gas to imported regasified liquefied natural gas (RLNG), first imported in 2015. Pakistan started importing gas in the form of LNG to meet gas demands particularly in the power sector. At present, four longterm supply agreements exist for importing six million tons per annum (MTPA) of LNG. In addition, it is also imported when required on the spot basis. The imports have grown rapidly since the first float-ing storage and regasification terminal was built in 2015.

In addition to the import of LNG, transnational pipeline projects are also at different stages of development.

1 Butt, D., Myllyvirta, L. and Dahiya, S., 2021. CO2 Emissions from Pakistan's Energy sector. Centre for Research on Energy and Clean Air., available at https://energyandcleanair.org/wp/wp-content/uploads/2021/07/CO2-Emissions-from-Pakistans-Energy-sector_30_07_2021.pdf

2 NEPRA, 2020 cited in "CO2 Emissions from Pakistan's Energy sector July 2021", CREA, available at https://energyandcleanair.org/wp/wp-content/uploads/2021/07/-CO2-Emissions-from-Pakistans-Energy-sector_30_07_2021.pdf

3 Development Plan for Pakistan: Oil and Gas Industry 2020; Ministry of Energy (Pakistan), Petroleum Division' http://www.mpnr.gov.pk/SiteImage/Misc/files/1389(20)Development%20Plan%20New%20Mail%20on%2011-11-2020%20(2nd%20Draft).pdf

Pakistan Economic Survey 2019-20 data cited in "CO2 Emissions from Pakistan's Energy sector July 2021", CREA, available at https://energyandcleanair.org/wp/wp-content/uploads/2021/07/-CO2-Emissions-from-Pakistans-Energy-sector_30_07_2021.pdf

Finance Division, Govt of Pakistan, 2019. Pakistan Economic Survey 2019-20. [online] pp.273-285. Available at: <https://www.finance.gov.pk/survey/chapter_20/14_Energy.pdf> [Accessed 13 August 2021].

Finance Division, Govt of Pakistan, 2019. Pakistan Economic Survey 2019-20. [online] pp.273-285. Available at: <https://www.finance.gov.pk/survey/chapter_20/14_Energy.pdf> [Accessed 13 August 2021].

LIST OF LNG PROJECTS

S/N	Name of Developer	License Description and status	License Issuance date
1	Engro Elengy Terminal Limited	Unbundled Project Structure (Operation license of LNG receiving terminal at Port Qasim Authority (PQA), Karachi. Regasification capacity: 600-690 mmcfd	Mar 18, 2016
2	Pakistan GasPort Consortium Limited PGP Consortium Limited (PGPCL)	Unbundled Project Structure (Operation licence of LNG receiving terminal at PQA, Karachi). Regasification capacity: 600-750	Apr 03, 2018
3	Global Energy Infra-structure Pakistan Limited & Global Energy Infrastructure Limited	Integrated Project Structure (Extension in project completion timelines for construction license granted for LNG integrated project at PQA, Karachi. PQA approval to be updated for consideration of further exten-sion).	Review appeal decision dated May 02, 2019
4	Pakistan Gas Port Limited (PGPL)	Integrated Project Structure (Provisional license)	Jun 25, 2018
5	Tabeer Energy (Pvt.) Limited (TEPL)	Integrated Project Structure (Provisional license) Provisional license timelines extended till 16th August 2020. The Application for construction license by TEPL is under examination.	Aug 17, 2018
6	Energas Terminal (Pvt.) Limited (ETPL)	Integrated Project Structure (Provisional licence) Provisional license timelines extended till 2nd April 2020. The application for construction licence by TEPL is under examination.	Apr 03, 2018

LIST OF GAS PIPELINE PROJECTS

Project Name	Capacity	Status
Turkmenistan Afghanistan Pakistan India (TAPI) Pipeline	1.3 bcfd (Paki-stan's share)	Construction of the Turkmenistan section underway. Gas sales purchase agreement, shareholding agreement, im-plementation agreement, operations agreement and heads of terms of host government agreement have been signed. Land survey on the Pakistan side in progress. Construction license issued by OGRA. Financial closure expected by end of 2021 followed by start of construction phase. Target completion by 2024.
North - South Pipeline	1.2 bcfd	Government to Government agreement signed between Pakistan and Russia. The project will be implemented through special purpose vehicle (SPV) to be incorporated in Pakistan with equity participation by Pakistan and Russia. Pakistan will have majority shareholding in the project. Construction license already issued by OGRA. Request of Work (ROW) has been approved. Initial working to finalize pipeline route and feasibility study have started. Major project activities will be undertaken by SPV. Target completion by 2023.
Off-Shore Gas Pipeline	0.5-1 bcfd	Inter-ministerial and inter-corporate memorandums of understanding signed between Russia and Pakistan. Preparation of feasibility study by the Russian side is in progress.

Source: **Development Plan for Pakistan: Oil and Gas Industry, 2020, Ministry of Energy, Pakistan**

Power Generation: An Overivew by The Pakistan Credit Rating Agency at at https://www.pacra.com/sector_research/Power%20Sector%20-%20PACRA%20Research%20-%20Jan'21_1611329371.pdf
Development Plan for Pakistan: Oil and Gas Industry 2020; Ministry of Energy (Pakistan), Petroleum Division: http://www.mpnr.gov.pk/SiteImage/Misc/files/1389(20)Development%20Plan%20New%20Mail%20on%2011-11-2020%20(2nd%20Draft).pdf

3. CONSTITUTIONAL FRAMEWORK ON GAS RESERVES AND THEIR CONTROL AND SUPERVISION

Article 172 (3) of Pakistan's Constitution states: "Subject to the existing commitments and obligations, mineral oil and natural gas within the province or the territorial waters adjacent thereto shall vest jointly and equally in that province and the federal government".
This clearly implies that the Council of Common Interest (CCI) has the constitutional power to formulate polices over natural gas and regulate supervision and control over related institutions. Additionally, natural gas is enlisted in Part II of the Federal Legislative List (FLL).
Article 155 (1) reads that the CCI shall formulate and regulate policies in relation to matters in Part II of the FLL and shall exercise supervision and control over related institutions.

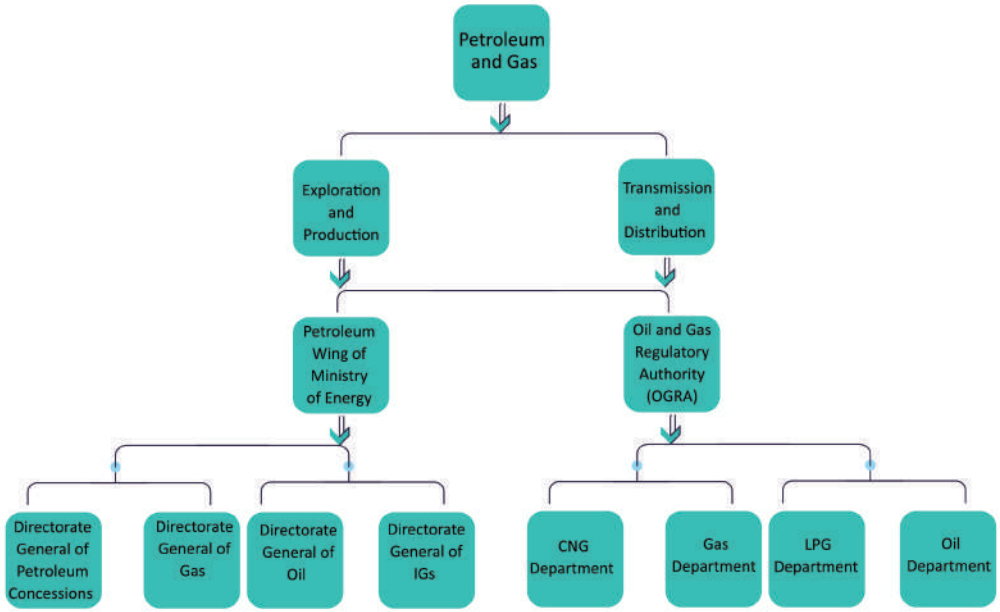
3.1. EXPLORATION AND PRODUCTION

The petroleum sector, including gas, is governed by the petroleum wing of the energy ministry. It has various wings including a policy wing which comprises the Directorate General of Petroleum Concessions, the Directorate General of Oil, the Directorate General of Gas and the Directorate General of Liquefied Gases (lGs). Each directorate is headed by a Director General.
The Directorate General of Petroleum Concessions functions as the regulatory authority for all upstream (exploration and production) petroleum (including gas) activities in Pakistan, whereas the Directorate General of Gas is responsible for formulating policies regarding natural gas, Liquefied Petroleum Gas (LPG), LNG, Compressed Natural Gas (CNG), allocating gas from new fields to gas utility companies, reviewing and executing gas price agreements with producers and gas sales agreements between producers and government-nominated buyers.

3.2. TRANSMISSION AND DISTRIBUTION

Pakistan's midstream and downstream (refining, transmission and distribution) oil and gas sector is regulated by Oil and Gas Regulatory Authority. In March 2002, the regulatory functions of natural gas were transferred to the authority. It is also responsible for regulating activities related to LNG, LPG and CNG sectors.

HIERARCHY OF OIL AND GAS SECTOR IN PAKISTAN



Source: Author

4. LEGAL FRAMEWORK ON GAS EXPLORATION, PRODUCTION, TRANSMISSION AND DISTRIBUTION

4.1.LAWS

4.1.1. REGULATION OF MINES AND OILFIELDS AND MINERAL DEVELOPMENT (GOVERNMENT CONTROL) ACT 1948, INCLUDING AMENDMENT OF 1976

The Regulation of Mines and Oilfields and Mineral Development (Government Control) Act 1948, including Amendment of 1976, authorises relevant departments of mines, oilfields and mineral development, across Pakistan to make rules on matters pertaining to setting conditions and processing applications for the grant or renewal of an exploration or prospecting license. This also includes the control of production, storage and distribution of minerals and mineral oils as well as determining the prices at which minerals and mineral oils may be bought or sold.

The Act is implemented by two sets of rules; one set applicable to onshore operations and a separate one to offshore operations.

Tarmohamed, J. and Kabalan, N., 2016. Pakistan: Overview Of The Oil And Gas Regime In Pakistan. [online] Available at: <https://www.mondaq.com/oil-gas-electricity/164894/overview-of-the-oil-and-gas-regime-in-pakistan> [Accessed 13 August 2021].

These onshore and offshore rules are enacted by the GoP in accordance with the powers under Sec-tion 6 (1) of the act. The onshore rules provide for a licensing system on the basis of a model Petro-leum Concession Agreement (PCA) while the offshore rules set out a licensing system on the basis of a model Production Sharing Agreement (PSA) that applies to all offshore blocks. (These rules are discussed in details in a separate section below).

4.1.2. OGRA ORDINANCE 2002

Promulgated in 2002, the Oil and Gas Regulatory Authority Ordinance has the followings salient features:

1. Establishment of the independent Oil and Gas Regulatory Authority, including setting its mandate, scope and structure.

2. It aims to foster competition, increase private investment and ownership in the midstream and downstream petroleum (including gas) industry; protect the public interest while respecting individual rights, and provide effective and efficient regulations for similar matters.

3. It authorizes the federal government to issue policy guidelines to the authority on matters of gas policy.

4. It authorizes OGRA to frame rules with the approval of the federal government for carrying out the purpose of this ordinance.

DEFINITIONS IN OGRA ORDINANCE

PRODUCT	DEFINITIONS
CRUDE OIL	All petroleum other than refined oil products and natural gas, and which at standard atmospheric conditions of pressure and temperature remain in a fluid phase, including condensate.
NATURAL GAS	Hydrocarbons or a mixture of hydrocarbons and other gases which at 600 F and atmospheric pressure are in a gaseous state (including gas from gas wells or produced with crude oil and residue gas and products resulting from the processing of gas) consisting primarily of methane together with any other substance produced with such hydrocarbons..
CNG	Natural gas compressed for vehicular or other mobile use.
LPG	Hydrocarbons mainly consisting of propane and butane, mixed or unmixed, with or without other gases, which are vapours at room temperature and pressure but can be liquefied on compression.
LNG	Liquefied Natural Gas.
REFINED OIL	Products that result from refining crude oil including furnace oil, motor gasoline, diesel, lubricating oils and other blended products, kerosene, jet fuel and LPG.

4.2.RULES

4.2.1. PAKISTAN OFFSHORE PETROLEUM (EXPLORATION & PRODUCTION) RULES 2003

These rules are framed under Section II of the Regulation of Mines Oilfields and Mineral Devel-opment (Government Control) Act, 1948 (XXIV of 1948), and by Section 14 of the Territorial Waters and Maritime Zones Act, 1976 (LXXXII of 1976). These rules apply on gas in addition to pe-troleum and other covered substances. Section (XXVIII) of rule defines petroleum as "all liquid and gaseous hydrocarbons existing in their natural condition in the strata, as well as all substances, including sulphur produced in association with such hydrocarbons, but does not include basic sediments and water".

The salient features are: "Offshore" means all areas that lie completely seaward from the high-water mark within the jurisdiction of Pakistan, and includes the expanse within the territorial waters, the historic waters, the contiguous zone, the continental shelf and the exclusive economic zone, as defined in the Territorial Waters and Maritime Zones Act, 1976.

1. The Director General Petroleum Concessions is responsible for the administration of these rules and the execution of all duties imposed upon him by these rules, or pursuant to any agreement.

2. It empowers the Government Holdings (Private) Limited (GHPL) to secure petroleum rights over the area(s) designated by an interested exploration and production company and to enter into an agreement in its capacity as contracting party according to the authority conferred upon it by the government from time to time.

3. It sets procedures for both national and foreign companies to file application to the direc-torate general of petroleum concessions (DGPC) for petroleum exploration and production activities.

4. Prior to commencement of petroleum operations under an agreement a contractor shall also submit an environmental management and protection plan as well as a safety plan or any amendment thereto for approval by the appropriate authority.

Royalty: Royalty on petroleum produced and saved shall be payable by a contractor to the government at the rate of 12.5% of the value unless a different rate for royalty is provided for in the agreement.

Development Plan: Together with the application for a lease, a contractor shall enclose a development plan which shall contain all information with respect to the construction, establishment of all facilities, operations, safety, environment management and services for and incidental to the recovery, storage and transportation of petroleum as the government may deem necessary which shall include, but is not limited to, such information as is specified in an agreement.

4.2.2. PAKISTAN ONSHORE PETROLEUM (EXPLORATION & PRODUCTION) RULES 2013

These rules were framed under the Regulation of Mines and Oil Fields and Mineral Development (Government Control) Act, 1948. Among other things, these rules set out that:

1. Royalty on petroleum produced and saved shall be payable at the rate of 12.5% of the wellhead value unless a higher rate for royalty is provided for in the relevant agreement between a holder of a petroleum right and the federal government.

Tarmohamod, J. and Kabalan, N., 2016. Pakistan: Overview Of The Oil And Gas Regime In Pakistan. [online] Available at: <https://www.mondaq.com/oil-gas-electricity/164894/overview-of-the-oil-and-gas-regime-in-pakistan> [Accessed 13 August 2021].

2. The royalty will be paid in cash or kind by the federal government to provinces based on their share of liquid and gaseous hydrocarbons (such as LPG, Natural Gas Liquids, solvent oil, gasoline and others) as well as all substances including sulphur, produced in association with such hydrocarbons.

4.2.3. LNG RULES 2007

Oil and Gas Regulatory Authority (Liquefied Natural Gas) Rules, 2007, were framed under Sec-tion 41 of the Oil and Gas Regulatory Author-ity Ordinance, 2002.

1. It defines LNG terminal as a fixed or movable facility, whether located on land or sea, used for loading, unloading, storage and regasification of LNG including all ancillary and auxiliary equipment and pipelines.

2. It defines LNG production as the process by which natural gas is converted to LNG including, natural gas treatment, natural gas liquefaction, LNG storage and LNG filling.

3. It authorizes OGRA to grant a license to carry out any regulated activity to persons for a maximum period of 20 years
.

4. Any company incorporated inside or outside Pakistan may submit an application to the author-ity for obtaining or renewing a license to under-take a regulated activity .

5. In addition to other documented rules required from the applicants, a statement setting out complete details of health, safety and environ-mental policy has to be adopted by the applicant

6. For evaluation purposes OGRA must admit the application for consideration without requiring attendance of the applicant. The authority shall not pass an order refusing admission without giving the applicant an opportunity to be heard or to make a written representation.

7. In relation to each application or license, the authority may appoint a firm of international repute for evaluation of the application.

8. The licensees are obliged to locate, design, con-struct, operate and maintain their facilities in accordance with the standards prescribed by the authority and ensure it is not going to endanger public health or safety; strictly follow the require-ments of the Pakistan Environmental Protection Act, 1997, as amended from time to time.

5. POLICIES

5.1. LNG POLICY 2011

The LNG policy of 2006 was introduced with the approval of the Economic Coordination Commit-tee (ECC). Over the years, it was observed that it could not achieve its objectives and needed radical revisions to make it more effective.
In 2020, the Directorate General Liquefied Gases, at the petroleum division, in the Energy Ministry initiated a process to revise the LNG policy and bring it in line with the latest developments in the LNG sector (both locally and globally).

5.2. PETROLEUM EXPLORATION & PRODUCTION POLICY 2012 (AMENDED IN JANUARY 2020)

The purpose of the Petroleum Exploration and Pro-duction Policy 2012 is to establish the policies, pro-cedures, tax and pricing regime vis-a-vis the petroleum exploration and production (E&P) sector. It aims, among things, to ensure the energy security of the country, providing attractive fiscal terms for private investment in domestic explora-tion and production but in a socially, economically and environmentally sustainable and responsible manner. This would, in turn, lead to reduced reliance on imported fuel.

Petroleum Rights and Procedures

1. All local and foreign companies (including those operating in Pakistan or beyond) in Pakistan will be eligible for acquiring petroleum rights.

2. The granting of petroleum exploration licences for entering into Petroleum Concession Agree-ment or Petroleum Sharing Agreement in relation to onshore and offshore blocks will be offered through competitive bidding as per the proce-dures laid down.

3. An application for any offshore permit or licence will be filed to the Director General Petro-leum Concessions.

4. The DGPC will invite bids as given in Annexure 6 in national newspapers, which may cover the nominated blocks as well as those additional blocks that the DGPC deems appropriate.

5. The petroleum exploration licenses for entering into PCA or PSA in relation to onshore and offshore blocks will be granted without competi-tive bidding to strategic partner companies on gov-ernment-to-government basis.

6. A standard model petroleum concessions agreement and model production sharing agree-ment will be followed by all companies participat-ing in the bid invitation.

Health, Safety and Environmental Management: Among other things the applicant will submit a health, safety and environmental management (HSEM) system. It is essential that all operations within Pakistan are carried out in a manner that conform to current HSEM legislation and regula-tions. Companies seeking new operatorship in Pakistan, therefore, will need to demonstrate that their HSEM systems are compatible with all national requirements.

Royalty and Tax

1. Royalty will be payable at the rate of 12.5% of the value of petroleum at the field gate.

2. Tax on income will be payable at the rate of 40% of profit or gains in accordance with the Fifth Schedule of the Income Tax Ordinance, 2001. Roy-alties will be treated as an expense to determine income tax liability.

10% of the royalty will be utilised in the district where oil and gas is produced for infrastructure development.

6. INSTITUTIONAL FRAMEWORK ON EXPLORATION AND PRODUCTION, TRANSMISSION AND DISTRIBUTION

6.1. EXPLORATION AND PRODUCTION SIDE

6.1.2. THE DIRECTORATE GENERAL GAS

The Directorate General of Gas works under the petroleum wing of the energy ministry. At the ex-ploration and production side, its main func-tions include formulation of the government policies regarding natural gas, LPG, LNG and CNG; assessment and management of demand and supply; allocation of gas from new finds to gas utility companies; allocation of natural gas from different supply sources to various sectors; review and execution of gas price agreements with pro-ducers and gas sales agreements between the pro-ducers and the government nominated buyer; assessment of prescribed price for consumers determined by OGRA and making recommenda-tions to the government for their fixation.

Regulated activity under that law means any one or a combination of more than one activity relating to LNG that requires a license from the Authority pursuant to the Ordinance, namely: construction of LNG Production Facility, operation of LNG Produc-tion Facility, construction of LNG Processing Facility, operation of LNG Processing Facility, construction of LNG Testing Facility, operation of LNG Testing Facility, construction of LNG Storage Facility, operation of LNG Storage Facility, construction of LNG Terminal, operation of LNG Terminal, Transportation of LNG, Filling of LNG, Marketing of LNG, Distributing of LNG; and "special accounts" means accounts of the licensee maintained in such form as the Authority may require for enabling it to review the li-censee's progress in undertaking a regulated activity.

Business Recorder, 2011. Draft LNG Policy 2011 approved by ECC: developers' revenue clause scrapped. [online] Available at: <https://fp.brecorder.com/2011/08/20110820122425 4/> [Accessed 14 August 2022].
Hasan, M., 2020. Energy ministry begins exercise to update LNG policy. The News, [online] Available at: <https://www.thenews.com.pk/print/694926-energy-ministry-begins-exercise-to-update-lng-policy> [Accessed 15 August 2021].
Petroleum Exploration and Production Policy 2021 (Amended in January 2020)
Petroleum Exploration and Production Policy 2021 (Amended in January 2020)
Foreign companies not operating in Pakistan but having operated concessions in other geographical areas of the world will also be eligible to acquire petroleum right subject to demonstration of technical and financial capability

6.2. TRANSMISSION AND DISTRIBUTION

6.2.1. OIL & GAS REGULATORY AUTHORITY (OGRA)

The Oil and Gas Regulatory Authority (OGRA) was established by the federal government in 2002 in pursuance of the Oil and Gas Regulatory Authority Ordinance, 2002. It regulates licensing for distribution and transmission activities of oil and gas sector including RLNG, CNG, sets the tariff and notifies prices. It has different and separate departments for CNG, LPG, LNG and oil. After the establishment of OGRA, the Natural Gas Regulatory Authority (NGRA) was subsumed by the former. All properties and works done by the NGRA were transferred to and protected under the OGRA Ordinance.

Main functions:

1. Grant, issue, and renew licences, modify, amend, extend, suspend, review, cancel and reis-sue, revoke or terminate any licence for the undertaking of any regulated activity and to prescribe requirements to be satisfied by applicants for the grant of licence.

2. Administer, enforce and certify standards and other conditions for undertaking any regulated activity specified in clauses b and e of Oil and Gas Regulatory Authority Ordinance, 2002.

3. Monitor and enforce compliance by licensees with the conditions of licences.

4. Prescribe, review, approve and regulate tariffs for activities pertaining to natural gas and operations of the licensees for natural gas and marketing of refined oil products.

5. Determine the wellhead gas prices for the producers of natural gas in accordance with the relevant agreements or contracts and notify the same in the official gazette.

6. Subject to policy guidelines, the authority shall determine or approve tariff for regulated activities whose licences provide for such determination or such approval or where authorized by this ordinance.

7. OTHER RESOURCES/ SERVICES

7.1. PAKISTAN LNG LIMITED (PLL)

Pakistan LNG Limited (PLL) is a public sector entity incorporated under the Pakistan Companies Ordinance 1984 and operates under the governance of the Ministry of Energy, Government of Pakistan. It is a fully owned subsidiary of GHPL.

7.2. SUI SOUTHERN GAS COMPANY (SSGC)

Sui Southern Gas Company (SSGC) is a public listed large-scale company and is Pakistan's leading integrated gas company. The government directly and indirectly owns the majority of the shares of this company which is engaged in the business of transmission and distribution of natural gas besides installation of high-pressure transmission and low-pressure distribution system.

7.3. SUI NORTHERN GAS COMPANY (SSGC)

Sui Northern Gas Pipelines Limited (SNGPL) was incorporated as a private limited company in 1963 and converted into a public limited company in January 1964 under the Companies Act 1913 and later The Companies Act 2017. It is listed on the Pakistan Stock Exchange (PSX). The company took over the existing Sui-Multan System from the Pakistan Industrial Development Corporation (PIDC) and Dhulian-Rawalpindi-Wah system from the Attock Oil Company Limited. The company's commercial operations commenced by selling an average of 47 mmcfd gas in two regions, Multan and Rawalpindi.

7.4.PAKISTAN PETROLEUM INFORMATION SERVICE

The Pakistan Petroleum Information Services (PPIS) is a daily information service providing updates on Pakistan's upstream exploration activities. It has a history of providing vital information to the E&P industry. A specialized team devotes hours to compile, process, design, upload and maintain this site. The service also includes hard copy versions consisting of monthly reports and attractive large-scale Maps.

7.5.GEOLOGICAL SURVEY OF PAKISTAN (GSP)

The Geological Survey of Pakistan (GSP) is an attached department of the government's ministry of energy. Established at the time of independence, in 1947, it is primarily responsible for collection and dissemination of geological information about the country the form of geological reports and maps. The maps provide a bird's eye view of the surface (and subsurface) distribution of various types of rocks and economic minerals found in a particular region. These maps are, thus, essential for all future detailed geological works including mineral exploration, civil engineering, soil surveys, land use and soil conservation projects.

7.6.THE HYDROCARBON DEVELOPMENT INSTITUTE OF PAKISTAN (HDIP)

The Hydrocarbon Development Institute of Pakistan (HDIP) is the national petroleum research and development (R&D) organization. Set up in 1975, this autonomous body within the Energy Ministry aims to undertake, promote and guide scientific research and development in the field of petroleum both upstream and downstream; establish well-equipped labs in the field of petroleum geology and geochemistry and conduct reappraisal of petroleum potential of sedimentary basins of Pakistan. It has also set up petroleum testing centres at Multan, Quetta, Lahore and Peshawar.

7.7. THE PAKISTAN STATE OIL

The Pakistan State Oil (PSO), is the country's energy company that is engaged in the marketing and distribution of various petroleum products including motor gasoline (MOGAS), high speed diesel (HSD), furnace oil (FO), jet fuel (JP-1), kerosene, CNG, LPG, petrochemicals and lubricants. In addition to these products, the PSO also imports products based on demand patterns.

Ministry of Energy, Petroleum Division at http://www.mpnr.gov.pk/Detail/YzhlZDFiYTYtOThjZS00MTg2LWE5ODMtMTUyY2EyODJhNTAw
OGRA website http://www.ogra.org.pk/
Section 2.32 of OGRA Ordinance: "regulated activity" means an activity requiring a licence

Pakista LNG https://www.paklng.com/
Sui Souther Gas Company Limited https://www.ssgc.com.pk/web/?page_id=68
Pakistan Petroleum Information Service at http://www.ppisonline.com/about-us
Hydrocarbon Development Institute of Pakistan Website https://www.hdip.com.pk/
Pakistan State Oil Company Website https://psopk.com/en/about-us/who-we-are